

Program & Abstracts

Editor

Jill K. Singer, Ph.D.
Director, Office of Undergraduate Research

Sponsored by

Office of Undergraduate Research
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Human Services
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of Human Services

Undergraduate Research Advisory Committee members

Lisa Berglund
Tina Colaizzo-Anas
Lou Colca
Kelly Frothingham
Andrea Guiati
Amitra Hodge
Lin Xia Jiang
Scott Johnson

David Kukulka
Michaelene Meger
Jill Norvilitis
Kevin Railey
Gary Solar
Gerald Trentham
Sandra Washington
Robert Wood

Department and Program Coordinators for the Tenth Annual Student Research and Creativity Celebration

Lisa Anselmi, Anthropology
Kim Bagley, Chemistry
Lisa Berglund, English
Laurie Buonanno, Political Science
Cyndi Burnett, Creative Studies
Betty Cappella, Educational Foundations
Tina Colaizzo-Anas, Dietetics and Nutrition
Louis Colca, Social Work
John Draeger, Philosophy and Humanities
Kelly Frothingham, Geography and Planning
Jill Gradwell, History and Social Studies Education
Andrea Guiati, All College Honors Program
David Henry, Elementary Education and Reading
Deborah Insalaco, Speech Language Pathology
Lin Xia Jiang, Fine Arts
Michael Johnson, Modern and Classical Languages
Susan Keller-Mathers, Creative Studies
Eric Krieg, Sociology
David Kukulka, Technology
Joelle Leclaire, Economics
Bill Lin, Computer Information Systems
Dan MacIsaac, Physics

James Mayrose, Technology
Amy McMillan, Biology
Michaelene Meger, Exceptional Education
Peter Mercer, Mathematics
Sarah Meredith, Music
Michael Niman, Communication
Jill Norvilitis, Psychology
Kathleen O'Brien, Hospitality and Tourism
Scott Roberts, Health and Wellness
Stephen Saracino, Design
Lynne Scalia, Business
Raquel Schmidt, Exceptional Education
Shannon Schweitzer, Theater
Jim Shea, Technology
Greg Smith, Art Conservation
Gary Solar, Earth Sciences
Elizabeth Szockyj, Criminal Justice
Sandra Washington, McNair Scholars Program
William Wiczorek, Center for Health and Social Research
Kevin Williams, Earth Sciences
Robert Wood, Design
Mary Wyrick, Art Education

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American Author Henry David Thoreau said, "The world is but a canvas to the imagination." We honor the collective imagination of Buffalo State College's students, faculty and staff at the Student Research and Creativity Celebration, now in its tenth year.

This event showcases the work of our students and their collaborations with faculty and staff on a varied array of intellectual endeavors. Buffalo State College is firmly committed to a research rich environment that fosters learning and encourages students to put inquiry into action. Hands-on experience builds confidence and fuels imagination.

Innovation, creation and learning are ongoing processes. We are proud to celebrate the achievements of those fully engaged by these pursuits and hope to ignite in others a similar passion to follow their dreams. Thank you for joining us for this inspiring celebration in support of our students.

Sincerely,



Muriel A. Howard, Ph.D.
President



A small number of campus activities evolve, with time, from a yearly event to an annual tradition. The Student Research and Creativity Celebration, now in its tenth year, is an outstanding example of the institutionalization of an initiative greatly valued by the college community.

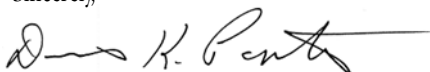
The celebration originated, under the guidance of Dr. Jill Singer, as part of Buffalo State's emphasis on undergraduate research. The importance of undergraduate research was evident in the early years leading to an action step in the college's 2003-2008 Strategic Plan calling for the college to "expand student creativity and research initiatives". This has been advanced with creation of the Office of Undergraduate Research in 2003, appointment of a director, dedication of resources to support summer fellowships, student travel, and small grants programs, and continuation of the annual Student Research and Creativity Celebration.



The celebration is a time for the campus community to recognize student achievement resulting from a multitude of research, artistic, and creative efforts. We are reminded during the two days of the celebration of the extent to which Buffalo State students combine learning and inquiry and creatively articulate their findings to the wider community. Student participants and faculty and staff mentors are to be congratulated for embracing the academy's commitment to intellectual discovery. Many from our campus community are involved in the logistics and details of the celebration. Thanks to each individual for their contribution.

Special appreciation is extended to Dr. Jill Singer, Director of Undergraduate Research, for a decade of passionate leadership to this effort and the resulting national recognition for Buffalo State's program. Most importantly, Buffalo State's program is embraced by the internal campus community for integrating our commitment to scholarship, student engagement, and enriching educational experiences. Undergraduate research is a shining example of collective achievement of excellence from within.

Sincerely,



Dennis Ponton, Ph.D.
Provost and Vice President for Academic Affairs

Welcome!



This weekend marks the 10th anniversary of the Student Research and Creativity Celebration. It offers me an opportunity to reflect back on this event and remark on the growth and changes that bring us to where we are today – an event that is considered by some to be an institutional tradition. The level of support and enthusiasm for this annual event far exceeded my original expectations and the caliber and breadth of the presentations, displays of works of art, and performances confirms the excellence of the mentoring provided by faculty, myriad opportunities afforded to Buffalo State students, and the creativity possessed by the students. Significant new findings and works of art have been shared over the years.

For the first five years of this event, paper applications were completed by students, signed by their mentors, and manually scanned. Even with the best optical character software available (thanks to Dan Kushel and the Art Conservation Department!), each application required removal of extra characters and deciphering of others. As the number of applications increased to over 150, an online application was introduced. This transition presented very few problems for our ‘tech-savvy’ students, and it surprised some faculty how quickly they adapted to the online form. Our success with ‘going electronic’ with this form broke ground and cleared the way, so that now all applications for programs administered by the Office of Undergraduate Research are electronic.



There have been supporters of this program from the very beginning. First, is Ted Turkle, Director of the SUNY Research Foundation at Buffalo State. He listened to my plans for undergraduate campus-wide programs and provided the financial support to start and sustain this event. Second, are my colleagues across the campus that support this event through their active participation and words of appreciation throughout the year. I owe special thanks to Jim Shea for his steadfast support, good humor, and for spending countless hours behind the scenes helping make this event successful. Maryruth Glogowski, the Director of the E.H. Butler Library, has provided a wonderful ‘home’ for this event and the generous assistance of the entire library staff, especially Carol Richards, Camille Spyra, Kathy Babcock and Barbara Vaughan is greatly appreciated. The support from the administration continues to be strong, and in particular I want to thank President Muriel Howard and Provost Dennis Ponton. They have been at every ‘celebration’ and have spent considerable time listening to and complementing many of the student presenters.

And, what would this event be without the students themselves? Over the past ten years, there have been over 1500 abstracts/artist statements and more than 3000 student presenters. In my role as editor of the program with abstracts, I’ve read every one of their abstracts multiple times and greeted many of the student presenters as they registered Saturday morning. The remark that stays with me throughout the year as I plan for this weekend in April was one made by a student more than five years ago. She made a point of seeking me out to tell me how she had just spent the day listening to talks, viewing artwork, and talking to students presenting posters. She ended her account by saying that she had no idea how talented her classmates were and how proud she was to be graduating from Buffalo State. I agree. It has been a very productive and rewarding ten years. I have derived great satisfaction from developing and running a program that has been embraced by the campus community.

Sincerely,

Jill K. Singer, Ph.D.

Professor of Earth Sciences

Director, Office of Undergraduate Research

I'm delighted to welcome students and their faculty mentors, as well as the Buffalo State community, to this very special research and creativity celebration, which engages the intellect and enlivens the mind, reminding us why we participate so willingly in the academic environment of the university.

Janet Ramsey, Ph.D., Dean, University College



Recognition for leadership in creative expression, the overarching goal of the School of Arts and Humanities, is exemplified by the creativity displayed by A&H students in the 10th Annual Student Research and Creativity Celebration. We admire the leading research and creativity of our faculty and honor the support they provide to their students in fostering similar endeavors for undergraduate and graduate students. This showcase of extraordinary student work at Buffalo State College is a highlight of our academic year. I am delighted to congratulate all participants.

Benjamin C. Christy, A.Mus.D., Dean, School of Arts and Humanities

Congratulations, undergraduate and graduate researchers, for your extraordinary commitment, work, and creativity! The School of Education faculty and staff are proud to support your intellectual pursuits and celebrate your success. Each of you truly serves as a model of leadership and excellence for your peers and colleagues. I wish you the best with your academic, personal, and professional endeavors.

Ronald S. Rochon, Ph.D., Dean & Associate Vice President, School of Education



Congratulations to student presenters and faculty advisors. Today's celebration is a fine demonstration of Buffalo State's commitment to undergraduate and graduate research and creativity. As always, our students make us proud.

Lawrence Flood, Ph.D., Dean, School of Natural and Social Sciences

All college students read and study gaining new and useful knowledge. After reading and studying the researcher concludes that something is missing. From that kernel of thought grows a systematic research design. When the design is implemented new knowledge is generated. As researchers you have joined an elite group who identify knowledge for those who come after to learn. I congratulate all of you for your excellent work.

Gary W. Jones, Ph.D., Dean, School of the Professions



Research and creativity inform and foster all we do here at Buffalo State, and the Graduate School is proud to support these efforts. I warmly congratulate all the students participating in this great weekend of intellectual and artistic expression and sincerely thank all the faculty mentors for their commitment to student excellence. A special thanks, especially this year, to Dr. Jill Singer for her leadership in nurturing the Research and Creativity Celebration in its now 10th year!

Kevin Railey, Ph.D., Associate Provost and Dean, Graduate School

The Research Foundation is proud to support this event which we have seen grow over the past ten years from an idea to what it is today: an extraordinary exposition of our students' abilities and talents. Congratulations to the undergraduate and graduate students whose outstanding creative and intellectual accomplishments are highlighted here today. And commendations to the faculty mentors who have so generously shared their time and expertise with their students.

Ted Turkle, M.A., Director, SUNY Research Foundation at Buffalo State College



Friday, April 25, 2008

E.H. Butler Library

5:00 p.m. – 6:30 p.m.

President's and Provost's Opening Celebration Reception

The opening reception is a capstone scholarly activity undertaken by students in HTR400, Catering Management and illustrates the skills and knowledge of the students in the 'art of food service'. This year's reception integrates the theme of 'X' to mark the tenth anniversary of the student research and creativity celebration.

Nicole Allen and Dan Porzio, Coordinators
Jeanne Barrett, Henry Bell, Lyudmila Bozhanova-Petrova,
Michael Chase, Vanessa Dominguez, Tanya Gleason,
Vanessa Leonard, Francis Montoya, Christopher Moore,
Adam Ramos, David Shtaynberger, and Scott Winokur
Faculty Mentors: Professors Stephen Burgeson and
Donald Schmitter, Hospitality and Tourism

5:00 p.m. – 6:15 p.m.

Preview of student posters

Global Travel Sketchbook Tour

A photographic exhibit located on the Mezzanine Level

Melanie Beitel, Communication Design

Faculty Mentors: Professors Richard Ross and Stan Friesen,
Design

Ceramic Works

An exhibit of large terra cotta clay pieces displayed in the
Second Floor Lobby

Matthew Hill, Design

Faculty Mentor: Professor Robert Wood, Design

6:30 p.m. – 7:00 p.m.

Performances

Without Vision

Chrissy Golab, Theatre, Clint Byrne, BSC Alumna

Faculty Mentor: Professor Gerry Trentham

This choreographed piece by Professor Gerry Trentham
(Theatre Department) is a physical investigation of the
various ways people experience love relationships. An excerpt
of the piece is danced to music of BSC alumni Dan Morris
and his band.

Hexengehuele (Witchhowl)

Lindsay Whelan, Music Education and Ross Coons, Music

Faculty Mentor: Professor Bradley Fuster, Music

This percussion piece for timpani and one marimba was
composed by Dr. Andrew William Thomas (b. 1939).

Upton Hall, Gallery 234

6:00 p.m. – 10:00 p.m.

Surface Explorations

Chanda Glendinning, Design

Faculty Mentor: Professor Robert Wood, Design

(Saturday hours – 10:00 a.m. to 4:00 p.m.)

Saturday, April 26, 2008

E.H. Butler Library

*All events are located in E.H. Butler Library unless
otherwise noted.*

8:30 a.m. – 5:00 p.m.

Registration

Presenters and faculty mentors pick up your name badge,
program, and t-shirt

Refreshments and Lunch throughout the day

Concurrent Sessions

(Locations and times listed after each session)

Oral Papers

Arts and Humanities – Room 210B

8:30 a.m. – 12:30 p.m.

Business and Technology – Room 210

8:30 a.m. – 12:15 p.m.

Education and Social Sciences – Room 210B

1:00 p.m. – 3:30 p.m.

Health, Sciences and Mathematics – Room 210

1:30 p.m. – 4:00 p.m.

Poster Sessions (all disciplines) – Library Atrium

Session I 8:30 a.m. – 9:30 a.m.

Session II 9:30 a.m. – 10:30 a.m.

Session III 10:30 a.m. – 11:30 a.m.

Session IV 11:30 a.m. – 12:30 p.m.

Session V 12:30 p.m. – 1:30 p.m.

Session VI 1:30 p.m. – 2:30 p.m.

Session VII 2:30 p.m. – 3:30 p.m.

Session VIII 3:30 p.m. – 4:30 p.m.

Student Union Quad

11:00 a.m. – 1:00 p.m.

Demonstrations

Mini Baja Vehicle: 2008's Model

Shawn Foti, Mechanical Engineering Technology,

Dan Rupp Mechanical Engineering Technology,

Zach Tyo, Mechanical Engineering Technology, and

Ken Matela, Mechanical Engineering Technology

Faculty Mentor: Professor David Kukulka, Technology

Throwing it All Away: Ceramics Demonstration

Chanda Glendinning, Design, Matthew Hill,

Art Education, and Angela McCormack, Design and

Art Education

Faculty Mentor: Professor Robert Wood, Design

E.H. Butler Library

Second Floor Lobby

6:00 – 9:00 p.m.

Exhibition of recent ceramic works including an array of
vessel oriented terra cotta clay pieces

Matthew Hill, Design

Faculty Mentor: Professor Robert Wood, Design

(Continues through Wednesday, April 30, 2008)

Program at-a-Glance



Saturday, April 26, 2008

E.H. Butler Library

Oral Papers

Arts and Humanities

Room 210B

8:30 a.m. – 12:30 p.m.

Presenting:

8:30 a.m. – 8:50 a.m.

Contemporary Catholic Music: An Oxymoron?
Christopher DeVries, Music Education

8:50 a.m. – 9:10 a.m.

The Sanborn Fire Company Band: A Community Band Study
Jared Zastrow, Music

9:10 a.m. – 9:30 a.m.

The Central Portal at Vézelay: The Culture Behind the Carvings
Juan T. Jesús, Art History

9:30 a.m. – 9:50 a.m.

Fathers and Bachelors: The Men of Jane Austen's Novels
Jessica Squire, English

9:50 a.m. – 10:10 a.m.

Tying the String Theories of Life: The Bartimaeus Trilogy and Modern Science
David Whitehead, Philosophy

10:10 a.m. – 10:30 a.m.

Elizabeth Bennet: The Anti-Heroine?
Laura Terreri, English

10:30 a.m. – 10:50 a.m.

The Dark and Sparkling Mirror: Exploration of "Rape of the Lock"
Naomi Kelsey, English

10:50 a.m. – 11:10 a.m.

The Vietnamese Experience
Phuong Le, HON400, All College Honors Colloquium

11:10 a.m. – 11:30 a.m.

The Apprenticeship of a Print Journalist in the Electronic Age
Carla Young, Journalism

11:30 a.m. – 11:50 a.m.

Louis Zukofsky and the "Objectivist" Poetics
Robert Turley Jr., English

11:50 a.m. – 12:10 p.m.

Theatre of Youth: A Community Resource
Amber M. Sherman and Stella Kim, COM439, Directing and Producing

12:10 p.m. – 12:30 p.m.

Navigating American Culture in the Kitchen: An Instructional Film for Refugees

Jaime Flor, Jonathan Bova, and Thomas Reilly,
COM 439, Producing and Directing

Business and Technology

Room 210

8:30 a.m. – 12:15 p.m.

Presenting:

8:30 a.m. – 8:45 a.m.

Lack of a Predictive and Preventive Maintenance Program at BSB Products Corporation
Steven Skorupski, Industrial Technology

8:45 a.m. – 9:00 a.m.

The Growing Problem of Digital Piracy on the Internet
Luke Dookhan, Industrial Technology

9:00 a.m. – 9:15 a.m.

The Role of E-Marketing: Overcoming Barriers to Markets
Nicola Hazboun, Graduate Exchange

9:15 a.m. – 9:30 a.m.

Writing Technical Manuals
John Titta, Industrial Technology

9:30 a.m. – 9:45 a.m.

Power Generation: A Lack of Control in Western New York
Brian VanDerwalker, Industrial Technology

9:45 a.m. – 10:00 a.m.

Residential Electricity Conservation
Jeff Kowalski, Industrial Technology

10:00 a.m. – 10:15 a.m.

Alternative Energy Sources to Power Monitoring Stations at Nuclear Closure Projects
Mark Guasteferro, Industrial Technology

10:15 a.m. – 10:30 a.m.

Harnessing the Power of the Sun: A Homeowner's Guide to Solar Utilization
Paul Kwiatkowski, Industrial Technology

10:30 a.m. – 10:45 a.m.

Applying Lean and J-I-T (Just-in-Time) Techniques to Reduce Muda
Wladimir Merard, Industrial Technology

10:45 a.m. – 11:00 a.m.

Eliminating Duplicate Orders in the Print Manufacturing Process
Daniel Herrmann, Industrial Technology

11:00 a.m. – 11:15 a.m.

Improving Speed to Market: Applying Lean Methods to the Manufacture of Shock Absorbers
John Schunk, Industrial Technology



11:15 a.m. – 11:30 a.m.

Simpler Telephone Wiring: Designing a Key Component for the Next Generation of Installations

Daniel Kochmanski, Industrial Technology

11:30 a.m. – 11:45 a.m.

Cast Iron Repair: Establishing a Standard Methodology

James Stermer, Industrial Technology

11:45 a.m. – 12:00 noon

Infrared Safe Opener

Joe Siegmann, Lawrence Guilford III, and Paul Whissel, ENT465, Electrical Circuit Design

12:00 p.m. – 12:15 p.m.

A Step-by-Step Guide to Starting a High School Trap Team

Isaac Habermehl, Industrial Technology

Education and Social Sciences

Room 210B

1:00 p.m. – 3:30 p.m.

Presenting:

1:00 p.m. – 1:15 p.m.

The Effect of Misleading Advertising Imagery on Consumer Behavior: Implications for an Emotion-Based Sleeper Effect

Sara Howard, Psychology

1:15 p.m. – 1:30 p.m.

Art Education: The Use of Technology in the Classroom

Nicole Mangano, Art Education

1:30 p.m. – 1:45 p.m.

Cutting-Edge Professional Portfolio

Katherine Johnson, Art Education

1:45 p.m. – 2:00 p.m.

Creating a Schoolhome in the Age of No Child Left Behind

Jesse Mank, English Education (7-12), Colleen DeLucia, English Education (7-12), and Jenelle Orosz, English Education (7-12)

2:00 p.m. – 2:15 p.m.

The Application of Differentiated Instruction in the Secondary English Classroom

Timothy Bek, English Education (7-12)

2:15 p.m. – 2:30 p.m.

Developing a Needs Based Curriculum for Art Education

Keriann Armusewicz, Art Education

2:30 p.m. – 2:45 p.m.

The Effects of Multicultural Literature on the Reading Motivation of West Indian Students

Marilyn Sohan, English Education (7-12)

2:45 p.m. – 3:00 p.m.

Mommy Wars: Stay at Home Mothers Versus Career Mothers

Melanie Jurek and Courtney Finnegan, EDF202, Child Development and Education

3:00 p.m. – 3:15 p.m.

Teaching to a Changing Multicultural Classroom

Sara Knapp, HON400, All College Honors Colloquium

3:15 p.m. – 3:30 p.m.

The Black Evolution: Chronicling the Renaissances of African American Thought

Cordero King, HON400, All College Honors Colloquium

Health, Sciences and Mathematics

Room 210

1:30 p.m. – 4:00 p.m.

Presenting:

1:30 p.m. – 1:45 p.m.

Health and Wellness Student Organ Donation Awareness Campaign

Marc Cancilla, Health and Wellness

1:45 p.m. – 2:00 p.m.

HPV Vaccine-Medical Celebration or Controversy: Get the Facts

Sarah Harris, Health and Wellness and Lindsay Bath, Health and Wellness

2:00 p.m. – 2:15 p.m.

Development of a Molecular Assay to Determine the Genotype of *Caenorhabditis elegans* at the Grp170a Locus

Deanna Rizzo, Biology

2:15 p.m. – 2:30 p.m.

Genetic Analysis of the Physiological Role of Grp170b in *Caenorhabditis elegans*

Amelia F. Alessi, Biology Secondary Education

2:30 p.m. – 2:45 p.m.

Effects of Round Gobies on Energy Flow of Lake Erie Tributary Streams

Christopher Janik, Biology

2:45 p.m. – 3:00 p.m.

Preliminary Genetic Analysis for Variation Among Clones of *Daphnia minnehaha*

Gertrude Antwi, Biology and Chemistry

3:00 p.m. – 3:15 p.m.

Tryptophan Scanning of the First Transmembrane Domain of Connexin43

Yvonne Woolwine, Biology

3:15 p.m. – 3:30 p.m.

What Do Rocks Have To Do With Wine?

Maura Kolb, Geology

3:30 p.m. – 3:45 p.m.

Rapid Scan FTIR Measurements of the Thermally Activated Decay of Metastable States I and II in Sodium Nitroprusside

Matthew Tarasek, Chemistry

3:45 p.m. – 4:00 p.m.

Progress Towards the Synthesis of Indian Yellow

Muhammet Cetin, Chemistry Education

Poster Sessions

Butler Library Lobby

8:30 a.m. – 4:45 p.m.

Session I: 8:30 a.m. – 9:30 a.m.

Presenting:

Adsorption of a Fluid in an Open Slit Between Non-Identical Solid Walls

Joseph Crawford, Mathematics

Are Tanning Beds Safer Than the Sun?

Johnny Duco, HEW411, Critical Issues in Health and Wellness

Developing Curricular Modifications for Students With Significant Disabilities Based on the General Education Curriculum

Chantal Wiedemann, Elementary Education and Exceptional Education and Joelle Bennett, Elementary Education and Exceptional Education

E. B. Green: Building a Foundation for Buffalo

Annalise Freling, HON400, All College Honors Colloquium

Education in the Twenty-First Century: Addressing the Needs of Diverse Students

Kyle Botkins, HON400, All College Honors Colloquium

Effects of Experience on Predator Avoidance Behavior of Crayfish

Nini Dong, Biology

The Effects of Preservation Time on the Caloric Content of Round Gobies

Almelia Brown, Biology

Expression of Two Genes Encoding GRP170 in *Caenorhabditis elegans*

William McDougall, Forensic Chemistry

Flushing Away Crohn's

Julie Ruzala, HEW411, Critical Issues in Health and Wellness

GIS Spatial Analysis of Crime Incidents and Household Income Distributions

Craig Lewis, GEG 430, Senior Thesis

How Mindless Do We Really Eat?

Daniel Lopez, HEW411, Critical Issues in Health and Wellness

The Interacting Effects of Habitat Complexity and Predation by Round Goby (*Apollonia melanostoma*) and the Effect on the Structure and Composition of Benthic Communities in Lake Erie

Eric Snyder, Biology

A Mathematical Model on Colony Collapse Disorder of the Honey Bee

Christopher Milazzo, Mathematics and Lee Canning, Mathematics

Observation of Protein Immobilization on Modified Amine-Terminated Organic Films on Silicon Substrates by FTIR and Ellipsometry

Lai Sze Wan, Forensic Chemistry, Paul Seidler, Forensic Chemistry, and Monique Wilson, Forensic Chemistry

Paul Cezanne: A New Perspective on the World

Emily Wopperer, HON400, All College Honors Colloquium

Say 'Y.E.S.' to Empowering Youth

Amanda Pawlik, Social Work

Tissue-Specific Changes in Fatty Acid Composition of Freshwater Alewives (*Alosa pseudoharengus*) in Response to Changing Temperatures

William Schregel, Biology

Tricks of the Trade: What Do Advertisements Really Say?

Tara Grimmer and Julie Drozdowski, HON400, All College Honors Colloquium

Virtual and Real World Integration

Michelle Kariuk, Fashion and Textile Technology

What If It's NOT Something You Ate?

Tara Ammerman, HEW411, Critical Issues in Health and Wellness

Session II: 9:30 a.m. – 10:30 a.m.

Presenting:

Armenian Artifacts: Culminating Anthropology and Design

Vincent Pontillo, Design

Art Education: From Theory to Practice

Rowan Kunz, Art Education

Beyond Bad Guys and Birthdays: The Importance of Play

Ashley Dlugosz and Kelli Johnson, HON400, All College Honors Colloquium

CA and DE Modeling of Biological Invasions and Ecosystem Engineering

Lee Canning, Mathematics and Michael Dixon, Mathematics

Characterization of Amino-Functionalized Organic Films on Silicon Substrates Under Controlled Preparation Conditions by FTIR and Ellipsometry

Catherine Fill, Forensic Chemistry, Paul Seidler, Chemistry, and Victoire Dushime, Chemistry

Demonstration of the Plutonium Breeder Reaction

Joseph Steiner and Aaron Anderson, HON400, All College Honors Colloquium

Does Training Improve Personal Care Aides' Understanding of Dysphagia and Diet Modifications?

Ryan Kelley, Speech-Language Pathology

Don't Panic: Holistic Versus Medication Treatments for Panic Anxiety

Julie Rodland, HEW411, Critical Issues in Health and Wellness

Elixir of Immortality

Laila Marchini, NFS330, Seminar on Complementary and Alternative Nutrition

Encouragement, Inspiration, and Reaffirmation

Melissa Crowell, Design

Fluid Density Distributions in Planar Slits

Aleksandr Matskevich, Biology

The Forgotten Illness
Shantel Ackley, HEW411, Critical Issues in Health and Wellness

It's All in Your Head, Take This Pill
Barbara Olivieri, HEW411, Critical Issues in Health and Wellness

Macbeth Modified Lesson Plan
Lauren Kessler, Elementary/Exceptional Education and Jillian Szeluga, Elementary/Exceptional Education

Making Connections: Creating a Successful Museum Internship Experience
Adrienne Watz, History and Museum Studies and Brooke Genter, Art History

Perception of Health Care by Race/Ethnicity and Gender
Giselle Vasquez, Sociology

The Preservation of the Present
Heather Gring, HON400, All College Honors Colloquium

Relationship Among Fabric Stretching Factor, Pattern Making Method and Body Size
Jing Jing Mei Liu, Jenny Kim, Kristan Lettiere, and Holly Keenan, FTT329, Design Knit Apparel

Rhino/CAD in Jewelry Design: Old School or New School?
Lizabeth Kelley, Design

The Super Bug-MRSA
Lindsay Klimtzak, HEW411, Critical Issues in Health and Wellness

Teaching Solids, Liquids, and Gases Concepts to First-Grade Students
Katie Haas, Elementary Education

Tradition Versus Convention: The Effects of a Traditional Inuit Diet
John English, HON400, All College Honors Colloquium

Vintage Industrialism
Mark Farrell, Design

Session III: 10:30 a.m. – 11:30 a.m.

Presenting:

Amine-Terminated Silane Self-Assembled Onto Silicon Surface and Protein Immobilization on Modified Surface
Lai Sze Wan, HON400, All College Honors Colloquium

Assessing Barriers to Round Goby (*Apollonia melanostoma*) Invasion of Great Lakes Tributary Streams
Shannon Rupprecht, Biology

Beer, Stale Bread and Raw Meat: A Good Diet for an Athlete?
Kristy Tartaglia, HON400, All College Honors Colloquium

A Calculus Based Approach to the Error Estimate for the Riemann-Stieltjes Trapezoid Rule
Edward Fazekas, Mathematics and Biology

Clothespin Microwave Transmitter and Receiver
Steven Wilser, Physics

Creativity Thinking and the Torrence Incubation Model of Teaching in Art Education
Marina Christopher, Art Education

Fluid Density Distribution in the Nanoslit
Joseph Crawford, Mathematics

"Freedom From Tyranny or Sacrificing Freedom?" US Development Assistance During the Global War on Terror
Nayrobi Rodriguez, Political Science

Garlic Supplements and Hypercholesterolemia
Amy Smalter, NFS330, Seminar on Complementary and Alternative Nutrition

Health Care 2008 and Beyond
Michael Ansell, HEW411, Critical Issues in Health and Wellness

How Much Nicotine Are You Getting Out of Your Cigarettes?
Ricky Mittiga, Kara Blando, and Eric Crandall, CHE389, Analytical Toxicology

Integrated Science-Based Learning and Teaching: Create, Publish and Share
Michele Beers, Norit Blecher, Kayley Croff, Laura Delaney, Janyl Drozek, Meghan Ferrando, Tiffany Gawne, Jessica Han, Megan Harf, Jamie Haseley, Lauren Kessler, Rebecca Krull, Rachele Ramage, Marla Sherwood, and Kelly Taggart, EDU312, The Teaching of Science and Mathematics in the Elementary School

The Issue of Insufficient Provision of Speech-Language Therapy to Adolescents: Causes, Consequences, and Proposed Responses
Kadyn Velez, Speech-Language Pathology

Killing Me Softly
Florresy Aristilde, HEW411, Critical Issues in Health and Wellness

Modified Extrusion
Gina Quadrone, Design

The Role of Grp170 in Protein Folding in the ER of *Caenorhabditis elegans*
Kripa Asrani, Biology

The Role of Teacher Candidates in Professional Development School Governance
Amy Bianchi, Early Childhood and Childhood Education, Sarah Kwiatkowski, Childhood Education, and Brooke Salzman, Masters Including Initial Teaching Certification

Television and its Portrayal of Marriage
Naomi Austin, Sociology

Tryptophan Scanning Analysis of the Third Transmembrane Domain (M3) of Connexin43
Glenn Horrigan II, Biology

Using Timelines to Reveal Creative Developments in Our Culture: Three Multimedia Presentations
Shannon Driscoll, Childhood Education, Rebecca Tasner, Childhood Education, Jessica Han, Childhood Education, and Danielle Witka, Childhood Education



We Got SNAG-ed in Savannah, Georgia
Melissa Crowell, Norah Ellingham, Lynette Chen,
Vincent Pontillo, Dorothy Rapp, Anthea Iatridis, Sooja Lee,
Rachel Feuerstein and Kristin Weipert, DES331/431, Junior
and Senior Jewelry Studio

Session IV: 11:30 a.m. – 12:30 p.m.

Presenting:

The Art of Dialogue: Buffalo-Lille

Cara Nisbeth, Art Education, Carrie Czumak,
Multidisciplinary Studies, Mary Woods, Interdisciplinary
Studies, and Brian De Angelo, Interdisciplinary Studies

Design of an Ergonomic Process to Assemble an Implantable
Lithium Battery

Andrew Pingitore, Mechanical Engineering Technology and
Nicholas Drewniak, Mechanical Engineering Technology

Do You Know What You're Eating: Pesticide Determination in
Vegetables?

Michele Wiszowaty, Brittany Gipple, and James Rojecki,
CHE389, Analytical Toxicology

Do Perfectionists Think Differently? The Relationship Between
Perfectionism and Regulatory Focus

Shasha Liu, Psychology

The Effect of Feminism on Men's and Women's Perceptions
of Attractiveness

Jessica Chilicki, Psychology

The Effects of Media Portrayals of Dangerous Driving on Young
Drivers' Performance

Sara Howard, Psychology

Evolution and Reactivity of Amine-Terminated Self Assembled
Monolayers (SAMs)

Catherine Fill, HON400, All College Honors Colloquium

Ginametrical Abstractions

Gina Quadrone, Ceramic Design

HIPERC Microwulf Project

Stephen D. Holder, Math Secondary Education,
Le'Nee Threats, Computer Information Systems,
Francesca Sylvester, Applied Math, Tiffany Smith, Social
Work, and Tom Geblein, Computer Information Systems

Mini Baja Design

Shawn Foti, Mechanical Engineering Technology, Dan Rupp,
Mechanical Engineering Technology, Zach Tyo, Mechanical
Engineering Technology, and Ken Matela, Mechanical
Engineering Technology

Petrographic Analysis of Rocks Along a Single Large Exposure at
the Contact of the Sebago Pluton, Southern Maine

Kelly Nyitrai, Earth Science Education and Crystal Gerovac,
Earth Sciences

Religion in Psychology

Jessica Regina Wilson, Psychology

The Return of Social Studies to Early Childhood Education

Amy Bianchi, Early Childhood and Childhood Education, and
Ashley Konka, Early Childhood and Childhood Education

Spiritual Connectedness of Young Adults With Mental and
Emotional Difficulties

Sarah Fritz, Social Work

Study of the Underground Without Digging: Using GPR to Image
Subsurface Tuff Ring Deposit Shape

Lindsay Tebo, Geology

Teaching Social Studies Through Your Community

Brittany McCarty, Exceptional Education and Elementary
Education and Trisha Podlaski, Early Childhood and
Elementary Education

Using Cooperative Learning to Prepare for Teaching Math During
Junior Participation

Melissa Jenkins, Stella Amoako, Rachel Berg,
Stephanie Borkowski, Jenna Calorico, Justin Celmer,
Peter Fichter, Mariyah Goodbee, Gina Heinzinger,
Nicolas Kalczynski, Lauren Lipiecki, Amy Manley,
Joe Strasser, Kara Tornquist, Danielle Witka, and
TaNishae Vishion, EDU312, Teaching Mathematics and
Science

Views of the Mother and Father as Related to Young Adults' God
Concepts

Bethany Wagner, Psychology

Views Toward Steroid Use and Negative Eating Behaviors and
Attitudes in a Non-Clinical Sample of College Students

Jennifer Felber, Psychology

A Walk Through Allegany's Geology

Karrie Sue Duffett, Geology

Yoga: For Reduced Stress and Optimal Health

Richard Santucci, NFS330, Seminar on Complementary and
Alternative Nutrition

Session V: 12:30 p.m. – 1:30 p.m.

Presenting:

Audience Appeal and the Praise Band at Faith Lutheran
Church, Elma

Daniel Stachelski III, Music Education

Biodiesel: Cleaner, Cheaper, and Renewable

Sharayah Walker, Mechanical Engineering Technology

A Biotelemetric Study of the Thermal Ecology, Behavior,
and Home Range Movements of Diamondback Terrapins
(*Malaclemys terrapin*) in Barnegat Bay, New Jersey

Jacqueline Walters, Biology

Data Mining in the NBA

Addam Simon, Computer Information Systems

Global Travel Sketchbook Tour

Melanie Beitel, Communication Design

Granite Plutons in Relation to Migmatites: Documenting a New
Exposure at a Pluton Contact in Southern Maine

Lindsay LaFleur, Geology

How Glaze is Effected by Clay Body

Chad Pentoney, Art Education



Individuals' Overcompensation for People With Disabilities
Rebecca Darch, Psychology

Influential Metalsmiths
Vincent Pontillo, Design

Interpreting Geology Depicted on the First Geological Map Ever Produced and Assessment of Artistic Techniques Used by William Smith in His Landmark "Map That Changed the World"
Jennifer Grasso, Geology

Irish Folk Music: The Driving Force for Audience Participation
Siobhan O'Brien, Music Education

Is It a Volcano?
Todd Whelan, Geology

Mapping on Mars: MTM -15017
Luke Ganley, Earth Science Education

A Musical Experience: Japanese Anime and Western Music
Heather Estep, Music

Pollution Prevention in Hotels
Jessica Wiczorek, Hospitality Administration

The Recall of Gender Stereotyped Images
Gina Benevento, **Jessica Chilicki**, **Emily Sheehan**, and **Bethany Wagner**, PSY450, Research Methods in Psychology

Redesigning a Remotely Operated Underwater Vehicle
Henry Nordee, Mechanical Engineering Technology, **Garrett Nimmo**, Mechanical Engineering Technology, and **Zach Tyo**, Mechanical Engineering Technology

Spelling Characteristics of Adults With Atypical Spelling
Inna Sen, Speech-Language Pathology

Stereotypes About Undocumented Workers: A Cross-Cultural Study
Shasha Liu, Psychology and **Ting Yi Fang**, Psychology

Temperature Dependence of a Fluid Adsorption in a Planar Slit Between Two Solid Walls
Mark Lojaco, Biology, **Sean Lucas**, Electrical Engineering Technology, and **Joseph Crawford**, Mathematics

When a Shovel is Not Enough - Utilizing GPR to Determine Scoria Deposit Depth
Thomas Bohlen, Earth Science Education

Session VI: 1:30 p.m. – 2:30 p.m.

Presenting:

Astronomy and Data Mining
Aurora Park, Computer Information Systems

County Mental Health Response to Community Disadvantaged
Barbara Sylvester, Psychology

Curiosity in Science and Science Education Majors
Stefani Petre, Exceptional Education

Design in Action: Theater of Youth
Jordan Richmond, Theater, **Scott Jarrett**, Communication, and **Andy Rozak**, Communication

The Effects of Televised Verbal Aggression on Subsequent Behavior in a College Population

Erin Carr, Psychology and Philosophy

Factors Contributing to Risky Sexual Behavior
Erica Miller, Psychology

From One to Many: Creating Ensemble in Barbershop Music
Trevor Jelowski, Music Education

Gaining an Appreciation of Diversity in a College Setting
Danielle Bagley, Psychology

Geomorphic Mapping in Margaritifer Terra, Mars: MTM – 20022
Jacob Hodgson, Earth Sciences

Hard Rock Research in Advanced Petrology – Year Two
Thomas Bohlen, **William Burghardt**, **Crystal Gerovac**, **Charles Harding**, **Robert Klinshaw II**, **Maura Kolb**, **Michele Marzolf**, **Joanna Rush**, **Lindsay Tebo**, and **Todd Whelan**, GES401, Igneous and Metamorphic Petrology

Hindu Cultural Symbols in Modern Design
Vincent Pontillo, Design

Once Upon a Time: Analysis of Three Regional Fairy Tales
Sara Walker, HON400, All College Honors Colloquium

Sound and Sense: Forging Healing Through Creative Metal-Smithing
Kimberly Davis, Individualized Studies

Spectroscopic Geo-Sourcing of Lapis Lazuli Used In Artists' Pigment Production
Robert Klinshaw II, Earth Sciences

A Stormwater Investigation of the Buffalo State Campus
Joseph Drakes, Urban Planning and **Kerry Kleinfelder**, Geography

Strainer Re-Design Project
Henry Nordee, Mechanical Engineering Technology and **Garrett Nimmo**, Mechanical Engineering Technology

Then and Now: The Relationship Between Traditional Seneca Stories and Modern Ceremonial Seneca Instruments
Melissa Steiger, Music Education

Torque Fatigue Testing Apparatus
Ramon Fyffe, Mechanical Engineering Technology, **Daniel Rupp**, Mechanical Engineering Technology, and **Kenneth Matela**, Mechanical Engineering Technology

Web Mining in E-commerce
Anthony Bandoh, Computer Information Systems

Wood, Fire, and Clay
Angela McCormack, Design and Art Education

Session VII: 2:30 p.m. – 3:30 p.m.

Presenting:

The Analysis of 18th Century Archaeological Glass Trade Beads From Fort Niagara

Ariel O'Connor, Art Conservation

Can Viewing Characters Smoke in Commercials Impact Desire to Smoke Among Viewers?

Nicole Bayldon, Stephanie Dahlgren, Amber Goppelt, Santina Gregori, Jennifer Howells, Alexis Krieger, Joseph Meyer, Andrew Palka, Jacqueline Pritchard, Katie Rozek, Michael Scalisi, Michael Smietana, Barbara Sylvester, Zaneta Taylor, and Jessica Wilson, PSY450, Research Methods in Psychology

Data Mining in Health Care Systems

Bhypone Xomvilaysack, Computer Information Systems

Dewatering the Erie Canal: Effects on Benthic Communities

Denise Clay, Biology

Effect of Particle Size on Tephra Drying

Andrew Lannan, Earth Sciences

An Examination of Incoming Freight From Canada in a Post September 11th Era

William Maryniwski, Urban-Regional Analysis and Planning

Growing Through Song: The Development of a Musical Community

Aurora Boneberg, Music

How Accessible Is Accessible For the Disabled?

Jaritzta Molina and Tamike Lewis, EXE 100, Nature and Needs of Individuals with Special Needs

Hydrogen on Demand

Eric Hill, Mechanical Engineering Technology

Interactions of Listeners and Disc Jockeys in a Public Venue

Jacob Frasier, Music

Lead Distribution in Public Soils - Are Children at Risk?

Crystal Gerovac, Earth Sciences

Maximum Weight Detector for Leg Injury

Jeffrey A. Wilcox, Jacob Pauli, and Tim Gallien, ENT465, Electrical Circuit Design

Microextraction of Cannabinoids in Hair Samples

Allyse Fischer, Kyle Doty, and Greg McLaughlin, CHE389, Analytical Toxicology

More to the Story Than Meets the Eye: This Book Sounds Good

Hillary Fayle, HON400, All College Honors Colloquium

Pre-testing a Social Work Alumni Evaluation Survey for Reliability

Kyla Christie, Social Work

Relationship of Academic and Personal Stress Levels to Drug and Alcohol Use in College Students

Nicole Bayldon, Psychology

Remote Monitoring and Data Logging

Stephen McPherson, Kyle Siy, and Eric Lesinski, ENT465, Electrical Circuit Design

Revising Methods for Moisture Removal in Tephra Bulk Samples

Justine Parada, Earth Science Education/Geology

Surface Cleaning: Analysis of Sponge Abrasion on Paintings

Cynthia Albertson, Art Conservation

Surviving a Broadway Legend

Jennifer Kennedy, HON400, All College Honors Colloquium

Theatrical Set Design From Conception to Production and Beyond

Eric Moslow, Theatre

Varying Classroom Standards for Standardized Testing

Clair Kusyj and Christine Malinverni, EXE 100, Nature and Needs of Individuals with Special Needs

Session VIII: 3:30 p.m. – 4:30 p.m.

Presenting:

Are Students With Learning Disabilities Really That Different?

Hallie Goldstein, Shaniqua Peterson, and Tawana Robinson, EXE 100, Nature and Needs of Individuals with Special Needs

The Association Between Prenatal Cocaine Exposure and Physiological Regulation in Thirteen Month Old Infants

Susan Danielewicz, Psychology

Comparing the Grand Canyon of the East to the Western One

Jessica Gorom, Earth Science

The Corrosion of Stainless Steel

Robert Krueger, Art Conservation

Data Mining in Retail Inventory

Jonathan Rosas, Computer Information Systems and **Jeff Bailey**, Computer Information Systems

Determination of Estrous Cycle Stage in Rats: Vaginal Lavage Technique

Gina Benevento, Psychology and **Tomicka Madison**, Psychology

Does Ecstasy Use Induce Lasting Changes in Somatosensory Function?

Tamika Adams, Nicole Balydon, Gina Benevento, Yusef Bravo, Leoni Cameau, Erin Carr, Jessica Chilicki, Cory Clontz, Michael Downie, Juile Eppolitov Samantha Fernandez, Carnita Hill, Nathan Lee, Rhudwan Nihlawi, Abigail Pardue, Vincenzo Piraino, Donna Reed, Natale Sciolino, Julia Spak, Jennifer Vega, Kevin Villareale, and Victoria Wolf, Psychology Club

The Effectiveness of Two Cationic Fixatives in Stabilizing Water-Sensitive Dye-Based Inks on Paper

Stephanie Porto, Art Conservation

Finding "Treasure" in Western New York

Ernest Thalhamer, Geology

Forensic Scientists Kiss and Tell: Lipstick Chromatography

Janet Havel, HON400, All College Honors Colloquium

Impact That Rain Has on Beach Closings in Erie County,
New York

Joseph Drakes, Geography and Planning

A Look at What You Are Breathing

Karrie Sue Duffett and **Nick Loncto**, GES460, Environmental
Field Methods

Rebels With an Excuse: Assessing Additional Reasons for
College Drinking

Elyssa Rookey, Psychology and **James Hoinski**, Psychology

Redesigning the Erection System for CS32 Umbrella

Ryan Jones, Mechanical Engineering Technology,
Ramon Fyffe, Mechanical Engineering Technology and
Chris Liddell, Mechanical Engineering Technology

“R-E-S-P-E-C-T”: Karaoke and the Environment

Bonnie Wistner, Music

The Sons of Django: A Study of Gypsy Jazz Music in Buffalo

Melissa Herr, Music

Tainted Taps: A Drinking Water Quality Analysis of Buffalo State
College

James Manzione and **Richard Lyons**, GES460,
Environmental Field Methods

To Build or Not to Rebuild? New Orleans is in Question

Joseph Bella, GES224, Geological Hazards

Understanding Learning Disabilities

Marshay Hawks, **Jaznique Warrick**, and **Asia Stephens**,
EXE 100, Nature and Needs of Individuals with Special
Needs

Wanted: Old Man Winter

Christopher Cramer, Broadcasting

What's in Your Water?

Jennifer Grasso and **Maura Kolb**, GES460, Environmental
Field Methods

Where is it Windy at Buffalo State College?

Matt Cutolo, Geography

Undergraduate Summer Research Fellowship Program

Melanie Beitel, Communication Design
Faculty Mentor: Professor Richard Ross, Design
Abstract Title: **Global Travel Sketchbook Tour**

Melanie will graduate with a BFA degree in Design (Communication) in May of 2008. She plans to pursue a career in graphic design or continue her education and obtain a Master's degree in the art field.

Melanie's project started with her participation in the Design Department's Eastern Europe Study Tour. She documented the trip to show others the value of this educational experience, including designing a website to showcase the tour and related experiences, as well as provide information about the course for interested students. The completed website is being linked to the Buffalo State College website. The site includes photo galleries of various cities and other thematically organized image collections. It can currently be viewed at <http://bscstudent.buffalostate.edu/beitmc74/web1/europe/Homepage.htm>



Erin Carr, Psychology
Faculty Mentor: Professor Dwight Hennessy, Psychology
Abstract Title: **The Influence of Verbal Aggression in Adult Animated Programs on Subsequent Verbal Aggression in Young Adults**

Erin is earning a double major in Psychology and Philosophy and is graduating in May, 2008. She plans to pursue a graduate degree in Social Psychology.

For her project, Erin studied the impact of verbally aggressive adult animated television programs, personality types, and the researcher's competence (frustration) on subsequent verbal behaviors. This study examined the effects of adult animated television shows on subsequent verbally/symbolically aggressive actions of adults. Her research findings showed that viewing verbal aggression in animated television shows increased subsequent aggression towards the researcher, independent of frustration.



Recipients of Undergraduate
Summer Research Fellowships in 2007

Kimberly Davis, Individualized Studies

Faculty Mentor: Professor Stephen Saracino, Design

Abstract Title: **Forging Healing Through Creative Metal Smithing**

Graduating in the spring of 2008, Kimberly Davis will earn her Bachelor of Science in Individualized Studies. After graduating, she plans to teach within the Waldorf Charter schools system. She hopes to encourage and inspire children to take responsibility for their own self-education and develop a leadership role in choosing their own life experiences.

Her research this past summer gave her the opportunity to explore and combine Eastern and Western philosophy, creative problem solving and metal design. Inspired by ancient Tibetan singing bowls, she formed a sound vessel from a flat sheet of metal, she was able to achieve a multi-dimensional art experience not only by creating a bowl.



Edward Fazekas, Mathematics

Faculty Mentor: Professor Peter Mercer, Mathematics

Abstract Title: **The Trapezoid Rule for the Riemann-Stieltjes Integral**

Ed will graduate in May of 2008 with a dual degree in Mathematics and Biology. He plans to continue his education by pursuing a Ph.D. in Biostatistics. He is interested in eventually obtaining a research position.

For his project, Ed studied the Midpoint Rule for the Riemann integral and the Trapezoid Rule for the Riemann-Stieltjes integral. Extending a certain method of integration by parts “backwards,” he was able to obtain error estimates for each of these quadrature rules.



Christopher Janik, Biology

Faculty Mentor: Professor Christopher Pennuto, Biology

Abstract Title: **Effects of Round Gobies on Energy Flow of a Lake Erie Tributary Stream**

Christopher is graduating in May, 2008 with a bachelor’s degree in Biology (emphasis in Aquatic Biology) and a minor in Cultural Anthropology. He is a graduate of Niagara County Community College where he received his A.S. degree in Environmental Science. He plans on pursuing a career in environmental conservation after graduation.

Chris’ research investigated the relationship between round goby diet, prey abundance, and the energy content of selected prey. Ultimately, he sought to determine if round gobies consumed the most energetically profitable prey. His research concluded that gobies did not select prey with the highest energy content, but they consumed the most abundant type of prey available in their habitat. Part of this work has been submitted for publication in the Journal of Great Lakes Research with Chris as a co-author.



Lizbeth Kelley, Design (Metals/Jewelry)

Faculty Mentor: Professor Tara Nahabetian, Design

Abstract Title: **Rhino/CAD in Jewelry Design: Old School or New School?**

Lizbeth Kelley will graduate with a B.F.A. in Metals/Jewelry in December, 2009. She is currently employed in the commercial jewelry industry. Lizbeth plans to go on to graduate school and pursue a career as a professor in jewelry design and metalsmithing.

Lizbeth's research involved the process of computer-aided modeling utilizing RhinoCAD software and a variety of manufacturing processes. Her research explored designing and building three-dimensional jewelry designs and objects within the CAD environment. She produced a hardbound book and DVD that illustrates a number of rapid prototyped models and a selection of finished jewelry.



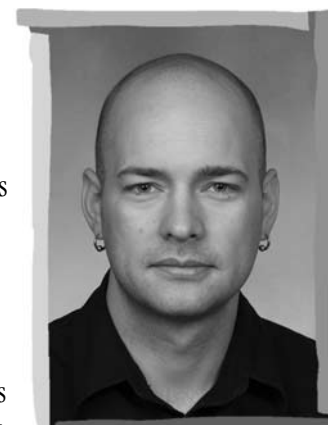
Robert J. Klinshaw II, Geology

Faculty Mentor: Professor Greg Smith, Art Conservation

Abstract Title: **Chemical Provenance of Lapis Lazuli Pigment (Ultramarine) in Artwork**

Robert will graduate with a Bachelor of Science degree in Geology in May, 2008. He plans to attend graduate school and pursue a Masters in geology.

Rob's research involved testing a previously reported protocol for geosourcing lapis pigment in artwork by using infrared (IR) spectroscopy. This protocol was published as a case study for the use of IR in conservation by scientists at the Getty Conservation Institute (GCI). He further probed the potential of IR microspectroscopy to indicate the origins of lapis pigment samples taken from artwork. Robert presented his findings at the Geological Society of Americas' annual meeting held in Denver in October 2007.



Lindsay Lafleur, Geology

Faculty Mentor: Professor Gary Solar, Earth Sciences and Science Education

Abstract Title: **A Granitic Pluton and Migmatites: What is the Nature of the Contact Within a New Outcrop, Sebago Lake Region, Maine**

Lindsay received her Bachelor of Science degree in Geology in December, 2007. She is currently employed as a field geologist in the New York City area. Lindsay plans to attend graduate school to fulfill her goals to continue with field research in geology with a concentration in hard rock and environmental geology.

Lindsay's research consisted of field and laboratory work documenting the distribution and geometry of rock types in an exposure in southern Maine. Her work included quantifying mineral patterns and structures, and collecting representative samples to augment field data with supporting laboratory analytical work. Her work provided detailed information regarding the crustal record of inferred molten-rock (magma) flow from where rocks melt to where they crystallize. Lindsay presented her research at the Northeastern Geological Society of America meeting held in Buffalo, NY in March, 2008.



Angela McCormack, Design
Faculty Mentor: Professor Robert Wood, Design
Abstract Title: **Wood, Fire, and Clay**

Angela will graduate with a dual degree in Design and Art Education, as well as a minor in Art Therapy in May, 2008. After graduation she plans on pursuing a teaching job in addition to working in the field of ceramics; after gaining experience in those areas she plans on furthering her education by pursuing a Masters degree.

For her project Angela researched the wood kiln firing process to find a more efficient way to fire the kiln. By doing multiple firings, experimenting with different variables, she was able to find out what was slowing the process down. She was also able to develop a glaze palette that compliments the effects of this specific kiln. The students in the Buffalo State Ceramics Program are now able to use these findings to take full advantage of this kiln.



Eric Moslow, Theatre
Faculty Mentor: Professor Carol Beckley, Theatre
Abstract Title: **Theatrical Set Design from Conception to Production and Beyond**

Eric will graduate in May of 2008 with a B.A. in Theater and a concentration in set design. Eric returned to theater after two years of mechanical engineering at ECC. Eric was the Set Designer for Betty's Summer Vacation, Assistant Technical Director for The Diary of Anne Frank, Antigone, and The Baltimore Waltz, the light board operator for The Diary of Anne Frank, and the sound board operator for Dangerous Liaisons. He plans to continue his theatrical studies at a graduate level.

Eric's project involved continuing work on Betty's Summer Vacation, including building a full color model, creating color renderings, developing professional presentation techniques and creating a portfolio. His work was included in the Kennedy Center American College Theatre Foundation Region II Festival design competition in January 2008 at Carnegie Mellon University.



Nayrobi Rodriguez, Political Science
Faculty Mentors: Professor SimonPeter Gomez and Professor Patrick McGovern, Political Science
Abstract Title: **"Freedom From Tyranny or Sacrificing Freedom?" US Development Assistance during the Global War on Terror**

Nayrobi will graduate with a B.A. in Political Science in May 2008. She plans to pursue her graduate degree in International Relations.

For her study, Nayrobi analyzed the impact the Global War on Terror has had on United States foreign assistance. This study attempted to answer the question: Is the United States sacrificing human rights at the alter of national security? Her research findings showed that the United States is not committed to human rights and reducing poverty around the world as it has previously preached.



Inna Sen, Speech-Language Pathology

Faculty Mentor: Professor Christine Scott, Speech-Language Pathology

Abstract Title: **Spelling Characteristics of Students with Atypical Spelling**

Inna graduated in December 2007 with a BS in Speech-Language Pathology. She is in the graduate program for Speech-Language Pathology at Nazareth College. Her undergraduate research project encouraged her to pursue her Master's degree, and eventually a Ph.D. in Speech-Language Pathology. This project became the basis for her graduate research studies. Inna will be presenting her research at the New York State Speech and Hearing Association's Convention in April, 2008 in Saratoga Springs.

The goal of Inna's research project was to identify the specific spelling patterns that adults with atypical spelling still have not mastered. Once participants met the inclusionary requirements, participants were administered the Spelling Performance Evaluation for Language and Literacy test. After analyzing the results, Inna was able to identify the specific spelling patterns that had not been mastered by adults with atypical spelling.



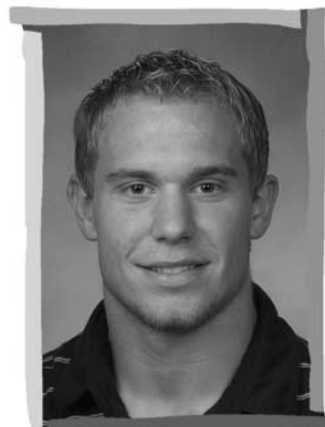
Matthew Tarasek, Chemistry

Faculty Mentor: Professor Kim Bagley, Chemistry

Abstract Title: **Time Resolved Infrared Studies of Metastable States in Sodium Nitroprusside**

Matt is an honors student majoring in chemistry with a minor in physics. He is also a student athlete and was a varsity football player on Buffalo State's football team for three years. He will graduate in May 2008 and plans to pursue a doctoral degree in analytical or physical chemistry. He hopes to work in the pharmaceutical industry when he completes his studies.

For his research project, he used Fourier transform infrared difference spectroscopy to study light-induced metastable linkage isomers in Sodium Nitroprusside. Understanding the energetics of this system has implications for the design of a new class of fast optical switches. The results of this project were presented at the American Chemical Society national meeting held in New Orleans, LA in April, 2008.



Robert Turley, English

Faculty Mentor: Professor Lisa Berglund, English

Abstract Title: **Louis Zukofsky and "Objectivist" Poetics**

Robert is working on a B.A. in English, and will graduate in 2009. After graduation, he plans to further his education until he is able to teach in the college setting; his immediate plans include furthering the dissection of Zukofsky's career, and a never-ending survey of Modernist poetry and literature.

Robert's project entailed a study of a small portion of the Lockwood Memorial Library at the University at Buffalo, which holds dear a remarkable collection of Louis Zukofsky's written correspondence with authors and publishers of his time. Robert spent much of the summer studying this collection, in an attempt to evaluate the patterns of change and dynamic continuity in the author's writing over time.



Yvonne Woolwine, Biology

Faculty Mentor: Professor Martha Skerrett, Biology

Abstract Title: **Tryptophan Scanning of the First Transmembrane Domain of Connexin-43**

Yvonne will graduate in May 2008 with a major in Biology and a minor in Chemistry. After graduation, she would like to attend graduate school and earn a Ph.D. in molecular or cellular biology with the ultimate goal of becoming a research scientist.

For her research, Yvonne studied gap junction proteins using the *Xenopus* oocyte expression system. She first used molecular mutagenesis techniques to substitute tryptophan for other amino acids in connexin43. She then expressed the protein in *Xenopus* oocytes and determined the functional effect of each mutation using dual cell voltage clamp techniques. This work provides insight into the location and role of transmembrane domain interactions in gap junction proteins.



Carla Young, Communication

Faculty Mentor: Professor William Raffel, Communication

Abstract Title: **The Apprenticeship of a Print Journalist in the Electronic Age**

Carla Young received her bachelor's degree in Communication Studies in December 2007. Carla is now employed as a copy editor at The Journal News, as a result of her internship. She would like to obtain a graduate degree in documentary film making.

For her project, Carla produced a documentary about her internship through the Dow Jones Newspaper Fund, a prestigious national program. She received advanced training in newspaper editing at Pennsylvania State University before interning at the Journal News in White Plains, NY. The documentary illustrates how cross-platform media convergence is changing print newsrooms through enhanced audio-visual content presentation, while showing the internship process at each stage.



Arts

The Analysis of 18th Century Archaeological Glass Trade Beads From Fort Niagara

Ariel O'Connor, Art Conservation

Faculty Mentor: Professor Aaron Shugar, Art Conservation

Note: Complete Abstract in 'Science and Mathematics, page 57

Presentation Type and Session: Poster Session VII

Armenian Artifacts: Culminating Anthropology and Design

Vincent Pontillo, Design

Faculty Mentor: Professor Tara Nahabetian, Design

Cultural anthropology influences the objects that I create. In metal forming, I am naturally attracted to symbols that can be used figuratively or abstractly within a piece. By researching national, regional, or religious symbols pertaining to an assemblage of its people, I collect historical symbolism and artifacts to develop a core source for inspiration. In an anthropological structure, the symbol used is a catalyst for object creation. While researching Armenian cultural artifacts, my research on jewelry and the technique of filigree has expanded into traditional Armenian lace making. Furthering my research, I have also traveled to the St. John's Armenian Church in Southfield, Michigan to visit their artifact and manuscript museum. Communally, I use this research to develop a culturally contextual, contemporary designed piece. During the presentation, I will show a detailed slide show on the creation of this piece, the piece itself, as well as my research on Armenian artifacts, culture and the Armenian Museum.

Presentation Type and Session: Poster Session II

The Art of Dialogue: Buffalo-Lille

Cara Nisbeth, Art Education, **Carrie Czumak**, Multidisciplinary Studies, **Mary Woods**, Interdisciplinary Studies, and **Brian De Angelo**, Interdisciplinary Studies

Faculty Mentor: Professor Robert Wood, Design

How can art be used to produce cross-cultural dialogues that engage youth? How does globalization effect youth? How does stigma and prejudice form in the minds of young people? How can we use art to work through differences and create bridges of understanding? What is a global citizen? How do we define literacy in a global context? The Art of Dialogue rests on the belief that engaging children in artistic expression, as a means to examine their individual identity within a global context can be a catalyst for conversation necessary to create tolerance and understanding amongst

diverse young people. The Art of Dialogue will begin the first exchange, July 2008 between Buffalo, New York and Lille, France. This connection was formed in conjunction with Sister Cities International's Buffalo-Lille Association Inc. This program presents the opportunity for youth from associated cities to engage in a sequence of aesthetic art experiences to develop and express their ideas. The cross-cultural dialogue will focus on self-identity within local and global communities. The Art of Dialogue team will guide students to communicate through artistic mediums. Time will be allotted for reflection, inquiry, discussion, and journaling. With this time, the above questions will be addressed and can begin to be answered.

Presentation Type and Session: Poster Session IV

Audience Appeal and the Praise Band at Faith Lutheran Church, Elma

Daniel Stachelski III, Music Education

Faculty Mentor: Professor Sarah Meredith, Music

In the 1960's, the idea of contemporary worship and contemporary Christian music emerged. The goal of this new style was to appeal to the younger generation. This type of music was and still is controversial; however, many churches value it, believing it brings younger people to faith. My study will focus on the Praise Band at Faith Lutheran Church in Elma, NY, and how it's music appeals to the younger generation. Data will be gathered via natural observation at services and interviews with band members and parishioners. Through this data, I will explore the culture that surrounds the contemporary worship service and the value that is placed on the music.

Presentation Type and Session: Poster Session V

The Central Portal at Vézelay: The Culture Behind the Carvings

Juan T. Jesús, Art History

Faculty Mentor: Professor Harriet Blitzer, Fine Arts

While there have been numerous studies devoted to the subject matter of the central portal in the narthex of Sainte-Madelaine de Vezelay, an abbey church in southern France, this sculptural narrative remains a rich source in need of further work. My research explores the sculptural program as a possible display of religious reforms occurring in the community of Vezelay in the 12th century AD. Previous research on this portal has resulted in differing interpretations of the subject matter. Scholars have suggested that it may refer to Pentecost, to the Mission of the Apostles, or to excerpts from the Bible, specifically, Ephesians 2: 11 – 22. Although these interpretations are well-argued, the portal is extremely complex and therefore does not favor one

explanation over another. Through a critical review of published studies on the portal and an intensive examination of the forces – social, religious, political and economic – of the time, I hope to establish more clearly the place of this portal in the art and culture of 12th century France.

Presentation Type and Session:

Oral – Arts and Humanities

**Contemporary Catholic Music:
An Oxymoron?**

Christopher DeVries, Music Education

Faculty Mentor: Professor Sarah Meredith, Music

Some people outside the Catholic Church may stereotype Catholicism as conservative and traditional. However, more and more Catholic churches in the Buffalo diocese are adopting contemporary music groups. How, and to what extent does contemporary music affect the ordinary Catholic? At a Roman Catholic Church in Lancaster, there is a contemporary music group that leads the congregation in singing. The current instrumentation of the group studied consists of guitars (both acoustic and electric), violin, sometimes flute, and vocalists. Through observation, interviews, and secondary research, this investigation will explore how contemporary music affects contemporary Catholics.

Presentation Type and Session:

Oral – Arts and Humanities

The Corrosion of Stainless Steel

Robert Krueger, Art Conservation

Faculty Mentor: Professor Aaron Shugar, Art Conservation

Note: Complete Abstract in 'Science and Mathematics, page 59

Presentation Type and Session: Poster Session VIII

Design in Action: Theater of Youth

Jordan Richmond, Theater, **Scott Jarrett**, Communication, and **Andy Rozak**, Communication

Faculty Mentor: Professor Meg Knowles, Communication

This project is a short documentary film produced as a project for a "service learning course." This project not only gave us the opportunity to learn more about planning and producing a productive documentary video, but also allowed us to give back to the Buffalo community. We worked in collaboration with Taunee Grant of TOY Theatre to develop the film concept. This promotional film specifically targets foundations and state arts funding agencies, with the purpose of vividly presenting the importance of design in theatrical productions at TOY. We learned that production design, sets and costumes are the costliest elements of theatrical production, and yet are the most important in bringing theatre to life. Our team utilized an interdisciplinary

approach to the assignment, taking advantage of Theatre major Jordan Richmond's experience in production design, and COM majors Andrew Rozak and Scott Jarrett's background in media production. We planned and shot interviews, backstage footage and rehearsals, as well as capturing the flavor of the Allentown neighborhood where TOY is located. We ultimately learned how two mediums were able to come together for one common goal. This experience was an excellent opportunity to write, produce and edit a complete documentary piece. It was a challenging experience with a rewarding outcome.

Presentation Type and Session: Poster Session VI

**E. B. Green: Building a Foundation
for Buffalo**

Annalise Freling, HON400, All College Honors Colloquium

Faculty Mentors: Professor Andrea Guiati, Director, All College Honors Program and Professor Louis Rera, Communication

Have you ever driven by a building in Buffalo and gazed in awe at its grandeur magnificence? When most Western New Yorkers hear the name E. B. Green, a top 10 American Steak House comes to mind. However, E. B. Green was one of Buffalo's top architects during the late nineteenth and early twentieth centuries. E. B. Green has defined much of the character of our city and over 200 of his buildings still stand in Western New York today. From the mansions on millionaire row, to the casino on Hoyt Lake, to several churches and the famous Albright-Knox Art Gallery, Green has left a lasting impression on the Buffalo community. I will use photography to capture examples of Green's work. The main goal of my research is to show how E. B. Green's many architecture styles and buildings are distinct staples of Buffalo.

Presentation Type and Session: Poster Session I

**The Effectiveness of Two Cationic Fixatives
in Stabilizing Water-Sensitive Dye-Based
Inks on Paper**

Stephanie Porto, Art Conservation

Faculty Mentor: Professor Aaron Shugar, Art Conservation

Note: Complete Abstract in 'Science and Mathematics, page 61

Presentation Type and Session: Poster Session VIII

**Encouragement, Inspiration, and
Reaffirmation**

Melissa Crowell, Design

Faculty Mentors: Professor Tara Nahabetian, Design and Professor Stephen Saracino, Design

Three pieces of my design were accepted for two juried exhibitions sponsored by the Society of North American Goldsmiths (SNAG) annual conference held in Savannah

Georgia in March 2008. “Cleome”, a silver spiculum necklace was included in “Surge: Juried Student Exhibition” at the Space Gallery, Savannah College of Art and Design. Two of my digital photographs, both of my jewelry, “Cleome” and “Lace”, were included in “Cresting: Juried Student Slide Show”. The conference offered numerous professional lectures, juried jewelry design exhibitions, a professional development seminar, and the Connections Room where I was able to discuss graduate school possibilities. During a portfolio review I met with Andrew Wagner, editor-in-chief of American Craft magazine. He suggested I compile my Hurricane Katrina jewelry series into a book and requested I contact him when this is complete. Upon my return to Buffalo, I was contacted by Gail Brown, independent contemporary craft curator, for additional images of my work and upcoming exhibition notification. I found my attendance at the conference to be encouraging, inspirational and reaffirming. My poster presentation will document the above experiences along with photographs of my exhibited designs. I will also display my portfolio book that was presented to Mr. Wagner for review.

Presentation Type and Session: Poster Session II

From One to Many: Creating Ensemble in Barbershop Music

Trevor Jelowski, Music Education

Faculty Mentor: Professor Sarah Meredith, Music

When we hear the word “Barbershop” two images may come to mind: one is of red and white swirling signs, straight blades, and scissors; the other is of four men standing together and singing their hearts out in perfect harmony. The art of Barbershop singing has been prominently displayed in our society since the end of the 19th century, and there are many characteristics that make it an intriguing art form. While a Barbershop Quartet portrays an incredible sense of unity, there needs to be someone occupying the role of leader. This study will concentrate on the role of the conductor or leader in Barbershop singing and will examine how members of the group view this position. During this study, I will observe rehearsals and performances of both a large Barbershop Ensemble and a Barbershop Quartet comprised of younger singers to examine the interactions between conductor and performers in both settings. Interviews with members of each ensemble will provide a better understanding of how the conductor is viewed, the importance of the conductor, and what characteristics are looked for to make a good Barbershop conductor, and in turn, a perfectly harmonized ensemble.

Presentation Type and Session: Poster Session VI

Ginametrical Abstractions

Gina Quadrone, Ceramic Design

Faculty Mentor: Professor Robert Wood, Ceramic Design

My presentation will talk about my travel grant that allowed me to go to Pittsburgh, PA to attend the NCECA national ceramics conference and to present my work at the opening of the Regional Student Juried Show at the Pittsburgh Center for the Arts. Artist Statement: Design is my ‘religion.’ I immerse myself in the elements of composition, line, space and form. Creating ceramic sculpture allows me to express my appreciation for, and devotion to those elements, My intention is to create sculpture that bows down at the feet of design fundamentals. I strive to be precise and meticulous in the constant search for near perfect craftsmanship. These are qualities that I have the utmost respect for and choose to reflect in my work. My sculpture finds harmony in hard, geometric edges and organic curves. My goal is to create a body of work that has strong presence, bold character and clean design. The achievement of those characteristics allows my work to be set free from obvious reference. My sculpture is then open to the interpretation of the viewer. I’m not one to push my ‘religion’ on others. So take a look, and make up your own mind.

Presentation Type and Session: Poster Session IV

Global Travel Sketchbook Tour

Melanie Beitel, Communication Design

Faculty Mentor: Professor Richard Ross, Design and Professor Stan Friesen, Design

During the 2007 spring semester break, I took part in a joint Communication/ Interior Design Europe Study Tour. The tour was run as a 3- credit “special project” DES 495 course offering. We visited the UNESCO world heritage site cities of Budapest, Bratislava, Prague, Dresden and Berlin. From my travels in Europe, I gained a heightened awareness of design and architecture and an appreciation of cultural and social diversity. I documented the European trip with photos, sketches, journal writings, video and sound recordings. As part of my research project, I constructed a website.

After completing the initial design and construction, I investigated how certain design variables influence the way we navigate through a website. I created seven variations of my homepage by altering color temperature, visual weight distribution, and amount of text versus image. Finally, I tested these website variations on my peers to determine a correlation between gender and personality types with regard to design feature preferences. Future applications of my research might involve the creation of educational websites for elementary school children “tailored” to their gender and personality type. I hope to continue in this phase of my research during the Winterim break.

I will present my website, research findings, and selected framed tour photos.

Presentation Type and Session: Poster Session V

Growing Through Song: The Development of a Musical Community

Aurora Boneberg, Music

Faculty Mentor: Professor Sarah Meredith, Music

Throughout the process of rehearsing for a musical theatre show, the individuals that partake in this musical culture create a bond. When people are working together to create this art, their lives begin to mesh to produce a musical culture unique to the performance of that specific work. The group of actors who are associated with the Lancaster Opera House present an artistic representation of theatre that thrives within the local neighborhood. By attending rehearsals, interviewing the cast, and observing the behavior that goes on behind the scenes, this study will examine the ways performers in a musical theatre production create a musical community. It is my firm belief that people who are involved in a musical theatre performance will automatically grow closer through the music because they work together regularly. In learning the music and the choreography paired with it, these individuals create and perfect a performance culture to entertain others. Through the assorted experiences of this musical theatre cast, we will come to understand what gives actors the drive to perform musically and connect with each other through song.

Presentation Type and Session: Poster Session VII

Hindu Cultural Symbols in Modern Design

Vincent Pontillo, Design

Faculty Mentor: Professor Tara Nahabetian, Design

In metal object making, I am naturally attracted to utilizing cultural symbols figuratively or abstractly within a piece. This is obtained by researching national, regional, or religious symbols pertaining to an assemblage of its people. In an anthropological structure, the symbol is used as a catalyst for object creation. In Hinduism, I found the eight-petal lotus to be the most seductive figure to investigate. Continual exploration led to an Indian celebration known as the “Dipwali Festival”, the art forms rangoli/kolam, and Hindu gods and goddesses such as Lakshmi, or Mahalakshmi, the Hindu goddess of wealth, beauty, fortune and love. Culminated, I use this research to develop a culturally contextual, contemporary designed piece. The result for this project was the creation of “Kolam Reinterpreted”, a piece in which I used the eight-petal lotus figure and related it to rangoli/kolam by utilizing the inner-woven design. “Kolam Reinterpreted” was created from a single sheet of sterling silver,

thus maintaining the single, unbroken line used in traditional rangoli/kolam. During the presentation, I will show a detailed slide show on the creation of “Kolam Reinterpreted”, the piece itself, and an interview with Rekha Menon on Indian symbols.

Presentation Type and Session: Poster Session VI

How Glaze is Effected by Clay Body

Chad Pentoney, Art Education

Faculty Mentor: Professor Robert Wood, Design

What I want to accomplish in my ceramic research are glazes that react to my clay body that are repeatable and conducive to my art work. I work with ceramic vessels that I decorate with carving and thin slab work, thus creating movement throughout the piece. The glazes that I seek to develop are glazes that are vibrant, high shine, have a distinguishing color change, are repeatable and which emphasis the textural qualities in my artwork.

Presentation Type and Session: Poster Session V

Influential Metalsmiths

Vincent Pontillo, Design

Faculty Mentor: Professor Tara Nahabetian, Design

The Society of North American Goldsmiths (aka: SNAG) is a national and internationally acclaimed metalsmithing organization ranging from students to world-renowned artists in the metals/jewelry field. During the annual conference, which took place this March in Savannah, Georgia, I had the opportunity to attend several professional lectures, demonstrations, and exhibitions while interacting with a diverse group of professional studio artist, teachers, collaborators and fellow students. The culmination of this group bred dynamic conversations while exchanging technical and professional advice. One of my works, “For Saraswati”, was chosen for show in Cresting: SNAG Juried Student Digital Image Show, which was shown as part of the conference programming. I had the opportunity to take part in a portfolio review with Bruce Metcalf, seasoned studio jeweler and critic from Philadelphia who has co-authored the definitive text on 20th Century craft. During the review process, his advice on video and performance art was significant and generous. I also had the opportunity to apply for a summer employment position as a visual art teaching assistant/metals at Interlochen Center for the Arts, which consisted of a portfolio review and interview held by Sharon Massey (Director of Metals – Interlochen Center for the Arts). Through slide show, photos and pamphlets, I will present many incredible benefits the SNAG conference continues to offer.

Presentation Type and Session: Poster Session V

Interactions of Listeners and Disc Jockeys in a Public Venue

Jacob Frasier, Music

Faculty Mentor: Professor Sarah Meredith, Music

Among the varied stimuli that barrage a club-goer in today's nightclub scene, the most prevalent is that of the music present. Music is an integral part of the nightclub scene. A Disc Jockey (DJ) stands behind a table and creates a thumping beat with swirling melodies as the patrons of the club mingle about, dancing and interacting with each other. Many DJs believe they determine the intensity of this atmosphere with their choice of music. I have observed that the DJ is not only an aural stimulus, but also, to an extent, a visual one. The DJ tends to have a more active role in the interactions of listeners than most people realize. At a Buffalo West-side bar, I observed the resulting atmospheric intensity created by this relationship and how the energies of these two entities fed off each other.

Presentation Type and Session: Poster Session VII

Irish Folk Music: The Driving Force for Audience Participation

Siobhan O'Brien, Music Education

Faculty Mentor: Professor Sarah Meredith, Music

Traditional Irish music was originally meant for dancing, taking place at different formal celebrations including weddings and Saint's Days. Irish music emigrated to the United States and fused with other genres, such as rock, becoming very popular. Irish music is now most commonly heard at informal gatherings in local establishments. Swallow Tail Trio is a three-piece acoustic band. They play Irish folk music, including some original selections. The band plays at social events, festivals, and Irish pubs around Buffalo. In this study, my purpose is to examine the interaction between the band and the audience members at their performances. In my previous experience with Irish folk music, there is a strong connection between the performers and the audience. As a result, the atmosphere is very alive; everyone becomes involved by clapping, singing, and dancing. I will be defining the elements that cause this connection and interaction. My approach and method to collecting data for this study includes observations of performances, as well as an interview with the three band members. After conducting fieldwork, my final product will show the factors that lead to interaction between the audience and the band Swallow Tail Trio.

Presentation Type and Session: Poster Session V

Making Connections: Creating a Successful Museum Internship Experience

Adrienne Watz, History and Museum Studies and

Brooke Genter, Art History

Faculty Mentor: Professor Kathryn Leacock, History and Social Studies Education

Many museum studies programs make it a requirement for students to participate in an internship in order to gain a practical set of tools that will enable a better understanding of the inner workings of a museum. An internship can and should provide a positive and worthwhile experience for the student, the hosting museum and the degree granting institution. To enhance the relevancy of an internship, it is crucial to have a sense of teamwork and communication between all parties. By reexamining the goals behind an internship, the benefits of this experience can be greatly increased. Although there is no ideal internship experience, there are many benchmarks and achievements that the participants should strive for in order to create a worthwhile experience. This report is based on the many internships and volunteer experiences that Buffalo State College students have encountered. Testimonies from students, faculty and museum administrators help to illustrate what an internship should entail, as well as the results that come from these experiences. Through the examination of this information and supplementary research, we aim to redefine what an internship can mean for the student, the hosting museum and the college of university involved.

Presentation Type and Session: Poster Session II

Modified Extrusion

Gina Quadrone, Design

Faculty Mentor: Professor Robert Wood, Design

This presentation will discuss the outcomes of my research grant on creating and modifying extrusion dies for the ceramic process in order to create new forms for my clay sculptures. I will present samples that were created as well as the dies that produced them. Pictures of the extrusion process will be on display as well and I will also show a piece of sculpture that I created from this research and experimentation.

Presentation Type and Session: Poster Session III

A Musical Experience: Japanese Anime and Western Music

Heather Estep, Music

Faculty Mentor: Professor Sarah Meredith, Music

Anime first developed after the Second World War by the war-torn nation of Japan. Struggling to find their nationalistic voice and limited by what they could produce due to their budgets, Japanese filmmakers attempted to take the evolving techniques of Animation from the West and make it their own. Little did those first filmmakers know that the genre they created would grow and develop into the phenomenon currently sweeping not only Japan, but also Europe and the Americas. But what of the music in these “cartoons” - do fans perceive the music used? If the music is noticed, do fans hear the style as being Japanese or of Western European descent? Or is it only fans who have had training in Western Music who notice the European elements? It is this curiosity that has led me to explore this subject in greater depth, through interviews with fans, research through reading, observations, and response sessions with fans in the Western New York area after they have watched a Japanese Anime movie. I suspect that my results will show a certain understanding of the music used in Anime and how it relates to Western Music, in both instrumentation and actual music.

Presentation Type and Session: Poster Session V

Navigating American Culture in the Kitchen: An Instructional Film for Refugees

Jaime Flor, Jonathan Bova, and Thomas Reilly, COM 439, Producing and Directing

Faculty Mentor: Professor Meg Knowles, Communication

For this service-learning project, our 3-student team partnered with the local community organization, Journey’s End Refugee Services, to produce an important short instructional film for new immigrants to Buffalo’s West Side. Refugees from countries like Somalia and Sudan are immigrating to Buffalo in large numbers, but with little practical knowledge of how to function in the United States. After years in refugee camps, they have no experience of flush toilets, running water, modern appliances, packaged foods, transportation, banking and other necessary life skills. Our team worked with a refugee from Burma to develop and produce an instructional film that features kitchen skills necessary for basic food preparation in an American kitchen. She hosts the film, and we incorporate her story of immigration into the demonstrations of rice cookers, microwaves and gas stoves. Our research included both documentary production approaches, and learning about immigrants relocating to our area, and their difficulties in adapting to an entirely new culture. We were surprised to discover the impact such a film project could have in the immigrant community. Completed in December

07, our dvd is already in circulation in Buffalo. We will present the film and a short introduction explaining its importance.

Presentation Type and Session:

Oral – Arts and Humanities

Paul Cezanne: A New Perspective on the World

Emily Wopperer, HON400, All College Honors Colloquium

Faculty Mentor: Professor Andrea Guiati, Director, All College Honors Program

Paul Cezanne is known as the “father of modern art.” Throughout his artistic career, Cezanne had a very different way of seeing the world. He painted in an innovative, post-impressionist style, yet brought back certain traditional values to art which impressionism took away. I intend to present his unorthodox use of multiple perspectives and some possible reasons behind Cezanne’s unusual view of the world as well as the impact that this unique viewpoint had on upcoming artists in the beginning of the 20th century.

Presentation Type and Session: Poster Session I

The Preservation of the Present

Heather Gring, HON400, All College Honors Colloquium

Faculty Mentors: Professor Andrea Guiati, Director, All College Honors Program and Professor Kathy Leacock, History and Social Studies Education

The past was once the present, the present is ever becoming the future. These cyclical thoughts struck me last spring as I crouched down at a flea market in Athens, Greece. Pouring over boxes and boxes of old photographs, I lost myself as I connected with many diverse people once vibrantly full of life. All this hoi polloi in shoeboxes struck me. I felt like as I searched the endless faces, the faces were searching me back. At the feet of an old man sitting like a raisin in the sun I found a reptile-green photo album. The photographs, taken in 1937, detail a wealthy Greek couple on a trip to British India. In this album I had found parallels of connectivity with the past. I looked into their faces and understood they lived as wholly as I live today. I bought the album like I was saving a family from a burning building; I had saved lives. Much has changed since 1937, but through this project I am seeking connectivity rather than division. There is much in these photographs we still identify with, and still connect with. A few of the photographs have writing on the back—in Greek. What can the observer discern from history in the absence of language? Does the cognitive experience between present and past become more powerful, or less? In this project I have found the catalyst of preservation, both of the physical album and the experiences lived within every picture. I will utilize preservation methods to ensure this album can be appreciated by other generations. I will explore

the personalities encountered within the photographs as living experiences, ultimately exploring our own living experiences as well.

Presentation Type and Session: Poster Session II

"R-E-S-P-E-C-T": Karaoke and the Environment

Bonnie Wistner, Music

Faculty Mentor: Professor Sarah Meredith, Music

Karaoke has long been considered by some as a social activity without any substantial impact on culture. This study will determine if there is a connection between the environment of Klub Karaoke in Buffalo, NY, and the experience of the participants. The environment of Klub Karaoke includes all physical aspects that are associated with a given place such as the lighting, décor, and presentation. I will also observe the non-physical aspects of the environment, which includes the mood of the club, the attitudes of individuals who are there, and the participation level of the people there. In order to understand if there is a relationship, individuals will be observed performing karaoke, then asked questions regarding their experience and how they feel about the environment of Klub Karaoke. After studying participants at Klub Karaoke, I will identify the effect the environment has on the experience of the participants. Within my poster I will be using the results I obtain from observation and interviews to solidify my argument. These conclusions will prove that karaoke is an activity that deserves "respect" from all people, because it is not an activity that lacks purpose.

Presentation Type and Session: Poster Session VIII

Rhino/CAD in Jewelry Design: Old School or New School?

Lizabeth Kelley, Design

Faculty Mentor: Professor Tara Nahabetian, Design

Throughout my research of Rhino CAD I have become intrigued by combining elements of nature within CAD software. I enjoy the challenges of discovering how to create organic forms within a software program that easily creates hard edge geometry. Nature informs my jewelry designs, whether it be the color of the stone or a curve found in a leaf. The patterns and textures created, for example, by water droplets are a direct influence in many of my jewelry designs. By taking these influences and developing designs inside of the computer environment I can know capture organic forms and geometry on a whole new level. It has become easier to modify and repeat patterns, textures and curves derived from nature. It is my passion as a designer to transform nature into a wearable form of art. This research has

allowed me to indulge in the endless possibilities as it pertains to nature and complex jewelry designs.

Presentation Type and Session: Poster Session II

The Sanborn Fire Company Band: A Community Band Study

Jared Zastrow, Music

Faculty Mentor: Professor Sarah Meredith, Music

Community bands are not hard to come by in most areas and one such example is the Sanborn Fire Company Band in Sanborn, New York. This ensemble has been around since 1930 and is still strong today with over eighty current members on record. The ethnography of this group will discuss the details of the ensemble, using observations of the rehearsals, performance, interactions between the director and the ensemble, and interviews with the conductor and selected members. From the fieldwork I hope to find what makes the members and conductor so intent on creating music, even if they just play here as a side gig to keep their musical abilities with them. What I also intend to find is how the members and the conductor relate to each other within the ensemble.

Presentation Type and Session:

Oral – Arts and Humanities

The Sons of Django: A Study of Gypsy Jazz Music in Buffalo

Melissa Herr, Music

Faculty Mentor: Professor Sarah Meredith, Music

Django Reinhardt (1910-1953) is the "spiritual godfather" of a style of music that is exuberant and highly idiomatic. A talented musician by age 18, Django's gypsy heritage colored his style with emotion, seduction, and mystery. During the 1930s, Django absorbed the big band swing of American bandleaders Goodman and Ellington, who were in turn inspired by a new American genre called jazz. A fusion of styles never heard before was born: the hot passion of gypsy music and the cool improvisation of jazz rolled into one sound! Django's music lives on in the music of Buffalo's own "Babik," a band named Artvoice's Best Band of the year for two years running. What is it about gypsy jazz that produces such a profound aesthetic effect on both its players and its listeners? What is it about "Babik" that has made this band so popular? The goal of my research is to analyze this music culture through attendance at performances, interviews of band members and listeners, and behavioral observation. Anticipated results are that gypsy jazz appeals to a variety of ages and backgrounds of listeners on a variety of levels: visceral, emotional, and intellectual.

Presentation Type and Session: Poster Session VIII

Sound and Sense: Forging Healing Through Creative Metal-Smithing

Kimberly Davis, Individualized Studies

Faculty Mentor: Professor Stephen Saracino, Design

Heat fuels expression. Trapping the heat, rather than letting it disperse in all directions, was my greatest tool in learning to transform a flat sheet of metal into a vessel not only of sound, but of self-reflection. The healing power of sound, as I have experienced allows the mind and body to align with our intentions. We all try and “tune in,” meaning we want to connect, or understand ourselves, others and our environment. The sound we create, as reflected to us daily, can be whole or fractured... in other words, it can create or destroy. I have used my own acquired understanding of metal smithing to create singing sound vessels, each with its own particular vibration. Let this be an “audible journey through the body” (Eva Jenan, Singing Bowls).

Presentation Type and Session: Poster Session VI

Surface Cleaning: Analysis of Sponge Abrasion on Paintings

Cynthia Albertson, Art Conservation

Faculty Mentor: Professor Aaron Shugar, Art Conservation

The surface cleaning of paintings by swab and mild enzymatic solution or another aqueous mixture, though highly effective, can be extremely time consuming. While these methods are considered a standard treatment for paintings, there are often other instances in which it may be more applicable to use a rubbing sponge, once the solubility and sensitivity of the surface is understood. Sponges clean by abrasive action and can potentially damage a painted surface on a microscopic scale. This study will compare the topographical surface effects that a series of cleaning sponges has on paintings. Mainstream materials like vulcanized rubber sponges or soot removal sponges and suction block sponges will be tested as well as the unconventional Mr. Clean Magic Eraser Sponge™. Analytical techniques that will be applied include scanning electron microscopy (SEM) and profilometry in conjunction with optical microscopy. These techniques will be used to characterize the abrasion caused by the sponges on varnished oil, unvarnished oil and acrylic paintings on canvas.

Presentation Type and Session: Poster Session VII

Surface Explorations

Chanda Glendinning, Design

Faculty Mentor: Professor Robert Wood, Design

The body of work on exhibit in Gallery 234 is the culmination of my experiences in formulating glazes that enhance the overall impact of my ceramic work. As an artist, I find myself fascinated with the variations of color and texture that can be achieved with

glaze. Surfaces are the final element in completing any ceramic work, whether applying glaze to a functional bowl with the need to consider issues of food safety and durability or adding a textured surface to sculptural forms. Glazes are affected by many factors. How thick the glaze is applied, the clay body you use, the temperature it is fired to, and the atmosphere inside the kiln are all variants that can cause changes in surface texture, color, durability and food safety. Through a small grant provided by the Undergraduate Research Office I was able to study glaze chemistry, and research how to improve glaze formulas to achieve the surfaces I was interested in. The work exhibited at Gallery 234 exemplifies my fondness for rich surfaces with subtle variations of color, achieved by firing my work to temperatures of more than 2300 degrees Fahrenheit.

Presentation Type and Session: Art Exhibit, Gallery 234, 6-10 p.m. Friday and 10 a.m.-4 p.m. Saturday

Surviving a Broadway Legend

Jennifer Kennedy, HON400, All College Honors Colloquium

Faculty Mentor: Professor Andrea Guiati, Director, All College Honors Program

This presentation will illustrate the collaborative process between the director and the stage manager of a production, namely that of André De Shields and Jenny Kennedy for Casting Hall Productions' Hair. From the first phone call before preproduction to the last notes once the show has opened, the stage manager must be connected with the director in order for a seamless transition of responsibility to take place. As a guest artist, the relationship with Dr. De Shields proved to be more comparable to what would exist in the professional theater world than what typically is generated on a college campus. The presentation will include documentation from the process as well as insights to the mind of a creative and mad genius to whom there is much more than meets the eye.

Presentation Type and Session: Poster Session VII

Theatre of Youth: A Community Resource

Amber M. Sherman and **Stella Kim**, COM439, Directing and Producing

Faculty Mentor: Professor Meg Knowles, Communication

Our project was a promotional DVD produced for Theatre of Youth in a service-learning video production course. Our research involved working with a real-world client to fill a specific need in Buffalo's arts community through documentary film production. The goal of this video was to promote the importance of the art of theatre for young children. My partner and I wrote, produced, directed and edited the entire project in collaboration with TOY staff. We initially met with the client to understand their needs, develop a concept, schedule shoots, and prepare questions for

interviews. We researched TOY Theatre's history and learned about the challenges of drawing audiences from the suburbs to downtown Buffalo. We needed a creative approach that would make TOY's value appealing to this hard-to-reach audience. We subsequently conducted a number of interviews, which included the artistic director, sound designer, several actors, and other staff involved in creating TOY's theatrical productions aimed at youth. We were also able to shoot a production in rehearsal and performance. We faced a number of obstacles in the process of producing our dvd, including addressing quality problems with our footage, titling and editing strategy. Structuring the video successfully was a major accomplishment. This hands-on learning process was a great experience of the production process and resulted in an informative 10 minute documentary.

Presentation Type and Session:

Oral – Arts and Humanities

Theatrical Set Design From Conception to Production and Beyond

Eric Moslow, Theatre

Faculty Mentor: Professor Carol Beckley, Theatre

Theater is an expressive art form that includes the collaboration of many individuals with different ideas. The set designer's role is to create an environment that suits the play or theme. Designing a set includes, research, sketching, model building, rendering, drafting, painting and construction. Last semester I was selected to design the set for *Betty's Summer Vacation*. This show ran for two weeks as part of the theater department's main stage season. My designs were selected from many throughout our region for inclusion in the Kennedy Center American College Theater Foundation (KC/ACTF) Festival, held each January. The summer fellowship was designed around taking my designs to the KC/ACTF competition and further portfolio development for the University/Regional Theater Association (U/RTA) National Graduate School Auditions. My summer work included completion of a full color model of the set of *Betty's Summer Vacation*, development of design presentations and creation of a professional portfolio. The work you see here reflects my presentations at the KC/ACTF festival as well as the U/RTA National Graduate School auditions for theatrical designers.

Presentation Type and Session: Poster Session VII

Then and Now: The Relationship Between Traditional Seneca Stories and Modern Ceremonial Seneca Instruments

Melissa Steiger, Music Education

Faculty Mentor: Professor Sarah Meredith, Music

The Seneca people have a rich cultural heritage, unique to western New York. This study focuses on the manufacture and use of traditional Seneca instruments within modern Seneca society. Instruments including The Great Turtle rattle, water drums, and gourd shakers all have ties to traditional Seneca beliefs and stories that help to guide the artisans who create these instruments. Even in today's modern society, specific times of the year, certain techniques, and correct usage of these instruments are all very important considerations for the Seneca people. Traditional stories, such as the Seneca creation story, have a large impact on the how's, when's, and why's of the creation and use of traditional Seneca instruments. Research will be conducted on the Cattaraugus and Allegheny reservations, and will include direct observation, interviews, and conversations with tribal artisans, musicians and museum curators.

Presentation Type and Session: Poster Session VI

Throwing it All Away: Ceramics Demonstration

Chanda Glendinning, Design, **Matthew Hill**, Art Education, and **Angela McCormack**, Design and Art Education

Faculty Mentor: Professor Robert Wood, Design

A demonstration of ceramic wheel throwing techniques by members of C2D, the Coalition for Ceramic Design student organization. C2D was formed to promote participation in the ceramic process on the Buffalo State College campus through ceramic exhibitions, demonstrations, visiting artists, workshops and participation in the process itself. Members of C2D will be throwing on the pottery wheel using various clay bodies including stoneware, terra cotta and porcelain. Work produced will be donated to the Empty Bowls fundraiser in May that is sponsored by the Art Education Club.

Presentation Type and Session: Demonstration, Saturday 11 a.m. – 1 p.m.

Vintage Industrialism

Mark Farrell, Design

Faculty Mentor: Professor Stephen Saracino, Design

I am fabricating a vessel that is constructed mainly of copper and sterling silver, with a gold plated interior and a medallion consisting of an enameled piece of copper for decoration on one side of the vessel. The vessel is intended to be an elegant mixture of vintage appearance, modern style and workable mechanisms,

such as capping and lidding. Some considerations in the creation of this design include having an interior of the vessel plated with gold. The reasons for this are that the majority of the vessel will be constructed out of copper, which when exposed to a liquid for an extended period of time will leak arsenic into the liquid held inside of it. The second is that using gold will create an impressive visual. Seeing the way the design elegantly incorporates the copper, silver, and the slight hint of gold should enhance the beauty of the piece. Using three different metals is posing challenges as well. Their visual weights and degree to which each is affected visually by oxidation (tarnishing) all have to be carefully taken into account for the piece to work as a successful whole. I also encountered difficulties related to the shamrock medallion on the front of the piece. That technical problem and other visual difficulties in the design required me to alter my original design and concept. My poster shows the progress and different phases of creating the vessel and the finished piece that I will be displaying. It represents the culmination of my accomplishments in the area of metalsmithing and also reflects my attention to aesthetics.

Presentation Type and Session: Poster Session II

We Got SNAG-ed in Savannah, Georgia

Melissa Crowell, Norah Ellingham, Lynette Chen, Vincent Pontillo, Dorothy Rapp, Anthea Iatridis, Sooja Lee, Rachel Feuerstein and Kristin Weipert, DES331/431, Junior and Senior Jewelry Studio

Faculty Mentors: Professor Tara Nahabetian, Design and Professor Stephen Saracino, Design

Nine Metals/Jewelry students ranging from sophomore to senior level and two faculty members participated in the annual SNAG (Society of North American Goldsmiths) conference that took place this March in Savannah, Georgia. We experienced diverse professional lectures, demonstrations, and exhibitions which gave us opportunities to interact with international metalsmiths/jewelers and students, while strengthening bonds within our Buffalo State student organization SIAM (Students Interested in the Art of Metalsmithing). We visited the SCAD (Savannah College of Art and Design) campus and metals studios. We were able to exchange ideas and techniques with professionals and students. BSC student work was honored by inclusion into several exhibitions including “Surge: Juried Student Exhibition” (Space Gallery), “Cresting: Juried Student Slide Show”, and professor/alumna works in “. . . of lineage and legacy” (Pinnacle Gallery). Students reestablished connections with past visiting artists supported by SIAM and a generous anonymous donor, while creating new connections with graduate programs and future employment opportunities. The conference regenerated creativity and fostered professional development. This

presentation will demonstrate the significance of our experience at SNAG, including quotes and photographs from the participants, which will describe portions of many conference experiences.

Presentation Type and Session: Poster Session III

Wood, Fire, and Clay

Angela McCormack, Design and Art Education
Faculty Mentor: Professor Robert Wood, Design

During the summer of 2007, I was given the opportunity to study and research firing and glazing techniques for the wood fired kiln recently built by the Ceramics Program here at Buffalo State College. Through three separate kiln firings, a better understanding of the variables for the efficiency of the firing was achieved. Though the kiln was a gas\wood hybrid, I was able to efficiently fire the kiln only by wood fuel. In addition, I was also able to create a palate of slips and glazes that worked very well with the wood ash produced by the kiln environment. Attendance at a workshop gave me an opportunity to meet and talk to many artists who had a lot of experience with wood kiln firing and they were able to give me many helpful tips that I applied to the firing process. The overall experience was very successful; I was able to gain a confident understanding of the kiln that I will now be able to share and teach to other students in the Ceramics program. I will be displaying actual ceramic work fired in the wood kiln along with documentation of the entire firing process.

Presentation Type and Session: Poster Session VI

Business, Computer Information Systems and Technology

Alternative Energy Sources to Power Monitoring Stations at Nuclear Closure Projects

Mark Guasteferro, Industrial Technology

Faculty Mentor: Professor John Earshen, Technology

In 1942 at the University of Chicago, at 3:25 p.m., the first nuclear reaction became self-sustaining. Soon after, the Manhattan Project developed the first atomic bomb. Nuclear research projects spread rapidly to address peace and war time projects. Unfortunately, a great number of research and production sites left behind high-level radioactive waste that was not well-contained and frequently leaked into surrounding land areas. This led eventually to the need for remediation and containment. Nuclear Closure Projects (NCP) is a federally-funded project to stabilize and remediate radioactive waste in over fifty sites. The goal is to stabilize, cleanup and monitor radioactive waste. After clean-up, there is an ongoing need to monitor each site. The energy associated with surveillance and monitoring activities adds costs to a project's long-term energy requirements. NCP sites are often located in very remote areas, far from power generation stations. To obtain sufficient power for the monitoring equipment requires long transmission supply lines. The problem is: this form of transmitted power is relatively expensive. This has led to a search for a more cost effective solution and the aim of this project is to determine if employing an alternative energy is cost-effective.

Presentation Type and Session:

Oral – Business and Technology

Applying Lean and J-I-T (Just-in-Time) Techniques to Reduce Muda

Wladimir Merard, Industrial Technology

Faculty Mentor: Professor John Earshen, Technology

Celebrating its 50th year, Markin Tubing is one of the few domestic tubing manufacturers that purchases low carbon steel in coils rather than pre-slit. In-house slitting allows Markin to respond to shifting customer production demands without the lead-times typical of an outside processor. From Markin's centrally located headquarters in the Buffalo/ Niagara region of upstate New York, Markin operates eight steel tube mills in a technologically advanced and operationally efficient 185,000 sq. ft. production facility, and a tube fabrication plant dedicated to complementing their customer's value-added processes. The

Markin - Buffalo, fabrication facility can cut, end finish, end form and bend steel and copper tubing to specific requirements. Additional capabilities include light assembly, piercing, notching and many other tubing fabrication customer demands. The intent of this paper is to identify various forms of "Muda" or "Waste": communication, rework, idle time, setup time, and defective products. The goal is to improve quality of production, enhance the growth of the company, and to save money in scrap cost. Using Just-in-Time and lean manufacturing techniques such as 5s (Sort, Set in Order, Shine, Standardize, and Sustain), and Poke-Yoke (mistake proofing) this paper will forecast the potential economic impact of implementing this approach.

Presentation Type and Session:

Oral – Business and Technology

Astronomy and Data Mining

Aurora Park, Computer Information Systems

Faculty Mentor: Professor Sarbani Banerjee, Computer Information Systems

This research investigates how mining is done with outer space data. Until recently there has been a major obstacle for astronomers who want to query data in order to find new galaxies and new stellar objects. The problem was that there was not just one database that contained all the information needed in order to retrieve the answers to their queries. The databases at the time were incomplete and many times did not even contain descriptions of the objects. Within the last few years a project known as the Sloan Digital Sky Survey has taken the task of collecting and organizing all of this data. As of now, the data they have collected is over 2.4 Terabytes, and every year they continue to add to this. They use a very high quality telescope and having a high quality telescope is an important part in the process of organizing and describing the information captured. The SDSS project makes all of their data public a year after it is collected. They allow one to search through their databases using an online tool called CasJobs. This application lets one type in SQL statements in order to mine through the data. It also provides a graphical tool that can display all of the celestial objects in the sky.

Presentation Type and Session: Poster Session VI

Biodiesel: Cleaner, Cheaper, and Renewable

Sharayah Walker, Mechanical Engineering Technology

Faculty Mentor: Professor James Mayrose, Technology

Biodiesel is an alternative fuel that is biodegradable and renewable and is derived from vegetable oils. As the demand and cost of petroleum oil increases, and in turn our dependence on foreign oil, there is a significant push in the United States to find an alternative fuel. In my research, I will be looking at a variety

of mixtures between biodiesel and pure diesel fuel. Most mixtures that I will be studying range from 20% of biodiesel and 80% diesel fuel, to 80% biodiesel and 20% diesel fuel. The ultimate goal is to develop a 100% biodiesel fuel that is compatible with current diesel engines. This research project is designed to evaluate the performance characteristics of each fuel mixture. Some of the characteristics that will be evaluated range from plugging and gumming of filters, fuel lines, and injectors to miles per gallon obtained for each mixture. Overall, this research will evaluate the current trends in biodiesel production and possible solutions to the development of effective biodiesel fuel for today's society.

Presentation Type and Session: Poster Session V

Cast Iron Repair: Establishing a Standard Methodology

James Stermer, Industrial Technology

Faculty Mentors: Professor Mohan Devgun, Technology and Professor John Earshen, Technology

The metal locking process was developed in the late 1930's as a response to the call for cast iron equipment repair in the Texas oil fields. Due to the volatility of an oil rich environment, a repair process that did not use heat, open flame, or an ignition source was in great demand. Today there are a handful of companies in the US and one in Canada that offer metal locking repair services; all of these companies are highly individualized, with very little contact with one another and cooperation on work projects is nonexistent. The problem with this individualism is that each company has taken the initial metal locking technique that was developed in the late 1930's and further developed it on their own, right or wrong, with no standard set of guidelines. The testing that was done in the 1940's (i.e. tensile strength, chemical and mechanical properties of materials, etc.) has not been verified and updated for modern materials, equipment, or service techniques. The objective of this research project is to verify the testing that was done to develop the technique in the 1940's, identify and perform any additional relevant testing that may be required, and as a result, standardize and formalize the cast iron repair technique for future training purposes.

Presentation Type and Session:

Oral – Business and Technology

Data Mining in Health Care Systems

Bhypon Xomvilaysack, Computer Information Systems

Faculty Mentor: Professor Sarbani Banerjee, Computer Information Systems

Health care organizations that use Community Health Information Network (CHIN) are finding value in mining patient data and community data, and use it to improve healthcare forecasting, analysis, and visualization for the future. Medical

data is gathered from a large patient population and then mined to perform health care management and medical research. Data Mining has offered existing clinical decision making process with the most accurate and most efficient research evidence. Through the integration of data warehousing and data mining techniques, it has given the healthcare area a decision support platform for caregivers and clinical managers. Medical institutions are using mined data that has been collected from these methods to find out ways to increase the patients healing rates and reduce treatment costs. Data mining and data warehousing provides many benefits such as creating and providing reports for evidence based rules. It provides an unification of the best evidence to help clinicians make their best judgments about the validity of their recommendations, and also to improve patient care. In this research, I have studied how data mining and data warehousing has been incorporated into the health care system to find methods to improve health care and find patterns in clinical pathways for patients.

Presentation Type and Session: Poster Session VII

Data Mining in the NBA

Addam Simon, Computer Information Systems

Faculty Mentor: Professor Sarbani Banerjee, Computer Information Systems

Data Mining is the principle of sorting through large amounts of data and discovering relevant information. The sports world is known for the vast amounts of data and statistics that are collected making it ideal for use of data mining tools and techniques. My research shows how the NBA introduced the data mining software, Advanced Scout (AS), to help teams find patterns in their data collected from their own as well as opponent team's games. AS gives a coach the ability to find out how certain players are performing at certain times as well as how they interact with the other members of the team. A coach can initiate a general data mining query in which the program will automatically search for interesting patterns for either the home or away team using either field goal percentage to detect the patterns related to shooting performance or to determine optimal lineup combinations. Teams can use AS to help improve performance and coaches use it to determine game plans and strategies. AS helps coaches make game-day decisions, including floor positions and optimal player match-ups. The knowledge gained allows teams to gain a competitive edge, which in turn can lead to more victories.

Presentation Type and Session: Poster Session V

Data Mining in Retail Inventory

Jonathan Rosas, Computer Information Systems and

Jeff Bailey, Computer Information Systems

Faculty Mentor: Professor Sarbani Banerjee, Computer Information Systems

The increase of technology in today's business environment has amplified the urgency of successful business organizations to be able to react efficiently and in a timely fashion to the changing demands of the market. Inventory movement is very important for retailers because of the costs endured if merchandise is not sold. This research investigates the incorporation of data mining techniques to improve inventory logistics and to reduce cost in handling inventory. Through data mining, a retailer can identify the demographics of its customers such as gender, marital status, number of children and the products that they buy. This information can be beneficial in stocking merchandise in new store locations as well as identifying products in high demand by one demographic market that should also be displayed in stores with similar demographic customers. For all retailers, this information can have a tremendous positive impact on their operations by decreasing inventory movement as well as placing inventory in locations where it is likely to sell. All of these aspects are aimed at the common goal = cut costs + raise profits. Data mining will be essential in evolution of businesses in accordance to their prospective markets and their overall progress and success in the future.

Presentation Type and Session: Poster Session VIII

Design of an Ergonomic Process to Assemble an Implantable Lithium Battery

Andrew Pingitore, Mechanical Engineering Technology and

Nicholas Drewniak, Mechanical Engineering Technology

Faculty Mentor: Professor David Kukulka, Technology

Greatbatch Incorporated is a local manufacturer of implantable medical products. The focus of this project is on their Lithium battery. Greatbatch has given this group the challenge of designing a machine to mechanize the process of pressing a battery lid into the outside case. Currently the process is performed manually and poses an ergonomic issue because of the physically demanding and tedious repetitive task it involves. The main goal is to develop a means of mechanizing this process to resolve the ergonomic problem with the objectives of simple operation, minimized motion of the operator, retain/improve productivity of the process, simple tooling changeover and reasonable cost to manufacture. Constraints that will be encountered in developing a design are ergonomics, safety, material compatibility, fragility of battery components, device overall size, and the design dimensions are to be easily adapted for other battery models. The selected approach is to design

and fabricate a pneumatically controlled pressing device with the capability to precisely align the mating battery components and that also has the ability to be simply changed over to accommodate the current battery model in production. This device is anticipated to be completed and ready for a process performance qualification at the end of April. The projected total cost for materials, components and fabrication of this device is ~\$7,000.

Presentation Type and Session: Poster Session IV

Eliminating Duplicate Orders in the Print Manufacturing Process

Daniel Herrmann, Industrial Technology

Faculty Mentor: Professor John Earshen, Technology

As the world's leading printer of office paper products, Nelley Printers must leverage its core competencies to stay ahead of the competition in an effort to maintain its position as industry leader. In order to do this, they must focus on cost reduction and accuracy of orders fulfillment. This research project aims to reduce the high cost of waste the firm now has due to duplicate shipments. A variety of retrospective metrics will be gathered to clearly depict the inefficiency of current practices and to determine root causation. Statistical and engineering economic approaches will be used to evaluate and recommend one or more feasible cost control methods.

Presentation Type and Session:

Oral – Business and Technology

An Examination of Incoming Freight From Canada in a Post September 11th Era

William Maryniewski, Urban-Regional Analysis and Planning

Faculty Mentor: Professor Wende Mix, Geography

On January 1, 1994 the United States signed an agreement with Canada and Mexico to eventually lift trade tariffs with one another. This agreement became known as the North American Free Trade Agreement (NAFTA). Since this agreement, trade between these countries has increased 198% from \$297 billion to \$833 billion. This was a time of economic prosperity until the terrorist attacks of September 11th. These events caused the United States to enforce stricter security measurements at international ports and borders that caused disruption in trade. There are many challenges with the international movement of freight today from increased security inspection delays, increased congestion at ports, and aging infrastructure. These issues drive up the cost of transportation that affects everyone. The focus of this project is to examine incoming freight from Canada between 1996 and 2006. This study will explore some of the major issues with freight transportation and suggest possible solutions to

alleviate problems. Air, rail, and truck freight changes during this period are investigated at the national level. In addition, truck freight at the border crossings at Buffalo-Niagara, NY, Detroit, MI and Port Huron, MI will be examined since these are the top three areas of truck freight traffic with Canada.

Presentation Type and Session: Poster Session VII

The Growing Problem of Digital Piracy on the Internet

Luke Dookhan, Industrial Technology

Faculty Mentor: Professor John Earshen, Technology

With the rapid growth of Internet usage and the increased bandwidth and speed of connection, the frequency and seriousness of digital piracy has mushroomed. Many users today share copyrighted materials among themselves. This kind of peer-to-peer (p2p) sharing is facilitated by the rapid growth of virtual “file sharing” communities. This project will study p2p networks that appear to be facilitating or enabling digital piracy and will examine the range of responses that have been developed or are under consideration by companies to combat this activity. This topic is of intense interest to those who produce and provide music, movies, and games. The central question that will drive this study: “Why do peer to peer users in virtual communities download pirated materials?” The study will center on administration of a confidential questionnaire, a series of face-to-face interview, and the solicitation of expert opinions.

Presentation Type and Session:

Oral – Business and Technology

Harnessing the Power of the Sun: A Homeowner’s Guide to Solar Utilization

Paul Kwiatkowski, Industrial Technology

Faculty Mentor: Professor John Earshen, Technology

It is becoming increasingly apparent that our reliance on fossil fuel is causing measurable changes in global climate patterns. Fossil fuels are a finite resource that cannot be expected to meet growing world demand for long. Thus, the search is on for alternative energy sources, preferably using environmentally friendly alternatives. Solar power is the world’s fastest growing energy source, with rates of capacity expanding to double digits every year over the past decade. There have been impressive advances in technology, dramatic reductions in cost, and an increase in political support for solar energy in the United States and globally. Now would seem a most opportune time to take advantage of these advances in solar energy and put them to work in the home. Although there are other renewable energy sources and conservation methods that should be considered in conjunction with solar, this project will focus only on solar

energy. This paper will investigate: various methods to harness the sun’s rays, how to store that power, and how it can be distributed in a residence. It will examine the installation costs, ease of installation, availability of government incentives, and expected return on the investment. It is expected that the findings from this project will shed some light on an energy-saving opportunity that the average homeowner may not know exists.

Presentation Type and Session:

Oral – Business and Technology

Hydrogen on Demand

Eric Hill, Mechanical Engineering Technology

Faculty Mentor: Professor James Mayrose, Technology

The goal of this research is to build an efficient Hydrogen generator, which will produce Hydrogen with the electrolysis of water. Next is to explore possible applications of an efficient Hydrogen on demand system. There is a large amount of information based on many different subjects. Chemistry, thermal dynamics, and circuit theory must all be well understood in order to complete the project. Much of the presentation will consist of findings to date and a current prototype. The presentation will consist of a video of the working prototype and a description of the calculations and research data.

Presentation Type and Session: Poster Session VII

Improving Speed to Market: Applying Lean Methods to the Manufacture of Shock Absorbers

John Schunk, Industrial Technology

Faculty Mentor: Professor John Earshen, Technology

Enidine Inc. is one of the world’s leading manufacturers of industrial shock absorbers. It was acquired by ITT Corporation in September of 2007. Since its acquisition, Enidine has begun to adopt and implement ITT’s management system. One of the key aspects of ITT’s management system is the integration of Lean Initiatives into all facets of Enidine’s daily operations. The goal is to achieve operational excellence. This paper examines in-depth the current and desired future state of manufacturing operations at Enidine. The guiding question is: “How can Enidine improve its response time of deliverables to their customers (throughput)?” The problem is that as Enidine’s competitors in the Industrial Shock Absorber Industry have already improved their response times of deliverables to their customers, and thus Enidine is at risk of losing market share. This paper will demonstrate how Enidine can improve its response time of deliverables to its customers by applying lean methods in its engineering processes.

Presentation Type and Session:

Oral – Business and Technology

Infrared Safe Opener

Joe Siegmann, Lawrence Guilford III, and Paul Whissel, ENT465, Electrical Circuit Design
Faculty Mentor: Professor Stephanie Goldberg, Technology

As part of the Engineering Technology capstone course requirement, our group has designed and built a remote-controlled personal safe for use in the hotel industry. The safe can be opened when it receives a specified string of numbers from an ordinary off-the-shelf universal TV remote control. A circuit located on the safe will receive the remote control signal and determine whether the string of numbers is correct. The unit will also have an override feature to open the safe by the hotel management. A button located inside the safe will be used to allow a new code to be programmed in. We've include visual LED indicators and a buzzer to alert the user when the time to enter a string of numbers has been exceeded.

Presentation Type and Session:

Oral – Business and Technology

Lack of a Predictive and Preventive Maintenance Program at BSB Products Corporation

Steven Skorupski, Industrial Technology
Faculty Mentors: Professor John Earshen, Technology and Professor Mohan Devgun, Technology

BSB Products Corporation, founded in 1969, makes steel dowel pins (both original equipment, and make-to-stock) manufactured to industry standards and to customer specifications. BSB is presently pursuing a sales growth strategy. However, the lack of a total preventive maintenance (TPM) program is a hurdle that must be overcome to achieve desired growth. An unexpected equipment breakdown may result in costly machine damage, down time, and production schedule delays which may result in late deliveries. An additional concern is the safety of employees who may be endangered by a catastrophic breakdown. BSB has established a near-term goal to prioritize key equipment and develop/deploy a TPM plan for this equipment first. This paper will focus on devising a start-to-finish approach to meet this goal. The TPM program will include procedures, schedules of maintenance, tooling and gauging. A documenting procedure will be developed, incorporated and maintained according to TPM guidelines. It is expected that TPM adoption and implementation will enhance the overall efficiency of factory equipment at BSB. The post-implementation outcomes will be studied and analyzed.

Presentation Type and Session:

Oral – Business and Technology

Maximum Weight Detector for Leg Injury

Jeffrey A. Wilcox, Jacob Pauli, and Tim Gallien, ENT465, Electrical Circuit Design
Faculty Mentor: Professor Stephanie Goldberg, Technology

As part of the Engineering Technology capstone course requirement, our group has designed and built an electronic circuit to perform a medical application proposed by local industry. The circuit will monitor an electrical signal representing the weight that a patient has placed on a recovering leg and alert the patient when that weight has exceeded the limitation specified by the doctor. The weight signal is fed to our circuit from a weight sensor, which is located on a Medical Boot worn by the patient. The second input comes from a dial located on our circuit. A doctor can dial in a maximum percentage of weight. A Programmable Logic Controller (PLC) located on a board will determine whether the weight placed on the injured foot has exceeded the weight limit. We've designed our device to have three visual outputs and one sound alarm to indicate whether the patient is over or close to the limit. There is a green light that means the patient is under the limit set forth by the doctor. There's a yellow light which illuminates if the patient is coming close to exceeding the set limit and if the patient exceeds the limit a red light and audible sound will activate. Our group will present a display for the poster session that will include documentation, a working prototype, and technical data. This will be similar to what a company would present at an industry trade show.

Presentation Type and Session: Poster Session VII

Mini Baja Design

Shawn Foti, Mechanical Engineering Technology, **Dan Rupp,** Mechanical Engineering Technology, **Zach Tyo,** Mechanical Engineering Technology, and **Ken Matela,** Mechanical Engineering Technology
Faculty Mentor: Professor David Kukulka, Technology

Annually the Society of Automotive Engineers (SAE) sponsors various events and competitions. In June the Buffalo State team will be entering the Baja SAE series hosted by the Central Illinois Section. Collegians who compete must work as a team and are expected to apply their accumulated academic knowledge to real world engineering challenges. Together they must design, test, promote, and race a Mini Baja Car. Also they are expected to generate financial support, and abide by the rules of the SAE. A Mini Baja car is a rugged, off-road recreational vehicle, that is easy to haul, low maintenance, and able to provide a high level of enjoyment. The 2008 Buffalo State team will redesign last year's vehicle and focus on making improvements to the drive train and steering. A different steering rack will be used in order to eliminate the U joints. These changes should

improve maneuverability. In addition the entire back end will be redesigned and all the mountings changed. Finally, the team will minimize weight on the car in order to design a more competitive vehicle. The 2008 Buffalo State Mini Baja vehicle will be well designed, cost efficient, durable, safe, easy to handle all types of terrain, and exciting to drive.

Presentation Type and Session: Poster Session IV

Pollution Prevention in Hotels

Jessica Wieczorek, Hospitality Administration

Faculty Mentor: Professor Kevin Mulcahy, Hospitality and Tourism

The Erie County Department of Environment and Planning is working on a Pollution Prevention (P2) Program that is focused on the local hotel industry. This project will look at several aspects of pollution prevention in the hotel industry. One aspect of the hotel industry is green hotels and green certification. Green hotels refer to hotels who are environmentally friendly and where programs have been instituted that save water, energy, and reduce waste, while saving money. Another aspect of pollution prevention is environmentally preferable purchasing. Environmentally preferable purchasing means adding environmental considerations to purchasing decisions along with traditional factors such as performance, price, health, and safety. Another aspect of pollution prevention is Energy Star. Energy Star is a program that helps people save money and protect the environment through energy efficient products and practices. The last few aspects that will be looked at are waterSense (a partnership sponsored by the USEPA to promote water-efficient products and practices) and stormwater. The poster will discuss background information on the topics and how these topics will benefit the Pollution Prevention Project.

Presentation Type and Session: Poster Session V

Power Generation: A Lack of Control in Western New York

Brian VanDerwalker, Industrial Technology

Faculty Mentor: Professor John Earshen, Technology

Since the 1950's, the New York State Power Authority (NYSPA) has controlled who, how much and at what cost businesses buy power generated from the power plant at Niagara Falls. Historically, this power was supposed to be used to attract business, especially manufacturers, to western New York by negotiating cheap power deals. The problem is that recently the NYSPA has been rationing the inexpensive hydropower in a political way that has led to higher priced electricity for most of western New York. This paper asserts that the NYSPA must consider changing the way they sell this low-cost power, to enable

local western New York industries to survive and thrive. The NYSPA has a Power for Jobs program that has set aside additional low-cost power for area businesses that employ area people. Currently, only 10 of the 100 companies that benefit from the Power for Jobs program receive at least two-thirds of this low-cost power; this has not been sufficient to attract and retain business in western New York. The research will consist of a retrospective qualitative review of NYSPA, including interviews.

Presentation Type and Session:

Oral – Business and Technology

Redesigning the Erection System for an Umbrella

Ryan Jones, Mechanical Engineering Technology,

Ramon Fyffe, Mechanical Engineering Technology, and

Chris Liddell, Mechanical Engineering Technology

Faculty Mentor: Professor David Kukulka, Technology

This research project was designed around the inadequacies the current erections system used to open and close the CS32 umbrella that is made by Birdair Inc. The CS32 umbrella is an economic alternative to custom designed fabric structures. Many of these umbrellas are used around the world for exterior architectures, landscape designs, and shaded applications. The CS32 umbrella is in great demand by customers because of its structural design, and how it blends in naturally with any environment or landscape. Currently, the erection system that is used design does not provide the customer with satisfactory operating procedures and needs to be updated to a more durable, low maintenance and cost effective system. Ease of use, reliability, and cost are the factors that need to be considered in completing this design. When operating the present system, it takes two or three people to perform this task. This current method is time consuming, strenuous and maybe unsafe. If one or two people are opening the umbrella using the lever arm, and one person loses their grip, there could be a severe injury. When erecting the umbrella, the amount of force that it takes to open this umbrella has been calculated to be 500 lbs (pounds). An extensive search for data to redesign the current system has been performed. This design team has developed a new and improved way for the CS32 umbrella to be erected.

Presentation Type and Session: Poster Session VIII

Redesigning a Remotely Operated Underwater Vehicle

Henry Nordee, Mechanical Engineering Technology,
Garrett Nimmo, Mechanical Engineering Technology, and
Zach Tyo, Mechanical Engineering Technology

Faculty Mentors: Professor James Shea, Technology and
Professor David Kukulka, Technology

An ROV (remotely operated vehicle) is an unmanned and maneuverable under water robot that is connected by an electrical umbilical cable (tether) to the surface. While watching a monitor fed by onboard video cameras, ROV pilots 'fly' the vehicle using a joystick that controls three thrusters (two oriented horizontally and one vertical). Buffalo State's ROV, housed in the Department of Earth Sciences' Sedimentology Laboratory and used in courses such as oceanography and in studying rivers and lakes, has developed a leak in its previously water tight, electronic housing. This leak has been causing the electrical system to malfunction. Several attempts have been made to stop the chronic leak, however none have been successful. The objective of this project is to develop a solution to stop this leak. The team will design, build and test several prototypes to stop the leak and protect the delicate electronics. The design must meet three requirements; first the design must be watertight to a depth of five hundred feet. Second, the design must be easily removed with simple hand tools to allow field service of the electronic components. Finally, at least one component of the design must be transparent. This will allow the operator to see if water has penetrated any of the seals. The final design will be the one we will use to repair the leak in Buffalo State's ROV.

Presentation Type and Session: Poster Session V

Relationship Among Fabric Stretching Factor, Pattern Making Method and Body Size

Jing Jing Mei Liu, **Jenny Kim**, **Kristan Lettiere**, and
Holly Keenan, FTT329, Design Knit Apparel

Faculty Mentor: Professor Emine Ercan, Technology

Knit fabric garment industries are expanding as much as woven garment industries. Both undergarments and casual wear are produced from knit fabric because of its stretchable feature. But knit fabric stretching factor and stretching ways change according to the fabrication. Fabric stretching factors and ways also affect the pattern shape and fit of the garment. There is limited research about the knit garment pattern preparation methods. The purpose of this project is to find out which type of pattern preparation method provides a better fit knitted blouse for women blouses. There are three major ways used in the knitted garment industry to prepare the women blouses and each uses a different method. Three different pattern preparation methods

currently used at the industry will be used at this project. Knitted fabric has different stretching factors that will apply on these patterns and produce prototype blouses. Prototypes are being evaluated by fitting and comfort. Prototype garments have been produced in size 8 using the different pattern production methods and fabric type.

Presentation Type and Session: Poster Session II

Remote Monitoring and Data Logging

Stephen McPherson, **Kyle Siy**, and **Eric Lesinski**, ENT465,
Electrical Circuit Design

Faculty Mentor: Professor Stephanie Goldberg, Technology

ENT 465 is the Electrical Engineering Design course for seniors in the Electrical Engineering curriculum. This course prepares students for the real world by involving them in a group design project, which is proposed by a local engineering company. This is what the class refers to as The Senior Design Project. A local company by the name of Cameron Centrifugal Compressors is looking for solutions for data logging and remote monitoring for their compressors. For companies that use sensors on their factory machinery, the readings can be essential to industry personnel who may reside in another location. Cameron has given our group a proposal to design a device that will allow Cameron personnel to view factory compressor controller data at other company locations. Based on project specifications, we are examining cellular transmission solutions. As part of Cameron's proposal, we intend to research companies that currently provide this kind of technology, report our results to Cameron, and develop our own data logging system and/or web server to view the data via the internet.

Presentation Type and Session: Poster Session VII

Residential Electricity Conservation

Jeff Kowalski, Industrial Technology

Faculty Mentor: Professor John Earshen, Technology

It's hard to imagine life without electricity. In homes, we rely on it to power our lights, appliances, and electronics. Many also use electricity to provide hot water, heat, and air conditioning. For years, many people felt that energy conservation meant sitting in a cold, dark room. Today, it means being smart by using electricity more efficiently. By adopting and implementing a good plan to manage residential use of electricity, homeowners have the opportunity to take more active control of their electricity use. By setting a goal to achieve a significant overall reduction in residential use of electricity, we have the potential to reduce climate-changing CO2 emissions from the power plants that burn fossil fuels to produce electricity. As a step toward this goal, this paper aims to develop consumer-oriented education materials

designed to help homeowners use electricity more efficiently. The aim is to produce a comprehensive, user-friendly “how-to” manual that can help average homeowners manage their own energy efficiency. In addition to conducting a comprehensive literature review, a Delphi approach will be used to collect data: The researcher will conduct one-on-one interviews with experts from utility companies and contractors who are considered experts in the area of home improvement/energy conservation.

Presentation Type and Session:

Oral – Business and Technology

The Role of E-Marketing: Overcoming Barriers to Markets

Nicola Hazboun, Graduate Exchange

Faculty Mentor: Professor John Earshen, Technology

The World Wide Web has introduced many advantages to marketing including low cost in distributing information to a global audience. In the world of today, internet technology is an essential element that has a potentially strong influence on business success. This research examines different examples where E-Marketing is viewed as a managerial tool that enables organizations to achieve organizational goals and targets. E-Marketing methods include Search Engine Marketing, Display Marketing, E-mail Marketing, Interactive Advertising, Online Reputation Management, and Viral Marketing. A major focus will be to study and evaluate these E-marketing methods in a single case study: a middle-eastern company named ‘Jeel Publishing’. Another focus will be to examine the specific market trends impacting this company. This project will evaluate a variety of E-Marketing methods with the aim of improving Jeel-Publishing’s competitive position in the market.

Presentation Type and Session:

Oral – Business and Technology

Simpler Telephone Wiring: Designing a Key Component for the Next Generation of Installations

Daniel Kochmanski, Industrial Technology

Faculty Mentors: Professor John Earshen, Technology and Professor David Steven Barker, Technology

DDK Telecommunications has been a retailer, installer and manufacturer of communications equipment in the western New York area for the last 25 years. Currently a need exists for a new type of connection block to facilitate the splicing of telephone wires at the entry point of each household. Telephone wiring in residential and small business applications is typically run to a common demarcation point. The norm is to splice all the wires together utilizing an antiquated model 742A connection block. The focus of this project will be the design and manufacture of

an improved type of telephone connection block. This process will begin with design layouts created in AutoCAD, Solid Works or Inventor. Also included is an examination of the legal process of patenting the newly designed part and creating non-compete letters for sub-assembly manufacturer compliance. The design specifications will be sent to a plastics injection molding company for the formation of dies and the final housing. The electrical specifications and layout will be sent to a printed circuit board manufacturer. Other components will be outsourced and the assembly process will be completed in Buffalo. Documentation will be provided for each step in the design, ordering, manufacturing and assembly process.

Presentation Type and Session:

Oral – Business and Technology

A Step-by-Step Guide to Starting a High School Trap Team

Isaac Habermehl, Industrial Technology

Faculty Mentors: Professor John Earshen, Technology, Professor Steve Macho, Technology, and Mr. Jay Rusnock, NRA Senior Field Representative for Upstate New York

Organized trap shooting has long been a sport enjoyed by adults. In recent years, interest in trap shooting has grown among high school students, particularly those interested in hunting. Unfortunately, many school districts do not currently have an organized trap shooting venue, nor do they have a well thought out plan for offering such a venue. This paper addresses the question of how to start a youth trap shooting program in a high school. The research approach will be to study a series of trap shooting programs now operating successfully in schools. Data will be collected regarding team rules and procedures, costs, safety certification, membership requirements, applicable laws, transportation issues, insurance, and addressing potential community concerns. The problem is that no standard operating procedure for starting a high school trap team currently exists, and it is believed this is hampering the growth of this sport. Therefore, the objective of this project will be to develop a comprehensive step-by-step manual for use by any school district seeking to get started in this exciting sport.

Presentation Type and Session:

Oral – Business and Technology

Strainer Re-Design Project

Henry Nordee, Mechanical Engineering Technology and **Garrett Nimmo**, Mechanical Engineering Technology

Faculty Mentor: Professor David Kukulka, Technology

R.P Adams is a local manufacturer of automatic self-cleansing water strainers. Water strainers are used by companies that use water and eventually the strainers become clogged. They

want to design a filter hold-down. This design must sustain a pressure up to 150 psig and the design must also reduce the maintenance costs. The company desires a new standardized design. Design considerations include: corrosion, surface finishes, bolting stresses, leakage, internal pressures and flow dynamics. The minimum hold down force needs to be calculated. Each design then will be evaluated for structural soundness. Next all the parts must be able to withstand a maximum differential pressure of 150 psig. Finally the tubes must be held secure enough to resist the required flow volumes, within each of the tubes. Once the final design is chosen, a complete set of design calculations must be presented. In addition assembly and maintenance procedures must be provided.

Presentation Type and Session: Poster Session VI

Torque Fatigue Testing Apparatus

Ramon Fyffe, Mechanical Engineering Technology,
Daniel Rupp, Mechanical Engineering Technology, and
Kenneth Matela, Mechanical Engineering Technology
Faculty Mentors: Professor David Kukulka, Technology and
Professor Mohan Devgun, Technology

Automobile car axles undergo numerous torsional forces daily. Torsion or torque is a vector that measures the tendency of a force to rotate about some axis. Understanding how much torque can be applied to a car axle is a very important parameter. A local automobile axle company desires an inexpensive apparatus that can apply a required torsional load to two specific axle shafts, one made by Spicer and another made by Meritor. It is the design team's role to propose three designs for an apparatus that can be used to test the dynamic and static properties of these shafts, specifically, a 29400 in-lb torsional load that must be applied to the Spicer shaft at 4 Hz, and a 4600kg-m breaking torque must be applied to the Meritor shaft. The apparatus is required to hold one side of the shaft fixed, while the other side is free to rotate. It is the designs team's objective to provide an economical design to manufacture a torque fatigue testing machine.

Presentation Type and Session: Poster Session VI

Tricks of the Trade: What do Advertisements Really Say?

Tara Grimmer and **Julie Drozdowski**, HON400, All College Honors Colloquium

Faculty Mentors: Professor Andrea Guiati, Director, All College Honors Program and Professor Kerran Sanger, Associate Dean, School of Arts and Humanities

Have you ever thought about how advertisements affect you? Do you believe that you are cunning enough to not be affected by advertising? Why do we buy the products that we buy? If ads do absolutely nothing to sway our opinions then why are billions

of dollars a year spent on advertising? Advertisers are more intelligent than we think; they know we do not put much thought into ads. They use this fact to their advantage; they very subtly use techniques of persuasion to get us to buy the product they are trying to sell. Advertisers use techniques in their ads that play on our emotions. They do not want us to think too deeply about what they are saying in their ads because then we would see that ads are full of unfinished statements, unanswered questions, strange statistics, weasel words and small print. How do we out-smart these advertising geniuses? We need to be aware of techniques advertisers use to play on our emotions, and analyze everything ads tell us.

Presentation Type and Session: Poster Session I

Virtual and Real World Integration

Michelle Kariuk, Fashion and Textile Technology
Faculty Mentor: Professor Elaine Polvinen, Technology

My first virtual experience consisted of learning to walk, fly and create multiple fashion garments. Next was the development of a fashion collection exhibit topped off with a virtual fashion show. What's next to explore for 3D fashion after this initial introduction into a virtual world? A semester long exploration that included Web 2.0, planning, designing, experimenting and building a virtual fashion boutique, and planning to simultaneously present virtual and real products. Web 2.0 applications enable rapid connectivity concepts for research and marketing. Simulating a building concept in a virtual world can help with planning a real world store layout and design. This exploration provided several opportunities to simulate simultaneous real and virtual world product development and merchandising concepts. The poster will illustrate multiple web 2.0 applications used for this project; stages in building a virtual fashion boutique, industry project; examples of other 3D applications, and the final virtual and real product presentation.

Presentation Type and Session: Poster Session I

Web Mining in E-commerce

Anthony Bandoh, Computer Information Systems
Faculty Mentor: Professor Sarbani Banerjee, Computer Information Systems

Web Mining takes potentially useful data and organizes in a way that an end user can use and process the results efficiently. Some important applications of web mining that are useful today are found in electronic business. The goal for this research project is to show how effectively businesses mine their data to find out customers buying patterns, what type of customers are added to their database or purchasing their products. Businesses utilize web mining through the use of E-commerce (electronic

commerce) that is the transaction of goods and or services on the Internet. When customers search or surf the Internet, a web miner can use mining software to search for the customer's click patterns in the database. To help mine web data, software such as WebMiner 4.0, an SQL based program can be used to formulate queries and to generate answers to data driven patterns. WebMiner can be used to search the Internet fast and effortlessly in a single user session.

Presentation Type and Session: Poster Session VI

Writing Technical Manuals

John Titta, Industrial Technology

Faculty Mentors: Professor John Earshen, Technology, Professor Anthony Hotchkiss, Technology, and Professor Paul Siciliano, Technology

When a piece of technical equipment is purchased it comes with a manual. This manual typically contains information for the installation, safety, operations, and maintenance of the equipment. Also included may be photos, charts, and schematics to assist in the assembly, setup, or trouble shooting processes. It is not unusual for such a manual to contain hundreds of pages - frequently a very unwieldy and unfriendly document. For specific environments, such as the college classroom, much of this extra information may be unnecessary. This report will investigate the contents of various manuals and give the reader assistance in customizing their own manual, matched specifically to the needs of the user/operator. A by-product of this report will be to re-write a manual for the BoxFord 190VMC 3D Vertical Milling Machine located in the CAD lab at Buffalo state college. This new manual will be more conducive to the learning environment.

Presentation Type and Session:

Oral – Business and Technology

Education, Problem Solving, and Speech-Language Pathology

The Application of Differentiated Instruction in the Secondary English Classroom

Timothy Bek, English Education (7-12)

Faculty Mentor: Professor Dennis Mike, Elementary Education and Reading

With the prevalence of inclusion, as well as widening class diversity, teachers will encounter a broad range of student abilities. This presents a problem for the teacher: how can you ensure the success of less adept students, while still attending to the needs of the rest of the class, including the gifted and talented? Differentiated instruction is one strategy for dealing with this problem gaining popularity, even though it requires intense preparation. Although differentiated instruction is applicable in any content area, this presentation will focus on English Education, specifically the instruction of literature in the secondary classroom. I will address differentiation of content, process, product, and assessment based on student readiness, interest, and learning style, the goal being to help students of any ability level grasp key concepts within literature.

Presentation Type and Session:

Oral – Education and Social Sciences

Are Students With Learning Disabilities Really that Different?

Hallie Goldstein, Shaniqua Peterson, and **Tawana Robinson**, EXE100, Nature and Needs of Individuals with Special Needs

Faculty Mentor: Professor Rachel Schmidt, Exceptional Education

Students with learning disabilities represent the largest segment of the school age population of all students classified with disabilities. Much research on this population has occurred since the passage of 1975 PL 94-142, also known as the Individuals with Disabilities Education Act (IDEA). This poster session will present the results of an interview project of students with disabilities. Using the historical treatment of children with learning disabilities as a backdrop, we will contrast what it feels like to be a student with a learning disability in the year 2008, especially when it comes to making friends and navigating the social context of the school setting. We will research the history of children of many ages with a learning disability. We will go in to detail of how these students feel, and how their social life is or were be for they was told they had a learning disability.

Presentation Type and Session: Poster Session VIII

Art Education: From Theory to Practice

Rowan Kunz, Art Education

Faculty Mentor: Professor Shirley Hayes, Art Education

In my research I attempt to synthesize different theories in art education into a more cohesive pedagogical approach that integrates theoretical goals with practical needs. After attending a number of workshops and conducting academic research, I discuss five areas that appear seminal in student development in the arts and education: critical thinking skills, informed and sensitive citizenship, art appreciation, visual literacy, and a critical understanding of visual culture accomplished through the use of a constructivist framework, using the works of contemporary artists, developing problem solving and problem finding oriented projects, and engaging with Sydney Walker's 'Big Ideas'. Rather than a definitive conclusion of what works in the classroom, this on-going research is positioned within a self-reflection of a few of the instructional strategies and approaches employed in three different lessons taught during my student teaching experiences. It is aimed at developing a more effective marriage between theory and practice. Samples of student works and photographs of classroom activities will be on display.

Presentation Type and Session: Poster Session II

Art Education: The Use of Technology in the Classroom

Nicole Mangano, Art Education

Faculty Mentor: Professor Shirley Hayes, Art Education

My research is centered on various ways to implement the use of technological resources and media into the classroom. The use of technology in the classroom can be used in art education as a tool to enhance learning. Computers and digital cameras can be used to differentiate learning, and can become tools that allow students to focus on the process of looking at and analyzing works of art. I will show how new technologies can enable art teachers to better engage students in art classrooms.

Presentation Type and Session:

Oral – Education and Social Sciences

Beyond Bad Guys and Birthdays: The Importance of Play

Ashley Dlugosz and **Kelli Johnson**, HON400, All College Honors Colloquium

Faculty Mentors: Professor Andrea Guiati, Director, All College Honors Program and Professor Adena Sexton, Elementary Education and Reading

Many think that play has little significance other than building skyscrapers and playing house; this, however, is far from true. At a closer glance, one can see that play helps define a child's social, emotional, and cognitive development. Getting into the mind of a child is certainly not an easy task, but if truly

attempted, it opens the mind of the teacher and gives he/she a deeper understanding of their thoughts and ideas. Through our demonstration panel, one can see the importance that play has on the development of a child and how he/she uses play to work through fears, joys, and changes.

Presentation Type and Session: Poster Session II

Creating a Schoolhome in the Age of No Child Left Behind

Jesse Mank, English Education (7-12), **Colleen DeLucia**, English Education (7-12), and **Jenelle Orosz**, English Education (7-12)

Faculty Mentor: Professor Susan Birden, Educational Foundations

In her 1992 book *The Schoolhome*, Dr. Jane Roland Martin advocates removing the barriers between school and home by allowing schools to share some of the responsibilities previously assigned to the domestic sphere. While the book makes a compelling case, we argue that it is not feasible to implement her work as written in the day of “No Child Left Behind.” As pre-service secondary English teachers, we have created two original projects that drawn on Dr. Martin’s philosophy, but revisit in such a way as to consider the restrictions of contemporary school climates. The first project investigates opportunities for teachers to incorporate Schoolhome values while teaching English in secondary schools. The second project develops a year-long extra-curricular project that is built on Schoolhome principles, using an interdisciplinary model that ties the classroom to the surrounding community. Finally, we had the opportunity to present these projects at the American Educational Studies Association where Dr. Martin herself responded with critique and feedback on the two projects. The final phase of our presentation will be a review of her feedback and our considered responses to that critique.

Presentation Type and Session:
Oral – Education and Social Sciences

Creativity Thinking and the Torrence Incubation Model of Teaching in Art Education

Marina Christopher, Art Education

Faculty Mentor: Professor Shirley Hayes, Art Education

The presentation is designed to show a combination of creative thinking and problem solving within art education practices. There are two identified areas that are focused on, divergent thinking and addressing the interests and needs of all students not just those who have talent in art. The outcome of this project is to create a synthesis of the Torrence Incubation Model and traditional art education teaching methods and to expand the scope of tools available to art educators. Achieving this goal will

strengthen and add depth to the creative processes that are used in the art classroom.

Presentation Type and Session: Poster Session III

Cutting-Edge Professional Portfolio

Katherine Johnson, Art Education

Faculty Mentor: Professor Shirley Hayes, Art Education

This research project focused on new cutting edge data regarding contemporary professional teaching portfolio techniques in development. In this presentation, I will discuss my findings and also present two types portfolios. I will include a hard-copy portfolio as well as a digital portfolio. I will include in my presentation the techniques and applications involved in creating both types of portfolios. Having a high quality teaching portfolio can help in the challenge of obtaining a job in the art education field, and it can also be used to summarize a teacher’s as well as an artist’s pedagogical and artistic work. I will provide you with the most up to date expectations on what should be included in an artwork-based portfolio and a professional teaching portfolio.

Presentation Type and Session:
Oral – Education and Social Sciences

Developing a Needs Based Curriculum for Art Education

Keriann Armusewicz, Art Education

Faculty Mentor: Professor Shirley Hayes, Art Education

This research project will focus on developing art curriculum through a needs-based approach. This type of curriculum looks at and addresses the specific needs of students, drawing from needs in the affective, cognitive, and psychomotor domains, and also incorporates information from Gardner’s Multiple Intelligences. The research gathered on needs-based curriculums will be used to look at different ways to design lessons from a needs-based approach that will educate students in a way that helps them to make sense of their lives while meeting state and national standards. This type of curriculum will create a connection between the student and the material that is being taught, as it produces an intrinsic connection to the student, sparking interest and ensuring learning through understanding. In addition, by using art to address the needs of the students, the students will be able to work through and deal with life issues to promote a better understanding of their own lives.

Presentation Type and Session:
Oral – Education and Social Sciences

Developing Curricular Modifications for Students With Significant Disabilities Based on the General Education Curriculum

Chantal Wiedemann, Elementary Education and Exceptional Education and **Joelle Bennett**, Elementary Education and Exceptional Education

Faculty Mentor: Professor Lynne Sommerstein, Exceptional Education

This presentation will demonstrate that students with significant disabilities can and should be included in general education classrooms. The Individuals with Disabilities Education Act (IDEA) requires that all students with disabilities have access to the general education classroom and curriculum. This can be done by modifying the general education curriculum and using an ecological approach. A single lesson will be presented that explains how the general education curriculum can be modified to address individual needs and goals based on the student's IEP and personal priority of skills. In addition, many aspects of best practices are illustrated through this modified lesson such as frequent interactions with non-disabled peers, age appropriateness, and the least restrictive environment. This presentation will reveal how, with appropriate planning and adaptations, the general education curriculum can be modified to meet the needs of all students including those with significant disabilities.

Presentation Type and Session: Poster Session I

Does Training Improve Personal Care Aides' Understanding of Dysphagia and Diet Modifications?

Ryan Kelley, Speech-Language Pathology

Faculty Mentor: Professor Deborah Insalaco, Speech-Language Pathology

The purpose of this study is to complete a small group AB experiment to determine whether training helps personal care aides learn about dysphagia, or difficulty in swallowing, and diet modifications. The study will take place at People Inc, where Eating and Meal Support Training (Ball, 2006) is taught. People Inc is a human services agency supporting individuals with special needs by assisting them in their efforts to participate in society. Dysphagia is a frequent problem for these individuals. As a result, certain modifications must be made in their diets because of their inability to swallow different types of food textures. Eating and Meal Support Training was instituted two years ago and personal care aides receive training now, but we do not know for certain how efficacious that training is. A pre- and post-training multiple-choice test has been designed and will be administered to determine whether and how much subjects' knowledge improved after taking part in this training. Both pre-

and post-test results will be analyzed and efficacy of training will be discovered after thorough analysis of the test scores.

Presentation Type and Session: Poster Session II

Education in the Twenty-First Century: Addressing the Needs of Diverse Students

Kyle Botkins, HON400, All College Honors Colloquium

Faculty Mentor: Professor Andrea Guiati, Director, All College Honors Program

Today's students are diverse ethnically, racially, linguistically, economically, and religiously. They come from diverse backgrounds, cultures, and families, and they have different educational needs. Not all children learn by the same methods, and teachers need to keep this in mind in their educational approaches. All students have the right to a quality education that they can connect with and benefit from. Sadly, not all American students today are receiving the quality education they are entitled to. Many schools, particularly in urban and rural areas, lack adequate materials and resources, such as textbooks. Also, many teachers are overworked, underpaid, and under-qualified. Today there is greater emphasis placed on high-stakes testing and teacher accountability, which often results in educators merely "teaching to the test," which is anything but beneficial for our students. To delve further into these issues, I researched relevant literature on the subject, referring to several bestselling books and articles on educational psychology. I have found that there are immense inequalities in the American educational system, which now supports a more diverse population than ever. More affluent schools are blessed with new materials, electronic resources, and highly qualified teachers, while others are left struggling just to keep their doors open. However, I propose that in spite of these differences, some dedicated teachers have found ways to accept diversity and integrate it into their classrooms, providing a quality of education that prepares students to become well-rounded, successful, productive contributors to society.

Presentation Type and Session: Poster Session I

The Effects of Multicultural Literature on the Reading Motivation of West Indian Students

Marilyn Sohan, English Education (7-12)

Faculty Mentor: Professor Satasha Green, Exceptional Education

The purpose of this study is to demonstrate how multicultural literature relates to improvement in reading motivation of West Indian college students. This study focuses on West Indian undergraduate students at Buffalo State College in Buffalo, New York. In recent years, researchers have examined the importance of motivation in determining reading achievement. However,

studies examining reading motivation have not explored the use of multicultural literature within the West Indian student population. Keeping students motivated academically is a major challenge for educators because of the discontinuity of home and school cultures. Many West Indian students have to become bi-cultural to be successful within American schools. Therefore, strategies are needed to reduce students' boredom and to connect student's home and school cultures that enhance student motivation. One way to do this is by providing students with Multicultural Literature. Students come to school with many diverse cultural and ethnic identities, which forces the teacher to be more culturally aware of the diversity within the classroom to ensure that the needs of all students are met (Banks, 2001; Gay, 2002; Rhee, 2002). This study will utilize a mixed method research design with quantitative and qualitative components with West Indian undergraduate college students between the ages of 18-25.

Presentation Type and Session:

Oral – Education and Social Sciences

How Accessible Is Accessible For the Disabled?

Jaritzza Molina and **Tamika Lewis**, EXE100, Nature and Needs of Individuals with Special Needs

Faculty Mentor: Professor Raquel Schmidt, Exceptional Education

Universal Design for Learning (UDL) comes from the field of architecture, in which the philosophy is that structures are designed to be accessible for all those using the structure. In education, it defines an approach to planning and designing instruction that is accessible for all learners, including individuals with disabilities. This project will take UDL back to its roots of the accessibility of physical structure. The 1990 American With Disabilities Act (ADA) mandated that all public and most private buildings be physically accessible for people with handicapping conditions. We plan to visit this law 18 years later and examine the state of the union of public facilities and how they struggle to meet the requirements of ADA. We plan to research how in certain areas they create accessible public facilities and have to provide service that is accessible to everyone. And within doing so, they neglect the maintenance making it even harder for disabled people.

Presentation Type and Session: Poster Session VII

Integrated Science-Based Learning and Teaching: Create, Publish and Share

Michele Beers, Norit Blecher, Kayley Croff, Laura Delaney, Janyl Drozek, Meghan Ferrando, Tiffany Gawne, Jessica Han, Megan Harf, Jamie Haseley, Lauren Kessler, Rebecca Krull, Rachelle Ramage, Marla Sherwood, and Kelly Taggart, EDU312, The Teaching of Science and Mathematics in the Elementary School

Faculty Mentors: Professor Coralee Smith, Elementary Education and Reading, Ellen Price, West Hertel Academy, PDS, and Michele Brown, West Hertel Academy, PD

The Create, Publish and Share Project (CPS) merged the Elementary Education Undergraduate Junior Participants, field-based Cooperating Teachers, and college course instructor to create, publish and share original mathematical and science based content books integrating English Language Arts for elementary readers. Each Junior Participant wrote and illustrated an original book based on mathematics or science content during an urban sixteen-week field-based placement at West Hertel, a Professional Development School. The books' contents reflect the diversity of the elementary students; the developmental reading levels of the elementary students; and national and state learning standards used by the Junior Participants. The Junior Participants used the books during their urban-based field placements for teaching mathematics and science to their elementary students. Additional copies of the books will be available in the school library and in the College Curriculum Library. Buffalo State College Center for Excellence in Rural and Urban Education provided funding.

Presentation Type and Session: Poster Session III

The Issue of Insufficient Provision of Speech-Language Therapy to Adolescents: Causes, Consequences, and Proposed Responses

Kadyn Velez, Speech-Language Pathology

Faculty Mentor: Professor Christine M. Scott, Speech-Language Pathology

Adolescents with language disorders lack sufficient speech-language therapy (SLT) for a number of reasons. A greater emphasis is placed on early childhood intervention. At the adolescent level, students are often dismissed from therapy with the belief that they will not experience further progress. Moreover, academic material in secondary schools is more complex and more classroom time is demanded from adolescents, leaving little time for SLT. Furthermore, many adolescents are ashamed of their language disorders and fail to attend SLT sessions in fear of discovery by peers. Lastly, many adolescent language disorders are more subtle than those present in younger children. Subsequently, many adolescents are not detected. This exhaustive literature

review will consist of an extensive collection of recent peer-reviewed journal articles and books that investigate the reasons for which adolescents with language disorders are neglected in the public schools and the consequences. Also included will be supportive data which stresses the importance of adequate provision of SLT to adolescents, as well as alternative service delivery models that collaborate with the core curriculum, allow for more intervention time, are more discreet and demonstrate success for these students.

Presentation Type and Session: Poster Session III

Macbeth Modified Lesson Plan

Lauren Kessler, Elementary/Exceptional Education and

Jillian Szeluga, Elementary/Exceptional Education

Faculty Mentor: Professor Lynne Sommerstein, Exceptional Education

We have created a modified lesson plan for a student with Adrenoleukodystrophy, a genetic disorder that causes damage to the myelin sheath. The student is a high school senior. We created the lesson in comparison to the English curriculum. We chose to do the lesson on Macbeth by William Shakespeare. We incorporated the needs from the student's IEP into the lesson plan. We learned how to successfully modify activities and materials so everyone in the class can be included in the activities and reading of the book. We will share the modified activity that the whole class, including the student with a disability, can participate in. We also have an arrangement of our classroom with accommodations suitable for our student. Finally, we will share the modified book we made for the student to help him understand the story more easily. We modified the lesson so the students can be included in the general education classroom.

Presentation Type and Session: Poster Session II

Mommy Wars: Stay at Home Mothers Versus Career Mothers

Melanie Jurek and **Courtney Finnegan**, EDF202, Child Development and Education

Faculty Mentor: Professor Nanci Monaco, Educational Foundations

For the past several decades, stay-at-home moms and moms working outside the home have engaged in a very emotionally charged debate about which path is ultimately in the best interest of the child. Characterizing this debate as representing two opposite ends of a spectrum is quite misleading, as research suggests that many other factors are far more significant in determining healthy developmental outcomes for children. What is the quality of the childcare provided? What age child is the subject of the debate? What activities does the stay-at-home mom do with the child? Although stay-at-home mothers are with their

children, how many hours do they spend with them? How many hours does the career mom spend away from the home and what support system is available when she is gone? Reasons why this debate is continuous to be formed inappropriately, as well as current research addressing the debate will be explored.

Presentation Type and Session:

Oral – Education and Social Sciences

The Return of Social Studies to Early Childhood Education

Amy Bianchi, Early Childhood and Childhood Education, and

Ashley Konka, Early Childhood and Childhood Education

Faculty Mentor: Professor Dianne McCarthy, Elementary Education and Reading

“A society that depends on a well-informed citizenry that understands how democracy functions and knows something of the world beyond its own borders cannot afford to overlook the social studies” (McGuire, M. 2007). In many early childhood classrooms the Social Studies Curriculum has been left out. In order to revitalize this experience, rich thematic units that embrace concrete and hands-on learning, play and the incorporation of community, children's literature, and diverse historical figures need to be developed. We will show how “teachers create theme boxes, or collections of props that relate to their curriculum units or children's interest and experiences. They put out the theme boxes at appropriate times and store them away when it is time to introduce a new theme or when the children seem to need new play ideas” (Bardige, B. and M. Segal, 2005)” Research shows that there are ways to include Social Studies in early childhood such as theme boxes. This poster will share results of our research on how to include Social Studies in early childhood. “Thematic, project-based curriculum should build on what children already know, develop concepts of social studies rather than focus on isolated facts, provide hands-on activities, concentrate on content and processes relevantly throughout the year, and capitalize on child interests” (Gullo, D. 2006).

References: McGuire, M. (2007). What Happened to Social Studies? Phi Delta Kappan. 88, 620-624. Bardige, B., and Segal, M. (2005). Building Literacy with Love. Washington, DC: Zero to Three Press. Gullo, D (2006). K Today Teaching and Learning in the Kindergarten Year. Washington, DC: NAEYC.

Presentation Type and Session: Poster Session IV

The Role of Teacher Candidates in Professional Development School Governance

Amy Bianchi, Early Childhood and Childhood Education, **Sarah Kwiatkowski**, Childhood Education, and **Brooke Salzman**, Masters Including Initial Teaching Certification

Faculty Mentor: Professor Leslie Day, Elementary Education and Reading

Partnership, collaboration, and shared decision making are important components of the Buffalo State College Professional Development School (PDS) Consortium. Teacher Candidates are significant stakeholders in this collaboration, particularly those representatives who play vital roles in supporting PDS initiatives and the PDS mission. Through a process of departmental nominations and recommendations, two undergraduate teacher candidates and one graduate assistant are selected to work with the PDS Director, PDS Advisory Council, and PDS Consortium. These student representatives offer critical support to PDS, including updating website information, preparing materials for Consortium events, data collection and analysis, and other daily operations. The student representatives are also responsible for disseminating information regarding PDS events and demonstrating the benefits of PDS involvement during specialized orientations for teacher candidates. These representatives sit on the Advisory Council, the guiding body of the PDS, where their voices are highly respected and lend significant real world perspective. This involvement in the governing PDS bodies provides early opportunities to develop leadership and collaboration skills. The poster session would allow the teacher candidates to highlight their important role in the structure and governance of the Buffalo State College Professional Development School Consortium.

Presentation Type and Session: Poster Session III

Spelling Characteristics of Adults With Atypical Spelling

Inna Sen, Speech-Language Pathology

Faculty Mentor: Professor Christine M. Scott, Speech-Language Pathology

Children are being taught how to spell by memorizing word lists and taking a weekly spelling dictation test. These spelling tests are only scored for accuracy (percentage correct). Scoring words as either correct or incorrect does not provide any information regarding the type of spelling pattern errors that are made. The goal of this project was to determine what specific spelling errors adults with learning disabilities make. To qualify for this study, participants were given the Test of Written Spelling (spelling test) and a hearing screening. To continue, the participants needed to score in the average range on the Test

of Nonverbal Intelligence-3 (TONI-3) and the Peabody Picture Vocabulary Test-4 (PPVT-4). The TONI-3 measured abstract reasoning, and the PPVT-4 measured receptive vocabulary. Three adult male participants qualified for this study. They were given the Spelling Performance Evaluation for Language and Literacy (SPELL) test which analyzed 120 spelling patterns of English. The SPELL test provided a detailed report of the specific spelling patterns that were problematic for each participant. The results of the SPELL test were analyzed for spelling patterns that were not mastered. The specific spelling patterns that were found to be problematic for adults with learning disabilities included silent letters, inflected words, and derived words. This was a pilot study and more research will provide more information. This information can be used in the future to help professionals develop new spelling instruction/strategies for students with spelling difficulties.

Presentation Type and Session: Poster Session V

Teaching Social Studies Through Your Community

Brittany McCarty, Exceptional Education and Elementary Education and **Trisha Podlaski**, Early Childhood and Elementary Education

Faculty Mentor: Professor Dianne McCarthy, Elementary Education and Reading

In the article “Little Windows to the Past”, Leigh and Reynolds emphasize the importance of teaching local history to students in a way they can relate to. “. . .start by connecting children to their own past. Once they can see that they have a personal and a family history (and have grasped the concreteness of history), they can reach beyond themselves and understand how people from history are connected to us”(1). Through the research we have gathered on teaching history to children, we have developed five steps that teachers can use and modify when planning history lessons. These steps will provide teachers with the resources they can use within the community they live in and how to incorporate them into history lessons. Examples are given using landmarks around Buffalo including: Forest Lawn Cemetery, Buffalo and Erie County Historical Society, and President Roosevelt’s Inaugural Site. The five steps were created by using research from social studies textbooks and articles. A complete reference sheet will be available for viewers at the presentation.

Presentation Type and Session: Poster Session IV

Teaching Solids, Liquids, and Gases Concepts to First-Grade Students

Katie Haas, Elementary Education

Faculty Mentor: Professor Coralee Smith, Elementary Education and Reading

Teaching the basic science concepts of solids, liquids and gasses to young first grade students can be a demanding experience for preservice elementary teachers. However, preservice elementary science teachers discovered when using minds-on, hands-on personal experiences the situation becomes concrete and real for the young scientists. This learning and teaching experience assists the young scientists to build conceptual science knowledge, while at the same time allows the preservice teachers to utilize a constructivist approach to learning and teaching.

Presentation Type and Session: Poster Session II

Teaching to a Changing Multicultural Classroom

Sara Knapp, HON400, All College Honors Colloquium

Faculty Mentors: Professor Andrea Guiati, Director, All College Honors Program and Professor Laura Casey, Educational Foundations

Culture is a word we do not hear often enough in today's society. Any individual we encounter can be a member of multiple cultures. It is not based solely on the way a person looks, but can include social class, occupation, region of origin, among countless others. In today's ever-changing society, it is clear that culture is changing along with it. This transcends into the classroom and the multiple cultures that children and teachers encounter within it. The Melting Pot theory of the early 20th century was designed to unite the many cultures coming to America. However, its best interests were in line with middle class Europeans. As such, schools were expected to follow suit, which caused a feeling of inferiority in minority cultures. This issue had catastrophic effects for minority cultures in the classroom. In order to combat these negative effects of the Melting Pot theory, educators need to understand and appreciate the very diverse students in the classroom so that they can create lesson plans to effectively teach each student. This presentation will present the history leading up to today's multicultural classroom, while also focusing on what educators can do so that all students reach their potential.

Presentation Type and Session:

Oral – Education and Social Sciences

Understanding Learning Disabilities

Marshay Hawks, Jaznique Warrick, and Asia Stephens,

EXE100, Nature and Needs of Individuals with Special Needs

Faculty Mentor: Professor Raquel Schmidt, Exceptional Education

We are students enrolled in EXE 100, Nature and Needs of Individuals with Exceptionalities, and this is our first exposure to the concept of disabilities. As part of this class we are completing in-depth interviews of individuals with disabilities and also individuals who work with people with disabilities. The purpose of this presentation share what we have learned about what it means to have a disability in the United States. This session will share the results of our interviews, and will also include an analysis of using interviews as a valuable qualitative research and education tool. We are all conducting extensive interviews with either a person that has a learning disability or someone who helps people with disabilities. Each interview will also be accompanied by an analysis of the results, with the use of scholarly sources. The purpose of the interviews is to help us gain more information about disabilities from a different perspective, and in turn share our information with those at the event.

Presentation Type and Session: Poster Session VIII

Using Cooperative Learning to Prepare for Teaching Math During Junior Participation

Melissa Jenkins, Stella Amoako, Rachel Berg, Stephanie Borkowski, Jenna Calorico, Justin Celmer, Peter Fichter, Mariyah Goodbee, Gina Heinzinger, Nicolas Kalczynski, Lauren Lipiecki, Amy Manley, Joe Strasser, Kara Tornquist, Danielle Witka, and TaNishae Vishion, EDU312, Teaching Mathematics and Science

Faculty Mentor: Professor Hibajene Shandomo, Elementary Education and Reading

In the weeks leading to our Junior Participation in Buffalo, we examined literature that discussed creating a problem-based classroom. Van De Walle (2004) states that “we now know that for children to learn mathematics in ways that make sense to them, they must be actively engaged in making sense of mathematics” (p.1). Our class used critical reflection to identify our feelings pertaining to math and how we will approach the subject in our classrooms. We used cooperative learning in order to prepare for our roles as Teacher Candidates. Students worked together to study a chapter in the class textbook. We then presented the “Big Ideas”, and provided examples of activities that might engage elementary school children. The information presented included the development of various math concepts. The purpose of this poster is to share techniques and activities that were taught during our cooperative learning process. Each team became experts in an area and simplified it for the benefit of their fellow

classmates. Through the work of individuals and groups, which included props and hands-on displays, we entered our Junior Participation experience with more knowledge than we could have gained alone.

Presentation Type and Session: Poster Session IV

Using Timelines to Reveal Creative Developments in Our Culture: Three Multimedia Presentations

Shannon Driscoll, Childhood Education, **Rebecca Tasner**, Childhood Education, **Jessica Han**, Childhood Education, and **Danielle Witka**, Childhood Education

Faculty Mentor: Professor Maria Ceprano, Elementary Education and Reading

Timelines are often used by social studies instructors to help children reach an understanding of historical developments and, oftentimes, highlight the transformations an area of study has undergone. The multimedia power points featured for this poster session show crucial developments in film, music, fashion, dance and traditions over the past several decades. The construction of these multimedia projects necessitated research and creative thinking. They also required the integration of several content areas including the English Language Arts, Social Studies, Technology, and the Arts. Under the supervision and facilitation of astute teacher educators, the type of research developed to complete these projects can easily be replicated by children at the elementary school level. The specific outcomes that are aligned with the New York State Standards stemming from such projects will be presented in a poster display supported by the power point presentations. Additionally, drafts of children's books that evolved while completing the project will also be put up for display.

Presentation Type and Session: Poster Session III

Varying Classroom Standards For Standardized Testing

Clair Kusyj and **Christine Malinverni**, EXE100, Nature and Needs of Individuals with Special Needs

Faculty Mentor: Professor Raquel Schmidt, Exceptional Education

The purpose of this presentation is to present a comparison of standardized testing in New York State, the United States, and international school systems. Statistical analysis of test scores using data from NAEP and ISSE will help guide these comparisons. For several decades the standardized reading and math scores of school children in the United States have been consistently low in contrast to most other first world countries, and within the U.S. there are significant discrepancies across race, demographic region, and disability groups. In recent years the federal government has pushed for greater inclusion

of mathematics, science, and technology across the curriculum as well as national accountability mandates to address the poor literacy rates and reading skills of American school children. It is our hope that examining the teaching and testing practices of the U.S. and other countries will give us a better understanding of recent changes in when, why, and how students are assessed, and the forces contributing to the international drive for school reform.

Presentation Type and Session: Poster Session VII

Health and Safety

Are Tanning Beds Safer Than the Sun?

Johnny Duco, HEW411, Critical Issues in Health and Wellness
Faculty Mentor: Professor Scott Roberts, Health and Wellness

According to the United States Cancer Society skin cancer is the most common form found in humans. The rate in which people are diagnosed with skin cancer is increasing each year. This statistic represents a seriously growing public problem. Investigations reveal that there is no such thing as a safe tan. However, studies have shown that 90 percent of all skin cancers are caused by sun exposure. Tanning salon owners convey that the use of tanning beds are safer than outdoor sun exposure. They base this conclusion on the fact that tanning beds mainly use UVA rays, and they offer more “controlled” UV exposure. Although most forms of cancer are very serious, Melanoma ranks the highest in severity. This is because it tends to spread quickly throughout the body and can be very lethal if not caught in the early stages. Studies have shown that both tanning beds and the sun increase the risk of melanoma and non-melanoma skin cancers. Research investigating indoor and outdoor tanning shows that indoor tanning is a safer choice for your long term health.

Presentation Type and Session: Poster Session I

Beer, Stale Bread and Raw Meat: A Good Diet for an Athlete?

Kristy Tartaglia, HON400, All College Honors Colloquium
Faculty Mentors: Professor Andrea Guiati, Director, All College Honors Program and Mr. Nicholas DeMarsh, Varsity Head Coach

Many people today understand that beer, stale bread and raw meat is not a good diet, for anyone, but in the 1800's this was not so. 19th century athletes would go on this diet thinking they were doing what was best for their body. However; due to advancements in science we now better understand how the body works and what it needs. Throughout history athletes have been on the cusp of scientific research trying to get the most out of their bodies, in order to perform at their highest levels. Since knowledge of the body has changed so have the practices for taking care of it. So what has changed and what has remained the same, if anything, for long periods of time?

Presentation Type and Session: Poster Session III

Don't Panic: Holistic Versus Medication Treatments for Panic Anxiety

Julie Rodland, HEW411, Critical Issues in Health and Wellness
Faculty Mentor: Professor Scott Roberts, Health and Wellness

Panic anxiety is the severe manifestation of stress that leads to physical and mental reactions in the body. Panic attacks involve racing thoughts accompanied with an overwhelming fear that they will not cease. Physical symptoms include clammy hands and feet, tingling sensations, nausea, vomiting and physical pain. This type of anxiety is said to be caused from genetic and environmental factors. Panic anxiety is one of the most common anxiety and emotional disorders in the world. It is believed that one out of seventy five people will experience a panic attack in their lifetime. Many treatments exist for this disorder. The two main categories of help are holistic medicine including therapy and/or medication. Holistic treatment involves the doctor working with the patient to teach self care, physical, emotional and spiritual well being. Medication is the number one treatment option chosen by panic anxiety sufferers. When a pill is taken, feel good chemicals are released and the benefits are seen almost immediately by eliminating all symptoms. In conclusion, both approaches to treatment are proven effective. Although medications produce relief quicker, holistic treatment involves no side effects. It is up to the sufferer to decide which road to recovery they will take. It depends on who you are as a person as well as your desire for change.

Presentation Type and Session: Poster Session II

Elixir of Immortality

Laila Marchini, NFS330, Seminar on Complementary and Alternative Nutrition

Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

The maximum life span of humans has remained unchanged for the past hundred years. In the absence of disease life span is expected to increase about 15 years, but it can still be extended with the discovery of telomerase. As humans age, their telomeres, or chromosomal caps shorten. Every time cells divide, telomeres get shortened. Shorter telomeres cause the cell to age and die. Telomerase enzyme stabilizes the chromosomal caps, prevents shortening telomeres as cells divide and increases the cell's life. Telomerase binds to the ends of the telomere (via RNA template) and by shifting the strand's position allows for more DNA sequences to be added, then DNA polymerase is released and attaches to the complementary DNA strand for further cell division. This allows the telomere to extend and continue with DNA duplication. Supplying cells with telomerase leads to cellular immortalization, which means allowing the cell sustain a youthful state and proliferate indefinitely. The current evidence of the possibility of extending telomeres beyond what we genetically

inherit is limited. The discovery of telomerase has already led to treatment of telomerase dysfunction diseases, such as, dyskeratosis congenita and aplastic anemia as well as some cancer treatments; it is possible to someday lead to increasing human life span.

Presentation Type and Session: Poster Session II

Flushing Away Crohn's

Julie Ruzsala, HEW411, Critical Issues in Health and Wellness
Faculty Mentor: Professor Scott Roberts, Health and Wellness

Crohn's is a chronic inflammatory disease of the digestive and intestinal tract, which results in extreme weight loss. The most common complications are intestinal blockages and ulcers that turn into fistulas. This disease affects men and women equally, between the ages 15-35. Crohn's is diagnosed by a blood test, stool culture, or x-rays. Crohn's affects over half a million people in the United States. The disease is not fatal and sufferers can lead normal lives. Some problems that arise are flare up's (aggravated bowels) diarrhea, and malnutrition. These can lead the patient to lose time from work. Unfortunately, there is no cure for Crohn's. Patients can undergo surgery to help alleviate symptoms, but many times this is just temporary relief. The good news is research is being done on stem cells. This procedure has been conducted in ten patients and is considered to be early in experimental stages. If research continues to be successful stem cells may be the answer to curing Crohn's and the disease will be permanently flushed away.

Presentation Type and Session: Poster Session I

The Forgotten Illness

Shantel Ackley, HEW411, Critical Issues in Health and Wellness
Faculty Mentor: Professor Scott Roberts, Health and Wellness

Cerebral Palsy is a non-progressing condition that affects 1 out of every 500 children born in America. It is defined by the National Institute of Health as being any abnormality in the neurological development in infancy or early childhood. Statistics from 2003 show the average lifetime treatment costs for an individual suffering from this illness was approximately 921,000 dollars. This cost not only includes the advanced treatments for the patients, but also the care needed each day. Due to the intense care needed for an individual with Cerebral Palsy, it makes it very difficult for a family. Family members take many days off in order to transport their loved one to appointments. The lost income affects their ability to pay for the many treatments. Time and money would greatly be reduced by providing more treatment facilities. One of the costly treatments that have proven to loosen muscle tightness is repeated Botulinum toxin injections. Due to the fact there is no cure for Cerebral Palsy, we need to find more successful treatments in order to care for these patients.

Presentation Type and Session: Poster Session II

Garlic Supplements and Hypercholesterolemia

Amy Smalter, NFS330, Seminar on Complementary and Alternative Nutrition

Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

There are so many supplements on the market it can be hard to determine what is useful and what is not. Garlic is a member of the lily family. Its active ingredient, allicin, is what gives garlic its distinctive odor and is the component believed to be responsible for its purported health benefits. Garlic supplements are marketed to lower blood cholesterol, yet there is limited research on the topic as well as inconclusive evidence. Early research on garlic suggested that garlic lowers cholesterol an average of 9% to 12% in people with high cholesterol levels. However, the reliability of these analyses has been questioned by researchers because of the poor design of some of the underlying studies and the possibility of publication bias. Later research of a randomized placebo-controlled double blind study and meta-analysis found that garlic was less effective in reducing total cholesterol than had been suggested by earlier studies. Individuals need to weigh the pros and cons of taking the supplement to determine if it is right for them. Therapeutic Lifestyle Changes and functional foods including plant sterols and sterols as well as foods containing soluble fiber are a better option for lowering blood cholesterol compared to garlic supplements.

Presentation Type and Session: Poster Session III

GIS Spatial Analysis of Crime Incidents and Household Income Distributions

Craig Lewis, GEG 430, Senior Thesis

Faculty Mentor: Professor Tao Tang, Geography and Planning

According to the Bureau of Justice Statistics in 2005, U.S. residents over the age of 12 experienced approximately 23 million crimes. Of these 23 million crimes, 77% were property crimes, 22% were crimes of violence, and 1% were personal thefts. This study focuses on the spatial comparison of income levels and crime rates by different types of crimes across the census tract block groups in the City of Buffalo. Household incomes were classified, and the lowest and greatest income levels were identified. After each of the two variables were analyzed separately, spatial and statistical analyses were conducted to identify the possible direct relationships between the income and crime incident levels in the geographic areas across the City of Buffalo, such as burglary and homicide. The results of this study indicate that in general, relative high income areas encounter a great number of property crimes, such as burglary; while the low income areas encounter a great number of violent crimes, such as homicide. The results of this study are useful to support the Buffalo Police Department in determining locations and

occurrence patterns of different types of crimes.

Presentation Type and Session: Poster Session I

Health and Wellness Student Organ Donation Awareness Campaign

Marc Cancilla, Health and Wellness

Faculty Mentor: Professor Sue Baldwin, Health and Wellness

The purpose of this study was to increase Buffalo State College Health and Wellness students' awareness of organ, tissue, marrow and blood donation and to assess and positively impact student attitudes and behaviors toward the organ, tissue, marrow and blood donation. There is a great need to educate young adults on the topic of organ donation, in fact it can actually be lifesaving. Recognizing the benefits of donating organs, tissues, marrow and blood critically impact positive attitudes and resultant behaviors in registering oneself to be a donor. Students in the Health and Wellness major were recruited on a voluntary basis through department courses as well as the Health and Wellness Association. Subjects were pre-tested on their knowledge and attitudes of organ, tissue, marrow and blood donation. A follow-up 15 minute education session, including handouts, was presented followed by a post-education survey identifying their beliefs and behaviors regarding organ, tissue, marrow and blood donation. Finally, subjects were then given pledge cards to complete and submit if they so desired.

Presentation Type and Session:

Oral – Health, Sciences, and Mathematics

Health Care 2008 and Beyond

Michael Ansell, HEW411, Critical Issues in Health and Wellness

Faculty Mentor: Professor Scott Roberts, Health and Wellness

Democratic candidates Hillary Clinton and Barack Obama are battling for their parties support. With 47 million Americans without health care, this issue has become a focus for both democratic candidates. This investigation separates the candidates' view of health reform. Clinton is proposing a universal plan that would help bring coverage to every American. Discontinuing President Bush's tax cut for those who make over 250,000, Clinton plans a net tax cut for all American taxpayers. Clinton believes that people can afford health care and choose not too. Obama would like to create a coverage plan that is more affordable to all Americans. Obama's belief is that people do want health care but cannot afford it. Obama wants to increase the competitive market of coverage. A plan that utilizes both candidates' proposals, would have a greater chance of being effective. Hillary and Obama's plans are similar, both provide coverage for individuals regardless of past medical history. Hillary and Obama have the same agenda, to reconstruct how health care costs and reform are handled.

Presentation Type and Session: Poster Session III

How Mindless Do We Really Eat?

Daniel Lopez, HEW411, Critical Issues in Health and Wellness

Faculty Mentor: Professor Scott Roberts, Health and Wellness

Obesity is a problem that can be solved with less caloric intake and more physical activity. So what is the problem? An alternative view might answer this question. The new view is that eating is an automatic behavior. Automatic behaviors are those that occur without awareness, are initiated without intention, tend to continue without control, and operate efficiently or with little effort. The theory that eating is an automatic behavior is backed up by a number of studies. These studies show the impact of how food presentation and environment effect how we eat. A lot of how much we eat is influenced by portion size, food visibility, and the accessibility of food. Most people are totally unaware of how much food they actually eat when they are in the company of others. Environmental influences also have a major impact on the amount people eat. This new view of eating as an automatic behavior shows evidence to why people are still gaining weight while understanding the dangers. This theory suggests that health professionals need to change focus on how to stop obesity. We should put more of our effort into changing our food environment then teaching people about nutrition.

Presentation Type and Session: Poster Session I

HPV Vaccine-Medical Celebration or Controversy: Get the Facts

Sarah Harris, Health and Wellness and **Lindsay Bath**, Health and Wellness

Faculty Mentor: Professor Sue Baldwin, Health and Wellness

This presentation will address the need to raise audience awareness and knowledge regarding the human papillomavirus (HPV), its link to cervical cancer, and the HPV vaccine (Gardasil and Cervarix) as deemed critical throughout the research. Genital HPV is the most common sexually transmitted virus in the United States. There are approximately 20 million people currently infected, about 6.2 million new cases each year, and as many as half of those infected being males and females ages 15-24. In 2000 a national survey found that merely 2% of Americans were able to name HPV as a sexually transmitted disease (STD) and less than one third had ever heard of the virus. This presentation will review the results of a study designed to increase HPV awareness of Buffalo State College freshmen regarding their level of knowledge, attitudes and beliefs about HPV and the HPV vaccine. The presentation will also provide accurate and reliable information about HPV so that participants can make informed decisions about HPV vaccination, managing HPV-associated risk, interpreting cervical cancer test results, and managing and treating HPV outcomes.

Presentation Type and Session:

Oral – Health, Sciences, and Mathematics

It's All in Your Head, Take This Pill

Barbara Olivieri, HEW411, Critical Issues in Health and Wellness

Faculty Mentor: Professor Scott Roberts, Health and Wellness

There is no escaping it; every woman will experience the joys of menopause at some point in their life. With an estimated 22 million women falling into the 45-55 year age group, natural menopause or surgical menopause is their birthday gift. Estrogen levels plummet; progesterone becomes virtually non-existent; blow out the candles ladies. Menopausal symptoms are real. To some, the affects of this process causes severe or debilitating consequences. Symptoms can include hot flashes and night sweats, libido, and sexual problems. Anxiety; muscular soreness; migraines; urinary tract issues; water retention; riding the menopause roller coaster is not an enjoyable experience. Daily, women deal with the ups and downs of this process, searching for answers; pleading for help. Synthetic and natural hormone replacement therapies are available, but at what cost? According to the JAMA, hormone replacement therapy side effects include an increased risk of both endometrial and breast cancer. Coronary heart disease, stroke, and blood clots are also evident. Examining alternative methods to deal with menopause allows women to take charge of their life, and accept that medications are not always a positive choice.

Presentation Type and Session: Poster Session II

Killing Me Softly

Florresy Aristilde, HEW411, Critical Issues in Health and Wellness

Faculty Mentor: Professor Scott Roberts, Health and Wellness

Amyotrophic lateral sclerosis (ALS) is a progressive neurodegenerative disease that attacks nerve cells in the brain and spinal cord. It results in muscle weakness of the hands, arms, legs and feet, it affects speech, swallowing and breathing. The degeneration causes motor neurons to die therefore the ability of the brain to initiate and control muscle movement is lost. Paralysis is the end result of ALS. With new prospecting drugs, there are new hopes for relief of this disease. Rilutek is the first treatment to alter the course of ALS. This anti-glutamate drug was shown scientifically to prolong the survival rate by an average of three months. The human body naturally produces a substance called glutamate that carries signals to the motor neurons. One theory researchers have is that people with ALS are overexposed to glutamate in their nervous system. Too much glutamate "burns out" the motor neurons and disrupts the brain's messages to the muscles. Researchers have explained that Rilutek may protect nerve cells from overexposure to glutamate. There are numerous drugs prescribed to help cope with different symptoms including amitriptyline, baclofens and lorazepam. Although Rilutek is

not a cure, this new form of treatment may help put ease to an agonizing and deteriorating disease. With further and extensive research, more treatments may become available and may ultimately put an end to this crippling disease.

Presentation Type and Session: Poster Session III

The Super Bug-MRSA

Lindsay Klimtzak, HEW411, Critical Issues in Health and Wellness

Faculty Mentor: Professor Scott Roberts, Health and Wellness

Methicillin-resistant Staphylococcus aureus (MRSA) is a bacterium responsible for difficult-to-treat infections in humans. The organism is often sub-categorized as Community-Associated or Hospital-Associated MRSA depending upon how the disease was acquired. The infection is often caused by Staphylococcus aureus bacteria, often called staph. Staph bacteria are normally found on the skin or in the nose of 1/3 of the population. If you have staph on your skin or in your nose but are not sick, you are said to be "colonized" but not infected with MRSA. Staph bacteria are generally harmless unless they enter the body through a cut or other wound. In older adults and people who are ill or have weakened immune systems, ordinary staph infections can cause serious illness. Alcohol has been proven to be an effective surface sanitizer against MRSA. To prevent the spread of staph or MRSA in the workplace, employers should ensure the availability of adequate facilities and supplies that encourage workers to practice good hygiene. It's also very important to use antibiotics correctly by taking all of your medicine if prescribed by a doctor. Using only part of a prescription allows antibiotic-resistant bacteria to grow.

Presentation Type and Session: Poster Session II

Tradition Versus Convention: The Effects of a Traditional Inuit Diet

John English, HON400, All College Honors Colloquium

Faculty Mentor: Professor Andrea Guiati, Director, All College Honors Program

For centuries the Inuit people have relied on the natural resources of the Arctic, mainly seals and whales, for their subsistence. The people of the North feel a spiritual connection to the animals they hunt and believe that they must consume the flesh of these aquatic mammals to survive, even though store-bought food has been made available to them. However, in the Industrial Age pollutants and dangerous chemicals are migrating to the North and gathering in the blubber of the very animals that have helped these people survive in this inhospitable climate for all these years. Will the Inuit be forced to abandon their cultural traditions? Will they have to switch to a store-bought diet for the sake of their own health and safety? Are these processed foods

going to be any better for them than the food they hunted for themselves? Come take a look. No parka necessary.

Presentation Type and Session: Poster Session II

What If It's NOT Something You Ate?

Tara Ammerman, HEW411, Critical Issues in Health and Wellness

Faculty Mentor: Professor Scott Roberts, Health and Wellness

There are several different types of gastrointestinal diseases that have a specific cause. Crohn's disease, ulcerative colitis, and irritable bowel syndrome all come with similar symptoms and not a specific known cause. However, ulcerative proctitis is the newest form of gastrointestinal disease, and has the least amount of research available. Scientists are continuing research to find answers since approximately 105,000-175,000 people suffer from the disease. Since there is no way to prevent the disease, patients must realize their lifestyle did not cause this illness. Scientists believe that an outside agent such as a virus interacts with the immune system and causes damage to the intestinal wall. With ulcerative proctitis, the ulcers affect the area of the colon known as the rectum (the last 6-8 inches). Ulcerative proctitis may not be as severe as Crohn's disease or ulcerative colitis because less of the colon is affected. However, ulcerative Proctitis still can be a painful, irritating disease. Even with treatments many people may suffer painful symptoms for their entire lives. Others are fortunate enough to only have a few flare-ups in their lifetime. It is extremely important to take care of one's body physically and emotionally in order to ease the symptoms. Since the symptoms can affect people's daily lives and routines, researchers continue working hard to find a cause and eventually a cure.

Presentation Type and Session: Poster Session I

Yoga: For Reduced Stress and Optimal Health

Richard Santucci, NFS330, Seminar on Complementary and Alternative Nutrition

Faculty Mentor: Professor Suk Oh, Dietetics and Nutrition

The term yoga to many conjures up an image of a yogi sitting on the floor with their legs crossed and chanting "Ommmm," although it does involve a little more than that. Yoga is a lifestyle striving towards a better you. It aims to balance your body's energy centers known as "chakras" and unite the mind body and spirit of which most of us only seem to focus on individually or not at all. Stress is known to cause many modern-day illnesses in adults, and yoga is popularly practiced to reduce it. Stress is the body's response to change in environment, but in today's world, we often encounter chronic stress which can create a whole list of health problems. This presentation explores a brief introduction to yoga, stress, the effects of stress on health and how yoga can

reduce stress, resulting in better health. It is claimed that yoga can not only reduce stress but strengthen the body, mind and spirit, and that it helps you understand yourself better and achieve optimal health.

Presentation Type and Session: Poster Session IV

Humanities

The Apprenticeship of a Print Journalist in the Electronic Age

Carla Young, Journalism

Faculty Mentor: Professor William Raffel, Communication

The electronic age has changed every aspect of the way traditional newspapers try to attract and hold readers' attention. Media convergence is the reality of modern journalism. Print media are racing to adapt their products to the Internet, and print journalists must incorporate the broadcast skills of spoken and visual communication to succeed. Before a news article gets published, there is a hierarchy of copy editors who proofread, analyze, verify and correct every piece. I used participant-observation to study the function of copy editors at a daily newspaper. I was awarded a Dow Jones Newspaper Fund copy editing internship and trained at the Pennsylvania State University Center for Editing Excellence for two weeks. Then I worked as a copy editor for nine weeks at The Journal News in White Plains, New York. For my presentation I wrote and produced a documentary, "The Apprenticeship" about my experiences. Through the processes of script writing, videotaping and editing, I learned how tell a story audio-visually. With video, words accent visual images. I also learned the importance of using natural sound to give a scene a sense of place and authenticity. I will show the documentary and briefly discuss my work.

Presentation Type and Session:

Oral – Arts and Humanities

The Dark and Sparkling Mirror: Exploration of "Rape of the Lock"

Naomi Kelsey, English

Faculty Mentor: Professor Lisa Berglund, English

This paper discusses Pope's mock-epic poem "Rape of the Lock". The thesis of the paper concerns Pope's anxieties about both the industrial age in England and his own place as an artist and poet in this age. The paper uses both critical sources and close reading techniques to create a literary lens through which the reader can view Pope both contextually in his own era, and independently on his artistic merit. I will focus my presentation with a brief synopsis of the anxieties of the age, including commercialization of artistic endeavors, trade, and the female ideal, and select key passages from the paper to give the audience an overview of Pope's discussion of these issues. Audience members will be treated to some of Pope's most interesting and evocative passages, as well as insightful critique of Pope's poetry.

Presentation Type and Session:

Oral – Arts and Humanities

Elizabeth Bennet: The Anti-Heroine?

Laura Terreri, English

Faculty Mentor: Professor Lisa Berglund, English

It is my goal to present an authentic examination of the character of Elizabeth Bennet. I thought it was imperative to look beyond the lovable heroine that so many people have come to adore. Most readers find Elizabeth to be the ideal heroine who deserves to find love and break free of her impoverished circumstances. I feel as though the reader does not see all of Elizabeth's dimensions. I look at her flaws that the common reader would fail to notice or contemplate. I explore her pride, vanity, and self-deceit. After researching these traits, I then looked to her parents to see if they perhaps had fostered some of these characteristics in Elizabeth. Elizabeth's mother assumes the newest bachelor in town will certainly choose one of her daughters to marry. This pride can also be seen in Elizabeth, when she is shocked that Mr. Collins would even consider proposing to her. Then I noticed that her father creates a boldness in Elizabeth, that makes her become very vocal about her opinions and therefore shows her prejudice. I also wanted to examine Austen's audience and see what they could learn from Pride and Prejudice's heroine.

Presentation Type and Session:

Oral – Arts and Humanities

Fathers and Bachelors: The Men of Jane Austen's Novels

Jessica Squire, English

Faculty Mentor: Professor Lisa Berglund, English

This paper focuses on the role of men in the novels of Jane Austen. In particular, I look at Mr. Bennet from "Pride and Prejudice" and Mr. Knightley from "Emma". Each has a paternal influence, good or bad, over Austen's heroines. Because of this influence, every other aspect of their lives is affected. The male influence is so great that the women end up becoming the opposites of their male figures. Finally, Austen compares the influence of a man with becoming like a man. She points out that falling under a male's influence doesn't cause the woman to dismiss the idea of thinking for herself, but notes that if a woman models herself after a man, she becomes just like him.

Presentation Type and Session:

Oral – Arts and Humanities

Louis Zukofsky and the "Objectivist" Poetics

Robert Turley Jr., English

Faculty Mentor: Professor Lisa Berglund, English

Louis Zukofsky is without a doubt one of the lesser known of the early 20th century Modernists, but fame does not necessarily indicate literary influence, or poetic worth. As the founder of the "Objectivist" school of Modernist poetry, Zukofsky was somewhat of a cult figure among 'outside-the-institution' poets in the 1930's; he described his poetic method as striving to bring the mind of the reader to a state of perfect rest, by means of carefully rendered images and the 'music' of language. One of Zukofsky's most consistent claims about poetry, in reference to his own work and that of others, was that an artist's body of work must be examined as a contiguous whole, almost a single flashing thought, spanning a lifetime. Despite this view, which was the pillar of his epic criticism of the Bard, "Bottom: On Shakespeare", Zukofsky's own work can be seen to pass through different phases and tones, reflecting the changing world of which the author was a part. By studying the letters and working papers of Zukofsky held at the Lockwood Library at UB, I will present my evaluation of Zukofsky's claim that a poet is a static being, unchangeable and permanent in his art.

Presentation Type and Session:

Oral – Arts and Humanities

More to the Story Than Meets the Eye: This Book Sounds Good

Hillary Fayle, HON400, All College Honors Colloquium

Faculty Mentors: Professor Andrea Guiati, Director, All College Honors Program and Professor Justin Lowe, Design

The experience of watching a film is often enhanced through the implementation of an audio soundtrack. The unification of audio and visual communication is growing increasingly prevalent in modern society, thus spawning the question, could a book enjoy the same benefits from an audio counterpart much like a film does? To explore this I will create and publish a book presenting a collaboration of art and design work, accompanied by a sound track. The book and the sound track will be created using original artwork and auditory compositions. My intent is to supplement the reader's visual experience through the aide of a sound track, thus strengthening personal reactions to the book.

Presentation Type and Session:

Poster Session VII

Once Upon a Time: Analysis of Three Regional Fairy Tales

Sara Walker, HON400, All College Honors Colloquium

Faculty Mentor: Professor Andrea Guiati, Director, All College Honors Program

The term "fairy tale" in today's society can mean happy ever after. Yet, historically, fairy tales were meant as life lessons, and often the hero of the story doesn't get his happy ending. In this research, I will examine three fairy tales from three countries in Europe: Beauty and the Beast (France), The Little Mermaid (Denmark) and Rapunzel (Germany). I will take into account the classification system assigned to these fairy tales, the historical context, the motifs and their significance and how regional culture affects/was affected by them. My research will uncover the hidden truths of these fairy tales, and also present the reasons why these fairy tales have survived while others have been lost in time.

Presentation Type and Session:

Poster Session VI

Tying the String Theories of Life: The Bartimaeus Trilogy and Modern Science

David Whitehead, Philosophy

Faculty Mentor: Professor Karen Sands-O'Connor, English

I plan to present a literary research paper, which I will have previously presented at the 2008 International Conference on the Fantastic in The Arts. The paper is about The Bartimaeus Trilogy, by Jonathan Stroud, which illustrates the inclusion of current scientific explorations in non-science fiction literature for children. Furthermore, Stroud fills in the open-ended implications of string theory discoveries, specifically, dark matter and the multi-dimensional, one-world concept, with his creative possibilities. This process can break down some preconceived notions in young readers' minds, that the hard sciences require them to douse their imaginations, replacing them with "rational" thinking. How much more imagination does it take to believe there is a dimension, existing at the same time and within our own, that is inhabited by spirits, than to believe there are, as many as, eleven dimensions, one within another? While there is no mathematical data supporting the existence of the inhabitants of Stroud's imaginary dimension, neither is there any disproving it. This only serves to prove that great fantasy writing for children, rather than shying away from more adult studies – politics, philosophy, and quantum physics - can be improved by their inclusion.

Presentation Type and Session:

Oral – Arts and Humanities

The Vietnamese Experience

Phuong Le, HON400, All College Honors Colloquium

Faculty Mentor: Professor Andrea Guiati, Director, All College Honors Program and Professor Kenneth Mernitz, History and Social Studies

This paper compares postwar experiences of Vietnamese refugees in the western New York area to those in the U.S. By conducting extensive personal interviews as well as other types of research, I explore patterns of assimilation for varied Vietnamese refugees, including Amerasian immigrants. Most Vietnamese refugees can be called successful, but a number still struggle because of a variety of societal and personal reasons.

Presentation Type and Session:

Oral – Arts and Humanities

Physical Geography, Sciences and Mathematics

Adsorption of a Fluid in an Open Slit Between Non-Identical Solid Walls

Joseph Crawford, Mathematics

Faculty Mentor: Professor Svetlana Berim, Mathematics

The density functional theory is applied to study the adsorption of a fluid in a narrow slit between two non-identical planar solid walls. The slit is in a contact with a reservoir (large amount of fluid molecules) at given value of chemical potential and temperature. Densities, molecular diameters, and interaction potentials (the characteristics of fluid and one of the solid walls) are selected corresponding to argon and solid carbon dioxide, respectively. The parameters for the second wall are considered different from those for the first wall. Due to this difference, the equilibrium state of the fluid inside the slit is described by asymmetrical density profile which can be found as a solution of the non-linear integral Euler-Lagrange equation using iterative method starting from the specific initial guesses. The fluid density profile in the slit and, consequently, the amount of adsorbed fluid, depends on the chemical potential, temperature, and parameters of the second wall. Adsorption isotherms are calculated and analyzed as functions of the chemical potential at several given values of other parameters.

Presentation Type and Session: Poster Session I

Amine-Terminated Silane Self-Assembled Onto Silicon Surface and Protein Immobilization on Modified Surface

Lai Sze Wan, HON400, All College Honors Colloquium

Faculty Mentors: Professor Jamie Kim, Chemistry and Professor Andrea Guiati, Director, All College Honors Program

Protein adsorption plays a major role in developing biochemical devices. For instance, development of protein-array based biosensors can be used for forensics application. Preceding studies revealed that surface property is a crucial factor in the process of protein adsorption. In order for the biochemical devices to function properly, the control of protein adsorption on the surface is essential. The goal of this research is to investigate the ways to best modify an amine-terminated silane on the silicon surface for protein adsorption. The experiment starts out with the formation of 3-aminopropyltriethoxsilane (APTES), an amine-terminated silane, on the silicon substrate was prepared by self-assembled monolayer method (SAM). Fourier Transform Infrared Spectroscopy (FTIR) was used to examine and confirm the structure of APTES before and after each chemical modification on the silicon surface. Lastly, proteins are immobilized on the

modified surface. In addition, the FTIR technique was used to analyze the modified silicon surface before and after protein adsorption.

Presentation Type and Session: Poster Session III

The Analysis of 18th Century Archaeological Glass Trade Beads From Fort Niagara

Ariel O'Connor, Art Conservation

Faculty Mentor: Professor Aaron Shugar, Art Conservation

A group of approximately 500 archaeological glass trade beads excavated from Fort Niagara, New York in 2007 were studied for their chemistry and manufacturing technology. To date there has been no analytical investigation of the glass trade beads from Fort Niagara. This research focused on characterizing this collection of beads. Analytical techniques included reflected light microscopy, xeroradiography, portable X-ray fluorescence (XRF), and scanning electron microscopy (SEM). The elemental characterization for bead color is reported. The results of optical microscopy and SEM revealed discrepancies between the current method of visual identification for bead type and color, as well as the previously thought manufacturing process for colored beads. A proposal is made to amend the current classification system to increase awareness of this visual misidentification. A methodology is also proposed for field in-situ characterization of these new bead types.

Presentation Type and Session: Poster Session VII

Assessing Barriers to Round Goby (*Apollonia melanostoma*) Invasion of Great Lakes Tributary Streams

Shannon Rupprecht, Biology

Faculty Mentor: Professor Chris Pennuto, Biology

Exotic species can have enormous effects on the environments they invade. Round gobies invaded the Great Lakes in 1990 and have had negative effects on benthic macroinvertebrate and fish communities. Recently, tributary streams have begun to be invaded, but little is known about the physical characteristics of streams or the swimming performance of gobies that might determine invasion success. Several species of Hawaiian Gobiidae can scale 350-m waterfalls using various combinations of swimming, fused pelvic fins, and in one species, the mouth as a ventral sucker. Since round gobies also have fused pelvic fins and bulbous lips, we will examine the effect of water velocity, bed slope, substrate, and body size on scaling ability and swimming performance to estimate which conditions might limit upstream migration. A Vogel flume will be used to test 6 velocities, 3 substrates, and 2 body sizes, and a once-through flume will test 4 slopes, 3 substrates, and 2 body sizes. Preliminary trials showed

small gobies (~40 mm SL) were able to remain at-station for longer durations than larger gobies (> 60 mm). Both sizes primarily used caudal fin 'powerburst' swimming at high velocities (~60 cm/s), but the distance covered per swimming bout was a function of body size. Information on swimming performance and habitat conditions limiting upstream movement will allow us to predict those waters at risk to further goby invasion.

Presentation Type and Session: Poster Session III

A Biotelemetric Study of the Thermal Ecology, Behavior, and Home Range Movements of Diamondback Terrapins (*Malaclemys terrapin*) in Barnegat Bay, New Jersey

Jacqueline Walters, Biology

Faculty Mentors: Professor Edward Standora, Biology; Professor Harold Avery, Bioscience and Biotechnology (Drexel University), and Professor Wende Mix, Geography and Planning

The diamondback terrapin is North America's only estuarine turtle. Increasing anthropogenic pressures are causing recent regional terrapin population declines. We analyzed the home range movements and thermal ecology of terrapins in Barnegat Bay where their status is currently unknown. Knowledge of terrapin movements and behavioral patterns may lead to a better understanding of habitat requirements and a more comprehensive management strategy. Twenty terrapins were fitted with radio transmitters and temperature data loggers, and were located twice a week, on average, using GPS. Mean selected temperatures of male and female terrapins will be determined. Terrapin temperatures will also be compared to environmental temperature data to determine behavioral patterns. Location data will be analyzed using GIS software, and home range sizes will be determined using three models; the minimum convex polygon, 95% Jennrich-Turner ellipse, and 95% kernel method. Home range sizes will be compared between male and female terrapins and between summer months. General observations indicated that females tended to move greater distances than males, and often occupied deeper water in the bay and salt marsh. Based on these field observations, we expect that female terrapins will exhibit greater home range sizes, greater distances traveled, and lower mean temperatures than males.

Presentation Type and Session: Poster Session V

CA and DE Modeling of Biological Invasions and Ecosystem Engineering

Lee Canning, Mathematics and **Michael Dixon**, Mathematics

Faculty Mentor: Professor Joaquin Carbonara, Mathematics

Biological invasion and ecosystem engineering has been considered in a number of scientific works recently. Its impact has been felt in water and land areas, and is recognized as one of the top environmental problems, which may influence future economical and social development. Mathematical modeling helps predict and manage its impact. In our work, we compare and merge mathematical techniques and present models, implemented on a Linux cluster, that will help us to understand the changes in the ecosystem. We will be focusing both on the methods of Cellular Automata (CA) and systems of Differential Equations (DE). Each method has its own benefits and detriments. We will try to use integrate key points of both methods as much as possible in this study. This may result in the creation of a more accurate model. The cellular automata approach takes into account more factors (like spatial interaction), making it more realistic, and relies heavily on computer tools; however, the differential equations approach, an analytic rather than computational research tool, has been used extensively for many years, and has a much more extensive knowledge base to start from than in Cellular Automata.

Presentation Type and Session: Poster Session II

A Calculus Based Approach to the Error Estimate for the Riemann-Stieltjes Trapezoid Rule

Edward Fazekas, Mathematics and Biology

Faculty Mentor: Professor Peter Mercer, Mathematics

For certain functions it is impossible or very difficult to take the integral to find the area under the curve. So approximations to integral have been used to make up for this lacking. However approximations aren't useful without some estimate of their error, so you have an idea of how close you will be. For my project I looked at the Trapezoid Rule, a common approximation technique, used on the Riemann-Stieltjes integral. An error result using polynomial approximation had been found. However there are two problems with this approximation. It is very difficult to derive and it has some strict limitations on what kinds of functions it can be used on. Inspired by the Cruz-Urbe paper that used "backwards" integration by parts to derive a more generalized error estimate for the Riemann Trapezoid Rule; I researched if similar methods could be applied to the Stieltjes Integral. I was able to develop a proof that could be used to obtain the error of the Stieltjes Integral in a manner similar to that of Cruz-Urbe.

Presentation Type and Session: Poster Session III

Characterization of Amino-Functionalized Organic Films on Silicon Substrates Under Controlled Preparation Conditions by FTIR and Ellipsometry

Catherine Fill, Forensic Chemistry, **Paul Seidler**, Chemistry, and **Victoire Dushime**, Chemistry

Faculty Mentor: Professor Jamie Kim, Chemistry

This project focuses on the preparation of amino-terminated organic thin films on silicon substrates under various conditions and characterization by Fourier Transformed Infrared Spectroscopy (FTIR) and ellipsometry. Since the availability and reactivity of surface amino groups is important in many modern technologies, the optimization of thin film preparation conditions has been a subject of research interests. For this goal, 3-aminopropyltriethoxsilane (APTES) was used to prepare amino-functionalized film on silicon wafers by self-assembling technique in toluene. The reaction was conducted under several different, yet controlled, conditions. The concentration of APTES in toluene was 2% (v/v) and the reaction times ranged from 15 minutes to 24 hours. We experimented with different curing temperatures- either room temperature or 100 °C for 24 hours. The thickness of films was measured using an ellipsometer and the surface structure was analyzed using FTIR. Our results have shown that the structure and thickness of APTES films are governed by the deposition time and curing conditions. Thicker APTES films were formed by increasing the deposition time which show different FTIR spectra.

Presentation Type and Session: Poster Session II

Clothespin Microwave Transmitter and Receiver

Steven Wilser, Physics

Faculty Mentor: Professor Dan MacIsaac, Physics

This project studied and mapped the electric field produced by a microwave spark gap antenna constructed from low cost apparatus and supplies. A spark gap microwave transmitting antenna made from a household clothespin was driven by a high voltage current limited power supply. A receiving antenna made from copper wire was used to detect the electric field, where the intensity of the field was displayed on a multimeter. A low cost reflector was used to create standing waves within the electric field that enabled measurement of the wavelength of the radiation by measuring the distance between nodes. Linear arrays of wire were used as polarizers to analyze the E field.

Presentation Type and Session: Poster Session III

Comparing the Grand Canyon of the East to the Western One

Jessica Gorom, Earth Science

Faculty Mentor: Professor Bettina Martinez-Hackert, Earth Sciences and Science Education

The Grand Canyon of the West (GCW) is an internationally well-known geological world wonder of the South Western United States' Colorado Plateau. The Grand Canyon of the East is a similarly beautiful, less well-known, smaller canyon in the Devonian/Silurian sedimentary rocks of the western part of New York State in the Eastern United States. For the purpose of creating a comparative database to be used in the field, classroom and public education settings, features of New York's canyon, better known as Letchworth State Park (LSP) to Arizona's canyon, were collected, obtained, and recorded. We compared various numbers on rock formations, ages of the units, stream volume, and depth and age of canyon formation, erosion processes and other interesting geological features between the two canyons. The sedimentary rocks of both canyons tell the story of the conditions under which the rocks were laid onto the Earth's surface at the time. This study includes an evaluation of how the two canyons have formed including features we see in the strata. This study contains helpful information about geology, past life, and past environments of the two areas. LSP is often used as a field trip location of Western New York's geology educators having in mind similarities to the much further away Grand Canyon. However, even though it's nickname suggest a promising comparison, LSP turns out to be a beautiful yet tiny baby brother of the Grand Canyon of the West, both in size and age.

Presentation Type and Session: Poster Session VIII

The Corrosion of Stainless Steel

Robert Krueger, Art Conservation

Faculty Mentor: Professor Aaron Shugar, Art Conservation

Stainless steel found in a public fountain was showing evidence of corrosive attack after short-term environmental exposure. This would appear to be inconsistent with stainless steel, which is usually resistant to corrosive attack in the short term. There are several factors promoting the degradation of stainless steel, including airborne pollution, mechanical effects of turbulent water and composition of the aqueous environment. This study aims to investigate the effect of a chlorinated aqueous environment on the corrosion of stainless steel (304). Preliminary testing with scanning electron microscope-energy dispersive spectrum (SEM-EDS) shows chloride contamination within the steel's corrosion products. This supports the theory that the formation of the stainless steel's protective chromium oxide coating is being hindered by chlorine.

Presentation Type and Session: Poster Session VIII

Demonstration of the Plutonium Breeder Reaction

Joseph Steiner and **Aaron Anderson**, HON400, All College Honors Colloquium

Faculty Mentors: Professor Andrea Guiati, Director, All College Honors Program and Professor Michael DeMarco, Physics

In the basement of the Science Building at Buffalo State College there is a small neutron howitzer made from Plutonium Beryllium (Pu-Be) source, several inherited natural Uranium disks, a few “hot rocks” consisting of a few percent Uranium, and an intrinsic Germanium detector. These devices and materials were then used in the objective of our research; to see if it was possible to make an easily repeatable experiment for undergraduate students to verify the effects of the ^{239}Pu breeder process. The disk and “hot rocks” were irradiated using the low neutron flux howitzer. The Germanium detector was used to measure the gamma ray energies with high resolution (~ 2 keV for ^{60}Co energies). The spectrum of these energies would show clear peaks at 106 keV, 209 keV, 227 keV, and 278 keV. These energies come from ^{239}Np as it decays with a 2.3 day half life into ^{239}Pu , and show that ^{239}Pu was indeed produced. The amount of Pu being produced at maximum is 0.05 pico-grams/day, which is much less than the 1 nano-gram/day safety limit.

Presentation Type and Session: Poster Session II

Development of a Molecular Assay to Determine the Genotype of Caenorhabditis elegans at the Grp170a Locus

Deanna Rizzo, Biology

Faculty Mentors: Professor Gregory Wadsworth, Biology, Professor Douglas Easton, Biology, and Professor Amy McMillan, Biology

Molecular assays are important tools for determining genotypes of organisms when no obvious phenotype is observed. This project centers on developing a specific assay to distinguish the wildtype allele of the *grp170a* locus from the deletion allele of that locus, *ok2107*, in the round worm, *Caenorhabditis elegans*. The assay will facilitate future experiments requiring genotyping of nematodes during genetic crosses. The genotyping assay will be based on the duplex PCR (polymerase chain reaction) strategy. Duplex PCR involves the use of three primers: two forward primers at different sequence locations and a reverse primer. The locations of the primers are carefully chosen so that the genotypes of individual worms (homozygous wildtype, heterozygous or homozygous for deletion allele) can be determined. The wildtype allele and deletion alleles will each generate PCR products of different sizes which can be distinguished by electrophoresis. The effectiveness of the *grp170a* genotyping assay will be determined by screening individual worms of known genotype.

Presentation Type and Session:

Oral – Health, Sciences, and Mathematics

Dewatering the Erie Canal: Effects on Benthic Communities

Denise Clay, Biology

Faculty Mentor: Professor Kofi Fynn-Aikins, Biology

The New York State Canal System is a 524 mile-long managed waterway that operates for navigational purposes from early May to mid-November, and includes the 338-mile Erie Canal. The objective of the study is to determine the effects of semi-annual water level fluctuation on benthic fish and macroinvertebrate communities as a result of winter dewatering sections of the Erie Canal from Tonawanda to Gasport, NY, which occurs from late November to early April each year. During the dewatering period, benthic fish and macroinvertebrate communities are potentially subject to desiccation, changes in dissolved oxygen content, increased turbidity, reduction in food, and extreme temperature and weather variations. Through the use of minnow trap and petite ponar sampling, this study will i) examine the unique temporal conditions existing east of the Sulfur Springs Guard Lock in Pendleton, NY in contrast to those west of the guard lock where no drawdown occurs, ii) evaluate community diversity and relative abundance, and iii) investigate what factors may influence survival after the canal drawdown. The results of this study will be useful to natural resource managers near and adjacent to the watershed encompassing the Erie Canal in regards to understanding and predicting migrations of aquatic nuisance species.

Presentation Type and Session: Poster Session VII

Do You Know What You're Eating: Pesticide Determination in Vegetables?

Michele Wiszowaty, Brittany Gipple, and James Rojecki, CHE389, Analytical Toxicology

Faculty Mentor: Professor Alexander Nazarenko, Chemistry

There are many different types of pesticides and chemicals that are used to control bacteria and bugs that infest crop fields and farmlands. Chlororganic pesticides can be identified using GC and/or GC-MS techniques after microwave extraction of the sample followed by extraction of the target compounds. In this study, we compare two main methods of extraction, namely liquid extraction and solid phase extraction. Both of them can be used in semi-micro (1-3 mL) and micro scale. Currently, liquid phase microextraction (LPME) and solid phase microextraction (SPME) are becoming the most common ways of sample preparation. In this study, we compare various extraction methods for several chlororganic pesticides.

Presentation Type and Session: Poster Session IV

Effect of Particle Size on Tephra Drying

Andrew Lannan, Earth Sciences

Faculty Mentor: Professor Bettina Martinez-Hackert, Earth Sciences and Science Education

The first step in volcanic sample analysis in the laboratory is to remove its moisture and to proceed to a particle size analysis. While standards for the removal of moisture from soil and rock samples exist for use in the geotechnical and construction fields (ASTM D 2216-98), no methodological guidelines have been created for use in the field of volcanology. This paper provides information that may assist in the construction of a future standard of drying volcanic ash fall deposits. The pyroclastic material used for this study was collected in the summer of 2007 from the Inyo Crater area of California. We tested whether the location of moisture within the bulk tephra sample is affected by particle size and what effect the unequal distribution of moisture between different sized particles has on drying times. Samples were sieved in their naturally humid stage and immediately dried as individual particle size dependent groups to a constant mass in the laboratory at 150 degrees C, weight was measured in 30 minutes intervals. Results indicate that large pumice particles, $> (-3 \text{ phi})$, contain a disproportionate amount of the deposit's moisture, while moisture content from 0 to -2 phi increases approximately 5% with the next higher full phi particle size step.

Presentation Type and Session: Poster Session VII

The Effectiveness of Two Cationic Fixatives in Stabilizing Water-sensitive Dye-based Inks on Paper

Stephanie Porto, Art Conservation

Faculty Mentor: Professor Aaron Shugar, Art Conservation

Temporary fixatives such as cyclododecane and Paraloid B-72 have long been used by paper conservators to protect water-sensitive media during the aqueous treatment of paper artifacts. Recent research has focused on the application of ionic fixatives used in the textile industry to preserve modern synthetic dye-based inks on paper during aqueous deacidification. This study examines the effectiveness of two commercial ionic fixatives currently used in the paper and pulp industry (Cartafix GS and Cartafix NTC liquid fixatives) in improving the wet-fastness of inkjet ink on common office paper during immersion in a water bath. Analytical techniques used in this study include optical microscopy, UV fluorescence microscopy, spectrophotometry, and Fourier transform infrared spectroscopy (FTIR).

Presentation Type and Session: Poster Session VIII

Effects of Experience on Predator Avoidance Behavior of Crayfish

Nini Dong, Biology

Faculty Mentor: Professor Christopher Pennuto, Biology

Prey species must detect and respond appropriately to predators in order to survive. In aquatic environments, chemical cues released by predators are important stimuli which can induce avoidance behaviors of prey animals. We assessed if predator avoidance was innate or learned in the Northern clearwater crayfish, *Orconectes propinquus*, as a preliminary step to assessing differences in learning behavior and memory formation in native and invasive crayfish. Predator-naïve (lab-reared) and experienced (wild-caught) crayfish were exposed to predator-scented water or filtered city water in a Y-arena where their locations were recorded over a 10.5 minute period. Wild-caught (presumably predator-exposed) *O. propinquus* showed a significant avoidance of water with predator odor, whereas the laboratory-reared (predator-naïve) conspecifics did not. Our result implies that predator avoidance by this crayfish species tends to be largely learned rather than innate. It also provided a baseline against which we can further assess the predator avoidance response *O. propinquus*. Future studies will examine if prior learning experience affects the learning ability, predator recognition, and duration of learned avoidance differently for predator-naïve *O. propinquus* (native species) and *Orconectes rusticus* (invasive species). These studies represent a new approach to explain the invasion success of *O. rusticus* in the Great Lakes region.

Presentation Type and Session: Poster Session I

The Effects of Preservation Time on the Caloric Content of Round Gobies

Almelia Brown, Biology

Faculty Mentor: Professor Christopher Pennuto, Biology

Preservation is used to keep biological materials in a useable state for an extended period of time but it can alter the mass or dimensions of a tissue. Examining how preservation time affects tissues can help determine how long tissues should be preserved before it will be affected. This study looked at how preservation time affected the caloric content of the round goby, *Apollonia melanostoma*. Thirty round gobies were taken from Big Sister Creek. They were separated by relative size into six groups of five with each group having a similar size range. All samples were preserved in 100 mL of 90% EtOH and left at room temperature for 0-5 weeks. After the specified time in preservative, sample were dried at 60° C for 1 week. Each fish in a sample was chunked and its caloric content was analyzed in a Parr 1356 Bomb Calorimeter. Significant differences in caloric content were found among the groups.

Presentation Type and Session: Poster Session I

Effects of Round Gobies on Energy Flow of Lake Erie Tributary Streams

Christopher Janik, Biology

Faculty Mentor: Professor Christopher Pennuto, Biology

Non-indigenous species can disrupt food webs and energy flow in ecosystems. The round goby, *Apollonia melanostoma*, is a non-indigenous benthic fish which arrived in the Great Lakes via ballast water of cargo ships from Ponto-Caspia in the early 1990's. It has altered energy flow in the lakes by diverting substantial energy to the benthic zone. Round gobies have become hyperabundant in the Great Lakes, and they are now migrating up tributary streams. I investigated whether gobies had the ability to disrupt food webs and energy flow in a stream ecosystem by determining the energy content of their prey relative to the energy content of all available prey. Twenty five round gobies were collected from Ellicott Creek by electrofishing and their gut contents were identified. Ten replicate Surber samples were collected from the creek to estimate the prey population density. Representative collections of the most abundant taxa, plus gobies, were dried to determine energy content using a Parr bomb calorimeter. Gobies did not consume the most energetically profitable prey, but instead consumed mostly midge larvae, the most abundant prey. Gobies consumed roughly 0.55 kJ of benthic energy per 8 hr, which is approximately 0.15% of the energy available. Further studies over multiple seasons should provide further understanding of goby effects on stream energy flow.

Presentation Type and Session:

Oral – Health, Sciences, and Mathematics

Evolution and Reactivity of Amine-Terminated Self Assembled Monolayers (SAMs)

Catherine Fill, HON400, All College Honors Colloquium

Faculty Mentors: Professor Jamie Kim, Chemistry and Professor Andrea Guiati, Director, All College Honors Program

This project involved forming amine terminated SAMs on the surface of silicon for further research. First, we cut small pieces of single side polished silicon (8mm x 8mm) and cleaned them using various organic solvents. The wafers were finally cleaned in Piranha solution to deposit silanol (SiOH) on the surface. Silanol is acidic, hydrophilic, and highly reactive. This is necessary for the rest of the experiment. The reactive pieces of silicon were then incubated in an APTES (3-Aminopropyltriethoxysilane) solution. The APTES forms amino terminated SAMs on the surface of the silicon. The wafers were washed in deionized water for varying lengths of time. Amine groups are very reactive to water. The wafers are analyzed using Fourier Transformed Infrared Spectroscopy (FTIR) to see how the water affected the amine groups on the surface. Some wafers were baked at different temperatures for varying lengths of time to see how the amine

groups are affected.

Presentation Type and Session: Poster Session IV

Expression of Two Genes Encoding GRP170 in *Caenorhabditis elegans*

William McDougall, Forensic Chemistry

Faculty Mentor: Professor Gregory Wadsworth, Biology

Glucose regulated proteins (GRP) are a family of molecular chaperones which reside in the endoplasmic reticulum (ER) and help mediate protein folding. The largest of these proteins is GRP 170. Most organisms have only one gene encoding this protein. However, the genetic model organism *Caenorhabditis elegans*, a small round worm, has two similar but distinct genes encoding this protein. The role of the two *grp170* genes in *C. elegans* is not known. One possibility is that each gene has different patterns of gene expression. Other ER chaperones are known to be induced by treatment with dithiothreitol, a chemical that interrupts normal protein folding. In this project, I will compare the expression of the two *grp170* genes in response to dithiothreitol treatment. After treatment with the chemical, the levels of mRNA for the two *grp170* genes will be assayed by the use of RT-PCR. A different pattern of expression by the two genes would suggest that the two gene system facilitates a complex pattern of expression of GRP170 in the worm.

Presentation Type and Session: Poster Session I

Finding "Treasure" in Western New York

Ernest Thalhamer, Geology

Faculty Mentor: Professor Kevin Williams, Earth Sciences and Science Education

Geocaching is a fairly new hobby where people place "treasures" in hidden containers at certain locations then publish the GPS coordinates on the internet at a central web site. Others then use a GPS receiver to find the cache and take a prize or sign a guest book. Earthcaching is a form of Geocaching where, instead of the treasure being a physical container, the seeker is rewarded with a lesson about the Earth. Using a GPS unit, the coordinates, and a short write up on the cache's location, the seeker is led to a geologic feature where they will gain an understanding of the site. As a Geology major who is not originally from Western New York, I had very little exposure to the regional geology. Instead of taking a traditional approach to learning about the geology, I used the technology of GPS and the Internet as an educational tool. By creating 10 EarthCaches, I gained a greater knowledge of GPS and maps while learning about the geology of WNY. Also, I published information that may help others learn about the interesting history of the place in which we all live.

Presentation Type and Session: Poster Session VIII

Fluid Density Distribution in the Nanoslit

Joseph Crawford, Mathematics

Faculty Mentor: Professor Svetlana Berim, Mathematics

Iterative method is useful for solving multi-variable problems, where direct methods would be expensive and potentially impossible to use. We used this method for the calculation and modeling of the density profile in a fluid interacting with two identical solid walls of a closed long slit, for variations in the number of fluid molecules by using density functional theory. Where ρ^* is a dimensionless density, we found that for $\rho^* \leq 0.0772935$ and $\rho^* \geq 0.502408$ only one solution for the density profile was found for any selected average density, which was symmetrical about the middle of the slit. For $0.11594 \leq \rho^* \leq 0.463761$ the integral equation had two solutions. One of them was symmetrical, the other asymmetrical about the middle of the slit. Comparing the free energy values with their respective symmetries it was shown that the asymmetric profile provides smaller free energy and is therefore the stable state. The symmetric profile describes the metastable state of the system.

Presentation Type and Session: Poster Session III

Fluid Density Distributions in Planar Slits

Aleksandr Matskevich, Biology

Faculty Mentor: Professor Svetlana Berim, Mathematics

The present research is devoted to modeling of real fluid through calculation of fluid free energy in the presence of liquid-solid interface. The free energy was analyzed as a function of the average density of the fluid in the planar slit with identical walls using integral equation which provides the possible density profiles. Calculations were performed utilizing software packages using MATHEMATICA. All intermolecular interactions were modeled by the well known Lennard - Jones potential. Comparing the free energy corresponding to two solutions the stable state was found that has a smaller value of the grand canonical potential. It was proved that the quick change of the number of argon molecules in the slit takes place for chemical potential to be equal -10.5.

Presentation Type and Session: Poster Session II

Forensic Scientists Kiss and Tell: Lipstick Chromatography

Janet Havel, HON400, All College Honors Colloquium

Faculty Mentors: Professor Andrea Guiati, Director, All College Honors Program and Professor Anne Marie Sokol, Chemistry

Forensics is a fast growing area of science used to help investigate and solve crimes. New ideas and methods are found every day. One method of identifying a suspect is through studying lip prints, or cheiloscopy. Lip prints, although seldom used, have

been found to be unique to each person, like fingerprints. There are generally 5 categories that help classify lip prints. My research includes identifying and discussing different patterns of lip prints. Furthermore, I intend to show the ability to distinguish different types of lipstick through thin-layer chromatography. With both these tools I will show how a scientist may conclude the identity of a suspect in a case.

Presentation Type and Session: Poster Session VIII

Genetic Analysis of the Physiological Role of Grp170b in *Caenorhabditis elegans*

Amelia F. Alessi, Biology Secondary Education

Faculty Mentor: Professor Gregory Wadsworth, Biology

Molecular chaperones are a large group of highly conserved proteins whose function is to mediate the folding of other proteins. The folding activity of chaperones is essential to the function of all cells. GRP170 is a Glucose Regulated Protein chaperone located in the endoplasmic reticulum. The small round worm *Caenorhabditis elegans* has two versions of GRP170: GRP170a and GRP170b. The function of these proteins is not well understood. To investigate possible function(s) of GRP170b, I will compare wildtype worms with functional GRP170b to mutant worms without functional GRP170b. A phenotypic difference between wildtype and mutant worms may suggest a possible physiological role for this chaperone. GRP170 is found in all eukaryotes; therefore its functional analysis in *C. elegans* has important implications for discerning its general function in all eukaryotes. To generate a strain of worms which is defective in GRP170b, but is otherwise wildtype, a series of genetic backcrosses will be conducted. In order to perform backcrosses, I developed a molecular genotype assay based on a duplex PCR strategy. Results demonstrating the effectiveness of this genotyping assay will be presented. Additionally I will discuss the anticipated results of backcrossing and phenotype analysis both of which are expected to be completed during the Spring semester.

Presentation Type and Session:

Oral – Health, Sciences, and Mathematics

Geomorphic Mapping in Margaritifer Terra, Mars: MTM – 20022

Jacob Hodgson, Earth Sciences

Faculty Mentor: Professor Kevin Williams, Earth Sciences and Science Education

The Margaritifer Terra region (0-30 degrees south / 0-45 degrees west) shows strong evidence of past fluvial activity in the Parana-Loire and Samara-Himera valley systems. These two systems merge just north-west of the well known crater Jones. When liquid water was stable at the surface of Mars, these combined systems drained 540,000 square kilometers of

the surface. Along with fluvial activity and impact cratering, there are several resurfacing events in this region that may be sedimentary or volcanic in nature. In order to study this region in more detail, I am creating a 1:500,000 scale geomorphic map of the MTM -20022 quadrangle. By using data from satellites either currently or recently in orbit around Mars (THEMIS visible and infrared images, MOLA topography, and MOC wide and narrow angle images), we are able to differentiate between the various geomorphic units. This allows us to better understand the nature of and relative timing of geologic events in the area.

Presentation Type and Session: Poster Session VI

Granite Plutons in Relation to Migmatites: Documenting a New Exposure at a Pluton Contact in Southern Maine

Lindsay LaFleur, Geology

Faculty Mentor: Professor Gary Solar, Earth Sciences and Science Education

Collisional tectonic processes (e.g., at the Himalayas) are recorded at great depth (> 10 km), and out of direct view. Therefore we look at ancient cores of collision zones to study this record where the rocks are exposed after erosion (e.g., the Appalachians, collision ca. 400-300 million years ago). This research focuses on rocks in the northern Appalachians, north of Portland, Maine, where rocks are part of a belt that extends through Canada and New England. Evidence shows partial melting of rocks during their deformation, and the emplacement of associated granite bodies of various sizes as the collision progressed. Study of the relations of the mineral patterns and associated granite bodies at several scales is a means of understanding granite magma production, travel and emplacement as granite bodies. I studied this particular area because new road work exposed a 2.3 km-long section along a contact of the Sebago Granite Pluton with its surrounding rocks that are partially melted during deformation (“migmatites”). Study may reveal the relation between the migmatites and the granite intrusion. I documented the distribution and geometry of rock types in the field, including mineral patterns and structures. Data were augmented with lab data. Results show that several varieties of granites dominate, variously related to subordinate migmatitic rock lenses. Some granites cross-cut the entire exposure, but other bodies are found deformed and inside the migmatites. Evidence shows the main granite intruded the migmatites whose structural and orientation consistency suggest that the granites intruded, progressively displacing them. In the end, the exposure shows this process frozen in progress, and may illustrate the way the Sebago Pluton was emplaced during the mountain-building of this part of the Appalachians.

Presentation Type and Session: Poster Session V

Hard Rock Research in Advanced Petrology – Year Two

Thomas Bohlen, William Burghardt, Crystal Gerovac, Charles Harding, Robert Klinshaw II, Maura Kolb, Michele Marzolf, Joanna Rush, Lindsay Tebo, and Todd Whelan, GES401, Igneous and Metamorphic Petrology
Faculty Mentor: Professor Gary Solar, Earth Sciences and Science Education

Students in the 2007 GES 401 class presented the notion that practical research experience becomes a gateway into a science career (Binda et al., 2007 SRCC, p. 72-73). This year’s class continues this theme, and we believe that advanced courses can be the most effective way of permitting the opportunity to have a culminating experience in our science. Like last year, each of us performed a semester-long unique research project in GES 401 using rock analysis techniques on specimens of our own choosing. Again, each of us performed background research, developed a specific plan and followed it, and chose appropriate tools and techniques. We learned to produce thin sections for microscopy (thin slices of rock) in the laboratory, and then we analyzed them using standard techniques. This year’s project rock locations range from Maine to California, and include a rock of unknown origin, perhaps from Finland. Five of the ten projects involved rocks from western Connecticut permitting correlation of results. Connecticut rocks include granitic gneiss and samples of an unusual rock known as the “log jam” schist. The “log jam” schist rocks are special in the world because they include crystals of kyanite that approach one meter in length. Other projects were on metamorphic rocks from Maine, the Adirondacks, and an area along the Pacific Coast Highway north of San Francisco. Consistent with last year, we feel these experiences have prepared us for our graduate or professional careers in ways that are not substitutable.

Presentation Type and Session: Poster Session VI

HIPERC Microwulf Project

Stephen D. Holder, Math Secondary Education, **Le’Nee Threats**, Computer Information Systems, **Francesca Sylvester**, Applied Math, **Tiffany Smith**, Social Work, and **Tom Geblein**, Computer Information Systems
Faculty Mentor: Professor Joaquin Carbonara, Mathematics

A cluster is a multi unit computer networked to carry out computations in parallel. We modeled our cluster after Joel Adams’ unit (Calvin College). The entire unit, which was built from individual parts bought online, cost less than \$1500. It consists of four dual core CPU’s, each one on a separate motherboard with 1G of memory. The headnode and the three worknodes share a 400G hard drive. The software we used is Linux Ubuntu 7.10. The worknodes boot remotely from the

headnode. The cluster structure consists of sheets of fiberglass, with protective wood at the ends. We will provide during the presentation benchmarking data, and details about the projects that will run in the cluster.

Presentation Type and Session: Poster Session IV

How Much Nicotine Are You Getting Out of Your Cigarettes?

Ricky Mittiga, Kara Blando, and Eric Crandall, CHE389, Analytical Toxicology

Faculty Mentor: Professor Alexander Nazarenko, Chemistry

The goal of this study was determination of nicotine in several samples of cigarettes through the use of HPLC and gas chromatography. The target compound can be extracted from the samples using microwave extraction. Nicotine base in alkaline solution is volatile with water steam and it can be extracted from aqueous solution into a suitable organic solvent. Further sample preparation can be done by solid phase extraction or by solid phase microextraction. Both gas chromatography and high performance liquid chromatography are suitable determination methods. Different methods of sample preparation are compared in this study.

Presentation Type and Session: Poster Session III

Impact That Rain Has on Beach Closings in Erie County, New York

Joseph Drakes, Geography and Planning

Faculty Mentor: Professor Stephen Vermette, Geography and Planning

Heavy rain is the major cause for beach closings in Western New York. Erie County officials automatically close their beaches if it rains half an inch or more over a 24-hour period. The heavy rain may cause storm sewers to overflow, and the rainwater spills over into the sanitary sewers. When they exceed capacity, raw or partially treated sewage washes out into creeks and streams that empty into Lake Erie, ultimately causing bacteria levels at the beaches to rise. This study looks at 2004 and 2005 beach closing data along with calculated rainfall totals, as determined from archived radar data, in watersheds in and around Erie County. Using GIS, a series of maps were created to visualize the area of beach closures and the extent that rainfall has on these watersheds. With a database of bacteria samples taken throughout the time frame of this study, a conclusion can be made to determine if a half inch of rain is a good indicator for these closings.

Presentation Type and Session: Poster Session VIII

The Interacting Effects of Habitat Complexity and Predation by Round Goby (*Apollonia melanostoma*) and the Effect on the Structure and Composition of Benthic Communities in Lake Erie

Eric Snyder, Biology

Faculty Mentor: Professor Alicia Perez-Fuentetaja, Biology

Invasive species may influence aquatic communities through predation, competition and as vectors of disease. The Round Goby (*Apollonia melanostoma*), an invasive fish is causing a dramatic change in benthic communities in many Great Lakes systems. The Goby decreases the habitat complexity and availability of nutrients to many organisms in benthic communities through their efficient predation of Dreissenid mussels. Although the mussels are invasive, they provide refuge and food in the form of feces and pseudofeces to many macroinvertebrates. Gobies reduce habitat complexity by predation on dreissenid mussels, which has an indirect effect on macroinvertebrate communities. Higher complexities of mussel beds provide refuge for macroinvertebrates from predation. A Goby exclusion experiment using small enclosures with substrates representing three levels of mussel density will be placed in mussel beds inshore in Lake Erie. The changes in habitat complexity will be measured by a novel approach of molding the mussels with plaster of Paris; this will then be analyzed using imaging software to determine the level of complexity of each of the habitats. In addition, we will assess the interacting effects of goby predation and habitat complexity macroinvertebrate community composition and productivity.

Presentation Type and Session: Poster Session I

Interpreting Geology Depicted on the First Geological Map Ever Produced and Assessment of Artistic Techniques Used by William Smith in His Landmark "Map That Changed The World"

Jennifer Grasso, Geology

Faculty Mentors: Professor Bettina Martinez-Hackert, Earth Sciences and Science Education and Professor Gary Solar, Earth Sciences and Science Education

In The Burlington House of London, the Palladian mansion, lays the most intriguing historical map within the study of geology. William Smith's creation "A Delineation of the Strata of England and Wales with Part of Scotland; exhibiting the Collieries and Mines; The Marshes and Fenlands originally overflowed by the Sea; and the Varieties of Soils according to the Variations in the Sub Strata; illustrated by the Most Descriptive Names" is the first known geologic map and also a historical piece of art. He is known as the "Father of English Geology". He created an estimated 400 maps by hand while working in canals, studying fossils and studying the mineral make up of rocks in each layer.

Studying William Smith's correlations of colors and art techniques will draw a closer conclusion to his interpretation of England and the surrounding geology. Creating cross sections in multiple directions drawn from one of the original maps (map number twenty four) using William Smith's artistic techniques gives a new view of the map and leads to a better understanding of William Smith's studies. Was he indeed the first geologist recording the sloping of strata on a map? Cross-sections of modern topography and geology taken from the historical map are done in oil paints to give the original effect and represent the technique William Smith used, revealing indeed sloping strata in Western England.

Presentation Type and Session: Poster Session V

Is It a Volcano?

Todd Whelan, Geology

Faculty Mentor: Professor Kevin Williams, Earth Sciences and Science Education

Margaritifer Terra on Mars is a widely studied area because it contains many fluvial features that formed in the past. Studying these features can provide clues about the past climate on Mars and how it changed. Over the last 10 years, new satellites around Mars have returned higher resolution images that allow the surface to be studied in greater detail. With this, more geological features are being revealed. One such feature is a volcano discovered at the confluence of two major fluvial valleys. This study is using remotely sensed data (images and topography) to understand the formation of the volcano. At the confluence, the elevation should be low and consistent with the valleys; however, the elevation of the volcano may have disrupted fluvial activity. The volcano also shows ripple-like features that do not appear to be caused by wind. Based on its appearance, the volcano seems to have interacted with water and/or ice when it was active. These types of interactions are very explosive and could have had local climatic implications. By interpreting the volcano's eruption history, we will be adding to our understanding of this geologically interesting area on Mars.

Presentation Type and Session: Poster Session V

Lead Distribution in Public Soils – Are Children at Risk?

Crystal Gerovac, Earth Sciences

Faculty Mentor: Professor Elisa Bergslien, Earth Sciences and Science Education

A variety of potentially hazardous metals, from both natural and anthropogenic sources are commonly found in soils. Depending on the concentrations of these metals, people, especially children, may be at risk of serious health problems if exposed. The goal of this study was to examine the variations in lead levels in public areas throughout western New York

and compare them to the bedrock and surface geology. Our hypothesis is that there is more lead in urban than suburban areas and that the major sources for lead are anthropogenic. Children are very susceptible to lead poisoning because it can accumulate in their bones as their bodies grow and develop. Health problems associated with lead poisoning include lower intelligence and nerve damage. Soil samples, from urban and rural schools, playgrounds, and beaches, were collected using a 15 cm x 15 cm x 3 cm sample area. Samples were analyzed using X-ray diffraction to find mineral composition, and a Niton field portable x-ray fluorescence (FPXRF) unit to find elemental composition. Our tentative conclusions thus far are that the city of Buffalo has the highest lead levels, and that the lead came from anthropogenic sources and not the bedrock or surface geology.

Presentation Type and Session: Poster Session VII

A Look at What You are Breathing

Karrie Sue Duffett and **Nick Loncto**, GES460,

Environmental Field Methods

Faculty Mentor: Professor Elisa Bergslien, Earth Sciences and Science Education

Ever think about what is in the air that you breath? We have! For our research project we decided to look at what is in the air that we breathe in on a day to day basis here on campus and two other locations off campus to compare air particulates. Ten air particulate sample collectors will be placed on campus at locations where there is high student traffic flow. These collectors will be placed outdoors to show what is in the air that you and I breathe on campus daily. There will be two off campus collectors to compare to the campus air. One off campus collector will be placed in a non-smoking home to compare indoor particulates to outdoor particulates. The other collector will be placed outside a horse barn located in the southern part of Erie County to show the difference between city setting air particulates and country setting air particulates and if there is a difference for better or worse. Our results will be able to show what kind of particulates are in the air that we all breathe on a daily basis.

Presentation Type and Session: Poster Session VIII

Mapping on Mars: MTM – 15017

Luke Ganley, Earth Science Education

Faculty Mentor: Professor Kevin Williams, Earth Sciences and Science Education

The Margaritifer Terra region of Mars contains evidence for a complex fluvial history. Southwestern Margaritifer Terra has been influenced by the Samara-Himera and Parana-Loire valley systems. In addition to fluvial features, Margaritifer Terra has been influenced by cratering, several resurfacing events, and volcanic activity. Mapping in MTM -15017 is part of a larger project to

map portions of Margaritifer Terra at the 1:500,000 scale. This mapping involves the use of MOLA topography, MOC wide angle and narrow angle images, THEMIS infrared and visible images, and HiRISE images to identify boundaries between different geomorphic units in order to explain the history of events that have shaped the surface of this region. This area has experienced three resurfacing events which crater counting techniques have determined to be Hesperian in age. This correlates with large scale mapping of the area. Also, a section of Loire Valles in this area appears to be obstructed by a resurfacing event in two different locations. This helps to determine the timing of Loire Valles and other fluvial features. By mapping the boundaries of various geomorphic features in MTM -15017, we can begin to understand the timing of different geologic events.

Presentation Type and Session: Poster Session V

A Mathematical Model on Colony Collapse Disorder of the Honey Bee

Christopher Milazzo, Mathematics and **Lee Canning**, Mathematics

Faculty Mentor: Professor Saziye Bayram, Mathematics

Colony collapse disorder is a phenomenon in which worker honey bees abruptly disappear from their colony. In this study, the two contributing factors to the rapid disappearance of entire colonies are considered to be a mite population known as Varroa mites and a deadly honey bee virus known as the acute paralysis virus (APV). We formulate a mathematical model consisting of three nonlinear differential equations and search for possible explanations for colony collapse disorder of honey bees in the United States. Using the equilibrium point analysis, we are able to predict the possibility of a virus epidemic vectored by the mite population within the bee colony. Furthermore, using numerical simulations, obtained by implementing the Euler's method for the governing system of differential equations using Mathematica, we are able to predict the dynamics of the mite and bee population in time depending on the initial conditions.

Presentation Type and Session: Poster Session I

Microextraction of Cannabinoids in Hair Samples

Allyse Fischer, **Kyle Doty**, and **Greg McLaughlin**, CHE389, Analytical Toxicology

Faculty Mentor: Professor Alexander Nazarenko, Chemistry

The extraction of drug metabolites from hair is one of the most successful topics in analytical toxicology. Hair can be digested with aqueous alkaline solution with or without help of microwave extraction. Further sample preparation requires liquid or solid extraction of the target compounds from the complex matrix solution. Head Space Solid-Phase Microextraction

(HS-SPME) is a sensitive analytical technique recently suggested for such samples. We attempt to isolate the cannabis metabolites using this technique and to validate the method using gas chromatography/mass spectroscopy. The headspace results are compared with those of direct extraction of cannabinoids. Derivatization with trimethylsilane group was employed to enhance the volatility of compounds containing one or multiple OH groups.

Presentation Type and Session: Poster Session VII

Observation of Protein Immobilization on Modified Amine-Terminated Organic Films on Silicon Substrates by FTIR and Ellipsometry

Lai Sze Wan, Forensic Chemistry, **Paul Seidler**, Forensic Chemistry, and **Monique Wilson**, Forensic Chemistry
Faculty Mentor: Professor Jamie Kim, Chemistry

Controlled protein adsorption is an important biochemical technique for the development of protein-array based biosensors with applications in medical and forensics fields. Previous studies showed that surface properties play an important role in the amount of proteins as well as the structure of adsorbed proteins, which affect the detection capability of protein-array based biosensors. The goals of this research are (1) preparation of amine-terminated films on the silicon surface for protein adsorption, (2) chemical modification of surface amino groups to protein reactive groups, (3) covalent immobilization of bovine serum albumin (BSA) and human immunoglobulin (IgG). We prepared amine-terminated films on silicon wafers by self-assembling 3-aminopropyltriethoxysilane (APTES) in toluene. This is followed by chemical modification and protein immobilization. Our FTIR and ellipsometry data confirmed the changes in structures of APTES before and after chemical modification as well as the immobilization of proteins on modified APTES surfaces.

Presentation Type and Session: Poster Session I

Petrographic Analysis of Rocks Along a Single Large Exposure at the Contact of the Sebago Pluton, Southern Maine

Kelly Nyitrai, Earth Science Education and **Crystal Gerovac**, Earth Sciences

Faculty Mentor: Professor Gary Solar, Earth Sciences and Science Education

This project is focused upon rocks found in and around the eastern contact of the Sebago pluton in southern Maine, a >400 sq km body of granite of approximately 300 million years old. This pluton crystallized in association with a collision of what was ancient North America and another continent, now

represented by coastal Maine, Massachusetts, and Nova Scotia. Our work was focused on a systematic suite of rocks collected during field work by another researcher in our group (see L. LaFleur, this volume). LaFleur studied a single large exposure situated N-S along the contact, noting that granites of various types dominate the exposure and metasedimentary rocks representing the surrounding rocks to the pluton are entrained as meter- to 10-meter wide lenses. We have documented in the laboratory the mineral and textural variations in this rock suite in order to augment field data of LaFleur, and to help pin down the Earth history that these rocks have recorded. To do this we cut rocks according to the orientation of mineral patterns, and cut thin sections (very thin slices of rock such that transmitted light microscopy is possible) to illustrate the microstructures.

Presentation Type and Session: Poster Session IV

Preliminary Genetic Analysis for Variation Among Clones of *Daphnia minnehaha*

Gertrude Antwi, Biology and Chemistry

Faculty Mentor: Professor Amy McMillan, Biology

Microsatellites are regions of short repeated segments of DNA that are useful for population genetic analysis in organisms. These regions are amplified using species specific primers that take time to develop. In this study I used primers developed for *Daphnia pulex*, a small freshwater zooplankter, to amplify microsatellite DNA regions of a related species, *D. minnehaha*. Work being done at Buffalo State College uses *D. minnehaha*, a common zooplankter in regional waters, in a variety of evolutionary experiments and variable microsatellite markers will be useful tools in these studies. Polymerase Chain Reaction (PCR) was used to amplify microsatellites from DNA of *D. minnehaha* and DNA from three strains (ACP(+), ACP(-), and SRP) of laboratory cultured *D. pulex*. The three strains of *D. pulex* were included as a control for the cross-amplification. The results were analyzed using 5.5% acrylamide gels (stained with SybrGold), visualized and photographed under UV light. Out of 20 primers used for cross-amplification, 16 successfully amplified all the *Daphnia* strains, but only 6 out of these 16 primers amplified *D. minnehaha*. Most of the microsatellite regions exhibited no polymorphism for any of the strains. Primers that amplified microsatellite regions for *D. minnehaha* will be used on clones of *D. minnehaha* from the same pond to identify strains in future studies.

Presentation Type and Session:

Oral – Health, Sciences, and Mathematics

Progress Towards the Synthesis of Indian Yellow

Muhammet Cetin, Chemistry Education

Faculty Mentor: Professor M. Scott Goodman, Chemistry

Indian Yellow is a transparent yellow pigment found in old paintings and other artworks. It is manufactured from the urine of cows that have been exclusively feeding on mango leaves. This technique was outlawed in India in 1908, so that now the pigment is not available in sufficient quantities for study by art conservators. Chemically, Indian Yellow is a glycoside of 1,7-dihydroxyxanthone (euxanthone), a xanthone derivative that is not commercially available. The present study explores the possibility of synthesizing useful quantities of euxanthone and Indian Yellow. Various synthetic routes to euxanthone have been explored and will be presented. The final step towards the synthesis of Indian Yellow, glycoside formation, will be discussed.

Presentation Type and Session:

Oral – Health, Sciences, and Mathematics

Rapid Scan FTIR Measurements of the Thermally Activated Decay of Metastable States I and II in Sodium Nitroprusside

Matthew Tarasek, Chemistry

Faculty Mentor: Professor Kimberley Bagley, Chemistry

Metal nitrosyls with the general composition $X_n[ML_5(NO)] \cdot yH_2O$ generally have a ground state in which the nitrogen is coordinated to the metal, M. Upon irradiation, two metastable states, MSI and MSII, are produced which differ in how the NO is coordinated. In sodium nitroprusside, $Na_2[Fe(CN)_5NO] \cdot 2H_2O$, MSI is an oxygen bound isonitrosyl with a $\nu(NO)$ of 1790 cm^{-1} and is stable at temperatures below 190 K. MSII is a side bound NO with a $\nu(NO)$ of 1546 cm^{-1} and is stable below 130 K. Our infrared studies have led to the successful acquisition of complete kinetic profiles for the thermally activated decays of both of the meta-stable states in the nitroprusside anion. We have been able to confirm the order of the decay of both metastable states as first order. Using the rapid scan mode of the Bruker IFS66v, we have collected IR spectra as a function of time following irradiation for a variety of temperatures. The thermally activated decay of MSI fits a single exponential. The decay of MSII fits best to the sum of two exponentials. Data taken as a function of temperature has allowed us to arrive at reliable experimental values for half-lives, kinetic constants, and activation energies of these states. Arrhenius and Eyring plots for both MS1 and MS2 will be presented.

Presentation Type and Session:

Oral – Health, Sciences, and Mathematics

Revising Methods for Moisture Removal in Tephra Bulk Samples

Justine Parada, Earth Science Education, Geology
Faculty Mentor: Professor Bettina Martinez-Hackert, Earth Sciences and Science Education

The current standard for removing water content from tephra seems inefficiently long. Tephra, depending on composition, can be porous and requires less time than other rocks and soil to dry. The Standard Test Method for Laboratory Determination of Water (ASTM D 2216-98) content of soil and rock by mass is not accurate specific to tephra bulk samples. A study was conducted to provide valuable information on drying dynamics to aid a possible new guideline specific to this type of material. The pyroclastic material used for this study was taken in the summer of 2006 from the Inyo Crater area of California. The tephra was deposited by a series of Plinian and sub-Plinian eruptions approximately 550 years ago (Miller 1985). Tephra bulk samples from two eruptions, Obsidian Flow and Deadman Creek near Mammoth, California were tested in the lab. Both samples were the result of rhyolitic eruptions composed of pumice, obsidian, and other lithics. Particle size ranges from .01 mm to 4.0 mm. It was found after testing the existing standard (24h) that tephra bulk samples require much less time to dry in an oven than suggested. Maximum drying time in the oven was 6 hours, and as little as 5 hours for smaller samples. However, the drying time depends on the amount of water content the samples retained before being placed in an oven and the mass of the sample. It seemed that soaking the samples for a control experiment over night were more comparable to the samples that are freshly taken in the field. After experimenting in the lab with drying tephra samples, it was concluded that the current standard was not accurate for tephra bulk samples. They required much less time than were stated, only 5-6 hours compared to 16-24 hours. Samples were baked at 150 degrees centigrade until all water content was evaporated from the sample.

Presentation Type and Session: Poster Session VII

The Role of Grp170 in Protein Folding in the ER of *Caenorhabditis elegans*

Kripa Asrani, Biology
Faculty Mentors: Professor Gregory Wadsworth, Biology and Professor Douglas Easton, Biology and Professor Amy McMillan, Biology

Proteins mediate many processes in cells and function only if they have been properly folded. Several human diseases, like Alzheimer's, are caused by improperly folded proteins. Newly synthesized protein chains fold to their functional conformations with the help of specialized proteins called chaperones. Grp170 is a chaperone found in the ER of all eukaryotic cells. The exact role of this chaperone in proper protein folding and in the

overall health of organisms is not known. To investigate its role, we will study the function of Grp170 in the small round worm *Caenorhabditis elegans*. *Caenorhabditis elegans* is an effective model system that has been used previously to study the role of other chaperones and chaperone related diseases. It has two genetic loci encoding different forms of grp170. Deletion mutants resulting in nonfunctional alleles for each locus have been generated by the *C. elegans* Knockout Consortium. These mutant alleles will be used to investigate the role of grp170 in protein folding in the ER. I will investigate if the loss of grp170 causes unfolded proteins to accumulate in the ER. The accumulation of unfolded proteins will be monitored by an assay of the Unfolded Protein Response (UPR).

Presentation Type and Session: Poster Session III

Spectroscopic Geo-Sourcing of Lapis Lazuli Used in Artists' Pigment Production

Robert Klinshaw II, Earth Sciences
Faculty Mentor: Professor Gregory Smith, Art Conservation

The lapis lazuli deposit located in Afghanistan has garnered the most attention for its high quality and purported use as a source of artists' pigment in antiquity. Scientists at the Getty Conservation Institute reported a sharp infrared spectral feature at 2340 cm⁻¹ said only to be found in the Afghanistan material and purportedly useful in geo-sourcing ancient pigments arising from this site. This hypothesis was tested by analyzing microsamples of lapis (primarily lazurite) minerals from around the world as well as associated blue minerals (hauyne, sodalite, afghanite, etc.) and synthetic ultramarine pigment. Of the samples analyzed, the infrared absorption band has in fact been found in all of the lapis specimens except two (Chilean and Californian), thereby contradicting the earlier purported geo-sourcing protocol. The absorbing moiety is not always seen in every dark blue microsample, hinting at its heterogeneous composition. This prominent feature has not been observed in specimens of other blue minerals known to associate with lazurite, nor in any synthetic ultramarine. Spectral comparisons with other sulfide compounds suggest that the source of the 2340 cm⁻¹ band might be a polysulfide enclathrate that only occurs in natural lapis.

Presentation Type and Session: Poster Session VI

A Stormwater Investigation of the Buffalo State Campus

Joseph Drakes, Urban Planning and **Kerry Kleinfelder**, Geography
Faculty Mentor: Professor Kim Irvine, Geography and Planning

In accordance with the Federal Clean Water Act and U.S. EPA's Phase II Storm Water regulations, Buffalo State College has begun to develop a storm water management plan to reduce the discharge of pollutants and to protect water quality in the

Scajaquada Creek. The primary objective is to track down the source of any illicit discharges on campus property. As a first step in this effort, it was necessary to determine the location of storm water inlets, manholes, drainage pipes, and outfalls. These were mapped originally by converting Buffalo State College CAD drawings to GIS shapefiles. Subsequently the mapping was field verified using an ETrex GPS and the infrastructure layers were overlaid on 2002 digital orthoquads. Each storm sewer outfall to Scajaquada Creek was examined and a field sheet was completed to assess if the outfall was an unlikely, potential, or obvious location to be sampled. A water sample will be taken if there is obvious dry weather flow or if there was presence of two or more physical indicators in the flow. Physical indicators included odor, color, turbidity, and floatables. An initial sampling near outfall 02_0000 has been completed and the source of water appears to be over-irrigation on the college campus sports fields. Manhole inspection was necessary to determine pipe connections and flow directions because old maps may not be reliable. Inter-municipal connections have to be taken into account as pipes also flow through campus to the Scajaquada Creek.

Presentation Type and Session: Poster Session VI

Study of the Underground Without Digging: Using GPR to Image Subsurface Tuff Ring Deposit Shape

Lindsay Tebo, Geology

Faculty Mentors: Professor Bettina Martinez-Hackert, Earth Sciences and Science Education and Professor Kevin Williams, Earth Sciences and Science Education

An opportunity to quantify the effects of erosion on natural hillslopes presents itself at Walker Lake Crater (WLC), an extinct tuff ring in the San Francisco Volcanic Field of northern Arizona. The southwestern and western slopes of WLC, affected by severe fires in 1996, are covered with deposits of uncohesive basaltic scoria from a younger eruption of nearby Saddle Mountain 15,000 years ago; the scoria is underlain by a tuff ring from the original eruptions of WLC. This research aims to further provide evidence as to whether an increased erosion rate is due more to the high-severity fire damage, or to the younger uncohesive scoria deposit. If a layer of clay or soil exists between the deposits, it may have a greater effect on erosion. Initial attempts to dig trenches to determine the depth and possible existence of a soil horizon between the scoria deposit and tuff ring were thwarted because the ditches collapsed faster than they could be dug. Using Ground Penetrating Radar (GPR), the subsurface may be imaged without needing to dig. Measurements of gullies and rills formed on the cone after the 1996 fires will also be taken, to further quantify a rate of erosion.

Presentation Type and Session: Poster Session IV

Tainted Taps: A Drinking Water Quality Analysis of Buffalo State College

James Manzione and **Richard Lyons**, GES460, Environmental Field Methods

Faculty Mentors: Professor Elisa Bergslien, Earth Sciences and Science Education, Professor Kim Irvine, Geography and Planning, and Professor Stephen Vermette, Geography and Planning

The intentions of this research project pertain to identifying potential water quality contaminations found within the piping infrastructure here at Buffalo State College. By sampling two locations within a building, we will be able to observe the change in water quality as it passes through the piping network. The chemical contaminations that we will be testing for are copper, iron, lead, magnesium, and calcium. In addition, we will record the pH and temperature, along with the dissolved solids of every sample. The buildings that will be tested include three classroom buildings, three dormitories, and three campus facilities (ex: the Union, Library, Sports Arena). The selection of these buildings will be determined by age. We will sample the oldest, the newest, and the building representing the average age for all three building demographics.

Presentation Type and Session: Poster Session VIII

Temperature Dependence of a Fluid Adsorption in a Planar Slit Between Two Solid Walls

Mark Lojacono, Biology, **Sean Lucas**, Electrical Engineering Technology, and **Joseph Crawford**, Mathematics

Faculty Mentor: Professor Svetlana Berim, Mathematics

Adsorption of a fluid in a slit between solid walls depends on temperature, chemical potential of the reservoir of fluid molecules, and on the parameters of the intermolecular interactions. While the latter parameters are constant for a given composition of walls and a given fluid, the chemical potential and temperature can be easily changed in real situations. It is assumed that one of the walls is made from the solid CO₂ and the second wall differs from the first one only by energy parameter characterizing interaction between molecules of the fluid and solid. In the present study, the temperature dependence of argon adsorption in the slit with walls composed of different materials is considered on the basis of the density functional theory. At given chemical potential and various temperatures, the density profiles of argon are calculated as functions of the distance from one of the wall by numerical solution of the non-linear Euler-Lagrange equation. Then subsequently the amount of adsorbed fluid was estimated and analyzed as function of the temperature. Similar calculations were performed for several compositions of the second wall.

Presentation Type and Session: Poster Session V

Tissue-Specific Changes in Fatty Acid Composition of Freshwater Alewives (*Alosa pseudoharengus*) in Response to Changing Temperatures

William Schregel, Biology

Faculty Mentor: Professor Randal Snyder, Biology

The freshwater alewife (*Alosa pseudoharengus*) is an important source of forage for Salmonids and Lake Trout in several of the Laurentian Great Lakes. Alewives are prone to massive die-offs, and the underlying physiological causes of these events are poorly understood. Changes in the fatty acid composition of cell membranes can play a critical role in thermal acclimation and may contribute to the occurrence of these mortality events. We examined qualitative changes in stored and membrane bound fatty acids in response to changing temperatures. Alewives fed a lipid rich Mysis diet were subjected to increasing or decreasing temperature challenges. Fatty acid signatures of gill, liver, and muscle tissues were determined by gas chromatography. Composition of stored fatty acids (triglycerides) remained largely unchanged. Analysis of cell membrane fractions were responsive to temperature challenges and exhibited statistically significant differences in the percentage of palmitic acid (C16:0) in tissues of both warm and cold challenged fish. The percentage of vaccenic acid (C18:1) was significantly lower in the membrane fraction of muscle and liver tissues of warm-challenged fish. Overall, changes in membrane bound fatty acids were largely in accordance with our current understanding of thermal acclimation, and provide further evidence of homeoviscous adaptation in alewives.

Presentation Type and Session: Poster Session I

To Build or Not to Rebuild? New Orleans is in Question

Joseph Bella, GES224, Geological Hazards

Faculty Mentor: Professor Bettina Martinez-Hackert, Earth Sciences and Science Education

Over the past few weeks, our science class at Buffalo State College has been discussing the terrible disaster that Hurricane Katrina caused. The related storm surge toppled the levees of Lake Pontchartrain, flooding nearly 80% of the famous city of New Orleans, Louisiana. Thousands lost everything they had; their homes, their cars, their jobs, some even lost their very lives. Three years later the crucial question is still being debated: To rebuild, or not to rebuild? Here in Buffalo, New York — our class of very innovative-thinking college students has learned much about the geology of the area, and has offered up some interesting solutions to the issue. Addressing these issues in full, students chose a side to argue and find a solution for; they were either in support of rebuilding the city, against rebuilding the city, or undecided. They

crafted thought-out plans for the wrecked city, ranging from mass evacuation of the delta region to turning New Orleans into an American water-city, drawing heavily on concepts found in the city of Venice, Italy and on Dutch levee technology. Our professor plans to send the best proposals directly to the office of the Mayor of New Orleans. This poster presents a summary of our class' proposals.

Presentation Type and Session: Poster Session VIII

Tryptophan Scanning of the First Transmembrane Domain of Connexin43

Yvonne Woolwine, Biology

Faculty Mentor: Professor I. Martha Skerrett, Biology

Gap junctions are intercellular channels that mediate cell communication and ion transport. Gap junctions are formed by the connexin family of proteins, and there are 20 distinct connexin proteins in humans. Connexin43 is expressed in the heart and brain. This project was aimed at identifying transmembrane domain interactions in connexin43 channels using a technique known as tryptophan scanning. These transmembrane domain interactions are important because they stabilize the open state of the channel and mediate conformational changes that occur during channel gating. Tryptophan scanning involves the substitution of tryptophan for one amino acid at a time in the membrane-spanning domains of a protein. The long, bulky side-chain of tryptophan is expected to be tolerated if it faces an aqueous or lipid environment. However, protein function is expected to be disrupted when the tryptophan is positioned at a site where transmembrane helices are packed together. I have created ten tryptophan mutants in the first transmembrane domain of Cx43 using the Quikchange site-directed mutagenesis protocol. All mutations have been confirmed by sequence analysis, in vitro transcription of RNA is complete, and the functional analysis of Cx43 mutants is ongoing. These results will provide insight into the location and role of transmembrane domain interactions in Cx43.

Presentation Type and Session:

Oral — Health, Sciences, and Mathematics

Tryptophan Scanning Analysis of the Third Transmembrane Domain (M3) of Connexin43

Glenn Horrigan II, Biology

Faculty Mentor: Professor I. Martha Skerrett, Biology

Connexins are gap junction-forming proteins found in vertebrates. This study examines structure-function relationships of connexin43 (Cx43) which is expressed in the heart, where gap junctions play a role in development and impulse propagation. Connexins are four-pass transmembrane proteins named

according to their predicted molecular weight (eg. Cx43 has a predicted weight of 43 kilodaltons). Six connexins oligomerize to form a connexon, or hemichannel in one cell. Complete gap junction channels are formed when connexons from opposing cells dock in the extracellular space, forming an intercellular pore that is permeable to ions and small metabolites. Site-directed mutagenesis will be used to replace amino acids in the third transmembrane domain with tryptophan, a technique designed to identify critical sites of protein interaction and part of a larger study that involves a scan of all four Cx43 transmembrane domains. The technique is based on the premise that the large bulky side-chain of tryptophan is not tolerated at sites of protein interaction. Channel function is assayed in *Xenopus* oocytes. Oocytes are injected with RNA that is transcribed in vitro and gap junctions form after two oocytes are closely apposed. Functional analysis is carried out using voltage clamp techniques and it is expected that tryptophan insertions disrupting protein interactions will result in non-functional channels.

Presentation Type and Session: Poster Session III

A Walk Through Allegany's Geology

Karrie Sue Duffett, Geology

Faculty Mentor: Professor Kevin Williams, Earth Sciences and Science Education

Allegany State Park is located in the southern part of Western New York in an area that was not affected by glaciers during the last ice age. Trails within the park are used year-round and offer views of the different geologic features. This project involves studying the geology along trails in the Red House Area of the park that visitors use for hiking and cross country skiing. To do this, I am gathering information about the regional geology, and I am visiting the trails to determine what features are visible when they are snow covered and when they are not. I will be identifying at least 10 locations where visitors will be able to observe geologic features up close and in the distance, and I will take pictures to show what visitors should see at each location. Results of this study will be used to compile a field guide that visitors to the Red House trails can use to learn more about the geology of the area. The field guide will be available to park visitors by the end of the summer and will also be available through the Department of Earth Sciences and Science Education home page.

Presentation Type and Session: Poster Session IV

Wanted: Old Man Winter

Christopher Cramer, Broadcasting

Faculty Mentor: Professor Stephen Vermette, Geography and Planning

The 2007-2008 winter season in WNY and Buffalo State College was more like a typical winter season in a warmer part of the country. Weather data obtained from the Buffalo State College weather station, located on top of the Classroom Building, along with snow measurements taken on campus have been used to reconstruct the winter of 2007-2008. The snow measurements were accurately taken by me, as a trained snow spotter for the National Weather Service. For its ice, wind, and record high temperatures (in early January), the winter of 2007-2008 will be remembered by all in the WNY area. With assistance from the NWS website, these phenomena are explored. Out of all the storms that occurred during the 2007-2008 season, all but two were accompanied by some mix of sleet, rain, and snow. Through February only 55 inches of snow has fallen at Buffalo State College which is 10+ inches below the five year average for this time of year.

Presentation Type and Session: Poster Session VIII

What Do Rocks Have to Do With Wine?

Maura Kolb, Geology

Faculty Mentor: Professor Kevin Williams, Earth Sciences and Science Education

There are four important aspects to the final taste of a wine: the vine variety, where it is grown, how it is grown, and how it is made (chemically). Although every state in the United States grows wine grapes, New York is one of the largest growing regions after California. The unique geology of the wine growing areas in NY affects the wines made here. This research focused on three growing regions in Western New York and studied the geology in each region. The regions span from Lake Erie to the Finger Lakes and include the Lake Erie wine region, the Niagara county wine region (north of the Escarpment), and the Finger Lakes region, specifically Seneca Lake. To study the effect of geology, we focused on the history of geologic processes that formed the current landscapes and how these landscapes help to produce better wine. We also compared climatic data between the three regions and studied how the individual climates benefit wine production. We saw through our research that geologic aspects can make for better growing but can also affect the wine taste. We tried to test whether each region had a distinct taste, through a blind taste testing experiment.

Presentation Type and Session:

Oral – Health, Sciences, and Mathematics

What's in Your Water?

Jennifer Grasso and **Maura Kolb**, GES460, Environmental Field Methods

Faculty Mentor: Professor Elisa Bergslien, Earth Sciences and Science Education

It is only assumed that the clear thirst quenching liquid we all drink that comes readily out of our faucets or grocery store shelved is safe and completely clean. This may not be the case. We will test tap water from towns in the Erie County Water Authority district such as Buffalo, Lackawanna, Lockport, West Seneca and North Tonawanda for contaminants. We will also test bottled water such as Dasani, Aquafina, SmartWater, Poland Spring and Tops water. We will take careful note of where the water was bottled. Some variations we will test for in the bottled and tap water are copper, lead, iron and overages in fluoride and chlorine using reagent kits and colorimeters. Using stick meters will give us a pH balance for each sample. Hardness, temperatures and the possibility of bacteria such as e-coli are other tests that will be done. The question we wish to answer is what contaminants exist in the tap waters of the Erie County Water Authority district and in the bottled water that was bottled here and compare it to bottled water from outside this region. Also, is the bottled water really any better than tap water? Our hypothesis is the tap water will contain overages of fluoride and chlorine and will contain metals possibly due to the piping. The bottled water will contain bacteria like e-coli.

Presentation Type and Session: Poster Session VIII

When a Shovel is Not Enough – Utilizing GPR to Determine Scoria Deposit Depth

Thomas Bohlen, Earth Science Education

Faculty Mentors: Professor Bettina Martinez-Hackert, Earth Sciences and Science Education and Professor Kevin Williams, Earth Sciences and Science Education

Walker Lake Crater (WLC) is a tuff ring located in the San Francisco Volcanic Field near Flagstaff, Arizona. The volcano is approximately 2.3 million years old (Wolfe, 1986) and is composed of basaltic and andesitic scoria. It has been stripped of its vegetation by the Hochdeffer wildfire of 1996. The northwest/southwest side of WLC is partially covered with younger, less cohesive scoria from nearby Saddle Mountain. Both the removal of vegetation by the high severity fire and the presence of a less cohesive material have the potential to increase erosion rates on this side of WLC. It is unknown to what degree each variable are affecting erosion rates. Previous efforts to hand-dig stratigraphic trenches were unsuccessful. Ground Penetrating Radar (GPR) measurements will be used to determine the thickness of the Saddle Mountain scoria deposits on Walker Lake Crater. These spatial data will help to determine the extent of the younger

scoria deposit thickness, and help analyze its effects on infiltration rates, runoff, subsequent subsurface water flow, saturation, and consequent surface processes. GPR measurements and mapping will also confirm or deny the possible presence of a paleosoil horizon, which could drastically affect infiltration rates, saturation depth, pipe flow, and consequent hillslope degradation, especially after wildland fire.

Presentation Type and Session: Poster Session V

Where is it Windy at Buffalo State College?

Matt Cutolo, Geography

Faculty Mentor: Professor Stephen Vermette, Geography and Planning

The intent of this study is to determine if the Buffalo State College (BSC) Campus is a windy place. That will be done by comparing wind data from the weather station located at BSC, with wind data from the National Weather Service site in Cheektowaga, NY (official Buffalo site). The perception of windy places was determined from a survey of 119 BSC students, where the students were asked to identify their top three windiest sites on campus. The perceived windiest locations were used to sample wind speed. Measurements at various locations were taken using a Brunton ADC Jetset (portable weather station) and a handheld E-trex GPS unit. Using GIS, the perceived windy sites will be compared with actual measurements. The perceived windiest site is located on the south side of the Sports Arena, going to and from the Grant St. parking lot. The students explanation for a windy campus is its design - often attributed to an Arizona plan or architect.

Presentation Type and Session: Poster Session VIII

Social Sciences (Political Science, Psychology, Sociology, and Social Work)

The Association Between Prenatal Cocaine Exposure and Physiological Regulation in Thirteen Month Old Infants

Susan Danielewicz, Psychology

Faculty Mentor: Professor Pamela Schuetze, Psychology

The aim of this study is to explore the association between prenatal cocaine exposure and physiological regulation level in 13 month old infants. 150 caregiver-infant dyads are evenly separated into two groups; infants prenatally exposed to cocaine, and a comparison group of infants not exposed to cocaine. The control families will be matched to families in the prenatal exposure group with respect to maternal age, marital status, and infant gender. Physiological regulation is assessed during a 3-minute baseline and during tasks designed to elicit positive and negative affect. Reactivity will be measured by examining Respiratory Sinus Arrhythmia (RSA) during baseline and regulation will be assessed by looking at the degree of change in baseline RSA to RSA during positive and negative affect. Multivariate analyses of covariance (MANCOVA) will be calculated with baseline RSA or RSA change as the dependent variable and group status (prenatal exposure, control) and gender as the independent variables. It is hypothesized that cocaine exposed male infants will have the highest baseline RSA and the least change in RSA than those nonexposed male or exposed or nonexposed female infants.

Presentation Type and Session: Poster Session VIII

The Black Evolution: Chronicling the Renaissances of African American Thought

Cordero King, HON400, All College Honors Colloquium

Faculty Mentors: Professor Andrea Giuati, Director, All College Honors Program and Mr. Musa Abdul Hakim, E.H. Butler Library

The African American is a person who is in constant change. Displaced from the homeland of Africa through the Diaspora, African Americans have had an identity that has been diluted through slavery and discrimination. As a result, black people have had to carve out their own unique personality as a race. Such a trend has been apparent in certain African-American movements and revolutions. The project will investigate such events as the Harlem Renaissance, the Negritude Movement, the birth of hip-hop music, and the Black Power movement. We will also place a spotlight on important figures such as W.E.B. Dubois, Malcolm X, and Aime Cesaire. Through a series of interrelated presentations

including visual and audio media, we shall see how the changing face of the African American has sought to advance the people and achieve racial equality in the United States.

Presentation Type and Session:

Oral – Education and Social Sciences

Can Viewing Characters Smoke in Commercials Impact Desire to Smoke Among Viewers?

Nicole Bayldon, Stephanie Dahlgren, Amber Goppelt, Santina Gregori, Jennifer Howells, Alexis Krieger, Joseph Meyer, Andrew Palka, Jacqueline Pritchard, Katie Rozek, Michael Scalisi, Michael Smietana, Barbara Sylvester, Zaneta Taylor, and Jessica Wilson, PSY450, Research Methods in Psychology

Faculty Mentor: Professor Dwight Hennessy, Psychology

The current study looked into the theory that socially undesired behaviors could be learned by viewing television programming. Using an experimental study, two commercials were shown to participants. One commercial showed characters smoking (Flintstones) while the other did not (M&Ms). Participants were further divided into three groups based on their smoking “group”: Never Smoked, Quit Smoking, Currently Smoke. Following the commercial, participants were then given a survey to indicate their current desire to smoke (mixed with distractor items). A 2x2x3 partial factorial ANOVA was used (all main effects and 2 way interactions) with gender, commercial, and smoke group as IV and desire to smoke as DV. A commercial X smoke group interaction was found. A post hoc test showed that the commercial showing characters smoking increased the desire to smoke, but only among those that quit smoking and currently smoke (although more so for current smokers). The commercial had no impact on those that never smoked. The outcomes support the social learning theory regarding imitation of negative behaviors observed on television.

Presentation Type and Session: Poster Session VII

County Mental Health Response to Community Disadvantaged

Barbara Sylvester, Psychology

Faculty Mentor: Professor Robert Delprino, Psychology

Ferran reported (1992) that community mental health facilities are not always equipped with a staff that has the training or education necessary to treat certain patients. Ferran also suggested that outpatient services for people with severe mental disorders are oftentimes ineffective. A more current report by Ronzio, Guagliardo and Persaud (2006), points out that nearly two-thirds of Americans suffering from mental problems do not receive proper mental health care and that certain groups are at

greater risk. People with lower socioeconomic status are less likely to obtain treatment for themselves even if the treatment is of little or no cost to them personally. A survey is presented of mental health providers in Erie County who work with at risk groups and how they and the facilities they represent, respond to the patients' needs. The county-wide survey was used to identify the providers, the types of services provided, and the population they serve. Understanding the population served as well as their needs can assist in identifying where and how to allocate resources to better service the community. In addition, the information gained about providers can identify gaps in the skills and education that providers need to sufficiently serve their clients.

Presentation Type and Session: Poster Session VI

Curiosity in Science and Science Education Majors

Stefani Petre, Exceptional Education

Faculty Mentors: Professor Howard Reid, Psychology and Professor Jill Norvilitis, Psychology

This study is examining whether there is a difference in curiosity between Buffalo State College students who are majoring in the natural sciences and those who are majoring in science education. Specifically, we suspect that there may be a difference in the level of curiosity between those who study the sciences with an emphasis upon conducting research and those who have future plans for teaching science to others. We are currently completing a questionnaire study that will enable us to determine whether a difference in curiosity exists between science and science education majors. In addition, we are also examining whether these groups differ on measures of 'Satisfaction with Life' and 'Locus of Control'.

Presentation Type and Session: Poster Session VI

Determination of Estrous Cycle Stage in Rats: Vaginal Lavage Technique

Gina Benevento, Psychology and **Tomicka Madison**, Psychology

Faculty Mentor: Professor Jean DiPirro, Psychology

Knowledge of the reproductive cycle of the female rat is advantageous to the success of breeding. The present account provides a detailed description of the procedures we employ in our laboratory to determine peak breeding time in rats via the vaginal lavage technique. In essence, we monitor vaginal cytology to identify the phases of the rat estrous cycle. An estrous cycle is analogous to the human menstrual cycle and consists of three main phases: proestrus, estrus, and diestrus. Each phase is characterized by different levels of circulating reproductive hormones, mainly estrogen and progesterone. Because copulation only occurs during estrus, the correct identification of estrous cycle stage is critical to all timed breeding procedures in the laboratory. Cell collection through vaginal lavage was performed

daily on Long Evans (hooded) rats. Cell samples were observed via microscope using a 40x objective lens and the identification of estrous cycle stage was made on the basis of cell morphology. This technique is a simple, yet highly valid measure of estrous cycle stage determination in rats.

Presentation Type and Session: Poster Session VIII

Do Perfectionists Think Differently? The Relationship Between Perfectionism and Regulatory Focus

Shasha Liu, Psychology

Faculty Mentor: Professor Michael MacLean, Psychology

Perfectionism is on one hand related to having a higher GPA, but on the other hand is associated with depression. What underlies the distinction between "good" and "bad" perfectionism in perception? Research has found two perfectionism types: adaptive perfectionism, which is mostly related to personal standards and organization, and maladaptive perfectionism, which is mostly related to concern over mistakes, doubt, parental criticism, and parental expectations. Adaptive perfectionism predicts good academic performance, while maladaptive perfectionism predicts depression-proneness. In the present study, it is proposed that one of the key differences underlying the two types of perfectionism are differences in regulatory focus. Regulatory focus has to do with whether an individual tends to be driven by promotion or prevention motives. Individuals with a promotion focus strive to attain success and their "ideal" selves, while individuals with a prevention focus strive to avoid failure and to attain their "ought" selves. It is hypothesized that adaptive perfectionism will be positively correlated with promotion focus, and maladaptive perfectionism will be positively correlated with prevention focus. Finally, it is believed that the adaptive-promotion group will have the highest academic motivation score, while the maladaptive-prevention group will have the highest depression score.

Presentation Type and Session: Poster Session IV

Does Ecstasy Use Induce Lasting Changes in Somatosensory Function?

Tamika Adams, Nicole Balydon, Gina Benevento, Yusef Bravo, Leoni Cameau, Erin Carr, Jessica Chilicki, Cory Clontz, Michael Downie, Juile Eppolito, Samantha Fernandez, Carnita Hill, Nathan Lee, Rhudwan Nihlawi, Abigail Pardue, Vincenzo Piraino, Donna Reed, Natale Sciolino, Julia Spak, Jennifer Vega, Kevin Villareale, and Victoria Wolf, Psychology Club

Faculty Mentor: Professor Jean DiPirro, Psychology

Ecstasy (3,4-methylenedioxy-N-methylamphetamine, MDMA) -- and to a lesser extent all psychostimulant-type drugs -- are known to induce neural adaptations in serotonin mechanisms. Serotonin neurotransmission plays an important role in social motivation, pain tolerance, and touch sensitivity. These phenomena may be interrelated in that positive social contact (i.e., increased tactile stimulation and reduced pain sensitivity) facilitates social motivation. The present study was designed to examine whether there is an association between a history of ecstasy use and somatosensory function (i.e., cold water tolerance and touch motivation). College students were recruited to participate in this study. Questions patterned after the National Survey on Drug Use and Health (SAMSHA, 2000) were used to measure psychostimulant history. The Touch Avoidance Measure (Andersen and Leibowitz, 1978) was used to measure touch motivation. A cold water bath maintained at 0°C was used to assess pain tolerance. These measures were correlated to test our hypothesis that ecstasy usage produces a long-term modification in somatosensory function -- likely via serotonin neuroadaptations -- that may have fundamental consequences for social behavior.

Presentation Type and Session: Poster Session VIII

The Effect of Feminism on Men's and Women's Perceptions of Attractiveness

Jessica Chilicki, Psychology

Faculty Mentor: Professor Jill Norvilitis, Psychology

Previous research has shown that women who describe themselves as feminists are viewed in a negative way by both men and women. Buffalo State College students are participating in this research to examine how feminism affects perceptions of attractiveness. It is expected that participants will report that a woman who describes herself as "typical" is more attractive and approachable than a woman who describes herself as "feminist" or "assertive." Further, it is expected that men would rather date and be approached by a woman who describes herself as "typical" over a woman who describes herself as "feminist," and that participants who score higher on the Sex Role Attitudinal Inventory (SRAI; Renzetti, 1987) will find the feminist woman

more attractive. Results will be available at the presentation.

Presentation Type and Session: Poster Session IV

The Effect of Misleading Advertising Imagery on Consumer Behavior: Implications for an Emotion-Based Sleeper Effect

Sara Howard, Psychology

Faculty Mentor: Professor Dwight Hennessy, Psychology

The present study aims to examine the misleading influence that advertisements may have on consumers' purchase attitudes, by way of a sleeper effect. It is our hypothesis that purposely exaggerated or untrue commercial imagery, although initially discounted by the consumer as unrealistic, over time will gain salience for the consumer, while the awareness that the ad's portrayal was unrealistic will become less prominent. In effect, it is possible that the proposed sleeper effect may erroneously influence beliefs about a product's capabilities where the advertisement's fantastical imagery has appealed to the consumer on an emotional level, thus obstructing rational judgment. For the experimental manipulation, we will randomly assign participants to two groups. The treatment group will watch a television commercial for a product which shows it performing an action that could it could not execute in real life (to be sure that the impossibility of the feat is made clear, the commercial will contain a fine-print disclaimer that it is a dramatization). The control group will see a commercial for the same type of product, but this time depicted realistically. After four weeks, participants will be recalled, and their beliefs regarding the product's true capabilities will be assessed in a questionnaire.

Presentation Type and Session:

Oral – Education and Social Sciences

The Effects of Media Portrayals of Dangerous Driving on Young Drivers' Performance

Sara Howard, Psychology

Faculty Mentor: Professor Dwight Hennessy, Psychology

The present study was designed to examine the potential influence of media portrayals of dangerous driving behavior on short term learning among young drivers – particularly in relation to gender and trait thrill seeking. Participants were randomly assigned to view either a dangerous driving movie ("The Italian Job") or non-dangerous driving movie ("Vacation") prior to driving in a simulator. While participants were left alone to complete the state personality measures (including driver thrill seeking) the movie was left running in front of them. The researcher then returned after a period of time greater than necessary to complete the battery, apologized for leaving the movie

running, and instructed participants to drive in the simulator as they would normally in traffic. Performance was later coded for speed, near collisions, and lane violations. Separate ANOVAs were computed using movie condition, gender and driver thrill seeking as IV. Results of this study suggest movies containing aggressive driving may have a short term detrimental effect on driving behavior for certain individuals. In the dangerous driving movie condition, men were more likely to speed, and high thrill seekers committed more lane violations. Near collisions were predicted independently by the main effects of movie condition and thrill seeking.

Presentation Type and Session: Poster Session IV

The Effects of Televised Verbal Aggression on Subsequent Behavior in a College Population

Erin Carr, Psychology and Philosophy

Faculty Mentor: Professor Dwight Hennessy, Psychology

The purpose of the current study was to look at the impact of verbally aggressive adult animated television programs, personality types, and the researcher's competence (frustration) on subsequent verbal behaviors. This study examined the effects of adult animated television shows on subsequent verbally/symbolically aggressive actions of adults. The hypotheses of this study were that: 1. Provocation and trait anger would both predict participant aggression. 2. There would be an interaction between trait anger and the provocation used on subsequent verbally aggressive responses. The results of this study confirmed that watching aggressive programming has immediate effects on subsequent behaviors. Both trait anger and the provocation predicted which students would rate the researcher poorly (symbolic aggression), as did watching the aggressive television show. However, the expected interaction between provocation and trait anger was not found.

Presentation Type and Session: Poster Session VI

Factors Contributing to Risky Sexual Behavior

Erica Miller, Psychology

Faculty Mentors: Professor Jill Norvilitis, Psychology, Professor Howard Reid, Psychology, and Professor Dwight Hennessy, Psychology

Many studies have examined separate factors and how they relate to risky sexual behavior but not much research has integrated these into one study to see how they interact with each other. Also, little has been done comparing why people who have been sexually abused participate in risky sexual behavior compared to those who haven't. This study explored the contributions of nine different factors to risky sexual behavior. The

nine factors were impulsivity, depression, religion, parenting style, peers, alcohol problems, self esteem, rationalization, and a history of physical/sexual abuse. The study also compared how people who have not been sexually abused rationalize their behaviors compared to how people who have been abused rationalize their behaviors. There were no significant predictors for the sexually abused group, perhaps due to the small sample size. However, functional impulsivity, dysfunctional impulsivity and depression approached significance. There were two significant predicting factors for the non-sexually abused group: functional impulsivity and self esteem. No rationalizations significantly predicted behavior for the overall rationalization scale or for the sexual behavior rationalization question.

Presentation Type and Session: Poster Session VI

"Freedom From Tyranny or Sacrificing Freedom?" US Development Assistance During the Global War on Terror

Nayrobi Rodriguez, Political Science

Faculty Mentors: Professor Simon Peter Gomez, Political Science and Professor Patrick McGovern, Political Science

What impact has the Global War on Terror had on the United States' development assistance programs? Is the United States sacrificing human rights on the altar of national security? Many analysts have argued that the U.S. has since 9/11 focused on fighting terror to the exclusion of all else, especially human rights, democracy, and poverty alleviation - the traditional goals of U.S. foreign assistance. In a statistical analysis, I looked at the United States and the relationship between its development assistance programs including military aid, human rights records, poverty and democracy levels of almost 100-world aid recipients during the years of 1995 to 2006. The data suggests that the United States does not seem to care about a government's human rights record and its democracy level when allocating aid. We did find that those countries contributing to the War on Terror effort, by sending troops to Iraq, receive aid 100 percent of the time. Our results accordingly align with analysts' predictions that the U.S. is not as committed to human rights and reducing poverty around the world as it preaches. This study also brings up the question: Is it too early to see a major shift in U.S. foreign policy?

Presentation Type and Session: Poster Session III

Gaining an Appreciation of Diversity in a College Setting

Danielle Bagley, Psychology

Faculty Mentor: Professor Howard Reid, Psychology

Encouraging our students to gain an appreciation of diversity is a core value of Buffalo State College. One mechanism to achieve

this goal is the college's requirement that every student complete at least one diversity course. The present study investigated the relationship between taking a diversity course and college students' appreciation of diversity. Specifically, an 89-item questionnaire was developed and was then completed by 150 BSC students who were enrolled in Psychology courses. A number of variables, including college class, age, and a measure of interest in cultural events were found to be correlated with appreciation of diversity. However, having taken a diversity course was not found to be correlated with college students' appreciation of diversity. These results suggest that further evaluations of the effectiveness of diversity course requirements for college students need to be undertaken.

Presentation Type and Session: Poster Session VI

Individuals' Overcompensation for People With Disabilities

Rebecca Darch, Psychology

Faculty Mentor: Professor Jill Norvilitis, Psychology

Individuals' tendencies to exaggerate and overestimate individuals' disabilities were examined. The independent variables that were manipulated in this true experiment were the pictures and scenarios given to each participant. The present study included pictures and scenarios that assessed participants' attitudes and expectations of individuals that were non disabled, hearing impaired, and physically disabled. The purpose of this study was to examine how individuals overcompensate for disabilities that others have. The study examined 113 Buffalo State College male and female students. The present study hypothesized that participants would underestimate the capabilities of disabled individuals and that this effect would be greater when pictures highlighted awareness of the disability. The study's hypotheses were not supported. Given prior research indicating stereotyping of those with disabilities, it is likely that this pattern is due to social desirability or a desire to be politically correct. What is noteworthy about this study is the degree to which participants overcompensated for the disability, rating the disabled as more (not equally) competent than controls. Clearly, participants have gone beyond simply answering items in a socially acceptable manner.

Presentation Type and Session: Poster Session V

Perception of Health Care by Race/Ethnicity and Gender

Giselle Vasquez, Sociology

Faculty Mentor: Professor Amitra Hodge, Sociology

The quality of healthcare continues to be a national concern (Gay and Newsom 2003; King 2003; Roma 200). The purpose of

this study is to examine Buffalo State College students' perceptions and experiences with health care. Specifically, this study focuses on gender and racial/ethnic groups. A non-probabilistic sample completed a brief survey, designed by this researcher, in February 2008. Results suggest that there is no significant difference between males and females in overall health care experience. Further, there is no significant difference among racial/ethnic groups in overall health care experience. There is, however, a significant difference in perception of treatment with the best care among racial/ethnic groups.

Presentation Type and Session: Poster Session II

Pre-testing a Social Work Alumni Evaluation Survey for Reliability

Kyla Christie, Social Work

Faculty Mentor: Professor Ronnie Mahler, Social Work

The Social Work Department plans to use a newly designed survey to distribute among alumni who graduated one year ago. The survey will measure how well the Department prepared them in the professional field of social work, in respect to ethics, knowledge and skills. While the new survey appears to cover critical areas prescribed by the Council on Social Work Education, as of yet no reliability tests have been performed. In order for a survey to yield valid information, it must first prove to be a reliable instrument. The plan is to pretest an identical 29-item survey to be completed by current seniors in all SWK 424 classes on two occasions: Once before vacation; and then two weeks later. Students will be instructed to write their date of birth and middle name at both time 1 and time 2, to allow the test-retest reliability correlation to be determined. In addition, qualitative information will be gathered through focus groups about to be implemented in 4 field seminar classes. Survey data will be entered and analyzed using SPSS. This poster session will describe the survey process and the reliability test performed. Student feedback about the Social Work Program will be summarized.

Presentation Type and Session: Poster Session VII

Rebels With an Excuse: Assessing Additional Reasons for College Drinking

Elyssa Rookey, Psychology and **James Hoinski**, Psychology

Faculty Mentor: Professor Micheal MacLean, Psychology

Specific motives for drinking alcohol have been found to be strong predictors of a person's alcohol use and risk of alcohol-related problems. Cooper (1994) developed the Drinking Motives Questionnaire (DMQ) to assess four motives for drinking in adolescence and early adulthood. These motives were social, coping, enhancement and conformity motives. It has been consistently found that social, enhancement and conformity

motives are linked to drinking quantity and frequency, while coping motives are most strongly related to drinking-related problems. In the present study, it is proposed that in addition to these four established motives, drinking as a means of rebellion and using alcohol as an excuse for disapproved behavior can also be motivations for alcohol use. In this ongoing study, the DMQ will be revised to include rebellion and excuse subscales. New items were created for the subscales and their psychometric properties, including their internal reliability and construct validity, will be assessed. In addition, it is expected there will be a correlation between rebellion and drinking quantity and frequency. The excuse subscale is expected to correlate with conformity motives. Implications for future research and for prevention interventions will be discussed.

Presentation Type and Session: Poster Session VIII

The Recall of Gender Stereotyped Images

Gina Benevento, Jessica Chilicki, Emily Sheehan, and Bethany Wagner, PSY450, Research Methods in Psychology
Faculty Mentor: Professor Jill Norvilitis, Psychology

People tend to follow gender stereotypes in society. This present study examined if men would recall more stereotypically male images, if females would recall more stereotypically female images, and if scores on Bem's Sex Role Inventory (1974) would be positively related to the number of male and female images recalled. There was a significant difference of women remembering more stereotypically female images than men remembered; however, there was no significant difference of men remembering more stereotypically male images than females remembered. There was no relationship present between BSRI scores and the number of images recalled, when controlling for gender. Further implications are discussed.

Presentation Type and Session: Poster Session V

Relationship of Academic and Personal Stress Levels to Drug and Alcohol Use in College Students

Nicole Bayldon, Psychology
Faculty Mentor: Professor Michael MacLean, Psychology

The problems associated with drug and alcohol abuse in the college population can range from getting poor grades to fatalities. A recent study found that the issues students face during the unique transition period between leaving high school and entering higher education may impact substance misuse (Borsari, Murphy, & Barnett, 2007). While research has looked at stress as a broad factor in substance use, the present study was designed to examine the effects of academic stress versus personal life stress in the college population. The present study will contain

approximately 250 participants and will utilize a cross-sectional correlation design. A multiple regression analysis, which will include a test for interactions, will then be run to see how well the stress scores predict the substance use scores. It is predicted that there will be a higher correlation between academic stress and substance use. It is also predicted that younger students will show more substance use than older students. The implications of these findings will be explored and may allow for a concentrated area of study for future academic stress research.

Presentation Type and Session: Poster Session VII

Religion in Psychology

Jessica Regina Wilson, Psychology
Faculty Mentor: Professor Jill Norvilitis, Psychology

This study will investigate the impact of the introduction of empirical knowledge upon college students' understanding of religion and science. It will examine how students' perceptions change through the course of education when presented with scientific research. Male and female Buffalo State College students will be the participants. The goal of this study is to recruit over 100 participants and will be conducted in self-report questionnaire format. The hypothesis is that participants' views of religion will be negatively related to scientific explanations as it is further expected that science will increase in importance and religion will decrease in importance across college years. Results will be presented at the conference.

Presentation Type and Session: Poster Session IV

Say 'Y.E.S.' to Empowering Youth

Amanda Pawlik, Social Work
Faculty Mentor: Professor Lou Colca, Social Work

Today, more than 500,000 children live in foster care. Half of the youth will spend at least two years in the system, and one in five youth will be in the system for five years or more. Fortunately for some youth in foster care, they will be able to participate in a program that benefits them, and prepares them for the future. This program was developed to give these youth an opportunity to interact with peers in a similar situation as them and to help them develop trusting relationships. The program is intended to encourage peer relationships through team activities, as well as maintain a strong sense of community by contributing in community service projects. The group will also be provided with information to assist in the development of skills needed for independent living, whether their goal is adoption, or in case they age out of care. The program's effectiveness will be evaluated and measured through various methods including personal interviews and a questionnaire. The poster presentation will give insights

on the youth participating in this program, group activities, and the community service projects. It will illustrate the programs effectiveness and share with others new ideas on programming for foster youth.

Presentation Type and Session: Poster Session I

Spiritual Connectedness of Young Adults with Mental and Emotional Difficulties

Sarah Fritz, Social Work

Faculty Mentor: Professor Kimberley Zittel-Palamara, Social Work

A review of current literature suggests that approximately 90% of teens are affiliated with a religious denomination (*Marijuana and Faith: Kids, 2001*) Furthermore 35% of eighth grades say that religion plays an important part in their lives (*Marijuana and Faith: Kids, 2001*) With nearly 90% of teens actively involved in prayer, 38% in dedicated donations to religious institutions, and 70% involved in some weekly religious activity, religion and spirituality are integral parts of SOME teen's existence (MacDowell, 2001)). Other resources suggest that identity development; emotional regulation skills and positive adult relationships are all formed through religious youth groups. (University at Illinois, 2006) Additionally, using the client's religious and spiritual affiliations as tools in the psychotherapeutic process can be extremely helpful in reaching teens and creating healing and recovery environments (University at Illinois, 2006). This study will examine the spiritual connection in teens that experience mental and emotional difficulties as compared to those who do not.

Presentation Type and Session: Poster Session IV

Stereotypes About Undocumented Workers: A Cross-Cultural Study

Shasha Liu, Psychology and **Ting Yi Fang**, Psychology

Faculty Mentor: Professor Jennifer Hunt, Psychology

Undocumented workers are often the target of negative stereotypes and discrimination. In our project, we are investigating cross-cultural similarities and differences in stereotypes and attitudes about undocumented workers. We are coding the stereotypes found in stories about undocumented workers written by U.S. and Chinese participants. We have developed a coding system for these open-ended responses by analyzing randomly selected stories and empirically identifying stereotypes. After developing the coding system, we have practiced coding skills and developed the rules of the coding system in order to code the data reliably. We also are coding the valence (i.e., positivity or negativity) of the stories and the undocumented workers portrayed in them. We now are examining the reliability between coders, after which we will code the entire data set. We

will repeat this process for the Chinese data. In our presentation, we will report preliminary results about U.S. and Chinese individuals' stereotypes about undocumented workers as well as discuss the process of coding cross-cultural data. Currently, the data suggest that common stereotypes about undocumented workers include working long hours at unskilled positions, being family-oriented, striving for a better life, and living in poverty.

Presentation Type and Session: Poster Session V

Television and its Portrayal of Marriage

Naomi Austin, Sociology

Faculty Mentors: Professor Amitra Hodge, Sociology and Professor Robert Delprino, Psychology

The evolution of marriage in the United States is developing trends that are continuously interchanging the conventional roles of the American family culture. In this study I examine the media's presentation of this conceptualized institution and how it has transformed from the post World War II period into its currently modern alternatives. Conjugal unions have derived from the stringently traditional two person household unit to an increasingly revolutionary system that significantly entails contractual matrimony between two partners. As a municipally established institution originally intended to accomplish spiritual duties, marriage has included the goals of subtly incorporating financial support, childrearing and maintaining sexual intimacy. Changes in social values, education opportunities, financial independence have contributed the ideas of singlehood and cohabitation that have resulted in the redefinition of marriage norms and family dynamics. This presentation will explore the how television has reflected the transition of marriage and the role media plays in influencing societal perceptions and attitudes of the unification. Television presentations typically portray the current acceptable state of marriage in its timely commonality. This media analysis can serve as a useful tool for understanding, exploring and benchmarking the changes that periodically occur in marriage and the family structure.

Presentation Type and Session: Poster Session III

Views of the Mother and Father as Related to Young Adults' God Concepts

Bethany Wagner, Psychology

Faculty Mentor: Professor Jill Norvilitis, Psychology

In many religions, God is referred to as Father. Further, God clearly is viewed as closer and more loving by some individuals and more distant and angry by others. Parents appear to have a strong influence on their children's views of God. This research study was designed to further examine the relationship between the participants' views of God, mother, and father. A total of 109 Buffalo State College students participated in the study. Analyses

indicated views of God are correlated with views of the father. Religious belief driven by extrinsic motivation was correlated to views of God's goodness, distance, and anger. Intrinsically motivated religious belief was correlated to views of God's goodness and distance.

Presentation Type and Session: Poster Session IV

Views Toward Steroid Use and Negative Eating Behaviors and Attitudes in a Non-Clinical Sample of College Students

Jennifer Felber, Psychology

Faculty Mentor: Professor Jill Norvilitis, Psychology

Body image, which involves perceptual, attitudinal, and behavioral characteristics, has become a major concern in individuals of all ages (Cash & Henry, 1995). An ideal body image is projected by the media and culture and leads to the formation of attitudes and behaviors that are associated with disordered eating (Hobza, Walker, Yakushko, and Peugh, 2007). The purpose of this study is to examine attitudes and behaviors associated with eating. It also is to investigate the relationship between those attitudes and behaviors and views toward steroid use. It is hypothesized that negative attitudes will predict negative behaviors, and that those who exercise routinely and restrict and monitor their food will have a more understanding and accepting view of steroid use and disordered eating. It is further hypothesized that both gender and sport will be related to the behaviors in which an individual engages and the attitudes they hold. This study and the collection of data are still in progress and detailed results will be available at the time of the presentation.

Presentation Type and Session: Poster Session IV

