# SUNY Oneonta
## Life of the Mind 7
## 2016 Faculty Showcase

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| 1      | Tracy Allen (Geography & Environmental Sustainability)  
*Changes in Physical and Chemical Water Quality Indicators with Depth in Goodyear Lake, NY* ☼  
Available at display: Wednesday, November 9, 4-5pm; Thursday, November 10, 10am-12pm |
| 1      | Gustavo Arango (Foreign Languages & Literatures)  
*Two Historical Novels: "Resplandor" and "Santa Maria del Diablo"* |
| 1      | Nancy Bachman (Biology)  
*A Bidirectional Promoter Coordinates Expression of an ER-associated Degradation Pathway Component and a Mitochondrial Respiratory Gene*  
Available at display: Thursday, November 10, 9am-12pm |
| 1      | Pearlie Rose Baluyut (Art)  
*Institutions and Icons of Patronage: Arts and Culture in the Philippines during the Marcos Years, 1965-1986*  
Available at display: Wednesday, November 9, 2-2:45pm |
| 2      | Elizabeth Bastiaux (Biology), William O'Connell, Amanda Rhodes (SUNY Oneonta students)  
*Restoration and Cataloging of the Amphibian and Reptile Collections of the State University of New York, College at Oneonta* ☼  
Available at display: Thursday, November 10, 3-5pm |
| 2      | Tracy K. Betsinger (Anthropology), Kashique Robinson (SUNY Oneonta student), Jaime Ullinger (Quinnipiac University), Daniella R. Tarquinio (Quinnipiac University student)  
*Sex Determination from Metacarpals: An Evaluation of Current Methods*  
Available at display: Wednesday, November 9, 2:30-4pm |
| 3      | Julia Blau (Psychology), Brittany Engert (SUNY Oneonta student)  
*Memory Decay and Aesthetic Appraisal of Film: A Fractal Revisiting of Ebbinghaus' Decay Curve*  
Available at display: Wednesday, November 9, 1:30-2:30pm |
| 3      | Paul Carter (Music)  
*Making Music Theory Younger: Analyzing the Production*  
Available at display: Wednesday, November 9, 1-4:30pm; Thursday, November 10, 8:30-11am |
| 3      | Joseph Chiang (Chemistry & Biochemistry), Jinhui Li, Xianlai Zeng, Congren Yang (Tsinghua University, Beijing, China)  
*Innovating E-waste Management: From Macroscopic to Microscopic Scales* ☼  
Available at display: Wednesday, November 9, 1-2:30pm; Thursday, November 10, 12-2pm |
| 3      | Yun-Jung Choi (Human Ecology), Keunyoung Oh (SUNY Buffalo State)  
*Envisioning Career Opportunities in the Fashion Business World* |
| 4      | Barbara Durkin, Izabella Lokshina (Management, Marketing & Information Systems), Cees J. M. Lanting (DATSA Belgium, Consulting)  
*Data Analysis Services Related to the IoT and Big Data: Potential Business Opportunities for Third Parties* |
| 4      | Alejandra Escudero (Foreign Languages & Literatures)  
*Stories from the Shadows: Reaching out to the Latino Undocumented LGBTQ Community in ICE Detention Centers*  
Available at display: Wednesday, November 9, 2-5pm; Thursday, November 10, 10am-2pm |
5 Leigh Fall (Earth & Atmospheric Sciences), Jennifer Withington (Biology),
John Schaumloffel (Chemistry & Biochemistry)
SUNY Oneonta S-STEM Critical MaSS: Math and Science Scholars Program
Available at display: Wednesday, November 9, 1-5pm (JS); Thursday, November 10, 9am-1pm (LF)

5 Kathryn Finin (English), Annie Botch (SUNY Oneonta student)
Emergent Hope: An Interdisciplinary Workshop ☼

5 Charlene Foley Deno, Howard Buchan, Lisa Flynn (Economics, Finance & Accounting)
Do Ethical Judgments Impact the Three Bottom Lines? ☼
Available at display: Wednesday, November 9, 1-3pm & 4:30-5pm; Thursday, November 10, 10-11am & 4-5pm

6 Charlene Foley Deno, Howard Buchan, Lisa Flynn (Economics, Finance & Accounting)
Factors Influencing Students’ Ethical Judgments and Intentions
Available at display: Wednesday, November 9, 1-3pm & 4:00-5pm; Thursday, November 10, 10-11am & 4-5pm

6 Paul French, Jane Simpson (Physics & Astronomy)
A New Look at the Compound Pendulum
Available at display: Thursday, November 10, 11am-12pm

6 Gregory Fulkerson, Alexander R. Thomas (Sociology), Laura McKinney (Tulane University)
Available at display: Wednesday, November 9, 3-5pm; Thursday, November 10, 3-5pm

6 Hugh Gallagher (Physics & Astronomy), Bridget Chartrand, John Beach (SUNY Oneonta students)
Electric Potential Surrounding Two Conducting Spheres: An Exercise for Advancing Student
Understanding of the Method of Relaxation and Method of Images
Available at display: Wednesday, November 9, 3:30-5pm; Thursday, November 10, 2-4pm

7 Kelly Gallagher (Chemistry & Biochemistry)
Should We Engineer the Mosquito? A Public Forum to Foster Multidisciplinary Dialogue
about the Promise and Perils of Synthetic Biology ☼
Available at display: Wednesday, November 9, 1-2pm; Thursday, November 10, 3-4pm

7 Kelly Gallagher (Chemistry & Biochemistry), Matthew Blanchard, Sabrina Conticello,
Michael Schonning, Sara Stuart (SUNY Oneonta students)
The Physical and Structural Characteristics of ER membrane Complex Subunits 2, 8, and 9
Available at display: Wednesday, November 9, 1-2pm; Thursday, November 10, 3-4pm

7 Andrew Gallup (Psychology), Allyson Church, Anthony Pelegrino (SUNY Oneonta students)
Yawn Duration Predicts Brain Weight and Cortical Neuron Number in Mammals
Available at display: Thursday, November 10, 10am-12pm

7 Simona Ileana Giura (Management, Marketing & Information Systems), Shyam Kumar (Rensselaer Polytechnic Institute), Iftekhar Hasan (Fordham University)
Knowledge Flows Within and Outside Alliance Scope

8 Les Hasbargen (Earth & Atmospheric Sciences)
Virtually Real: Monitoring Cutbank Erosion Mechanisms in Butternut Creek, New York with
Structure-from-Motion Landform Reconstruction Software ☼
Available at display: Wednesday, November 9, 2-4pm; Thursday, November 10, 1-3pm

8 Matthew Hendley (History)
Rebuilding Postwar Britain and Hong Kong: Contrasting Experiences with Multi-Storey
Public Housing
Available at display: Thursday, November 10, 9:30am-12pm

8 Penina Kamina (Elementary Education & Reading)
A Befitting Mathematics Curriculum for the 21st Century
Available at display: Wednesday, November 9, 3-5pm

8 Ashley Kim (Human Ecology), Diana Moseman (TLTC)
Mongolian Cashmere Production Process ☼
Available at display: Wednesday, November 9, 3-5pm; Thursday, November 10, 3-5pm
9 Wendy Lascell (Geography & Environmental Sustainability)
*Is Urban Sustainability Possible in Post-Katrina New Orleans?*
Available at display: Wednesday, November 9, 2-3:30pm; Thursday, November 10, 1-2:15pm

9 Anita Levine (Elementary Education & Reading)
*Hands Across the Water: Lessons Learned from an International Telecollaboration between Elementary Education Preservice Teachers and Middle School Students in Croatia and Bosnia-Herzegovina*
Available at display: Wednesday, November 9, 2-3pm

9 Chien-Wei Lin (Management, Marketing & Information Systems), Dipankar Rai (Le Moyne College)
*Work With Me or For Me: The Influence of Implicit Self-Theories on the Preference of Product Roles*
Available at display: Thursday, November 10, 10:30am-12pm

9 Paul H. Lord (Biology), Zachary Piper (SUNY Oneonta student), Amanda Barber (Hartwick College)
*Relocation of Federally Endangered Rayed Bean Mussel in Allegheny River*
Available at display: Wednesday, November 9, 12-2pm; Thursday, November 10, 12-2pm

9 Paul H. Lord (Biology), Thomas Franzem (SUNY Oneonta student) Amanda Barber (Hartwick College)
*Allegheny River Pearly Mussels Under I-86 Bridge: An Ideal Water Survey*
Available at display: Wednesday, November 9, 12-2pm; Thursday, November 10, 12-2pm

10 Paul H. Lord (Biology), Amanda Barber (Hartwick College)
*Catskill Watershed Steward Program*
Available at display: Wednesday, November 9, 12-2pm; Thursday, November 10, 12-2pm

10 Bethany Marx (Theatre)
*From Sketch to Stage: The Costume Design Process*
Available at display: Wednesday, November 9, 1-2pm; Thursday, November 10, 1:30-2pm & 4-5pm

11 María Cristina Montoya (Foreign Languages & Literatures)
*My Life in the U.S from Span 215 (“Spanish for Bilinguals”): A Pedagogical Laboratory for Research on Heritage Language Maintenance in the U.S.*

11 Hannah Morgan (Finance & Administration/President’s Advisory Council of Sustainability)
*Integrating Sustainability Across the Curriculum*

11 Marius Munteanu (Mathematics, Computer Science & Statistics)
*From Regular to Equiangular Polygons with Integer Sides*

11 Laura Munteanu (Mathematics, Computer Science & Statistics)
*Asymptotic Triangles in Hyperbolic Geometry*
Available at display: Wednesday, November 9, 1-5pm

12 Joshua Nollenberg (Physics & Astronomy), Michael Engesser (SUNY Oneonta student)
*Methods of Spectral Analysis in C++*
Available at display: Wednesday, November 9, 2-3pm; Thursday, November 10, 2-4pm

12 Joshua Nollenberg (Physics & Astronomy), Joshua Louden, Patrick Wilson (SUNY Oneonta students)
*Narrowing the Search for Planet Nine*
Available at display: Thursday, November 10, 2-4pm

12 Tyra Olstad (Geography & Environmental Sustainability)
*Art as a Tool for Wilderness Management: Stewardship and Sense of Place in Misty Fiords National Monument, Alaska*
Available at display: Wednesday, November 9, 1-3pm; Thursday, November 10, 1-3pm

12 Bharath Ramkumar (Human Ecology)
*Comparing American Consumers’ Cross-Border Purchasing Process at Chinese and U.K. Websites: The Role of Country Image in Forming Purchase Intention*
Available at display: Wednesday, November 9, 10am-12pm; Thursday, November 10, 4-5pm

13 Sasha Ramdal (Elementary Education & Reading)
*A Partnership Grows in Brooklyn: Clinically-Rich Experiences of SUNY Teacher Candidates*
Available at display: Thursday, November 10, 9-10am
13 Florian Reyda (Biology), Fernando Marques (University of São Paulo), Tim Ruhnke (West Virginia State University)
Recent Progress and Discovery in the Cestode (Tapeworm) Order Rhinebothriidea
Available at display: Thursday, November 10, 9-10:30am & 2-4pm

14 Sean Robinson (Biology), Katherine Spitzhoff (Art), Monica Dore, Stephen Bretscher, Steven Dorney, Steven Haight (SUNY Oneonta students)
The SUNY Virtual Herbarium: Increasing Access and Improving Botanical Education ☼
Available at display: Wednesday, November 9, 2:15-5pm; Thursday, November 10, 2:15-5pm

14 Ursula Sanborn-Overby (Psychology), Amber Smith, Emily McLaughlin (SUNY Oneonta students)
Professional Development, Interpersonal Factors, and Overall Satisfaction in Mentoring

14 John Schaumloffel (Chemistry & Biochemistry), Paul Bischoff (Secondary Education), Paul French (Physics & Astronomy)
Essay Analysis for the Study of Noyce Scholars’ Self-Growth and Perceptions
Oral Presentation: Wednesday, November 9, 2:00 pm, Morris Room 130

15 Keith Schillo (Biology)
Revolution in Physiology Education: RIPE for Change
Oral Presentation: Wednesday, November 9, 2:30 pm, Morris Room 130

15 Elizabeth Seale (Sociology)
Poverty, Culture, and Experience
Available at display: Wednesday, November 9, 3-4:30pm

16 Sean Shannon (Economics, Finance & Accounting)
Richard A. Posner: A Study in Judicial Entrepreneurship
Available at display: Thursday, November 10, 11am-1pm

16 Philip Sirianni (Economics, Finance & Accounting), Mallory Hart, Michael O’Hara (Colgate University)
Do Sustainability Commitments Affect College Attractiveness? ☼
Available at display: Wednesday, November 9, 1-5pm

16 Karen Stewart (Communication & Media)
I Choose to Kiss You: Romantic Agency and Otome Gaming
Available at display: Wednesday, November 9, 1-4pm; Thursday, November 10, 10am-1pm

17 Daniel Stich (Biology), Timothy Sheehan (National Oceanic and Atmospheric Administration)
Combined Effects of Tribal Harvest and Dam Passage Performance Standards on Spawning Abundance and Demographics of American Shad ☼
Available at display: Thursday, November 10, 8-10am

17 Robert Sulman (Mathematics, Computer Science & Statistics)
Continued Computer-Generated Explorations of Polynomial Orbits of the Units of the Ring \((\mathbb{Z}/n\mathbb{Z}, +_n, \cdot_n)\)
Available at display: Thursday, November 10, 12pm-1:30pm

17 Ying Tang (Educational Psychology, Counseling & Special Education), Alyse Anekstein (Lehman College, CUNY)
Wellness Practice Among Counseling Students
Available at display: Wednesday, November 9, 2-3pm

18 Priti Tiwari (Chemistry & Biochemistry), Alexander Gosslau, Renee Butler, Alice Y.-C. Liu, Kuang-Yu Chen (Rutgers University)
Role of Proteases in Heat Induced Tumor Cell Death
Available at display: Wednesday, November 9, 11am-1pm; Thursday, November 10, 2-4pm

18 Barbara Vokatis (Elementary Education & Reading)
Let Me Be!: Problematizing Parent-Child Interactions around IPad Ebooks
Available at display: Wednesday, November 9, 11:15am-1pm

18 Barbara Vokatis (Elementary Education & Reading)
"Buy It!": Problematizing Parent-Child Interactions around IPad Applications
Available at display: Wednesday, November 9, 11:15am-1pm
19 Renee Walker (Anthropology)

*Everyday Dogs: The Social and Sacred Role of Dogs in Prehistoric Life*

19 Jennifer Withington (Biology)

*Formative Assessment in General Biology I*
Available at display: Wednesday, November 9, 2-4pm

19 Jing Yang (Management, Marketing & Information Systems), Yue Zhang (California State University at Northridge), Cees J. M. Lanting (CSEM R&D)

*Exploring the Impact of QR Codes in Authentication Protection: A Study Based on PMT and TPB*
Available at display: Wednesday, November 9, 1-2pm & 4-5pm; Thursday, November 10, 10-11am

19 Kiyoko Yokota (Biology), Marissa Mehlrose (University of New Haven student, BFS intern)

*In Situ Determination of Nutrient Limitation in Otsego Lake, NY ☼*
Available at display: Wednesday, November 9, 1-2pm

20 Kiyoko Yokota (Biology), Colleen Parker (SUNY Oneonta graduate student)

*Monitoring of Mercury in Catskill Region Fish ☼*
Available at display: Wednesday, November 9, 1-2pm

20 Qingyi Yu (Education Psychology, Counseling & Special Education)

*Living in Two Cultures: Chinese Female Students in the United States*
Available at display: Wednesday, November 9, 1-5pm

20 James Zians (Psychology), Dan Mayer, Taylor Mackin, Victoria Macri, Elizabeth Freer (SUNY Oneonta students)

*Parental Concerns About Parenting Skills and Youth Risk in a Rural County in Upstate New York, Final Results – Otsego County*

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**FACULTY PUBLICATIONS IN THE ALDEN ROOM**

Lois Baldwin, Heather Beach, Mary Lynn Bensen, Eunkyung Lee, Jodi Oaks (Milne Library)

*One of the treasures of the Alden Room in Milne Library is the Faculty Publications Collection. Visit the Alden Room display during the LOTM Showcase to view a sample from the collection that spans the history of the College.*

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Note: ☼ = designated as sustainability-related by the President’s Advisory Council on Sustainability
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<td>Sara Stuart</td>
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<td>Robert Sulman</td>
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<td>James Zians</td>
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**RECENT FACULTY PUBLICATIONS**

**Gustavo Arango**


**Susan Bernardin**


**Craig Bielert and Andrew Gallup**


**Andrew Bottomley**


**Paul Carter**


**Shiao-Yun (John) Chiang**


**Charlene Christie**


**Barbara Durkin and Izabella Lokshina**


**Mark S. Ferrara**


**Gregory M. Fulkerson**


**Gregory M. Fulkerson and Alexander R. Thomas**


**Andrew Gallup**


Simona Ileana Giura

Brian Haley

Willard Harman

Adam Kent

Wendy Lascell


Katherine Lau


Melissa. F Lavin

Ji Young Lee

Zoë Misiewicz

María Cristina Montoya
Laura Munteanu

Tyra Olstad

Daniel Payne

Rahui Rastogi

Sean Robinson


Dorothy O. Rombo

Theresa Russo

Philip Sirianni

Keith Schillo

Ying Tang


Bianca Tredennick

Jing Yang

Jing Yang and Stephen Walsh

Sen Zhang
Presentation
Abstracts
Goodyear Lake is a small 150 hectare (370-acre) dammed lake located in the upper-Susquehanna River Watershed. Colliersville dam was built in 1906 replacing an older saw mill and gristmill built in 1823. Today the dam is owned by ENEL Green Power North America, headquartered in Italy, and generates a nominal amount of electricity. While not a natural lake, the dragon-like form is nothing like straight-banked, run-of-the-river “lakes” behind most dams. Its many bays provide considerable habitat to wildlife, fish, and aquatic vegetation and affords space for more than 400 year-round homes. Pollutants, such as sewage, fertilizers, and sediments enter Goodyear Lake via humans living in the watershed. This research analyzes changes in water temperature, turbidity, electrical conductance, pH, dissolved oxygen, phosphates, and nitrates sampled from the Lake’s surface to bottom at 1 meter intervals. The research was conducted and interpreted by students in a Water Resources field course.

Historical novels require significant amounts of creative and research work. Over the last two years I have published two historical novels: “Resplandor” (Ediciones B Colombia, 2016) and “Santa María del Diablo” (Ediciones B Colombia 2014), winner of the 2015 International Latino Book Award for the Best Historical Novel in Spanish. “Resplandor” tells the story of the Chinese monk, Fa Hsien, who during the fifth century AD traveled to India and Sri Lanka in search of sacred Buddhis texts. “Santa María del Diablo” tells the story of the first Spanish settlement in continental America, Santa María del Darién (1510-1524). This presentation outlines the long processes from the initial ideas to the final products; furthermore it reveals common elements between these thematically different stories, and emphasizes the importance of research for creative work.

Cytochrome oxidase (COX) is a multiprotein complex that is the terminal electron acceptor in the mitochondrial respiratory chain. COX subunit IV, the largest nuclear subunit, binds adenine nucleotides, and likely helps the complex respond to changes in cellular ATP levels. COX IV isoform 1 (COX4I1) shares a bidirectional promoter with a component of the Endoplasmic Reticulum membrane complex, EMC8, recently implicated in the mammalian ER-associated degradation pathway (ERAD). The human EMC8 gene on 16q32-ter is separated by a 250 bp intergenic region from EMC8, previously designated COX4 Neighbor (COX4NB). Both COX4I1 and EMC8/COX4NB are widely and concordantly expressed. Luciferase constructs containing the intergenic region in both orientations were transfected into HeLa cells. COX4I1 promoter-luciferase constructs had activity levels 1000-fold higher than with vector alone, while EMC8 promoter luciferase constructs directed 30-fold higher levels of activity. Under conditions of ER stress induced by treatment of HeLa cells with tunicamycin, COX4I1 and EMC8 promoter-luciferase constructs exhibited comparable levels of expression, ~20-40-fold over vector. Gene duplication of an ancestral EMC gene (designated EMC9/FAM158A/CGI-112), highly conserved in a range of organisms including Chlamydomonas, C. elegans, and D. melanogaster, likely led to the acquisition of the EMC8 gene in the vertebrate lineage.

History, mass media, and collective consciousness chronicle Ferdinand Marcos’ rule as President of the Philippines from 1965 to 1986 as a period of profound political turmoil, human rights violations, and economic instability. Yet its early years were, as the Marcos government claimed, a time of rebirth – peace, order, and discipline restored, the nation’s strength renewed, and indigenous beliefs, customs, and traditions revalued. Through Ferdinand’s governmental policies and his wife Imelda’s social welfare and cultural programs, the First Couple aimed to bring prosperity and enhance the well-being of the Filipinos. While he formed the “body” of the nation, she gave it a “soul”; while he used the law to govern, she used the arts to inspire. Patronage, which evolved from a specific type of class relations between a “patron” who dispenses favors or supports an individual, group, or cause by wielding his or her power, influence, or wealth and intends to create indebtedness and the “client” or beneficiary who, as a consequence, feels a desire and duty to reciprocate became the most important means of projecting power in the Philippines. Simulating the
Elizabth Bastiaans (Biology),
William O’Connell, Amanda Rhodes
(SUNY Oneonta students)

Restoration and Cataloging of the
Amphibian and Reptile Collections of
the State University of New York, College
at Oneonta ☼

From the late 1940s to the 1970s, SUNY Oneonta Biology
Department head John G. New and several colleagues
collected hundreds of vertebrate specimens, primarily from
central New York, but with additional collecting trips to
other regions of the United States. These specimens are
currently held by the State University of New York, College
at Oneonta (SUNY Oneonta), but the collection had
previously not been catalogued, and its associated metadata
were not available to the public. Currently, we are working
to restore and catalog the SUNY Oneonta vertebrate
collection as a tool for teaching and research, beginning with the amphibian and reptile collections. Here, we
present a summary of our efforts and results to date, including the methods used in restoring specimens, taxonomic
diversity of the collection, geographic locations where specimens were collected, and collection dates. In the
future, we will make the collection catalog and metadata available to the public, to share this valuable resource
with other researchers.

Tracy Betsinger (Anthropology),
Kashique Robinson (SUNY Oneonta
student), Jaime Ullinger (Quinnipiac
University), Daniella R. Tarquiniro
(Quinnipiac University student)

Sex Determination from Metacarpals:
An Evaluation of Current Methods

will not be as accurate in predicting the sex of the sample used in this study. A maximum of six measurements
from each of the five metacarpals of each hand were taken from 169 individuals from St. Bride's Church, London.
St. Bride's is a 19th century skeletal sample in which individuals were interred with coffin plates providing data
on age-at-death and sex. Measurements were taken using digital sliding calipers and a mini osteometric board. The
regression equations developed from two previous studies were utilized. The first equation could be applied to 26
individuals, correctly identifying males in 83 percent of the cases and females in 74 percent of the cases, which
was comparable to the 80 percent overall accuracy found in the original study. The second equation was applied
to 67 individuals, correctly identifying males in 48 percent of the cases. Females were never identified correctly.
These results are in stark contrast to the maximum accuracy rate of 89.8 percent overall in the original study.
Collectively, these results support our hypothesis. Moreover, these results demonstrate that the source of the
sample used to develop a regression equation matters; not all equations can be applied to all samples. Ideally, an
equation should be used that is derived from a highly comparable sample.
In the hundred years since Hermann Ebbinghaus (1913) discovered the exponential decay of memory, a vast array of experiments have followed demonstrating the ubiquitous and unchanging nature of the shape. Anderson and Schooler (1991) suggested that the shape of the curve was not arbitrary, rather it was a reflection of the structure of information presentation that a person is likely to encounter. The implication of this is that if the structure of the presentation of information changes, the decay curve ought to change as well. To test this implication, the same information (i.e. the same short film) was presented with different event structures (i.e. different fractal dimensions of editing) to different groups of participants, and their memory for the material was measured at three time points. Results suggest that altering the structure of presentation does, indeed, alter the Ebbinghaus decay curve. In addition, some of the presentation structures were preferred over others; structure of editing altered aesthetic appraisal, enjoyment, and understanding of the plot. References: Anderson, J.R., & Schooler, L.J. (1991). Reflections of the environment in memory. *Psychological Science*, 2, 396-408. Blau, J.J.C., Petrusz, S., & Carello, C (2013). Fractal structure of event segmentation: Lessons from reel and real events. *Ecological Psychology*, 25(1), 81-101. Ebbinghaus, H. (1913). Memory: A contribution to experimental psychology(No. 3). University Microfilms.

In this presentation I discuss and demonstrate a way of understanding a popular song and its writer’s/producer’s process by teaching students to analyze the song’s texture and production. Although the listener/student will benefit from traditional analysis of contemporary music a la harmony, melody, rhythm, etc.; an increasingly important way to grasp a song’s essence is to study how it is fashioned through its arranging, recording, mixing, and production. To accomplish this, I have students engage in a two-phase assignment. First, I have them “graph” the song’s mix in terms of instrumentation, formal section, and clarity as far as when events occur in the mix. The graph is really an emulation of what the multi-track recording environment looked like when the artist was producing it. Second, I ask for an essay to accompany this, to address broader issues in the recording’s details and its affect on the listener. The essence of this approach is to couple traditional theoretical analytics with a more modern “view” of the song, through its shaping and texturing, not only according to its writing, but also its production.

There has been little understanding of the specific job-related knowledge, competencies, and skills required for entry-level fashion business professionals in the field of clothing and textiles. Additionally, competencies and skills required for fashion business professionals are constantly changing due to rapid development of retail and information technology in the highly globalized fashion industry environment. To keep up with the fast-evolving fashion industry, fashion business and management programs need to update undergraduate curriculum by reflecting trends and changes in the job market to prepare students for fashion careers and make them more desirable in the highly saturated and competitive job market of the fashion industry. This study assesses the current state of knowledge and skill sets demanded from entry-level fashion positions, pertaining mainly to buying and fashion merchandising. Job postings found in the buying and merchandiser categories in the apparel and retailing fields were collected from a fashion job portal site (www.stylecareers.com) for three weeks in January and February 2016. Out of 330 job postings collected, 172 postings were used for further data analysis after the initial screening for entry-level fashion buyer and merchandising-related positions. Since senior positions typically require at least five years of experience in related fields, the researchers decided to analyze the job positions that require less than five years of experience, which are more relevant to recent undergraduate graduates in the job market. A coding scheme for required knowledge,
competencies, and skills for buying and merchandising-related positions was developed through a conceptual analysis performed by the researchers on the 30 job descriptions. Twenty-seven different job titles were found, including Assistant/Associate Merchandiser, Assistant/Associate Buyer, Merchandising Coordinator, Jr. Planner, Sales Coordinator, Field & Market Coordinator, Assistant/Associate Product Manager, etc. While 66.9% of the positions required at least one-year of experience in related fields, experience with ecommerce accounted for 12.8%. Only 10.5% of the positions required experience in related fields for less than a year. Internship was only found in seven positions (4.1%); 47% of the positions required a bachelor’s degree, while about 20% of the positions specifically mentioned a degree in fashion merchandising or related majors. Among major-specific knowledge or skills, retail math (36.6%), understanding of fast-paced environments (27.9%), merchandising (21.5%), sense of fashion trends and aesthetic taste (16.3%), negotiation skills (13.4%), consumer/brand/mark understanding (11.1%), industry process (9.9%), and data/statistical analysis (9.9) were identified. As computer skills, Excel (64%), Word (31.4%), other software (Photoshop, Illustrator, PLM, CMS/CRM software) (26.2%), Outlook/email (16.9%) were found relevant to the fashion business positions. Specifically, 19.8% of the positions required advanced Excel skills including pivot tables, Vlookups, and formula functions, or Macros. The most mentioned competencies were written and oral communication (69.2%), organizational skills (48.8%), meticulous and detail oriented (39.5%), multitasking (34.3%), analytical skills (32.6%), being a good team player (32%), prioritizing skills (27.9%), deadline driven (24.4%), entrepreneurial drive (19.8%), working with cross-departments (18.6%), problem solving (18%), being flexible and adaptable to changing environments (15.9%), professional work ethics (14%), interpersonal skills (14%), proactive attitude (13.4%), follow-up skills (11.6%), and time management (10.5%). Results of this research indicate that employers in the fashion business value experience in related fields more than college education itself, and industry or job-specific knowledge and skills are required for entering the workforce in the fashion industry. Besides emphasizing professional behaviors and work ethics demanded from the industry, developing a learning environment where students can work on their own career management competencies is called for. In addition, further research should be conducted to examine job responsibilities and requirements for senior positions to develop industry-aligned post-graduate programs.

Barbara J. Durkin, Izabella Lokshina
(Management, Marketing & Information Systems), Cees J. M. Lanting
(DATSA Belgium, Consulting)

**Data Analysis Services Related to the IoT and Big Data: Potential Business Opportunities for Third Parties**

The Internet of Things (IoT) provides the tools for the development of a major, global data-driven ecosystem. When accessible to people and businesses, this information can make every area of life, including business, more data-driven. In this ecosystem, with its emphasis on Big Data, there has been a focus on building business models for the provision of services, the so-called Internet of Services (IoS). These models assume the existence and development of the necessary IoT measurement and control instruments, communications infrastructure, and easy access to the data collected and information generated by any party. Different business models may support opportunities that generate revenue and value for various types of customers. This paper contributes to the literature by considering business models and opportunities for third-party data analysis services and discusses access to information generated by third parties in relation to Big Data techniques and potential opportunities.

Alejandra Escudero
(Foreign Languages & Literatures)

**Stories from the Shadows: Reaching out to the Latino Undocumented LGBTQ Community in ICE Detention Centers**

Every year, hundreds of undocumented immigrants are captured in the Arizona desert trying to come into the United States in search of a better life. Once captured, these immigrants are placed in Immigration and Customs Enforcement (ICE) detention centers where they are treated as criminals, processed, and then deported. Men, women, and children from all walks of life, try to reach the U.S. every year. Some of them are fleeing their home countries in order to get out of poverty, violence, gang-related activities, or persecution because of their gender identity or sexual orientation. Those who fear for their lives if deported back to their home country, such as the LGBTQ Latino immigrant community, have the opportunity to apply for asylum once they are on U.S. soil. However, making this decision sometimes entails a very long wait in the ICE detention centers. The wait for a court decision becomes even longer and lonelier without the visits, phone calls, and letters from family and friends. This semester, the SPAN 315 (Advanced Conversation with Service-Learning) class is reaching out to undocumented members of the LGBTQ community currently detained in two ICE detention centers in Arizona. Our partnership with the NGOs Transcend Arizona and Mariposas sin Fronteras has enabled us to get in touch with this vulnerable population. Students enrolled in SPAN 315 have three Service-Learning projects: 1) Tutoring a child from the local Hispanic community in Oneonta; 2) Helping a Hispanic student enrolled in SPAN 215 with their essays in Spanish; and 3) Writing letters of support and encouragement to undocumented members of the LGBTQ
community currently detained in the Florence and Eloy ICE detention centers in Arizona. Through these letters, students are providing these immigrants the only access to another human being out of detention. Students show their support, encouragement, and friendship at the same time that they are learning about their partners’ lives and immigration stories. Through this interaction, students are making connections and analyzing the realities of this extra-vulnerable population held in detention centers. Our goal is to create awareness about the LGBTQ community in detention centers and their struggles, all the way from childhood to their temporarily stopped search for the American Dream. Funded by the National Science Foundation, the SUNY Oneonta S-STEM program is designed to reduce targeted STEM majors debt upon graduation, promote graduation within four years and provide (within program limits) enhanced mentoring and STEM learning experiences. Aided by the Educational Opportunity and College Assistance Migrant Programs, the S-STEM project also has a goal of enrolling at least 20 percent of its students from these two programs. To date, two students have graduated from the program and eighteen are currently still enrolled. Information on the initiatives involved, student scholar progress, and the professional development and study experiences supported by the program will be presented.

When thinking about environmental and sustainability issues, many people are overwhelmed by a sense of anxiety, despair, and anger. The humanities can help students acknowledge this reality and model ways of motivating each other to solve the complex problems associated with creating a sustainable planet (often talked about as a “triple bottom line” which considers people, planet and profit as equally important). Students in Environmental Humanities (LITR/PHIL 247) wrote the words and feeling which come to mind when asked, “When I think about the condition of the world, I think things are getting …” Next, they worked in small groups to discuss their responses and create a visual representation of their conversation. Each group created a single canvas which showed their collective response. (Paintings are displayed as part of this presentation.) Finally, each group came up with a title for their work and shared it with the class. This project foregrounds the critical role conversation, community, and art play in doing the crucial work of solving the complex problems facing us. Without ignoring the very real challenges we face, students found that working together to create something about their “sense of the world” helped them feel more hopeful and energized to do environmental sustainability work.

Accounting is the backbone of business and every business decision is impacted by a myriad of factors. Ethics are integral components of business and business decisions, especially accounting as each decision made has a direct correlation to the three bottom lines. The bottom line is the difference between revenue and expenses, delineated on the income statement as net income and weighing heavily into the earnings per share (EPS) calculations. The three bottom line approach represents a much clearer measure of the overall health of the entity, as it includes multiple factors that impact long range success: financial, social, and environmental components. We will follow an approach approved by the American Accounting Association, which includes determining the facts and ethical issues of the situation, the norms and alternatives for the given situation, as well as the best course of action and the consequences of that action. Considering the appropriate performance measures, we will extrapolate the impact on the bottom lines: profit, places, and people. Historically, improving the bottom line may be accomplished by increasing revenues at a rate higher than that of expenses, or focusing on a strategic decrease of expenditures. Accounting does not operate in a bubble and we expect to observe evidence that ethical decisions impact the traditional bottom line as well as places and people.
This study investigates multidimensional analysis of upper division accounting students and the Factors Influencing Ethical Judgments and Intentions. We are motivated by the vast impact those factors have on the financial statements as well as quality operational outcomes. The primary focus of our study is to determine how the judgment of 100 upper division accounting students impacts the decision making process as measured by the Multidimensional Ethics Scale (MES) and the Locus of Control instrument. We will demonstrate that Factors Influencing Students’ Ethical Judgments and Intentions are relevant to several fundamental topics and are of particular interest to ethical considerations in professional accounting; including The Fraud Triangle, Statement of Ethical Professional Practices, and separation of duties. We will analyze and critique a complete review of ethical considerations and the financial impact of the aftermath of the “misguided” decision. We expect to discover those factors diminishing and the judgments and intentions being clearer with increased exposure to proper accounting protocols.

Oscillating systems are common in the sciences and engineering. Perhaps the most accessible and familiar oscillator is the pendulum, which exhibits the periodic exchange of gravitational and kinetic energies. The simple pendulum, where all of the mass is concentrated at a point, is used as a model to understand several sets of compound pendulums. This study includes a theoretical comparison of these pendulum-like oscillators, as well as some notes on their pedagogical usefulness.

We examine an urban-rural dynamic that involves energy exchanges and dependencies. Nation-level data drawn from the World Development Indicators is used to examine energy consumption in relation to the process (rate) and overall levels (percentages) of urbanization. We test the proposition that nations that are highly urban will have the largest energy footprints, while more rural nations will consume less energy. We also test the idea that the quickly urbanizing rural nations will be higher energy consumers. These ideas run counter to one of the prevailing beliefs in sustainability discourse that suggests the best way to maximize sustainability is to urbanize. We expect that urbanization may improve per capita energy efficiency, but that the total energy consumed nationally undermines the value of efficiency gains due to sheer size and scale of consumption.

In undergraduate computational physics courses, the Method of Relaxation (MOR) provides a well-established technique for obtaining solutions to Laplace’s Equation. For certain geometric configurations, solutions to Laplace’s Equation may also be obtained using the Method of Images (MOI). We propose an exercise that allows students to develop an experiential understanding of the MOR and MOI. The problem of two conducting spheres separated by a relatively small distance and maintained at fixed but distinct electric potentials is considered. Using the MOR, students solve the problem in two and three dimensions with Dirichlet and Neumann boundary conditions. For each case, the results are compared to a solution obtained using the MOI for a spherical conductor in an iterative fashion. We will discuss the application of the MOR to this problem, the validity of the MOI approach, and potential use in an undergraduate computational physics course.
Often, the promise of a new technology is that it will dramatically improve our lives or provide a solution to a vexing societal problem. Yet these technologies often have potential negative impacts – environmental pollution, toxicity, the prospects of artificial life or other issues. Enlightened use of new technology requires a balance between scientific “boosterism” and wholesale rejection. The public forum model encourages open deliberation between the scientific community and the public regarding the societal and ethical implications of novel technologies. On September 29, 2016, a public forum entitled “Should We Engineer the Mosquito?” engaged SUNY Oneonta faculty and students from multiple disciplines along with local community members in a scenario presenting novel methods for mosquito control. Participants learned about “gene drive” technology and held in-depth small group discussions about ways mosquitoes could be engineered to reduce malaria transmission. Each group formed a plan about whether and how to release genetically engineered mosquitoes in Mombasa, Kenya. This event was part of a larger project, funded by the National Science Foundation, to inform public policy development regarding technologies relating to synthetic biology.

The endoplasmic reticulum membrane protein complex (EMC) is a multifunctional, multi-subunit protein complex that has been identified as a component of the endoplasmic-reticulum-associated protein degradation (ERAD) network, which helps the cell to manage improperly processed proteins. ERAD functionality is associated with a variety of diseases, including Parkinson’s, cystic fibrosis, and viral infections such as HIV and Dengue. We examined the structural and functional properties of recently identified EMC subunits 2, 8, and 9. In order to gain an understanding of the intermolecular interactions that modulate ERAD activity, we produced template-based models of the molecular structure of each subunit. Model verification was supported via circular dichroism analysis. EMC subunit protein and lipid binding capabilities were also examined.

Research indicates that the motor action pattern of yawning functions to promote cortical arousal and state change through enhanced intracranial circulation and brain cooling. Since the magnitude of this response likely corresponds with the degree of neurophysiological change, we hypothesized that interspecies variation in yawn duration would correlate with underlying neurological differences. Using openly accessible data, we show that both the mean and variance in yawn duration are robust predictors of mammalian brain weight and cortical neuron number (rho values > 0.9). Consistent with these effects, primates tend to have longer and more variable yawn durations compared with other mammals. Although yawning has long been considered a stereotyped action pattern, these findings reveal substantial variation in this response and highlight the importance of measuring yawn duration in future research.

We examine the role of alliance scope in defining boundaries, and in shaping interactions between firms in cooperative relationships by studying its impact on knowledge flows. Using patent data and a sample of R&D alliances, we find that the knowledge flows within scope were significantly greater than knowledge flows outside the scope of the alliance. Furthermore, outside flows were positively correlated with inside flows, indicating that they strengthened and reinforced flows within scope rather than impairing them. Our study reaffirms the theoretical importance of scope in terms of regulating knowledge transfers and defining boundaries in cooperative relationships. But it also suggests that it is difficult to comprehensively specify scope in cooperative relationships, which could result in significant flows occurring outside scope as learning unfolds.
Les Hasbargen  
(Earth & Atmospheric Sciences)  

_Virtually Real: Monitoring Cutbank Erosion Mechanisms in Butternut Creek, New York with Structure-from-Motion Landform Reconstruction Software_  

How will climate change affect stream channel erosion in Otsego County? Several natural processes erode stream cutbanks including bank collapse, fluid bank shear stress during high flows, burrowing and bioturbation, and freeze-thaw events. Which of these contribute most to meander migration rate? Will they be invigorated by the predicted increases in floods? Butternut Creek in upstate New York provides a case study for unraveling this question. Migration rates were determined for several meander bends based on aerial imagery. Cross correlation between migration rate and the number of exceedance days for discharge reveals a vaguely inverse relation, suggesting that higher flows stymie migration. One might hypothesize that higher flows enhance bank shear stress which removes a more uniform thickness from the bank, causing a reduction in bank collapse frequency, whereas lower flows may tend to undercut more effectively and enhance bank collapse. To identify and quantify the bank erosion mechanisms for Butternut Creek, air photos captured at low altitudes using a drone were collected. However, this view from above did not capture sufficient detail to elucidate cutbank erosion mechanisms. Surveys in three successive years with overlapping photographs of the stream banks were taken from a canoe and from the ground. PhotoScan, a structure-from-motion (SfM) software by Agisoft, was used to construct three dimensional object models of the stream banks. Temporal changes were mapped by computing the distance between scaled, aligned point clouds using CloudCompare, an open source software designed to detect nonuniform changes in 3D object models. Initial results indicate that ground-based SfM is an excellent tool for detailed (0.005 to 0.010 m/pixel) process studies.

Matthew Hendley  
(History)  

_Rebuilding Postwar Britain and Hong Kong: Contrasting Experiences with Multi-Storey Public Housing_  

Dr. Hendley's study compares government housing policy in postwar Britain (1945-70) and Hong Kong (1971-82). He will show how during both of these periods the political legitimacy of governments in both Britain and Hong Kong was strongly tied to their ability to tackle housing problems. In postwar Britain both the Labour and Conservative parties embraced multi-storey public housing as a solution to the housing shortage. However, after 1970 they were forced to reconsider the policy due to public criticisms and some catastrophic housing failures. In Hong Kong, the colonial regime of Governor MacLehose (1971-82) wholeheartedly adopted a mass public housing strategy which strongly relied on multi-storey units. MacLehose’s policy was relatively successful and was influenced by both domestic needs in the colony as well as foreign policy concerns. By contrasting the experience of Britain and Hong Kong, Dr. Hendley will show how in both a democratic country and a non-democratic colonial regime, direct government input into housing policy was vital for the maintenance of political legitimacy. He will also show how, despite the criticism that multi-storey public housing caused in Britain, there was no universal problem with this housing option.

Penina Kamina  
(Elementary Education & Reading)  

_A Befitting Mathematics Curriculum for the 21st Century_  

This poster discusses the state of Kenyan mathematics curricula. Is the mathematics taught in Kenya rigorous enough to meet the local and global societal needs as well as economic trends? Are the 21st century skills, and beyond, incorporated in the mathematics curriculum? Are students being prepared to meet the technological challenges or future advancements? The poster display explores the history of mathematics taught at both the primary and the secondary school years. These are formative years for learning basic and foundational mathematics. The mathematics curriculum in place at these non-tertiary level of education in Kenya has effects on its graduates, as well as those pursuing higher education, and definitely the future state of the nation.

Ashley Kim  
(Human Ecology),  
Diana Moseman  
(TLTC)  

_Mongolian Cashmere Production Process_  

The goats, camels, and yaks from which cashmere is made can be found in Mongolia, China, Afghanistan, Iran, and India; but, Mongolian cashmere is widely regarded as the finest because of the harsh conditions in which Mongolian goats live. Each winter, the goats grow a fleecy undercoat to protect themselves against the extreme cold. Cashmere goats have double coats. The outer coat consists of long, straight, coarse hair, called guard hair. The undercoat, which is soft and curly, is called fleece, down, or cashmere. This undercoat is collected in the spring, and processed in a manner that is environmentally conscious and wastes very little. Even the coarse guard hair from the de-hairing process is turned into many useful products such as yurts, comforters and thick winter clothing. This poster provides a summary of an understanding of the current
process of producing cashmere fibers and products to learners in sustainability. The project has been conducted over the past five years by the author. A DVD video presents the entire process of the Mongolian cashmere production process, from raw fiber to marketable product, which can be broken down into ten steps, all of which you will see at the company’s factory in Ulaanbaatar, Mongolia.

Hurricane Katrina struck the city of New Orleans on August 29, 2005 forever changing the Big Easy and its hard-hit neighborhoods. The storm surge breached the inadequately engineered levees in several locations, flooding 80 percent of the city under 1 to over 10 feet of water (NOAA 2005, Waple 2005, Baumann, Nellis, & Mitteager 2006, Plyer 2014). It became the largest residential disaster in United States history (Plyer 2014), testing New Orleans’ resilience. In fact, most discussions about the future of the city have been about resiliency (Campanella 2006, Gotham & Greenberg 2014). While the ability to recover is crucial for the future of the city, the idea of sustainability has to be considered. Will New Orleans be rebuilt with sustainability ideals of social justice and equity, or will racial discrimination and poverty prevail? Historical conditions of the socio-political ecology are riddled with examples of racial segregation (Germany 2007) leading to extreme vulnerability of black neighborhoods (BondGraham 2008), showcased by the events following Hurricane Katrina. In the initial few years following the flood event, many predicted New Orleans would be “whitened” (Fussell, Sastry, & VanLandingham 2010) as displaced black residents did not have the means to return and seemingly would never be able to return (Logan 2006, Horne 2012). However, although black residents have returned at much slower rates (Fussell, Sastry, & VanLandingham 2010), the feared “whitening” of New Orleans has not come to fruition, preserving much of the cultural characteristics of the city.

Due to ever-increasing globalization, developing skills for intercultural understanding and worldmindedness is vital. As our preservice teachers will one day have a class of their own, it is important they experience firsthand interacting and collaborating with school children from other countries. This poster presents an outline of two international telecollaborations between SUNY Oneonta elementary education preservice teachers and elementary/middle school students from Croatia and Bosnia-Herzegovina, using Web 2.0 technologies. Included are lessons learned, suggestions for how to develop a similar project, and links to global organizations and networks for collaborative purposes.

Three studies show that consumers’ implicit theories of personality interact with product roles when relating to consumer preference. Specifically, incremental (entity) theorists prefer a product that portrays as a partner (servant) more since it fits their mastery (performance) goal orientation. This effect is moderated by task difficulty.

In June 2016, we relocated 503 freshwater pearly mussels listed as endangered by U.S. Fish and Wildlife Service or as species of greatest conservation need by the New York State Department of Conservation from a proposed bridge maintenance site in the Allegheny River near Carrolton, NY. SCUBA divers and others excavated twelve species of pearly mussels, including the federally endangered Rayed bean mussel, then tagged and replanted them in suitable habitat upstream of the bridge site. We completed a follow-up survey in August 2016 to evaluate the success of the move in the short term. We found 189 of the tagged mussels and 123 previously untagged Rayed bean mussels. Losses of moved mussels were minimal. Pearly mussel population continue to decline throughout New York. We need focused conservation measures to prevent the losses of pearly mussel populations.
The Eastern elliptio, *Elliptio complanata*, in the NY section of the Susquehanna watershed is largely a relict population. There is uncertainty about the timing of the Eastern elliptio larvae (glochidia) release in Central New York. We conducted surveys from late April to early July to determine sex ratios and timing of glochidia brooding and release in a population of Eastern elliptios near Oneonta in the Susquehanna watershed. Through mark and recapture and visceral mass and gill samples we found that this population has a slightly higher percentage of males than females. The percentage of males and females was much higher than the percentage of apparent hermaphrodites. By monitoring glochidia presence in mussel gills, we were able to determine a time frame for peak glochidia production and release. We concluded that the peak time for production in this population begins in late May, reaches its peak in early June, and tapers off in late June–early July. Our findings answered some of our questions about *E. complanata*’s reproductive phenology; however, it raised questions too. During future projects, we plan to incorporate detection of hermaphrodites and multiple broods into our study design to broaden our understanding of *E. complanata*’s lifecycle.

Aquatic Invasive Species (AIS) are a concern since interstates and river systems are proximate to the Catskills. Watershed stewards protect lakes or rivers from harm, particularly AIS. Maine and Minnesota pioneered citizen interactions to thwart AIS. In 2011, NY State had watershed steward programs (WSPs) protecting the Adirondacks, Lake George, Lake Champlain, and the Ausable River. As documented by Paul Smith’s College, WSPs slow AIS spread. The Catskill Regional Invasive Species Partnership (CRISP) and the SUNY Oneonta Biological Field Station (BFS) noted local interest in WSPs and initiated a pilot program in 2012. In 2016, we participated in statewide train the trainer training and, then, trained three classes of stewards for the Village of Cooperstown (Otsego Lake), the Town of Springfield (Otsego Lake), the Canadarago Lake Improvement Association (CLIA) and the National Park Service (Delaware River). Classes focused on local invasive threats and provided lectures, organism familiarity (by handling), boat and equipment inspection techniques, and interpretive messaging. Following classes, stewards inspected and advised waterbody users at waters’ edges. We followed up with visits to the stewards at their stations. Visits reinforced correct techniques, expanded exotics knowledge, and corrected incorrect techniques. Additionally, we refined our steward field manual which is maintained at WSP stations and assisted in the development of statewide steward guidance. Stewards collected data regarding water body access and waterbody user AIS prevention practices. We recommend expanded WSP training to include other citizen groups, municipalities, and government entities. Each new program reinforces neighboring program effectiveness, and the cost to train each steward can be reduced with economies of scale. Stewards are motivated to excellence more by waterbody concerns than by a focus on remuneration and their enthusiasm is reinforced by supervisory attention and access to expertise.

Follow Costume Design Faculty Bethany Marx as she leads you through her artistic process on two contrasting theatrical productions from Summer/Fall 2016. Collaborating long distance with professionals from Maryland, Washington D.C., Vermont, and other parts of New York, Bethany created costume designs for two plays that differed notably in timeline, budget, style, and size of producing company. Theatrical design is a varied and ever-changing process that must be adapted to the needs of the play and the production. See for yourself how it's done! This presentation will include a design process timeline, and examples of historic research, creative imagery, costume sketches and renderings, and production photos from two collaborations: *The Missing Peace* by Ron Melrose, produced by Stillpointe Theatre and performed at the 2016 Capital Fringe Festival in Washington, D.C.; and *Outside Mullingar* by John Patrick Shanley, produced by and performed at Capital Repertory Theatre in Albany, NY.
Dr. MC Montoya has been teaching Spanish for Bilinguals for the last 16 years at SUNY Oneonta. This pedagogical practice has grown into her main research interest in the field of heritage languages and linguistic ideologies about bilingualism in the United States. The Span 215 course enrolls Hispanic students with diverse oral and written proficiency levels. They engage in an autobiographical writing process in a college course designed for heritage language learners only. They share common experiences growing up with two languages and two cultures, and similar life struggles. The development of a step by step writing process motivates them to write fluently while turning an oral private language into a written public one. This methodology promotes creativity, discussions about dual identity, future goals, and responsibilities as a growing minority in the U.S. Students also learn syntactic rules, orthography and stylistics. By collecting this student work, Dr. Montoya has gathered rich data to examine motives and strategies used in private environments to maintain a minority language, even without community support. This research within the classroom practice has also expanded to a current interdisciplinary study between sociology and foreign languages about the maintenance of heritage languages in rural New York. Her research in heritage language maintenance has been the theme of various conference presentations and published works. The most recent is a book: “Mi vida en los Estados Unidos, jóvenes de herencia hispanohablante escriben sus experiencias” [My Life in the United States, Young Spanish Heritage Language Speakers Write About Their Experiences], which has won two awards (Most inspirational non-fiction, first place; and Best Autobiography, second place) from Latino Literacy Now’s International Latino Book Award (the largest awards in the U.S.A celebrating achievement in Latino literature). The book proceeds from the sale are used to create a scholarship within the SUNY Oneonta College Foundation for the recovery of heritage languages.

As sustainability educators in higher education, our ultimate goal is to create a generation of environmental stewards and leaders who understand how their decisions and actions impact society, business and the environment. Our campus is responsible to create environmentally literate students who have a strong understanding of sustainability and the environmental complexities facing current and future generations. Although most of our sustainability efforts are focused on facilities and student engagement projects, we have the ability to create a large impact through integrating sustainability across the curriculum. Through the use of systems thinking, most disciplines have the ability to integrate at least one aspect of sustainability into their coursework. This poster will highlight SUNY Oneonta’s experience with implementing initiatives that integrate sustainability across the curriculum through workshops, financial incentives, sustainability course designation programs, and problem-based learning projects.

It is believed that non-Euclidean geometry actually originated with Euclid himself. His Parallel Postulate, although crucial in today's modern geometry, invited speculation throughout the centuries. In particular, mathematicians wondered if they should not, in fact, be able to prove the postulate as a theorem. In this manner, a postulate which allows more than one parallel to a given line from an external point was initiated and, as such, a type of geometry entirely different than Euclidean, named Hyperbolic geometry, was born. In this presentation, we will state the Hyperbolic Parallel Postulate and discuss characteristics of two models for Hyperbolic geometry: the Disk Model and the Half-Plane Model. We will also present the definition of an asymptotic triangle in the half-plane model and show how to extend this definition and how to construct asymptotic triangles in the disk model. Finally, we will answer the question of whether an asymptotic triangle may have two right angles.
MOSAIC is a project focused on the collection and classification of astronomical spectra using a computerized algorithm. The code itself attempts to accurately classify stellar spectra according to the broad spectral classes within the Morgan-Keenan system of spectral classification, based on estimated temperature and the relative abundances of certain notable elements (Hydrogen, Helium, etc.) in the stellar atmosphere. MOSAIC is also part of a larger effort to create a small scale data pipeline for astronomical observing at SUNY Oneonta. The goal of the pipeline is to create a searchable database of raw and processed data from SUNY Oneonta’s College Camp Observatory. With this capability students at SUNY Oneonta will be able to build long-term integrations of the targets for student coursework and research projects, and it will also grant the capability to search for transient events and other targets of opportunity.

Recent analyses of the orientations of the outermost objects in the Solar System and also the anomalous axial tilt of the Sun relative to the orbital planes of the Solar System have resulted in the speculation that there may be a large, undiscovered object lurking in the outskirts of the Solar System, which has been dubbed “Planet Nine.” The object may have more than ten times the mass of the Earth, but it is expected to be very faint due to its extremely large distance from the Sun. We report on our use of Monte Carlo techniques to model the distribution of likely orbits for Planet Nine in order to find portions of the sky with the highest likelihood for finding Planet Nine. These areas will become target regions for our current search for new Kuiper Belt Objects at SUNY Oneonta’s College Camp Observatory.

As the federal agency mandated to take care of more than 193 million acres of America’s forests and grasslands, the U.S. Forest Service (USFS) continually strives to balance resource extraction and conservation with recreation and wilderness preservation. Although the agency manages the oldest and largest number of federally-designated wilderness areas in the country (and world), it still struggles to articulate the socio-ecological importance of wilderness and develop metrics and protocols to assess and protect wilderness characteristics. How does one explain “untrammeled-ness” or measure “solitude”? Drawing on a long-standing American tradition of using art to inform and inspire ethics of conservation and preservation, in 2010 the USFS began actively seeking to partner with “artists [who are] interested in promoting and celebrating our Alaskan wilderness areas and creating dialogue about the challenges we face in a changing environment.” As a “Voice of the Wilderness” artist-in-residence at Misty Fiords National Monument in Southeast Alaska in August 2016, I collaborated with USFS backcountry rangers to monitor impacts to the 2.1 million-acre wilderness, envision alternative uses and management strategies and, mainly, translate the soaring fjords, swirling mist, sea-gray water, lush old rainforest, and bears, birds, seals, and salmon into sketches, photographs, and a hand-drawn map for use in USFS outreach materials. This research (part of larger work on wilderness preservation and sense of place) describes Misty Fiords’ unique ecological features and geographic characteristics, discusses the “Voices of the Wilderness” experience, and evaluates the power of art to help people develop a sense of place and nurture a stewardship ethic.

Cross-border shopping, also called International Online Outshopping (IOO), is the virtual movement of consumers from one electronic marketplace to another across the globe with the intention of purchasing goods. With an increasing number of U.S. consumers looking to shop at foreign websites, this recent IOO phenomenon has raised questions among e-tailers and academicians as to the characteristics of this new-age outshopper and the nature of their IOO purchase. Though there have been efforts to understand the characteristics of an outshopper in prior research, the process of an IOO purchase is yet to be understood comprehensively. Moreover, an understanding of the influence of consumers’ perception of e-tailer’s country image on IOO intention is limited. Therefore, the purpose of this study was to develop and test a comprehensive framework consisting of the antecedents of IOO intention and emotional consequences of an IOO purchase. The research framework consisted of two phases. Phase I manipulated and tested the effect of three antecedents (i.e.,
trust in e-tailer, transaction utility and product uniqueness) on IOO intention, and included country image (U.K. image and China image) as the moderator of these effects. Phase II manipulated and tested the effect of the three antecedents on the Model of Customer Delight, which includes the emotions of surprise, arousal, positive affect, and customer delight. Both phases were tested on U.S. consumers’ IOO purchase at Chinese and U.K. e-tailers, the top two IOO destinations for U.S. consumers. An experiment was conducted by developing 16 IOO scenarios consisting of all possible combinations of high and low levels of trust, transaction utility, and product uniqueness at both Chinese and U.K. e-tailer settings. A total of 539 usable responses were collected from college students. Upon manipulation of the scenarios, participants’ IOO intention and their emotions in the Model of Customer Delight were captured using items on Likert-type scales. The hypotheses in the research framework were tested using multiple-sample Structural Equation Modelling (SEM). The findings of this study showed that, in Phase I, trust in an e-tailer positively influenced IOO intention at both Chinese and U.K. e-tailers, transaction utility positively influenced IOO intention at U.K. e-tailers but not at Chinese e-tailers, and product uniqueness did not influence IOO intention at both Chinese and U.K. e-tailers. Country image moderated only the relationship between transaction utility and IOO intention such that it was stronger in the U.K. than Chinese e-tailer settings, which was opposite to the hypothesized strength. The findings of Phase II revealed that trust was the only manipulated factor that negatively influenced surprise while transaction utility and product uniqueness did not influence surprise. Further analysis revealed that trust increased the level of surprise among consumers with no prior experience shopping at foreign websites, whereas it decreased the level of surprise among those with prior IOO experience. The relationships in the Model of Customer Delight were significant. This study advanced the theoretical understanding of country image, online trust, transaction utility and customer delight in the IOO context. The findings of this study suggest that developing a trustworthy website is the most important step towards generating purchase intention, regardless of the e-tailer’s country image.

This session will present the clinically-rich experiences of SUNY Oneonta students as they develop a community garden in Bushwick, Brooklyn. It will discuss the process of nurturing P-12 professional collaborations, such a partnership between rural and urban communities, recruiting students, and developing a viable plan of action. It will explore how the identities of teacher candidates from a rural area were developed through their experiences with the creation of a community garden and immersion in an urban setting. Finally, it will explore how clinically-rich partnerships can create new opportunities for teacher candidates as they work with students in urban settings and are exposed to professional collaborations.

The cestode (tapeworm) order Rhinebothriidea was recognized in 2009 by Healy and coauthors. Healy, et al. (2009) used molecular data to present a phylogenetic analysis of approximately fifty species of cestodes from elasmobranchs (i.e., sharks and rays). Based on their results, Order Rhinebothriidea was proposed, with the inclusion of 13 cestode genera at that time. Most of those genera were previously categorized in other cestode orders (taxonomic groupings), but that study also included multiple new, as-of-yet unnamed genera of cestodes. Since 2009, much progress has been made towards a better understanding of Rhinebothriidea. This progress has been largely driven by support from a National Science Foundation Planetary Biotic Inventory grant awarded to J. Caira and K. Jensen. Various workers, including Reyda and his students, have described multiple new cestode genera and species that are placed within the Rhinebothriidea. Since its introduction in 2009, Rhinebothriidea has been expanded to include multiple additional genera, six of which are new to science. This poster presentation highlights the progress made in the study of the Rhinebothriidea with scanning electron microscope images of most of the genera in the order. The spectacular morphological diversity of rhinebothriideans will be emphasized.
The SONY Virtual Herbarium: Increasing Access and Improving Botanical Education

Sean Robinson (Biology), Katherine Spitzhoff (Art), Monica Dore, Stephen Bretschner, Steven Dorney, Steven Haight (SONY Oneonta students)

The factors that contribute to professional development, interpersonal factors, and overall satisfaction in mentoring.

The study examined data from various mentoring programs in a major metropolitan city in the United States. Researchers wanted to determine which aspects of the mentoring program were leading to the overall satisfaction of the participants of the program. A multiple regression analysis was conducted to predict the amount of variance professional development accounts for in overall satisfaction with a mentoring program. The results of this analysis indicated that the five professional development measures accounted for a significant amount of overall satisfaction variability, $R^2 = .19$, $F(5,136) = 6.31$, $p < .001$. Of all the professional development measures, only three of the five were significant predictors of overall satisfaction. A second analysis was conducted to evaluate whether the interpersonal measures predicted overall satisfaction over and above professional development measures. The three interpersonal measures accounted for a significant proportion of the overall satisfaction variance after controlling for the effects of the five professional development measures, $R^2$ change = .15, $F(3,133) = 10.22$, $p < .01$. Only two of the three interpersonal relationship variables were significant predictors of overall satisfaction over and above the professional development measures: getting along with mentor interpersonally, perception of mentor commitment. Of the two, getting along with the mentor was the strongest predictor of overall satisfaction. These results indicate that in predicting protégé satisfaction with the mentoring program, interpersonal satisfaction accounted for a significant amount of variance above and beyond professional development. In other words, these results suggest that protégés who have similar satisfaction with their professional development within a mentoring program will have more overall satisfaction with the program if they are also happy with their interpersonal relationship with their mentor. The results suggest that professional development is not the whole picture when it comes to protégé satisfaction with the mentoring program; the most satisfied protégés have a good interpersonal relationship with their mentor. As mentoring programs should involve both developing professional skills that will lead to advancement and giving protégés the chance to develop relationships that will facilitate their growth in their field, the first interpersonal relationship that develops is one with their mentor. Therefore, it is not surprising that overall satisfaction in a mentoring program is predicted by the satisfaction with the interpersonal relationship established with their mentor, beyond the satisfaction with the professional development that occurs in the program.

Essay Analysis for the Study of Noyce Scholars' Self-Growth and Perceptions

John Schaumloffel (Chemistry & Biochemistry), Paul Bischoff (Secondary Education), Paul French (Physics & Astronomy)

Herbaria, collections of preserved plants, are valuable sources of data essential to studies in the biological sciences. The primary goal of this project is to increase access to herbarium collections at SUNY institutions, as well as to develop and disseminate a new pedagogy for enhancing botanical education using digitized specimens. Herbaria collections at SUNY Oneonta and SUNY Plattsburgh will be databased, imaged, and made accessible via an open-access data portal. Herbarium data will then be used to develop three web-based learning modules designed to engage students, develop skills in scientific inquiry, and enhance botanically focused courses. These modules will be implemented and evaluated in a variety of learning environments from introductory biology courses to upper level botany classes at four different SUNY institutions. In addition, this project relies heavily on student interns in both biology and art in order to promote a unique type of collaborative, interdisciplinary learning.

While facilitating professional development initially was the key benefit of the mentoring relationship, recent research has also examined the psychosocial or interpersonal benefits of mentoring relationships such as emotional and professional support, guidance, and as a connection to others within the field (e.g., Allen, Eby, Poteet, Lentz, & Lima, 2004; O’Brein, Biga, Kessler, & Allen, 2010). Though protégé satisfaction has been linked to professional development, little research has examined the effect of the interpersonal relationship with the mentor, over and above the effect of professional development, on satisfaction with the mentoring program. This study examined data from various mentoring programs in a major metropolitan city in the United States. Researchers wanted to determine which aspects of the mentoring program were leading to the overall satisfaction of the participants of the program. A multiple regression analysis was conducted to predict the amount of variance professional development accounts for in overall satisfaction with a mentoring program. The results of this analysis indicated that the five professional development measures accounted for a significant amount of overall satisfaction variability, $R^2 = .19$, $F(5,136) = 6.31$, $p < .001$. Of all the professional development measures, only three of the five were significant predictors of overall satisfaction. A second analysis was conducted to evaluate whether the interpersonal measures predicted overall satisfaction over and above professional development measures. The three interpersonal measures accounted for a significant proportion of the overall satisfaction variance after controlling for the effects of the five professional development measures, $R^2$ change = .15, $F(3,133) = 10.22$, $p < .01$. Only two of the three interpersonal relationship variables were significant predictors of overall satisfaction over and above the professional development measures: getting along with mentor interpersonally, perception of mentor commitment. Of the two, getting along with the mentor was the strongest predictor of overall satisfaction. These results indicate that in predicting protégé satisfaction with the mentoring program, interpersonal satisfaction accounted for a significant amount of variance above and beyond professional development. In other words, these results suggest that protégés who have similar satisfaction with their professional development within a mentoring program will have more overall satisfaction with the program if they are also happy with their interpersonal relationship with their mentor. The results suggest that professional development is not the whole picture when it comes to protégé satisfaction with the mentoring program; the most satisfied protégés have a good interpersonal relationship with their mentor. As mentoring programs should involve both developing professional skills that will lead to advancement and giving protégés the chance to develop relationships that will facilitate their growth in their field, the first interpersonal relationship that develops is one with their mentor. Therefore, it is not surprising that overall satisfaction in a mentoring program is predicted by the satisfaction with the interpersonal relationship established with their mentor, beyond the satisfaction with the professional development that occurs in the program.

Supported by the National Science Foundation, the first SUNY Oneonta Noyce Scholars program engaged twenty-two students who expressed an interest in teaching science in high-needs school districts. Of these students, sixteen are currently teaching in high-needs districts and were able to fully participate in this study. Using a combination of qualitative and quantitative techniques, the Noyce co-PIs have evaluated changing student perceptions about teaching in high-needs schools. Perceptions in areas of experiences, challenges, goals, satisfaction and confidence, and professional knowledge and skills were examined across a series of essays that students wrote in the initial phases...
Physiology is the study of how organisms function. Instruction in animal and human physiology is difficult due to several common constraints: large class size; high cost of instructional resources; outdated teaching facilities; lack of instructor expertise; compliance regulations governing use of human and animal subjects. *Revolution in Physiology Education: RIPE for Change* is a web-based learning resource that is designed to overcome barriers in physiology education. The overall goal of the project is to help students learn fundamental concepts of physiology using problem-based learning strategies. The RIPE website includes a collection of learning modules that require students to analyze case studies; pose deep questions; develop testable hypotheses; design experiments, predict outcomes, and interpret results. The modules can be used in courses that are equipped with the necessary instructional resources, as well as in those that do not have resources for laboratory instruction. The RIPE modules employ two effective pedagogical strategies: case studies and instructor intervention. Each module consists of three main parts. The first part begins with specific learning outcomes, a case study, and links to pertinent background information, and ends with a collection of discussion questions that assist instructors in guiding students through analyzing the case and designing an experiment to test the hypothesis that is germane to the case (first instructor intervention). The second part includes descriptions of how pertinent experiments can be performed, and employs the use of short videos and animations that illustrate important techniques. The third part involves an instructor-led discussion of the results and guidance in preparation of documents to present data (second instructor intervention). Each module includes data sets that were derived from actual experiments conducted by students enrolled in a human physiology course at SUNY Oneonta. Institutions that can perform the experiments can compare their results to those found in the modules. Schools that lack the resources necessary to perform experiments can use the SUNY Oneonta data for analysis and discussion. The effectiveness of the modules has been assessed at SUNY Oneonta, where students are able to perform experiments, and at Fulton Montgomery Community College, where students lack access to laboratory equipment. Preliminary results indicate that the majority of students in both learning environments achieve the learning outcomes and found the learning experience to be both enjoyable and valuable. In addition to providing a means to improve physiology education, the RIPE project has created student engagement opportunities for SUNY Oneonta students. Student assistants from the Biology and Art Departments are developing the modules, testing equipment, creating graphics, and maintaining the RIPE website. This work is funded by grants from the National Science Foundation and the SUNY Innovative Technology Instruction Grant (IITG) Program. *Note: This is one of two oral presentations, selected to spotlight a sample of SUNY Oneonta’s National Science Foundation-funded programs. Presentation is on Wednesday, November 9 at 2:30 pm, 130 Morris Conference Center.*

### Elizabeth Seale (Sociology)

**Poverty, Culture, and Experience**

In this in-progress project I draw across empirical and theoretical literature to interrogate and incorporate the study of the everyday lives and worldviews of the poor. My agenda is to examine how worldviews, knowledge and habits, and personal resources are affected by specific structural aspects of poverty and, in turn, what this means for the life experiences of the chronically poor. Although social scientists have convincingly demonstrated that larger social factors constrain the ability of individuals and families to escape poverty, their experiences are affected by additional cultural factors that interact with a diversity of situational conditions. Moreover, misunderstandings of the everyday experiences of the poor are common in human services and public policy, often resulting in judgments of them as irrational or undeserving of assistance. By using previous research and my own completed data collection, I will provide a comprehensive analysis of the worldviews, habits, and personal resources of people who struggle in poverty with a focus on the U.S. I will also re-examine the culture of poverty thesis as a way to avoid the same mistakes while seeing what might be salvaged from use of “culture” in understanding the experiences of those in poverty. By examining systematically how we study and characterize the poor and their experiences of poverty, this book project will provide a comprehensive account of these issues for the use of scholars and practitioners.
The purpose of this research is to analyze the role of Richard Posner as a judicial entrepreneur and to assess his influence and success in persuading the legal academy and judiciary to incorporate economic principles into the judicial decision-making process in market and non-market areas of the law. More broadly, the research aims to reveal aspects of judicial entrepreneurship that have so far escaped scholarly notice.

The research indicates that, yes, Posner has been influential in persuading others in both the legal academy and the courts of the importance and utility of using economic tools when assessing the law, with the caveat that his influence still remains stronger in traditional market-oriented areas of the law, such as antitrust, and less so in traditionally non-market areas of the law, such as criminal. After reviewing the market and non-market literature on entrepreneurialism, a new comprehensive model of a judicial entrepreneur was created in order to evaluate Posner as a judicial entrepreneur. To evaluate his efficacy as a judicial entrepreneur, a multi-stage research approach was taken, utilizing qualitative, quantitative, and comparative case study research methods. First, a quantitative research method analyzed the legal publication and case law citations, which demonstrated influence upon not only the scholarly literature, but also judicial opinions in which Posner has been cited. By empirically analyzing the citations to Posner’s law review articles and his federal case law opinions with the use of computer programs, his substantial impact on the scholarly literature and judicial-decision making could be quantified and measured. To further test the influence of his ideas on economic analysis and the law, in particular legal subject matter areas, and to compare and contrast traditionally non-market areas of the law to traditionally market areas of the law, a qualitative case law analysis was conducted of Posner’s opinions as a federal judge. Analyzing his opinions in respect to the economic concept of efficiency, as applied to the exclusionary rule in criminal law, suggest that they have exerted modest influence. On the other hand, a qualitative case law analysis of his antitrust opinions suggests substantial influence. Both of these results were expected. Subsequent case studies of other federal judges were done to shed further light on some of the characteristics of a judicial entrepreneur. Through the research methods of qualitative case law analysis and quantitative research methods of citation analysis, the research makes claims about his influence that are not merely anecdotal. These tools are not without their bias and limitations, but they do provide a good starting point for further research, and offer inferential evidence of influence. The research contributes to the area of judicial politics and judicial-decision making in two respects: it provides a new comprehensive model for a judicial entrepreneur, and it provides evidence of the influence of the legal movement, law and economics, on American jurisprudence. The research also provides scholarly opportunity for further research, for the framework of the research can be applied to other judicial entrepreneurs and legal movements to evaluate their influence.

We assess the impact that signing the American College and University Presidents’ Climate Commitment (ACUPCC) has on college attractiveness, measured in terms of the number of applications for admission and the standardized test scores of enrolling first-year classes. Using a difference in differences approach, we find that signing ACUPCC is associated with an increase in undergraduate applications for public colleges and universities of about 5 percent, and with an increase in the average 75th percentile of SAT scores of the first-year class of about 6 points. Furthermore, these changes are maintained for each year after signing the agreement over the time horizon examined. We find no significant effect for private institutions, which may suggest that application to these institutions involves a different choice process. These results imply that a commitment to sustainability can be seen as a positive college characteristic that might assist broader marketing efforts and that gives prospective students a greater inclination to attend public institutions.

Otome is genre of video games primary designed for and played by female gamers. Widely popular in Japan since the mid 1990s, these “choose your own adventure” style visual novels are now finding a gaming audience in the United States, the United Kingdom, and Australia. Otome games are relationship focused, where the main goal is for the female protagonist to build a successful romantic relationship with one of the male, or occasionally female, characters encountered along the way. Using a combination of narrative theory, procedural rhetoric, and romance-genre literary theory, this research analyzes the narrative structures of Otome stories and the interactive elements of visual novel gameplay in order to gain insights into the reasons why these stories resonate so strongly with female players of different ages and different cultures, and what relationship lessons and practices are imparted along the way. Findings suggest that Otome games, through choice-driven narratives and varying character
sequences, promote the development of “romantic agency” in players, as these games provide nuanced opportunities for players to compare and contrast different kinds of romantic relationships, and allow players to cultivate personal preferences and understandings about friendship, love, intimacy, and commitment. Concurrently, Otome’s use of intimate narration and highly focused game play create a unique gaming environment – one that feels deeply personal, and self-reflective – and this, in turn, generates a favorable gaming experience where players find themselves enjoying the exploration of interpersonal relationships through the Otome gaming format.

American shad (*Alosa sapidissima*) have undergone precipitous declines throughout their native range as a result of overfishing, elevated marine mortality, and the construction of dams that prevent access to freshwater spawning habitats. Collaborative efforts to increase abundance, restore access to historical freshwater spawning habitat, restore historical demographic structure, and to provide harvest opportunities are ongoing in the Northeast United States. American shad historically supported subsistence fisheries central to the culture and survival of indigenous peoples. The ability to harvest American shad once again would help to alleviate the loss of cultural identity that has occurred with the decline of these runs, specifically with respect to the construction of several main-stream hydropower projects that now prevent fish from reaching historical fishing grounds. We investigated the interactive effects of upstream and downstream fish passage and in-river harvest on the recovery of this American shad population with respect to population vital rates related to fishery management objectives. We used a recently developed stock assessment tool to determine how population abundance, geographic distribution, and percent of repeat spawners were affected by various rates of recreational and subsistence harvest during the annual spawning migration. Our results indicate that high upstream and downstream dam passage rates are needed to reach recovery targets for this population. However, at sufficiently high passage rates, harvest rates between 5 and 10 percent annual fishing mortality can be sustained while achieving recovery targets related to abundance, percent of repeat spawners, and geographic distributions. These results have broad application for the planning of subsistence harvest for American shad and related species in other systems within the Atlantic Coastal drainage as planning and implementation of recovery efforts move forward.

Let $G=(\mathbb{Z}/n\mathbb{Z})^*$ be the group of units of the ring $(\mathbb{Z}/n\mathbb{Z}, +n, \cdot n)$, and suppose that $f$ is a polynomial with integer coefficients. We have previously examined the following questions regarding the orbits of the units under various $f$: When is the orbit of 1 a cycle? If the orbit of 1 is a cycle: (i) When will the elements of this orbit form a subgroup of $G$? (ii) What will this orbit look like? (iii) What algebraic structure is seen in this orbit and other orbits? The second and third questions have been addressed (Sulman 2012) using no more than a hand calculator to facilitate computations. However, analysis of larger groups was not accessible with such a simple device. A computer program written by SUNY Oneonta Computer Science major Tyler Fedoris provided the calculating power to continue explorations in larger groups and somewhat more difficult to work with quadratics. This produced surprising connections between orbits and inverse-pairs (question (iii) above). In this poster, we continue to explore patterns seen for specific polynomials (primarily quadratics as before) applied to the groups $G=(\mathbb{Z}/n\mathbb{Z})^*$ for $n$ various powers of 2.

Self-care and wellness of counseling students have gained significant interests in recent years by the counseling profession (American Counseling Association, ACA, 2005; Council for Accreditation of Counseling and Related Educational Programs, 2009; Myers, Sweeney, & Witmer, 2000, Wolf, Thompson, Thompson, & Smith-Adcock, 2014). A few studies have focused on wellness practice of counseling students (Myers, Mobley, & Booth; Roach & Young, 2007; Smith, Robinson & Young, 2007). Smith et al. (2007) found a significant and negative correlation between wellness and psychological distress among counseling students. Integrating wellness curriculum into counselor preparation was recommended (Smith et al. 2007) and has been adapted into our program. Although the self-care techniques and wellness practice were emphasized throughout the curriculum, it is unclear whether...
counseling students actually practice what they learned and integrate the concept of wellness as a holistic approach to their overall well-being. The purpose of the study is to investigate the current wellness practice among counseling students.

Heat shock response is triggered by increasing physiological temperature (37 °C) and functions to restore homeostasis by inhibiting apoptotic pathway and promoting pro-survival pathway through a group of conserved proteins called heat shock proteins (HSPs). Heat shock inhibits protein synthesis (except for HSPs) and accumulation of misfolded proteins in the cell. HSPs bind misfolded proteins to enable proper folding or target them to the lysosome for degradation. Failure of this mechanism to remediate the deleterious effects of heat treatment results in cell death. Cancer cells have been shown to be sensitive to heat shock treatment with minimal injury to healthy tissue. Several clinical trials have demonstrated the efficacy of heat treatment in cancer therapy. However, its application in cancer therapy has been limited due to variation in efficacy among different cancer types, patients low tolerance for the high temperatures (44 °C-51 °C) required for cell death, and challenges associated with practical application. As a result, heat therapy is used as an adjuvant therapy to chemotherapy or radiation. Heat therapy in combination with small molecules designed to induce cellular apoptosis may be a promising avenue for therapeutic development. This synergistic approach would enable heat-induced tumor cell death at a lower temperature, however, the exact mechanism of heat-induced cell death is poorly understood. Preliminary data suggest proteases may play a critical role in heat-induced apoptosis of cancer cells. Treatment of Caco-2 cells with para-methyl sulphonic acid (PMSF), a serine protease inhibitor, has been found to partially recover cellular viability following heat shock. PMSF, EDTA, and leupeptin at a concentration of 10 mM have been shown to partially restore the viability of colorectal cancer cells following acute heat shock. Collectively, data suggest heat shock activates one or more proteases, resulting in the degradation of multiple protein targets, and provides valuable insights regarding the mechanism(s) of heat-induced tumor cell death.

The objective of this poster presentation is to showcase how using new digital technologies in parent-child engagement around ebooks can change those interactions. The larger purpose of the study was to account for sociocultural conditions that shape meaning-making interactions in order to theorize the development of meaning making. Data included observational notes, videos of interactions, videos of the iPad screen, and informal interviews. I employed activity theory and an innovative approach to grounded theory. Data analysis revealed that interactions around ebooks on the iPad differed significantly from interactions involving print texts. Findings highlight the prominent role of tension around perspectives on what the activity with ebooks entails. As the child interacts mostly with the iPad, dialogic interactions that parents strive to achieve are difficult to realize. These findings contribute to an understanding of how modern technologies diversify ways children are apprenticed into literacy in home settings and extend what it means to learn to become literate.

The objective of this poster presentation is to showcase how using new digital technologies in parent-child engagements extended these interactions to economic spheres. The purpose of the larger study was to account for sociocultural conditions that shaped meaning-making interactions in order to theorize the development of meaning making. Data included observational notes, videos of interactions, videos of the iPad screen, and informal interviews. I employed activity theory as both a theoretical and analytical framework. Findings highlight the prominent role of tension around production and consumption. Participants’ positions and experiences influenced their perspectives on consumerism, and consumerism affected the child’s meaning making. Specifically, this tension resulted in defining consumer roles, negotiating when apps can be purchased, and teaching responsible purchases. These findings contribute to an understanding of how modern technologies diversify ways children are apprenticed into literacy in home settings and extend the meaning of power of literacy beyond reading and writing.
Dogs are the earliest and most widespread domestic animal in the world, with a possible earliest date of domestication around 30,000 years ago in Eurasia. However, it is likely that dogs were domesticated from Eurasian gray wolves in multiple situations throughout Eurasia and Africa until 14,000 years ago. At this point dogs were widespread throughout the old world and also migrated with humans into the Americas. Archaeological research has shown that dogs played a large role in the social lives of humans in the past and included many activities, such as hunting, guarding, and carrying wood, meat and other household items. These activities would have been essential for making human tasks easier and more productive. In addition, we have evidence that dogs also played a sacred role as they were frequently buried with humans in cemeteries and sometimes consumed for ritual purposes. The dual nature of dogs – their secular and sacred roles – are what makes the study of prehistoric domestic dogs so fascinating. While other domestic animals, such as horses, cats and cattle served dual roles, no other animal is represented so globally and with such time depth as the dog. This poster looks at multiple sites in eastern North American dating from 7,000 to 1,000 years ago (5,000 B.C. to 1,000 A.D.). Dog remains at these sites reveal the complex social relationship between dogs and humans and the intersection of that relationship within the secular and sacred worlds.

Jennifer Withington (Biology)
Formative Assessment in General Biology I

The fast growing usage of mobile devices to access services over telecommunication networks urges researchers to look for an efficient way to secure users’ online credentials. Rooted in online users’ fear appeals, this study measures the impact of an emerging use of technology, QR codes, on authentication protection. We contribute to the extant literature by integrating two theories: protection motivation theory and the theory of planned behavior, as well as investigating how the collaboration of computers and mobile devices enhances the protection of users’ online credentials. The results of the study additionally provide insights for IT developers for future directions in the development of authentication protection.

Jing Yang (Management, Marketing & Information Systems), Yue Zhang (California State University at Northridge), Cees J. M. Lanting (CSEM R&D)
Exploring the Impact of QR Codes in Authentication Protection: A Study Based on PMT and TPB

Many management programs for inland waters primarily focus on reduction of total phosphorus (TP) concentration in water. While primary production in highly productive freshwater systems are often observed to decline with reduced phosphorus (P) input, literature shows higher prevalence of co-limitation by nitrogen (N) and P than expected from their total nitrogen (TN) to total phosphorus (TP) ratios alone. This study aimed to empirically determine summer time limiting nutrient(s) for the meso-oligotrophic Otsego Lake, NY, USA, through an in situ incubation of epilimnetic phytoplankton community where N, P and N and P are added to identify the limiting element(s) for planktonic primary production. This experiment was part of a coordinated and synchronized experiment by members of the Northeastern Global Lake Ecological Observatory Network (NE GLEON). The planned June 2016 experiment took place at nine sites across the northeastern U.S. and eastern Canada and heavily involved summer research students, who experientially learned the important concepts of nutrient limitation and ecological stoichiometry. Trophic status and other lake characteristics vary widely among the sites, providing further opportunities for collaborative data analyses along multiple gradients. An additional stand-alone experiment on Otsego Lake was performed to study interaction between phytoplankters and microplastics. (This project was presented as a talk at the 2017 North American Lake Management Society meeting.)
Kiyoko Yokota (Biolog), Colleen Parker (SUNY Oneonta graduate student)

Monitoring of Mercury in Catskill Region Fish

A 2008 study of strategic monitoring of mercury in New York State fish addressed concerns of high levels of mercury in fish tissue, raising potential concerns for consumption and human health. Adirondack lakes and the Catskill region were most noted for their high mercury levels, further investigation of these waters is vital. In collaboration with Syracuse University (SU), we are conducting a study to re-evaluate and address the state of health of these water bodies as part of the statewide monitoring program commissioned by the New York State Energy Research and Development Authority (NYSERDA). Using SUNY Oneonta’s Biological Field Station as the survey hub for the Adirondack and Catskill regions, we will sample 13 water bodies for mercury in fish tissue, targeting a total of 30 individuals of either Walleye, Yellow Perch, Smallmouth Bass or Largemouth Bass per site. Water chemistry data will also be collected to identify if chemical parameters correlate with mercury accumulation in these waters. Goodyear Lake, one of the thirteen waterbodies, was sampled in May 2014, and results showed elevated levels of mercury in fish tissue. The twelve remaining sites will be sampled into summer of 2016. Our results for the Adirondack and Catskill sites will augment the existing statewide database of mercury levels in the environment, and help authorities determine appropriate actions to be taken (such as fish consumption advisories) to protect public health and improve the statewide monitoring program into the future. (This presentation was originally made for the 2016 Student Research & Creative Activity Day). Colleen started fish mercury study on one local lake (Goodyear Lake) with David Snyder when they were both undergraduates in the Environmental Science program at SUNY Oneonta. Colleen is now pursuing MS in Biology, and this is her thesis project. Both her undergraduate and graduate research projects have been supported by the Student Research Grant Program.

Qingyi Yu (Educational Psychology, Counseling & Special Education)

Living in Two Cultures: Chinese Female Students in the United States

Acculturation has become one of the leading topics for research in relation to underrepresented populations’ psychological well-being. It is a dynamic process of individuals’ experience as they adapt to host culture. Greater attention has been given to the influence of acculturative processes given that research has shown that perceived acculturative stress is associated with immigrant and international populations’ depressive symptoms, low self-esteem, and eating disorders. The current presentation addresses the unique acculturative experiences on Chinese female students living in the US who were born after China’s “one-child policy.” As the first generation born after China introduced this policy, Chinese women belong to a special population which is under dual pressures of their parents’ expectations to succeed and traditional Chinese stereotypes of women as obedient to men, dependent, and home orientated. The current study examined 192 Chinese female students’ Acculturation, Womanist identity attitudes, Gender-role identities, and Gender role stereotypes towards American women in order to answer the question of how Chinese women negotiate and redefine their gender roles while living in the U.S. An integrated “Womanist-Acculturation Gender Role model” is proposed in the presentation. Two identity-acculturation patterns, three identity-gender role patterns, and two acculturation-gender role patterns were identified. The current study is the first to investigate gender-role and acculturation developmental issues of “One-Child” women from a psychological perspective.

James Zians (Psychology), Dan Mayer, Taylor Mackin, Victoria Macri, Elizabeth Freer (SUNY Oneonta students)

Parental Concerns About Parenting Skills and Youth Risk in a Rural County in Upstate New York, Final Results – Otsego County

Youth and their families who live in rural areas of the United States face unique challenges and circumstances regarding youth risk behaviors such as alcohol/drug abuse, youth violence, vandalism, and youth mental illness and suicide. In general, rural areas have higher rates of poverty that impact children and adolescents, and rural areas have a higher probability of adverse childhood experiences than urban areas. Problem behaviors that may be higher in rural areas include bullying, and being socially disruptive, disobedient and inappropriately aggressive or agitated. In rural America there are disproportionate rates of mental illness for children, teens and adults, and often mental illnesses are of greater severity compared to non-rural areas and with disproportionately poor outcomes. Additionally, adults and young teens in rural areas tend to abuse drugs and alcohol at the same rate as those in larger metropolitan areas. Empirical research also shows that youth who live in rural areas and feel more connected to and engaged with their communities are at less risk for problem behaviors such as mental illness, suicide risk, truancy, vandalism, alcohol or drug use problems, juvenile delinquency and other conduct problems, and problems involving legal issues and local court systems. While the prevalence rates of drug and alcohol abuse are almost equivalent, smaller communities have very limited resources to deal with these problems. Given that Oneonta, NY is a college town with many social venues that appeal to college students
(high density of bars, alcohol venue establishments), parents are presented with additional challenges and concerns. This study focused on youth risk behaviors in Otsego County, NY. There are two phases to this study: Phase One consisted of a youth-risk questionnaire completed by parents age 18 or older residing with their child/children in Otsego County. Phase Two involved the collection of archival data on youth arrests and youth risk behaviors that included police involvement during the past two years. These archival data were provided by the Oneonta Police Department and were part of the public record. Results presented here are from Phase One, the parenting survey. In this study, 303 research participants (parents residing in Otsego County having a child age 17 or younger) were recruited at the Southside Mall in Oneonta, NY. Each participant received a five-dollar gift card for their participation. Participation in the study was anonymous. Of the completed surveys, one parent completed 89.1 percent of the surveys, and 10.9 percent were completed by parent dyads answering questions together. The average age of the parents was 37.7 years and the average number of children per family was 2.05. Of the one-parent respondents 78.2 percent were mothers and 26.8 percent were fathers. The six-page survey asked parent respondents to rate levels of risk and concern for youth in Otsego County on domains of interest such as: alcohol problems, drug abuse, community vandalism, bullying, tobacco use, school problems, and knowledge about local community services targeting youth for treatment of mental illness. Parents were asked their opinion of topics related to living in a college town (e.g., “Do you think marijuana should be legalized?” “Do you think the legal drinking age should be lowered?”). Of particular interest are some of the differences in attitudes and concern ratings based on the age of one’s children. The survey also asked parent respondents to compare their attitudes and concerns to other parents (e.g., “Do you think that your rating of youth risk for drug abuse is higher or lower compared to ratings by other parents?”). Next, parent respondents gave ratings about their own sense of “community connectedness” and they rated how they perceived their child/children’s “community connectedness.” Finally, parent respondents were asked to give personal ratings on a parenting efficacy questionnaire. Analyses were conducted on several dependent variables of interest looking for difference about three parent groups: 1) parents with only children age 11 and younger; 2) parents with only teenage children age 12 to 17; and 3) parents with both younger children and older teenage children.

Note: ☀ = designated as sustainability-related by the President’s Advisory Council on Sustainability