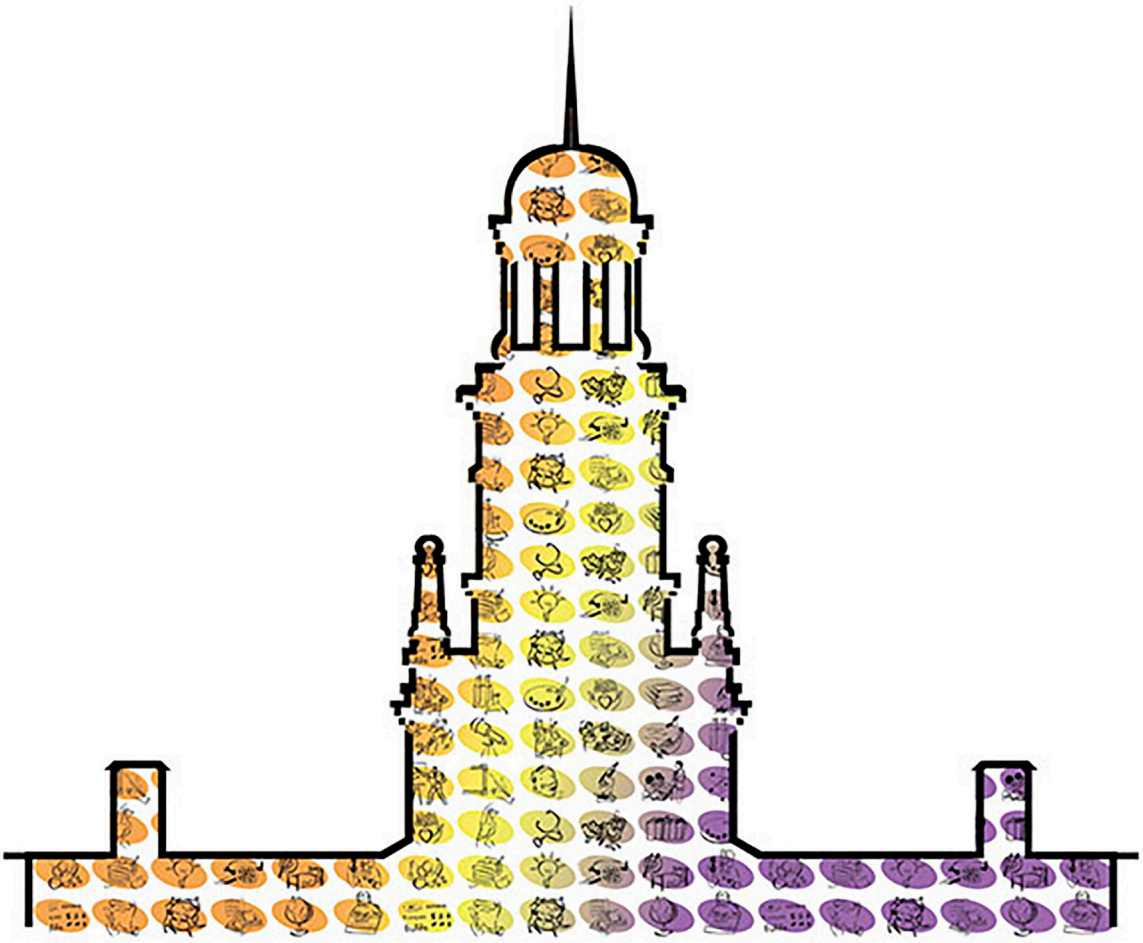
22nd Annual

Thursday, November 2, 2023



Faculty/Staff Research & Creativity Fall Forum

BUFFALO STATE
The State University of New York

Houston Gym

Posters & Presentations from 11:00 a.m.–1:30 p.m.

Welcoming Remarks at 12:30 p.m.

http://library.buffalostate.edu/fallforum

Faculty/Staff Research
& Creativity Fall Forum

BUFFALO STATE
The State University of New York

Mission Statement

The mission of the Buffalo State Research and Creativity Network Spring and Fall Forums is to develop, encourage, and support Buffalo State faculty and staff research and creativity and make collaborative research endeavors and grantsmanship more accessible.

Research Mentoring & Collaboration Interest

Mentoring and collaboration are excellent ways to gain or give additional knowledge and experience. We are building a database of individuals who would be interested in mentoring or being mentored in areas that will strengthen skills in proposal development and other areas of research, scholarship, and service. We are also trying to identify collaborative opportunities for faculty/staff on campus. Let us know your interest. **Scan the QR code for more information.**

Check the Fall Forum website library.buffalostate.edu/fallforum for more information.

22nd Annual

Faculty/Staff Research and Creativity Fall Forum

THURSDAY, NOVEMBER 2, 2023

Poster Session
11:00 a.m. – 1:30 p.m.

Welcome
12:30 p.m.
Bonita R. Durand, Interim President
Jim Mayrose, Provost & VP for Academic Affairs

Table of Contents

Welcome to the 2023 Faculty/Staff Research and Creativity Fall Forum

Greetings to all participants and contributors to the 2023 Faculty/Staff Research and Creativity Forum. I extend a very warm welcome to all who attend this remarkable event, which encapsulates our mission at Buffalo State University and as SUNY's urban engaged campus.

We pride ourselves on being a beacon of academic excellence, a place where innovative teaching, dynamic research, and substantial contributions to both our internal and external communities merge to create a vibrant academic environment. Our commitment to this pursuit is unwavering, and this forum serves as an annual testament to our dedication. This forum, with its showcase of diverse research and creative endeavors from our faculty and staff, not only enriches our scholarly mission but also profoundly impacts the academic and social experiences of our students. Your work does more than answer complex questions; it inspires curiosity and ignites a passion for knowledge in our students. Our distinguished faculty and staff address significant issues, from the environmental to the ethical, the educational to the innovative. In doing so, you are equipping our students with the tools and insights to become future leaders and problem solvers. This invaluable experience provides our students with a unique perspective on the world, shaping them into well-rounded individuals ready to make a meaningful impact on society.

I encourage you all to immerse yourselves in this year's forum, to explore the breadth of scholarly activities, and to appreciate the rich tapestry of research and creativity that our Buffalo State community has to offer. I am confident that you will find the discussions enlightening and the work presented thought-provoking. I look forward to attending the forum with you all, engaging in conversations, and learning from the talented scholars who will be presenting their projects this year. It is a privilege to be part of a community that values knowledge and creativity, and I look forward to seeing the fruits of your scholarly endeavors.

Sincerely,

Bonita R. Durand, Ph.D.
Buffalo State University Interim President

The Faculty/Staff Research and Creativity Fall Forum is a campus-wide event that transcends disciplinary boundaries to showcase the culture of research and creative scholarship at Buffalo State.

Research and creative scholarship permeate our academic life, inform our teaching, and strengthen our emphasis on generous service. Research is an endeavor where faculty and staff participate in interdisciplinary collaborations, and students are mentored in the intricacies of conducting research. The infusion of research and creative scholarship into its academic fabric is a distinguishing attribute of Buffalo State and this event highlights some of the exciting, high-quality research, scholarship, and creative activity that is being conducted on campus.

I extend my appreciation and gratitude to all participants for their individual and collective commitment to intellectual discovery and for allowing the Buffalo State community to share in their accomplishments.

Sincerely,

Jim Mayrose, Ph.D.
Provost & Vice President for Academic Affairs

22nd Annual Faculty/Staff Research and Creativity Fall Forum

NOVEMBER 2, 2023 • HOUSTON GYM • BUFFALO STATE

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Kelly M. Frothingham, *Interim Dean, School of Arts & Sciences*
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Ji Young Lee, *Assistant Professor, Fashion & Textile Technology*
Marko Miletich, *Assistant Professor, Modern & Classical Languages*
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Leah Panek-Shirley, *Associate Professor, Health, Nutrition, & Dietetics*
Katie Welsted, *Director, Corporate & Foundation Relations, Institutional Advancement*
Jing Zhang, *RCC Chair, Associate Professor, Elementary Education, Literacy, & Educational Leadership*
Rita Zientek, *Associate Dean, School of the Professions*

Planning Committee

Gina Game, *RCC Administrator, Sponsored Programs*
Scott Goodman, *Chair & Professor, Chemistry; Director, Office of Undergraduate Research*
Carolyn Guzski, Associate Professor, Music
Kimberly E. Kamper-DeMarco, *Assistant Professor, Psychology*
Jing Zhang, *RCC Chair, Associate Professor, Elementary Education, Literacy, & Educational Leadership*

Special thanks to Kaylene Waite for the design and layout of the program booklet; to the staff of the Sponsored Programs for providing administrative assistance; to SOE students and psychology students for volunteer service; and to the Provost for providing financial support for the event.

2023 Distinguished Awards

SUNY Distinguished Ranks

Aimable Twagilimana, Ph.D., Distinguished Service Professor, English

SUNY Chancellor's Awards

SUNY Chancellor's Award for Excellence in Classified Service
Luanne Jarosz, Supervising Housekeeper, Facilities Management

SUNY Chancellor's Award for Excellence in Adjunct Teaching
James Maloney, Lecturer, Exceptional Education

SUNY Chancellor's Award for Excellence in Faculty Service
Ricky L. Fleming, Professor and Director of Bands, Music

SUNY Chancellor's Award for Excellence in Professional Service
Maria B. Brickhouse, Coordinator, Academic Center for Excellence
Michael J. Lewis, Senior Director of Administrative Operations, Administrative Services

SUNY Chancellor's Award for Excellence in Teaching
Kathy R. Doody, Associate Professor, Exceptional Education

Buffalo State President's Awards

President's Award for Excellence in Service to the University
Andrea Hoehman, Administrative Assistant 1, Exceptional Education
Julie Wholf, Administrative Assistant 1, Elementary Education, Literacy and Educational Leadership
Kevin Williams, Ph.D., Associate Professor, Earth Sciences

President's Award for Excellence in Research, Scholarship, and Creativity
Mark Fulk, Ph.D., Associate Professor, English
Alexander Karatayev, Ph.D., Professor and Director, Great Lakes Center
Peter J. Ramos, Ph.D., Associate Professor, English

Summary of Sources of Funding

Some projects participating in this year's forum received funding from:

Anne Frank Festival
Bank of America
Buffalo State Professional Development Schools
Buffalo State Undergraduate Research Small Grants Award
Cameron Baird Foundation
Environmental Protection Agency
E.O. Smith Arts and Humanities Faculty Development Fund
Erie County Dept. of Mental Health
Intramural Research Program
National Institutes of Health (NIH)
National Science Foundation (NSF)
National Institute of Diabetes and Digestive and Kidney (NIDDK)
New York State
Open 4
Private grants
Research and Creativity Incentive Program
Substance Abuse and Mental Health Services Administration (SAMHSA)
Susan M. Nochajski Research Grant
SUNY Fellowship
University of Colorado-Colorado Springs CRCW Faculty Seed Grant
Vernon Press
Wilson Foundation

Recognizing the Members of the Million Dollar Club

The Million Dollar Club, established in 2006, recognizes individuals and projects that reach or exceed $1 million in sponsored program funding since 2000. Individuals or projects are added as they exceed the threshold. Below are current Buffalo State employees or affiliates belonging to the Million Dollar Club. The Galaxy Club distinguishes those that exceed $500 million in Sponsored program funding.

The Million Dollar Club

Lyubov E. Burlakova, *Senior Research Scientist, Great Lakes Center*

Darryl C. Carter, *Director, STEP Program, Precollegiate Academic Success Center*

Patrice A. Cathey, *Director, Precollegiate Academic Success Center*

Timothy Clark, *Director, Buffalo Film Commission / TV and Film Arts*

Michael J. DeMarco, P*rofessor Emeritus, Physics*

Alan Delmerico, *Community Health Behavior Scientist, Institute of Community and Health Promotion*

Thomas M. Giambrone, *Professor Emeritus, Mathematics*

Theresa M. Janczak, *Associate Professor, Exceptional Education*

Alexander Y. Karatayev, *Director, Great Lakes Center*

Steve M. Macho, *Associate Professor, Career and Technical Education*

Dan L. MacIsaac, A*ssociate Professor, Earth Sciences and Science Education*

Susan A. McCartney, *Director, Small Business Development Center*

Susan E. McMillen, *Professor, Mathematics*

Donald A. Patterson, *Director, Upward Bound Program, Precollegiate Academic Success Center*

Christopher M. Pennuto, *Professor, Biology*

N. John Popovich, A*ssociate Professor Emeritus, Career and Technical Education*

Jill K. Singer, *Distinguised Professor Emeritus, Earth Sciences and Science Education*

Karl E. Wende, *Population Health Scientist and Program Evaluator, Center for Health and Social Research (CHSR)*

William F. Wieczorek, D*irector Emeritus, Institute for Community Health Promotion (ICHP)*

Kathy Wood, *Associate Professor, School of Education*

Zhang Jie, Professor, *Sociology & Director, Center for China Studies*

Art Conservation

Center for Excellence in Urban and Rural Education

Art and Design

Incorporates traditional Asian lacquer with contemporary western ideas

Presenter: Sunhwa Kim

Through understanding traditional Japanese and Korean aesthetics, materials, and technical processes regarding Asian lacquer, I intend to develop art that incorporates the traditional and the contemporary to meet the needs of current and future generations.

I aspire to create art, craft, and furniture that recognizes recent lifestyle shifts but still honors traditional techniques, so as to bridge the gap between older and younger generations, both emotionally and aesthetically. Combining Eastern traditional methods with modern life allows new designs to emerge.

This research investigates new design processes to create crafts that meld time-honored Eastern techniques with innovative Western ideas and materials. I wish to combine contemporary techniques with traditional Asian lacquer processes. I will also explore artistic connections with other creative areas, such as 3D printing and Rhino grasshopper software.

I am researching different decoration methods and investigating the possibility of incorporating other genres into my artworks. My research includes traditional techniques, along with the needs and desires of the contemporary Western environment.

As new technology extends the reach of media and increases the spread of ideas, the world is becoming more global. I want to create artwork that includes beauty and craftsmanship. Hopefully, my work will support people's essential elements of living and lead to an enhanced quality of life.

Biology

Gap Junctions Increase Syncitial Volume Kinetics by Solute Redistribution

Presenters: Alexandra Bone, Hope Haley, and Derek Beahm

Cell volume is fundamentally important to normal cell function. Volume changes arise when normal or pathological conditions create an osmotic imbalance across the plasma membrane, resulting in water influx or efflux until the cytosol osmolarity matches that of the external environment. Changes in cell volume alter diverse cell properties, including Cai, pHi, membrane potential, kinase/phosphatase activity, and cytoskeletal dynamics. These changes in turn affect many cellular processes, including growth and survival, differentiation, migration, and sensitivity to external signals. Cell volume studies are generally conducted on populations of single cells, whereas most cell types in-vivo are connected to neighboring cells through gap junctions. Few studies have addressed the relationship between cell volume dynamics and gap junction communication, so we seek a more comprehensive understanding of this relationship by asking two general questions: 1) How do volume changes affect gap junction communication?; and 2) How do gap junctions affect volume kinetics? In systems where cell membrane water permeabilities are not identical, opposing gradients of cytosolic water and solute concentration develop across gap junction channels during a swelling event. This poster highlights experiments demonstrating that gap junction communication can accelerate volume kinetics within a syncytium exposed to hypotonic challenges, and that this acceleration is due to the intercellular redistribution of gap junction permeable solutes which consequently introduces heterogeneity in single cell volumes.

Inhibition of SUMOylation by the SUMO E1 enzyme inhibitor ML-792 increases DNA double-strand breaks, chromatin bridges, and genome instability in human cancer cells

Presenters: Lucas Schultz, Xiang-Dong , and "David" Zhang

SUMOylation regulates a wide range of critical cellular processes, including gene expression, protein stability, nuclear transport, chromosome segregation, DNA damage response, and genome stability. Due to its essential role in contributing to tumorigenesis driven by either Myc or Ras oncogenes, the SUMOylation pathway is currently investigated as a novel anti-cancer drug target. Here we demonstrated that inhibition of SUMOylation by the SUMO-activating enzyme (SAE) inhibitor, ML-792, significantly increased levels of DNA double-strand breaks, which are analyzed by both immunofluorescence microscopy and Western blot using the antibody specific to the phosphorylated form of the histone variant H2AX at the serine 139 residue (Œ≥H2AX), in three different human cell lines, including HeLa cervical cancer cells, U2OS bone osteosarcoma cells, and HCT116 colorectal carcinoma cells. Furthermore, our immunofluorescence microscopy analysis using DAPI staining of DNA and anti-LAP2 antibody for labeling the nuclear membrane elucidated that ML-792 treatment dramatically increased the percentages of cells with chromatin bridges, binuclei, micronuclei, and nuclear buds compared to control treatment. We are currently testing the hypothesis that the ML-792-induced DNA double-strand breaks leads to an increase in chromosomal fusion, dicentric chromosomes, and chromatin bridges in cytokinetic cells. While the breakage of chromatin bridges likely results in micronuclei and nuclear buds, ML-792 treatment may negatively affect Aurora B-mediated abscission checkpoint in cells with chromatin bridges and thereby trigger the regression of cleavage furrows and the formation of binucleated or polyploid cells.

Functional Importance of Inteins

Presenter: Olga Novikova

Inteins, also called protein introns, are self-splicing mobile elements found in all domains of life. In my lab, we run a bioinformatic survey of genomic data for the presence of inteins. Our current data highlights a biased distribution of inteins among functional categories of proteins in both bacteria and archaea, with a strong preference for a single network of functions containing replisome proteins. Many non-orthologous, functionally equivalent replicative proteins in bacteria and archaea carry inteins, suggesting a selective retention of inteins in proteins of particular functions across domains of life. This peculiar bias does not fully fit the models describing inteins exclusively as parasitic elements. In such models, evolutionary dynamics of inteins is viewed primarily through their mobility with the intein homing endonuclease as the major factor of intein acquisition and loss. We propose that the protein splicing domain of the intein can act as an environmental sensor that adapts to a particular niche and could potentially increase the chance of the intein becoming fixed in a population. There are inteins modulated in a stimulus-dependent manner which points to the possibility that some inteins may adapt to their intracellular niche and become post-translational regulatory elements. Indeed, some inteins can act as sensors, and through intein chemistry can inhibit splicing under stressful environmental conditions, such as redox modulation. Thus, we argue that selective retention of some inteins might be beneficial under certain environmental stresses, to act as panic buttons that reversibly inhibit specific networks, consistent with the observed intein distribution.

Burchfield Penney Art Center

Charles Burchfield, Recent & Upcoming Projects

Presenter: Nancy Weekly

New publications about Charles E. Burchfield provide fresh perspectives on his journals and lifetime achievements. Learn about upcoming Burchfield exhibitions for 2024 curated with collaborators Assoc. Prof. Kevin Williams, Walt Whitman scholar Sam Magavern, and artist Michael Glier that will explore the total solar eclipse and astral visions, poetic nature poetry and prose, and sensory perceptions expressed through painting.

Business

Reach to Teach: Creating a Caring Environment

Presenters: Michael J. Littman, Ph.D., and Ezra S. Littman, M.S.

The Reach to Teach Strategy is based on the relationships and connections between teachers and students which focuses on creating a caring classroom community to engage, energize, and excite students, Additionally, the area of DEI that leads to belonging (DEIB) motivational connections will be discussed.

Stage Play Engagement in Account Teaching and Learning

Presenter: Eric Jing Guo

Accounting is the language of business; it has its own vocabulary and grammar. A previous study examined how stage play can help students better understand accounting settings.

Business and economics professors often find that many students have a confusing understanding of accounting settings, which can negatively impact students' ability to learn accounting. Since the Fall 2022 semester, I have been using the stage play teaching strategy in BUS 212 - Introduction to Accounting (Accounting Principles) to help students intuitively understand accounting settings through student engagement. In class, students are invited to come to the front of the classroom to participate in stage performances in groups and find their partners to sort the different accounts. For example, Assets and Expenses are Debits on the left, then students representing Assets and Expenses should find their partners to stand on the left side of the stage. Since Liabilities, Revenues and Equalities are Credits on the right, those students who represent Liabilities, Revenues, and Equalities should find their partners to stand on the right side of the stage.

Through this group participation and stage performance, students can deepen their understanding and remembering of accounting settings through movement and multiple senses (i.e. seeing, hearing, doing, and touching). The students enjoy this engagement of learning, and I have also applied this method to BUS 312 - Financial Accounting and other courses based on students' feedback and suggestions.

Career, Technical, and Science Education

Equity in Science Education

Presenters: Joseph Zawicki , Fred Pidgeon, Bruce Tulloch, John Cunningham, and Arnie Serotsky

While students in New York State (arguably) have access to upper division science courses (Chemistry and Physics); most students in the state do not have experiences. All students should have equal access to these fundamental courses and to the career paths to which they lead. Data will be shared.

Chemistry

Chemical Analysis of Cannabinoids in Cannabis/Hemp Infused Commercial Products

Presenters: Jamie Kim, Julie Milbrand, Gina Delmonache, Colby Riexinger, and Emily Hsu

For decades, cannabis/hemp has remained one of the most controversial topics in both science and law. Although many states including New York decriminalized the possession and personal use of marijuana, a major psychoactive component in marijuana, tetrahydrocannabinol (THC), is still listed as a schedule I drug according to the Drug Enforcement Administration (DEA). Therefore, commercial cannabis products such as oils, powdered capsules, and beverages can't contain THC higher than 0.3%. In this project, the concentrations of major psychoactive components, THC, cannabidiol (CBD), and cannabigerol (CBG) present in these products were analyzed by the use of gas chromatography (GC), liquid chromatography (LC), and mass spectrometry (MS). Our data that showed that various amounts of CBD and CBG were detected in these samples, but THC was not clearly found in all samples. In addition, the amounts of CBD in some products were different from those claimed by manufacturers.

Comparison of Gold Nanoparticle Aggregation Through Quick Freezing vs. Salt Addition

Presenters: Jillian Tung, Brendan Larsen, and Kayla Issurdatt

The use of metal substrates has been extensively investigated as a way to enhance spectroscopic methods. Of particular note is the development of Surface Enhanced Raman Scattering (SERS), which uses metal nanoparticles to intensify the weak signals of normal Raman scattering. Aggregation of these nanoparticles (NPs), most commonly gold or silver, has been shown to further enhance the SERS signal by creating areas where analytes are subjected to the enhanced electromagnetic field of the aggregated NPs. A conventional method for NP aggregation is the introduction of a salt solution such as KCl to a AuNP solution. Another recently proposed method for the aggregation of AuNPs is Quick Freezing-Induced AuNP Aggregates (QFIAA), where the AuNP solution is quickly frozen in liquid nitrogen before thawing. To determine the efficacy of QFIAA versus salt-induced aggregates, a series of AuNP solutions were aggregated with different concentrations of KCl and analyzed with UV-Vis and Raman spectroscopy, and then compared with the UV-Vis and Raman spectra of previously prepared QFIAAs. Our results show that the QFIAA method, previously reported to be stable up to three months, does indeed produce stable aggregates, while the salt-induced method either did not cause aggregation at all, or produced unstable aggregates that showed further aggregation over time. Based on this research, QFIAAs appeared to be the preferable method for NP aggregation to salt-induced aggregates. Future studies will focus on the cause of the difference between these two types of AuNP aggregates.

Civic and Community Engagement

Social Justice Faculty Externship

Presenters: Alexandra Allen, Clemon George, Douglas Hoston, and Laura Rao

The Social Justice Faculty Externship is an opportunity for faculty members to engage in learning opportunities with community organizations that provide leadership in addressing issues of social justice and to extend that learning to students through curricular change. Partner organizations also benefit through faculty time and attention to a project using the faculty member's skills and experiences. Faculty will present their projects, collaborations, challenges and outcomes in a poster framing the importance of faculty partnerships with the community as opportunities for learning, research, and teaching.

College Writing Program

Write the Power: Breaking Down Linguistic Justice to Honor Students' Language

Presenters: Mary Beth Sullivan and Joey Nicoletti

While Writing Studies recognizes students' right to their own language and that students' home languages should be valued, supported and encouraged in academic and professional contexts, only recently have we begun to seriously attend to our BIPOC scholars' repeated calls to examine the ways that teaching "Academic English" does real harm to our underserved students, families and communities.

Responding to this demand for linguistic justice, the presenters share how this can be enacted in academic writing and across the curriculum. Partnering with our CWP students, the presenters share what linguistic justice can look like in writing classrooms, and how it can transform academic and professional contexts. We use our students' words to articulate the urgency of making these changes, and provide examples of how scholarly composing can be supported and developed at Buffalo State. We argue that as a Predominantly Diverse Institution, we must enact policies that affirm linguistic justice for higher education to be relevant in the professional and civic lives our students want to create for themselves."

Communication

AI in Your Classroom!

Presenter: Ann Liao

Most of the nonprofit organizations rely heavily on volunteers. In a service-learning course that works with nonprofit organizations, it is important to foster a positive climate. Traditional problem-solving procedures typically involve identifying a problem, brainstorming for possible solutions, evaluating possible solutions, and implementation. With positive framing, a traditional problem-solving approach could be transformed by the method of appreciative inquiry. Traditional problem-solving approach, although with its merits, is weaknesses-based, and appreciative inquiry is strengths-based. This paper demonstrates that appreciative inquiry is more effective in building a positive climate

when working with nonprofit community partners. Appreciative inquiry starts with discovering the successes of an organization, then documenting the aspirations of the organization, devising plans to realize the aspirations, and implementing the plans.

Connie - a documentary portrait about Connie Eve

Presenters: Dorothea Braemer - Director/Editor; Collin O'Brien - Assistant Editor; Taylor Antone - Animation

"Connie" is a 30-minute documentary about the life and work of 91-year-old activist, women's advocate and inspirational leader Constance Boyles Eve. The story unfolds both in the past and the present. Her past comes to life through interviews, archival footage and animation. The present is shown through observational footage of her life as a community leader, women's advocate, family matron and friend. The film seeks to inspire young people, especially young women of color, with Connie's can-do-spirit and deeply lived belief in collective action. Born 1932 as the youngest of ten children in a small village in West Virginia, Connie remembers her parents as strong advocates for education and sustainability. Connie moved to Buffalo, NY and married Arthur O. Eve, with whom she had five children. Arthur. Eve became Deputy Speaker of the New York State Assembly, and rose to prominence as an effective politician standing up for the rights of poor and underrepresented minorities. Connie became known in her own right, most significantly as the founder of "Women For Human Rights and Dignity" (WHRD), an organization dedicated to assist single mothers and incarcerated women overcome challenges such as poverty, mental illness, and lack of education. In 1998, WHRD received the prestigious Alexis de Tocqueville award. Connie Eve, at age 91, is still an active and vibrant member of the community. Most recently she was crowned the Queen of Juneteenth in 2023.

Computer Information Systems

Pedagogies to Improve CIS Students' Math Proficiency

Presenters: Ruth Guo and Stephen Gareau

Mathematics is a universal language that plays a fundamental role in the world of computer science and computer information systems. A previous study examined the relationship between freshmen CIS students' proficiency in basic college mathematics and their ability to learn computer programming. In recent years, professors in the Department of Computer Information Systems (CIS) at Buffalo State have noticed that many CIS undergraduate students are deficient in basic math skills which can negatively affect their ability to learn computer programming languages. In the fall 2022 semester, a pilot course—entitled 'CIS 189—Math Concepts & Skills for CIS Professionals'—was introduced to help freshman CIS students learn and apply important mathematical concepts that they might encounter in their future CIS careers. The case study described here examined some of the pedagogies that CIS professors are using to help increase students' interest in mathematics which can enhance their learning outcomes in the mathematics course. In this study, two approaches are reported among many other classroom applications: One of them is the constructivist learning approach and the other is technology-assisted learning using McGraw-Hill's ALEKS leaning management system. The students in the CIS 189 course discussed here came from different countries. Hence, their educational backgrounds in mathematics varied and their mathematics levels were different. The pedagogies described here are designed to meet students' different learning needs and styles in learning mathematics. It is hoped that the results of this study can be applied to help improve future CIS students' math learning outcomes.

PharmBERT: a Pre-trained Model for Pharmaceutical Error Prediction

Presenters: Gang Hu, Dustin Doctor, and Bo Yu

Billions of retail prescriptions are dispensed in North America annually. However, the tracking over the service quality of the dispensation process is still very limited. To address factors that lead to quality-related events, error-reporting was adopted in Canadian retail pharmacies. Participating pharmacies reported errors that either reached patients or were intercepted at pharmacies. To discover patterns of the errors, analysis of these events is increasingly crucial. In this research, a deep learning model, A language model, Bidirectional Encoder Representations from Transformers (BERT) is utilized to make predictions on type of events caused by errors. The trained model is able to achieve an accuracy of ~88+% when predicting whether an event would be a near-miss (caught beforehand) or an incident (caught afterwards) event. To obtain better observations that are useful for practitioners, the attention scores produced from the trained model were further analyzed, highlighting some effects of data features. We believe that the proposed approach can be adopted as a preamble step to find patterns and learn lessons from medication errors. The findings from this study could lead to solutions enhancing the medication process and improving patient safety.

Artificial Intelligence-based Voice Navigator for Robotic Mobility

Presenters: Gang Hu, Anthony Puleo, Eric Barton, and Frank Lee

This system is designed to enhance the interaction between users and robotic vehicles using natural language processing (NLP) techniques. By seamlessly integrating artificial intelligence models with voice recognition technology, this system enables users to control the movement and functions of the robotic vehicle through intuitive voice interactions. At its core, this system employs sophisticated NLP techniques, exemplified by the integration of a powerful language model like ChatGPT. By leveraging ChatGPT, the system can interpret diverse voice commands, generating a comprehensive list of movement actions for the voice-controlled robotic vehicle. This feature ensures a user-friendly experience, allowing individuals to communicate with the robotic vehicle in a conversational manner.

ChatGPT's capabilities extend to generating a wide variety of movements based on natural language input and a predefined set of primitive actions. This flexibility empowers users to request specific movements, catering to their unique preferences and requirements. The system's application domain is extensive, reaching beyond entertainment. It holds immense potential in various fields, including human-machine interaction design and assistive technology, where it can impact the lives of individuals with mobility challenges.

Student Success and Peer-Led Team Learning (PLTL) in Introductory Programming Courses

Presenter: Sarbani Banerjee

Peer-Led Team Learning (PLTL), a nationally recognized teaching and learning model, is introduced in an introductory course for the beginning programmers in the Computer Information Systems (CIS) department. In PLTL, small groups of students are led by an undergraduate peer and work together to solve problems related to computer science and programming. PLTL is a student-centric pedagogy in which students move from the role of passive listeners to active participants in the classroom. The goal of implementation of PLTL is to retain students in CIS majors through cooperative and active learning sessions. Many PLTL research studies suggest that the students participating in the PLTL program are directly benefiting from the learning experiences facilitated by the peer leaders. The purpose of this presentation is to explore the literature related to PLTL. The current research will study the effects of PLTL related to the student's success in understanding of the mathematics, logic and basic programming concepts in an introductory programming course.

Why the Business-Efficiency Model doesn't work well in Higher Education

Presenter: Stephen Gareau

Across the U.S., university enrollment has been declining since 2010, with total enrollment dropping by about 1.95 million students, or about 10% (BestColleges.com, 2023). As enrollments shrink—with associated institutional budgets seeing shortfalls and organizational sustainability threatened—there seems to be a trend among some universities to apply corporate business practices and productivity measures—particularly a 'business efficiency' approach—to university operations. At first glance, this seems like a logical approach. Most would agree that maintaining a balanced budget is a desirable goal. However, if one digs a little deeper into the issue, one might find that educational organizations differ significantly from corporate organizations and, hence, the operational practices of one cannot be directly applied to the other. This presentation will explore some of the important differences between educational and corporate organizations—and why the 'business efficiency' approach cannot always be directly applied to educational organizations. Alternate strategies to organizational sustainability will also be examined.

Economics and Finance; Global Studies Institute

US-World Decoupling and South-South Cooperation Through The Lens of FDI in ASEAN Countries

Presenters: Xingwang Qian , & Vida Vanchan

Using Foreign Direct Investment (FDI) data from 2010 to 2022 for ASEAN countries, we examine the increasing South-South cooperation in the background of the US' decoupling from the world. The US' decoupling from the world during the Trump presidency is reflected in the US great reduction and reversal in FDI to the ASEAN countries. The vacuum left by the reversal of the US FDI in ASEAN countries was filled in by FDI from other developing economies (A.K.A the South). While the US' decoupling strategy may be due to Trump's administration, the stepping-in of developing countries' FDI in ASEAN countries is due to the strengthening trade and FDI linkages (as a part of South-South economic cooperation). Trade is also found to positively affect FDI as more bilateral trade between other developing and ASEAN countries has led to more FDI from those countries in ASEAN countries.

Elementary Education, Literacy, and Educational Leadership

The Retrospection of Development of NCM Textbook: Case Study from Evidence-based Perspective

Presenters: Qimeng Liu and Jing Zhang

New Century Mathematics (NCM) as one of the textbooks with largest market share and influence, its' development history has witnessed the trajectory of mathematics curriculum reform in China in the last 40 years. This study aimed to retrospect the process of NCM textbook development in primary grades from an evidence-based perspective. Historical research design was employed to explore in what way and how does NCM get to evidence-based textbook development.

Engineering Technology

An Integrated Assessment of Next Generation PV Technologies

Presenters: Joseph Wikar, Nicholas White, Tyler Body, Michael Vullo, Leanna Tse, Sourav Biswas, Joaquin Carbonara, and Saquib Ahmed

In this study, next generation photovoltaic (PV) materials are assessed for their viability as the top layer alternatives over crystalline Silicon as the bottom layer in a tandem device architecture. Such a design is critical to ensure effective capture of a broader range of the electromagnetic spectrum, leading to higher value for money and thereby a competitive advantage in the renewable energy market. These evaluations are conducted through a holistic lens – in understanding not only the science and engineering aspects of a given technology, but through economic viability analyses and considering the ethical, legal, and social implications (ELSI) of it as well. Lastly, with the rapid development of data science – in particular Machine Learning – techniques over the past decade, these new technologies can be smartly modulated to find optimal compositions and fabrication methods that ensure high performance, low cost, and minimal concerns ethically. In the current study, five materials candidates are analyzed through these given outlooks and critically gauged against each other to determine their relative strengths and weaknesses. Standard metrics from each outlook domain are utilized for assessment: from the science and engineering perspective, these include device stability, degradability, and power conversion efficiency; price per watt and levelized cost of efficiency are employed for economic viability analyses; acquisition of materials together with toxicity concerns during production and disposal will be probed for ELSI review. It is imperative for the PV industry to adopt this comprehensive approach in its materials' choices and assessments to ensure a mature and sustained growth.

Exceptional Education

Inclusive Service Delivery for Rural Students with Disabilities: A Case Study

Presenter: Katie McCabe

In rural schools, students with disabilities are more likely to be educated in general education settings than their urban and suburban counterparts (McCabe & Ruppar, 2023; Brock & Schaefer, 2015). Features of rural schools provide a useful lens for understanding patterns of special education service delivery across geographic settings, especially because the full continuum of special education placements may not always be available in rural settings. The aim of this research was to provide a comprehensive description of special education service delivery in one rural school district located in Colorado. Researchers conducted classroom observations, staff interviews, and a content analysis of district-wide IEPs (n=223). Findings have revealed 75% of students with disabilities had inclusive placements or spent most of their day within the general education classroom, but students with disabilities who are considered to have complex support needs (CSN) were not afforded the same access to general education settings. Researchers also found that only 25% of special and related services were offered to students in the general education classroom, indicating a discrepancy between placement rates and service delivery. Implications for best practices to include students with disabilities in general education settings, especially those with CSN, will be presented.

Fashion and Textile Technology

3D Printing for the Development of Fashion Jewelry

Presenters: Mamta Saharan and Lokesh Saharan

3D printing, recognized for fabricating objects by layering various materials, has seen widespread application across diverse industries. However, its adoption in the fashion domain has been relatively sluggish. In this study, we endeavored to address this gap by creating real jewelry using a common Fused Deposition Modeling (FDM)-type 3D desktop printer.

Two varieties of 3D printed jewelry were crafted, centered around specific geometric shapes and employing TPU or PLA as the chosen printing materials. The project encompassed the design of diverse geometric structures using commercial software applications for 3D computer graphics and computer-aided design (CAD), including Rhinoceros (commonly known as Rhino 3D) and Adobe. The resulting 3D models were brought to life through an Ultimaker S5 Pro Bundle FDM printer manufactured in the Netherlands.

The Ultimaker Cura 4.9.1 software played a pivotal role in the printing process, handling the import and slicing of 3D CAD models to facilitate the transformation into tangible jewelry pieces. Our investigation delved into the limitations associated with the selected materials, the modeling software, as well as the intricacies of the printing, manufacturing, and wearability processes. In next stage of research, we will formulate a set of recommendations and strategies aimed at mitigating these limitations.

This research is poised to inspire a more dynamic and diverse exploration of 3D technology within the fashion product development sphere, offering the potential for innovative and creative advancements in the industry.

Applied learning and case studies: Preparing students for the 21st century

Presenter: Arlesa Shephard

Higher education has placed increased emphasis on applied learning experiences and the cultivation of 21st century skills. The inquiry-based learning (IBL) framework supports applied learning principles and provides structure and guidance for student-driven learning and critical reflection. The purpose of this study is to examine the impact of applied learning using the IBL framework in an upper-level fashion course through student case study development. Case studies are a form of applied learning where students are encouraged to utilize 21st century skills. The course used in this study focuses on contemporary issues within the global fashion industry. A questionnaire was used to evaluate students' experience with the project. Analysis resulted in four themes: self-directed inquiry, information processing, skill development, and future applications. Students expressed that applied learning and self-directed inquiry encouraged problem-solving, critical thinking, and information literacy. Because students selected their own topics and resources, they believed that the project helped to better prepare them for working in the industry and recognize the relevance of the course content. The use of IBL has implications for the implementation of applied learning in other fashion courses.

Patricia H. and Richard E. Garman Art Conservation

Technical Analysis and Conservation Treatment of Ridgway Knight's Springtime

Presenters: Fiona Beckett, Grace Garrity, and Aaron Shugar

Springtime (1935.21) is a large (174.3 cm x 127.9 cm) oil on canvas painting from c.1890 by American artist Daniel Ridgway Knight (1839-1924), and part of the collection of the AKG Art Museum. Often known simply as Ridgway Knight, the artist painted many scenes of sentimentalized peasant women in French rural landscapes. Springtime was executed during the artist's time in Paris in the late 19th century and depicts a young woman in the countryside picking blossoms. The painting was analyzed by multi-modal imaging, x-ray fluorescence, polarized light microscopy of cross-sections and dispersed pigment samples, and scanning electron microscopy. The results yield additional information about Knight's working techniques, as well as his pigment and material choices. The results were compared to the little-known working habits of Knight and his contemporaries and to analyses of two other Knight paintings located at the Detroit Institute of Art and the Brooklyn Museum of Art. The painting underwent a successful conservation treatment to remove the discolored varnish to return it to an exhibitable condition.

Asian Lacquers Characterized Using Surface Metrology and Data Science

Presenters: Patrick Ravines, David Sheets, and Marianne Webb

A quantitative approach to the study of handmade Asian lacquer surfaces using non-contact surface metrology and data science techniques is presented. The study examined 15 different formulas of unaged and aged laccol, thitsi and urushi lacquer test panels with various oils, pigments and resins. Laccol, thitsi and urushi with various additives have a quantifiable impact on the surface texture/topography that may be used to detect lacquer type from non-contact measurements. Confocal microscopy was used to acquire surface texture data from the test panels, and data science methods of feature engineering and convolutional neural networks were applied to analyze the numerical surface texture data, and assign lacquer panels to the three lacquer types. Correct classification reached as high as 96%. These approaches can be applied to any surface texture data.

Geosciences

Spatial Suitability Modeling in ArcGIS Pro - A Case Study for the Locations of a New Cherry Orchard in the Niagara County, NY

Presenter: Tao Tang

Suitability modeling is to identify the best locations to conduct a particular operation or find areas to be preserved for specific reasons. This process requires multiple variables or themes of raster GIS grid cells as the input. Mathematical or statistical manipulations can be applied to each of the input GIS raster layers using the built-in map algebra functions. The output raster layer carries the suitable scores that differentiate the best locations or areas for the objective or purpose of operation on the Earth's surface. This research applies the suitability modeling workflow in ArcGIS Pro software environment to determine the best locations and areas for a new cherry farming orchard along the shoreline of the Lake Ontario in the Niagara County. Spatial suitability modeling is a new approach in environmental assessment and economic development research.

Is There Snow in Buffalo's Future

Presenter: Stephen Vermette

It should come as no surprise that Buffalo has a well-established reputation for experiencing heavy doses of snow - one that reaches back to the late 19th and early 20th Centuries. How Buffalo's snow might fare with climate change – in a warming world – is a fair question. Will snow continue to be in our future? To answer this question, I offer here a climatological (long term) perspective base on climate trends since 1965. With temperatures warming it appears that the response of snow can be found in a significant decrease in the number of snowfall days, while other measures of snow appear unchanged. Given fewer snowfall days with unchanging snowfall totals means that more snow now falls during fewer days. So, keep your snow shovels and snow blowers on hand, as there is snow in Buffalo's future. At least for the foreseeable future.

Best Practices for Ancient Rodent Midden Collection, Processing, and Curation

Presenters: Camille A. Holmgren, Angela D. Hornsby, Katie M. Becklin, Julio L. Betancourt, Francisca P. Díaz, Angélica L. Gonzalez, and Claudio Latorre

Middens are deposits constructed by rodents in rocky arid and semi-arid habitats that contain leaves, seeds, fruits, flowers, and other plant materials, as well as arthropods and bones, that can be preserved for up to 50,000 years or more. Midden fossils provide a snapshot of past vegetation and can help inform our understanding of how biological systems, from organisms to ecosystems, respond to environmental changes. As new midden researchers enter the field and new field campaigns are conducted, there is a pressing need to ensure standardized methodologies. Standardization improves our ability to utilize middens to address a variety of research questions spanning midden series, regions, and taxa. Standardized methods are especially important in anticipation of ongoing advancements in microscopy, biogeochemistry, genomics and ancient DNA, bioinformatics, and ecological and evolutionary theory and modeling. To facilitate this, we developed a midden processing guide that is open access and can be refined and updated with new developments in the field. Our guide provides a workflow with best practices for fossil rodent midden field collection, lab processing, sample curation, and data archival.

Great Lakes Center

Status of the New Zealand Mud Snail *(Potamopyrgus antipodarum)* in the Laurentian Great Lakes

Presenters: Susan Daniel, Lyubov E. Burlakova, and Alexander Y. Karatayev

The New Zealand Mud Snail *(Potamopyrgus antipodarum)* is an invasive species that was first reported in lakes Ontario in 1991, Erie in 2007, Michigan in 2006 and Superior in 2005. Subsequent studies of these populations indicate that specimens found within the Great Lakes are clones of a single female likely introduced via the ballast water of ocean-going freighters or the transportation of gamefish. To update the current status, distribution and habitats of this species in Great Lakes we combined data from the Great Lakes National Program Office (GLNPO) Biology Long-Term Monitoring Program (1998-2021) and Cooperative Science and Monitoring benthic surveys of Lakes Michigan (2015 & 2021), Ontario (2018), and Erie (2014 & 2019). Data from 2021 CSMI Lake Michigan survey indicate that P. antipodarum was the most abundant gastropod, comprising 93% of the total lake-wide gastropod density and 79% of biomass. P. antipodarum lake-wide density in 2021 increased 25-fold compared to 2015 and its occurrence increased 3-fold. We will explore the relationship between P. antipodarum and invasive Dreissenids as well as relationships across depth and substrate.

Rapid assessment of Dreissena population in the Great Lakes using underwater videography

Presenters: Alexander Y. Karatayev, Lyubov E. Burlakova, Knut Mehler, Olesia N. Kormilets (Makhutova), and Lillian E. Denecke

Dreissenid bivalves zebra and quagga mussels are considered the most aggressive freshwater invaders inflicting profound ecological and economic impacts on the waterbodies that they colonize. Severity of these impacts depends on dreissenid population sizes which vary dramatically across space and time. To quantify their ecological role, timely and reliable estimates of dreissenid densities are extremely important. However, samples obtained using conventional methods (bottom grabs or diver assessments) require years for processing. We developed a novel method that analyzes video recorded using a Benthic Imaging System (BIS) in near real-time (during a typical two-week cruise aboard EPA research vessel Lake Guardian) to assess dreissenid distribution and density and applied it on the lower four Great Lakes invaded by dreissenids. Results of rapid assessment were subsequently compared with dreissenid density obtained from Ponar grab samples collected at the same sites. The BIS-Ponar combined approach demonstrates advantages for efficient monitoring of dreissenid populations in the Great Lakes and other freshwater systems that yield valuable information not obtainable by either method alone. In general, BIS should be used in tandem with the conventional Ponar grabs as both methods have their own unique strengths. BIS, however, may be the only possible tool to study dreissenid density and coverage over large areas characterized by hard substrates (e.g. bedrock, boulders, etc.), where bottom grabs are not efficient and use of SCUBA divers is prohibitively expensive. In addition, BIS videos could be used to estimate presence and density of round gobies.

Great Lakes Center conducts the largest monitoring of benthic invertebrates in the Great Lakes

Presenters: Lyubov Burlakova, Alexander Karatayev, Olesia Kormilets, Susan Daniel, Kit Hastings, Brianne Tulumello, and Lillian Denecke.

The Great Lakes Center at Buffalo State University has been awarded over $3 million from the Environmental Protection Agency (EPA) via sub-contract through a collaboration with Cornell University. The grant, "Great Lakes Biology Monitoring Program: Zooplankton, Mysis, and Benthic Components for 2022-2028," continues a monitoring program in the open waters of all five Great Lakes, in which Great Lakes Center was involved since 2012. The EPA Long Term Biological Monitoring (LTM) Program is designed to provide managers and scientists across the Great Lakes access to biological data on zooplankton, mysids and benthos to support environmental decision-making and research. This project is a continuing collaboration between Cornell University and SUNY Buffalo State. The Great Lakes Center team led by Lyubov Burlakova and Alexander Karatayev responsible for study of benthic invertebrates. Our project is combined with a benthos assessment coincident with the Cooperative Science and Monitoring Initiative (CSMI) 5-year rotation of lakes. We are also involved in several applied research projects aimed at improving the existing monitoring program, study Great Lakes benthoscapes, and to increase our understanding of linkages between lower trophic levels and fisheries using LTM and CSMI data. Over $7 million in funding the Great Lakes Center received for benthic monitoring efforts from EPA since 2012 allow us to continue our cutting-edge study of benthic invertebrates across all Great Lakes and make us responsible of the largest benthic monitoring program in the whole Great Lakes Region and one of the largest in the World.

Great Lakes Benthic Oligochaete Guide

Presenter: Kit Hastings

Selected photomicrographs of freshwater oligochaete worms found in the Great Lakes and their identifying features. From their hairs and reproductive organs to their sometimes-cute faces! This project is part of a larger effort to make a visual guide for identifying the benthic species found in the Great Lakes during the EPA Great Lakes National Program Office Biology Monitoring Program. The Great Lakes Center has been responsible for the benthic portion of the program since 2012.

Health, Nutrition, and Dietetics

Using the Health Action Process Approach Theoretical Framework to Leverage Weight Loss Behaviors in an Adaptive Diabetes Prevention Intervention

Presenters: Danielle King and Carla Miller

Weight loss has been shown to reduce the risk for type 2 diabetes in people with overweight/obesity and prediabetes. However, even with positive intentions, behavioral change can be challenging. The Health Action Process Approach (HAPA) theoretical framework bridges the gap between an intention to change and behavioral action by targeting planning behaviors and strengthening self-efficacy beliefs. The purpose of this study was to better understand dietary behaviors using the HAPA within a behavioral weight loss intervention. The intervention leveraged the HAPA to promote a lower-fat diet to facilitate weight loss. An adaptive research design was used to stratify early responders to the standard Group Lifestyle Balance (GLB) intervention, and slow responders to a tailored treatment, Group Lifestyle Balance Plus (GLB+), following one month of intervention. At baseline, GLB (n = 77) reported significantly lower values for intention to eat a lower-fat diet and action planning (all P >0.01), and significantly higher values for fat intake (all P >0.05) compared to GLB+ (n = 103). Both groups reported significant increases in HAPA constructs, apart from risk perception, which significantly decreased (all P < 0.05). GLB reported significantly greater increase in action self-efficacy (P = 0.01), intention to eat a lower-fat diet (P <0.0001), action planning (P = 0.0005), and coping planning (P = 0.01) compared to GLB+. Both treatment groups reported significant reduction in total fat intake (P < 0.0001). Both interventions were effective at improving HAPA-related and dietary outcomes. Tailoring programs to address heterogeneity in treatment response may improve intervention efficacy.

History and Social Studies Education

Etele Piciantini's Notebook

Presenter: Bridget Chesterton

While in Paraguay in 2022 I had the privilege of meeting Etele Piciantini, who was the assistant to the cook Josefina Aquino de Villela. Aquino and Piciantini together trained generations of Paraguayan housewives and domestics in the art of cooking. The book project that I am working on is a compilation of recipes written by Aquino and typed and mimeographed by Etele in the middle decades of the twentieth century. These recipes are represent both "traditional" Paraguayan and international cuisine. At the moment I am working on recreating the recipes and photographing them for inclusion in the cookbook.

Inquiry Design Method: Teaching September 11th with Children's Literature

Presenters: Dana Faye Serure and Patricia Radigan

In remembering September 11 today, many adults may only recall the tragic terrorist attack and the images of destruction while children and young adults may know very little or nothing about this significant event in history. Teaching recent history, like September 11th and post-9/11 politics may be challenging for pre-service and novice teachers who represent the 'millennial generation' (Ettinger, 2015). Secondly, facilitating challenging discussions about potentially controversial issues (Hess & McAvoy, 2014), or hard history (Pace, 2021) may exasperate teaching about September 11th. A new curriculum that I am developing called the History Hope aims to instruct about 9/11, and teaches diverse stories of heroes, heroines, and survivors through the use of children's literature and young adolescent books (Bellows, 2016; Jones, 2022). By using children literature instead of newspapers and graphic images of the day terror, the History of Hope curriculum seeks to teach the history of 9/11 through the lens of humanity and human kindness. Teaching with children literature is one way to address a challenging time in history and serves as a model for other sensitive events in history. The Inquiry Design Method guides the instructional planning for the History of Hope (Swan et al., 2018). This project was supported by the PDS 2023 mini-grant for the purchase of September 11th children and youth literature books for the usage with Social Studies Education teacher candidates.

Hospitality and Tourism

Cooking with Culture: Stirring up a 'Sense of Belonging' with Family and Friends

Presenter: Kathleen O'Brien

The Hospitality and Tourism Department completed a session for inclusion into the 2023 Anne Frank Festival. "Cooking with Culture: Stirring Up a 'Sense of Belonging' with Family and Friends" was developed from the theory that equity is essential to growing a strong economy has the potential to build vibrant and resilient communities.

The kinesthetic element of the session will include collecting recipes and family stories from students in HTR 361, Principles of Food Service Management. Some students in the class are self-described "food lovers" or have interest in becoming chefs.

Hands-on cooking demonstration the preparation of recipes and dishes which reflect the diverse food culture of Jamaica were part of the sessions. The goal was that participants gain practical and emotional skills in the culinary arts while sharing various social occasions which are part of their cultural identity.

This session will began with a conversation with Chef Darian Bryan around food to address questions of culture, context, history, and identity.

Institute for Community Health Promotion

Racial Equity Analysis of Mental Health and Chemical Dependency Treatment Services in Erie County

Presenters: Alan Delmerico and John Petrocelli

ICHP has been tasked by the Erie County Dept. of Mental Health to conduct a Racial Equity Analysis of Mental Health and Chemical Dependency Treatment Services in Erie County in order to assesses the population characteristics of race/ethnicity and poverty within the context of physical access to these treatment services. These analyses are designed to assess the treatment system as a whole and to better understand if, and where, there are gaps in the coverage of these services, and to then evaluate for potential equity issues in their distribution. This analysis uses the locations of treatment services and examines the demographic characteristics of the populations that fall inside of and outside of their physical catchment areas. A catchment area is defined as the area from which a location, such as a service or institution, attracts a population that uses its services. In the case of this report, we define a catchment area as a 1- or 10-mile radius surrounding a chemical dependency program or service, depending on whether that program is within the City of Buffalo or outside of Buffalo. The analyses of treatment system coverage are conducted separately based on these definitions, with one set of analyses focused on the City of Buffalo only, using the 1-mile radius definition, while the other is focused on Erie County excluding the City of Buffalo, using the 10-mile radius definition.

Combating High Prevalence of Substance Use Among Diverse At-Risk Youth Populations

Presenters: Dr. Jonathan Lindner, Fardowsa Y. Nor, MPH and Ibn Khalif, B.S.

To help prevent the initiation and continuation of substance use among youth and high-risk populations on Buffalo's West Side, the Center for Health and Social Research (CHSR) has implemented two federally funded grant projects; the Sober Truth on Preventing Underage Drinking (STOP Act) and the Strategic Prevention Framework Partnership for Success. Both projects are intended to expand and strengthen the capacity and collaboration of our community coalition and local prevention providers to implement evidence-based prevention programs. Environmental prevention utilizes three approaches: (1) change social norms, (2) change the physical environment, and (3) enhance law enforcement. These efforts have been aimed toward students attending Buffalo Public Schools as well as those living in the 14213, 14222, 14209, and 14207 zip codes. One of our environmental prevention approaches has been to work with the Buffalo Public Schools (BPS) to develop and implement the Center for Disease Control and Prevention (CDC) and their Youth Risk Behavior Survey (YRBS). The YRBS measures health-related behaviors and experiences in middle and high school students that can lead to death and disability among youth and adults. Additionally, the survey results help us monitor health trends, identify emerging issues, and plan and evaluate programs that can help improve adolescent and community health. This poster will present YRBS substance use data from 2017, 2019, and 2021 in BPS Middle and High Schools. We will detail initial findings and provide recommendations highlighting effective strategies for preventing and reducing youth substance use on the West Side of Buffalo, NY.

Mathematics

Celebrating Ten Years of the New York State Master Teacher Program

Presenters: David Wilson, Lisa Brosnick, and David Henry

The New York State Master Teacher Program is celebrating ten-years of bringing teachers together to engage in a variety of professional learning experiences that support growth in knowledge of content, knowledge of pedagogy, and knowledge of students and their families. The highly selective application process has resulted in many brilliant and talented teachers coming to the campus for their four-year fellowship, with many transitioning to adjunct faculty positions following their fellowship. The NYSMTP through its outreach efforts to the broader western New York teaching community, has brought hundreds of teachers to campus as well as more than a thousand students. Formal partnerships with schools have been established with programs such as the Buffalo Math Collaborative helping to connect Buffalo State with the Erie County K-12 school community. Buffalo State students are mentored by NYS Master Teachers that are passionate about providing the strongest learning experience to our next generation of teachers. In addition, grants totaling nearly a million dollars have come to Buffalo State and provided for unique research partnerships to form and blossom.

Powerful Conversations for Powerful Classroom Instruction: Creating Spaces for Teacher Learning and Growth

Presenters: David Wilson and Denea Czapla

The NSF-funded project, Building a Teacher Knowledge Base for the Implementation of High-Quality Instructional Resources Through the Collaborative Investigation of Video Cases, concluded its fourth year in June 2022. The project has brought together more than one-hundred teachers from the WNY region to engage in monthly PLC meetings that focused on thinking deeply about mathematical content while supporting their conversations around teaching and learning through the use of video case studies. The Teaching for Robust Understanding (TRU) framework (Schoenfeld, 2014) provided a lens to analyze learning environments. An iteratively developed and refined learning cycle provided teachers with opportunities to jointly construct knowledge and engage in collegial exchanges that deepened understanding and prompted reflection on instructional practice.

The Secret Life of Data: Mathematics in the context of Data Science and AI

Presenter: Joaquin Carbonara

In this presentation, we delve into the dynamic world of chatbots and Large Language Models (LLMs) by examining pertinent examples, ongoing research projects, and general information that sheds light on their current state and future prospects. As transformative technologies, chatbots and LLMs have demonstrated unprecedented potential, not just in altering the fabric of human-computer interaction but also in revolutionizing Education, Science and Mathematics. From aiding scientific research through data processing and hypothesis generation to offering innovative solutions in mathematical modeling and problem-solving, these digital entities are reshaping the way we approach traditional domains. By exploring their potential impact, we aim to understand the broader implications of their adoption, both in terms of challenges and opportunities.

Rising Stars: A Summer Program Supporting Children's Success in Mathematics

Presenter: David Wilson

The Rising Stars Math Camp brings together children from the Amherst and Sweet Home school districts for a two-week learning experience in late-August. The students are entering grades four and five and experience a variety of tasks designed to build understanding and connections, as well as foster greater confidence in their mathematical ability. A collection of nationally scored items administered in a pre-post design revealed a large increase in content knowledge over the two weeks. Given that the students have not previously demonstrated high levels of success on NYS Assessments, the success in noteworthy.

Modern and Classical Languages

Mantha: Alchemies of the Cultural Turn

Presenter: Mark Warford

Set against the rich and troubled tapestry of the West's Greco-Roman inheritance, the Sanskrit root 'manth/-', which roughly translates to ""a churn"" ('mantha') or ""to churn"" ('manth') in Sanskrit, serves as a cauldron into which age-old binaries are blended. A mantha of the Greek metaphysical notion of the One and the Many drives explorations of a variety of themes, including the Feminine and the Masculine, Self and Other, East and West, Heroes and Monsters, Olympians and Titans, Creativity and Innovation. Accordingly, the psychoanalytic canon is (re)introduced to a diversity of perspectives, from linguistics and Translation Studies to educational theory and horror fiction. Guided by the 'Opus Contra Culturam', Warford, infusing his background in linguistics, Translation Studies, Spanish, Sociocultural Theory, and Global Humanities, demonstrates the importance of stretching beyond what is known in one's cultural milieu, that ""one"" taking many forms: the citizen, the student, the professional, the innovator, the scholar, and the infinite intersections of group identifications into which we are susceptible to being siloed. Specific topics include cultural complexes and trauma, Titanism, integrative approaches to human development and learning theory, the Monstrous, as well as creativity and innovation studies.

Music

African American Operatic Artists in Northern Europe, 1926-1938

Presenter: Carolyn Guzski

My project in the discipline of historical musicology seeks to contribute an international perspective to the historical relationship between dramatic music and race in the United States and Europe. During the interwar period, African American vocal artists who had been explicitly denied positions on the renowned artist roster of the Metropolitan Opera in New York successfully sought to integrate European lyric stages by seeking operatic engagements across the Continent. The Metropolitan Opera had refused to engage singers of color in principal roles since its 1883 founding. But primary sources on nationally renowned theaters and companies in France, Belgium, and The Netherlands, which I have investigated through recent fieldwork, reveal an extraordinary performance history of Black artists‘ inclusion in biracial productions at a level unknown in the United States until the post-World War II era.

The secondary literature has contributed little beyond foundational reportage on the international careers of the three

African American singers on whom I focus: Washington, D.C. coloratura soprano Lillian Evanti (1890-1967); Texas baritone Jules Bledsoe (1898-1943); and North Carolina dramatic soprano Caterina Jarboro (1898-1986). The more granular data revealed in European archives creates a fuller picture of these previously marginalized artists, who merit further exploration in the historical record by their pioneering pursuit of diversity—in theory and practice— in the international performing arts community.

I send my heart up to thee," Interdisciplinary Collaboration: Visual Art and Music

Presenters: Candace Masters and Ho Eui Holly Bewlay

A painting "I send my heart up to thee" was created by a visual artist, Candace Masters, while listening to a recorded performance of Dr. Ho Eui Holly Bewlay singing the song titled the same by composer H. H. A. Beach, in the Czurles-Nelson Art Gallery. Masters was inspired by the colors that Beach expressed in the music and added her own intuitive visual impressions of the sounds. Beach's interest in the imagery of nature, and the lyrical nature of her music, also played a role in the hues, textures, forms, and gestural strokes that Masters layered with impasto, alongside other areas of light, fluid glazes. Masters saw images of light, clouds, sky-scapes, and waterscapes. She imagined bright yellow rays lifting upwards, rather than downwards as sunrays normally would, and those acting as a symbol for the strong romantic, emotions in the song; the notion of love rising with an intense yellow burst. The movement of the piece echoes light, sky, and water. The initial, textural underpainting was influenced by the physically visible structure of the song on the score; the swooping slurs and ties visible in the written music, and the long, rich notes as they were sung by the singer. The painter started with very thick paint, and layered light, more airy glazes over-top, beside and around. Due to this collaboration, the singer was able to appreciate her own sound by this visual image. Many musicians appreciate the quality of the sound by hearing not visualizing. Human expression across two mediums (music and art) can be a great tool to appreciate both art forms. As a result of the collaboration, Bewlay saw her voice in colors as the intension of her musical communication was perceived by a visual artist.

Physics

Spin-flop quasi metamagnetic, anisotropic magnetic, and electrical transport behavior of Ho substituted kagome magnet ErMn6Sn6

Presenters: Venkateswara Yenugonda, Jacob Casey, S. Shanmukharao Samatham, Christopher Burgio, Noah Kramer, Asraf Sawon, Jamaal Huff, and Arjun K. Pathak

Kagome latices are the hexagonal crystals with corner sharing triangular networks of transition metals within the plane. They are reported to emerge as potential facilitators for correlated and topological phenomena. RMn6Sn6 compounds are predicted to host Chern gapped Dirac fermions with strong spin-orbit coupling and parallel spin configuration in the out of plane. We are presenting the synthesis, magnetic and transport properties of Ho substituted ErMn6Sn6 kagome magnet.

Chaos on a Billiard Table

Presenter: David Ettestad

The path of an ideal spinning ball on a billiard table may or may not be chaotic. This research looks into how the amount of spin and the aspect ratio of the table affects whether or not a the path of the ball ends up in a limit cycle.

Psychology

Impacts of Maternal Substance Use and Perception of Infant Cries on Maternal Harsh Parenting

Presenters: Pamela Schuetze, Olivia Bell, Madison R. Kelm, Meghan Leising, and Rina D. Eiden

Maternal substance use is associated with nonoptimal parenting (Rutherford et al., 2011) which may be due, in part, to altered perceptions of child behavior. For example, a small number of studies have indicated that substance-using mothers exhibit less neural activation to infant cries (Landi et al., 2011) and perceive cries as less aversive (Schuetze et al., 2009) than nonsubstance-using mothers. However, it is not clear how altered perceptions of child signals among substance-using women may impact parenting behavior. Thus, the goal of this study was to examine paths from maternal substance use to harsh discipline via maternal perceptions of infant cry sounds.

Mother-child dyads (N = 127) participating in an ongoing longitudinal study were recruited after the first trimester of pregnancy from a prenatal clinic serving predominantly low-income women with prenatal substance use (n = 94) and a non-using comparison group (n = 33). During middle childhood, mothers reported their alcohol and marijuana use patterns using a validated calendar-based interview (Sobell & Sobell, 1992) and completed the Parent-Child Conflict Tactics Scale (PCCTS; Straus, 1997). Mothers also rated an audio recording of a standard newborn cry on 6 items. Items assessing maternal perception of the urgency, unpleasantness, and irritability of infant cries were averaged into a composite cry aversiveness variable. Items assessing the impact of infant cries on maternal sadness, anxiety, and anger were averaged into a composite impact of cry variable. The psychological aggression and physical assault scales of the PCCTS were highly correlated, $r(122) = .51$, $p < .001$, and averaged into a composite variable reflecting harsh discipline. Variables that were skewed and kurtotic were transformed using square root transformations.

Path analysis revealed that, controlling for maternal parity and education, higher maternal alcohol and marijuana use predicted more harsh parenting ($b = .21$, $p < .05$; $b = .36$, $p < .001$), respectively. The path from aversiveness of infant cry to maternal harsh discipline reached marginal significance ($b = .20$, $p = .08$) such that the more aversive mothers perceived infant cries, the more frequent harsh discipline they endorsed. The path from maternal alcohol use to the impact of infant cries on maternal negative affect also reached marginal significance ($b = -.17$, $p = .07$), such that the more alcohol mothers drank, the less impact infant cries had on negative affect. Overall, the model was a good fit to the data, œá2 (4) = 3.93, p = n.s.; RMSEA = .00, 90% CI [.00, .42]; CFI = 1.00; SRMR = .02, and explained 27.2% of the variance in harsh parenting.

Consistent with previous literature, we found that maternal substance use was associated with more harsh parenting (see Gruber & Taylor, 2006 for a review). Although, findings of associations between cry perceptions and maternal alcohol use and harsh parenting were only marginal, perhaps due to a moderate sample size, these findings suggest parenting intervention efforts should consider the role that altered maternal perceptions of child behaviors and communicative signals may have in parenting behaviors among substance using mothers.

Use of the Nominal Group Technique in Focus Group Research and Survey Development

Presenter: Robert Delprino

The research collected information of officers' opinions and potential actions related to a proposed new contract between the officers and the agency in which they served. The nominal group technique (NGT), a structured variation of small-group brainstorming, was implemented and ideal for use with this population. Findings identified officers' concerns based on the number of years of service and provided a foundation for the development of an organization wide survey.

Time of day does not influence likelihood to eat in response to stress but does influence state impulsivity

Presenters: Naomi McKay, Cassandra Lewandowski, Michael Brzyski, and Amanda Crandall

Eating-associated factors, including appetite, desire for snack foods, and stress-induced ghrelin release, are all elevated later in the day. However, it is not yet determined if eating in response to a stressor elevates later in the day. When examining this possibility, we wanted to determine if impulsivity acted as a mediator between time of day and likelihood to stress eat. Many studies have shown a positive association between trait impulsivity and unhealthy eating. Therefore, we predicted that the reported likelihood to eat, or wanting to eat, in response to stress would become higher throughout the day and that the change in likelihood to stress eat would be mediated by state impulsivity. Participants were asked to estimate how likely they would be to eat in response to a stressor and asked how much they wanted to eat a variety of food items. Finally, they took an assessment of state impulsivity. This survey was sent to each participant on three consecutive days at either 10:00 am, 3:00 pm, or 8:00 pm. Surprisingly, we did not find any influence of time of day on our eating-associated measures. State impulsivity, however, increased over the course of the day. In addition, impulsivity was positively associated with unhealthy food wanting, healthy food wanting, unhealthy food liking, and healthy food liking. Therefore, although time of day did not influence eating-associated measures, we did find that impulsivity can change over the day, which suggests that this is an important factor to consider when studying eating behavior over time.

I Will Earn My College Degree: Predictors of Students' Certainty of Graduation

Presenters: Jill Norvilitis, Howard Reid, and Karen O'Quin

Nationally, 64% of first-time undergraduate students will complete their degrees within 6 years (National Center for Education Statistics, 2021). Understanding predictors of degree completion may help identify appropriate supports for students at risk. Additionally, students who expect to complete their degrees are likely to take more steps toward completion, so understanding who is likely to expect to complete the degree is also important. Controlling for year in school, the present study examined several potential predictors including motivation, grade point average, grit, helicopter parenting, financial strain, psychosocial distress, sense of purpose, career indecision, valuing intellectual curiosity, first-generation student status, and academic adjustment to college in a sample of 838 undergraduates. Of these, only amotivation, sense of purpose, financial strain, valuing intellectual curiosity, academic adjustment to college, and career indecision predicted expectation of graduation.

Qualitative Reports on First Use Experience of Cigarettes, E-Cigarettes, and Cannabis

Presenters: Jessica A. Kulak and Kimberly E Kamper-DeMarco

Understanding one's first experience with a substance has important implications for identifying risk factors for product initiation. We examined first nicotine (e.g., cigarette, e-cigarette, etc.) or cannabis product (e.g., edible, vape, blunt, etc.) use by undergraduate students and used a mixed-methods approach to describe first use experiences. 641 undergraduate college students were recruited in five unique cohorts from spring 2020-2023 from a mid-sized, urban-engaged college in the northeast U.S. to complete an online survey assessing a range of substance use and mental health variables. Descriptive statistics characterized quantitative data on age of first use and first product used. Students were asked to respond to an open-ended question, "Provide a brief description of your first experience with [cigarettes, e-cigarettes, cannabis]." For the qualitative responses, we identified categories to represent the themes participants gave about their first experience with each substance and iteratively refined these into 10 codes. Average age of first use was: 15.8 (cigarettes), 16.5 (cannabis), and 17.1 (e-cigarettes). Among ever nicotine users (n=262), first product used was most commonly e-cigarettes (56%) and cigarettes (23%). Among ever cannabis users (n=358), first product used was most commonly smoking without tobacco (44%) and smoking with tobacco (24%). In qualitative responses about

first experiences with cannabis, cigarettes, and e-cigarettes, the most common themes centered around with whom first use happened and feelings associated with first use. Most students, for all products, described being with friends (36-43%). Among all respondents, feelings associated with first use varied by product, with first cannabis use almost equally described as positive (18%), negative (16%), or neutral (20%). First time vape experiences were nearly equally described as positive (22%) or negative (20%). Alternatively, first time cigarette use was described almost universally negative (31%; 6% positive). Monitoring first use experiences with nicotine and cannabis products can help to inform tailored prevention messaging and harm reduction strategies. In this data, qualitative responses indicate most first experiences occurred with a friend, suggesting a direction for which future interventions to focus. Future research may wish to examine whether qualitative data on first use ultimately predicts future product use.

Effect of Race and Emotion on Perceived Sexual Assault Credibility

Presenters: Eyad J. Naseralla (1st) and Jamie Ervolina (2nd)

The present study seeks primarily to understand the degree to which racial stereotypes about emotional expressiveness affect perceptions of sexual assault victim credibility. According to the emotional victim effect (Ask & Landstom, 2010), the emotions displayed by a victim—particularly during legal testimonies—play a large role in the perceived credibility of the victim. Specifically, victims whose emotional expressions are more consistent with expectations are perceived as more credible than victims who express more or less emotions than expected. One factor that may influence this is the race of the victim and racial stereotypes related to emotionality (e.g., stereotypes of Black women as angry or Asian women as reserved). Three hundred and fifty participants were randomly assigned to read an incident report of a rape in which the victim is described as being Black, White, Latina, or Asian. Participants then completed a measure of expected emotions from the victim. Afterwards, participants were randomly assigned to read a testimony in which the victim either expressed noticeable anger or maintained a neutral disposition. Finally, participants completed a measure of perceived emotions as well as perceived credibility. Contrary to hypotheses, victim race did not affect expected emotions in response to the incident. Similarly, perceived victim credibility was not affected by victim race, emotional expression, or expected emotions. Potential reasons for the lack of findings and recommendations for future research will be discussed.

The Impact of Free-standing Online, Asynchronous Modules on Student Child Maltreatment Knowledge and Skills Acquisition

Presenters: Pamela Schuetze, Kathy Doody, and Tyler Counsil

We evaluated the impact of free-standing asynchronous, online modules on child maltreatment topics on undergraduate and graduate student gains in child maltreatment knowledge and skills acquisition. In the first phase, feedback provided by 175 (127 female) students on two modules, 1) Identification of Child Maltreatment and 2) Mandated Reporting was used to revise the modules. In the second phase, differences in student ratings of child maltreatment (n=76) and mandated reporting (n=66) concepts from pre-to post-module completion was assessed using repeated-measures analyses of variance. There were significant gains in student understanding of how to identify child maltreatment, the impact child maltreatment has on children and how to advocate for children. Although fewer significant gains were reported for concepts related to mandated reporting, students did report more familiarity with mandated reporting procedures, more positive beliefs about the effectiveness of existing mandated reporting procedures and an increased understanding that there are no negative consequences to a good faith report that is not substantiated. Finally, students were significantly more likely to suspect child maltreatment for brief vignettes that had specific indicators of sexual or emotional abuse and marginally more likely to suspect child maltreatment that indicated possible neglect. These findings indicate that students perceived the use of asynchronous online modules for communicating essential information about detecting and responding to child maltreatment to be effective and important.

Small Business Development Center

Empowering Students and Cultivating Entrepreneurial Excellence: The Bengal Entrepreneurship Program

Presenter: Olivia Harbol

The Bengal Entrepreneurship Program, driven by Buffalo State University's Small Business Development Center, extends student learning beyond the classroom, fostering creativity and an entrepreneurial spirit.

Generously funded by Bank of America, we've employed a part-time student intern for effective program management and planning.

Our mentorship and training initiatives actively prepare Buffalo State University students for the highly competitive NY Business Plan Competition, offering a chance to secure a portion of the $100,000 prize pool.

A highlight of our work is the Bengal Entrepreneurship Competition, exclusively for Buffalo State students. In collaboration with Bank of America, we will award six outstanding students a total of $3,000 in prizes. Mark your calendars for the inaugural event on November 14, 2023!

Minority and Women Entrepreneurs Procurement Initiatives

Presenters: Dr. Susan McCartney, Director; Bailey Brouillard, MWBE Business Advisor; Karina Loera, Contract Readiness Coordinator; and Donald Williams, Research Assistant

Procurement readiness and procurement matchmaking is a grant funded initiative that includes, training, one to one interviews and counseling, and matchmaking opportunities for the minority and/or women entreprenuers. All interaction is documented. Participants are surveyed at various stages of the process. Participants/clients often seek MWBE certification with Erie County, City of Buffalo or New York State. An additional effort involves training 12-20 individuals over a period of eight weeks. The project has resulted in 11 cohorts to date. Each cohort is given training in developing their pitch, creating a capability statement, information on business insurance, training in understanding the RFP process and much more. Of that cohort - some will engage in the MWBE certification process. All participants are then given an opportunity to meet with prime contractors and/or anchor institutions in order to secure a contract.

Social and Psychological Foundations of Education and Adult Education

The Charles E. Scheidt Faculty Fellows in Atrocity Prevention Program at Binghamton University

Presenter: Andrea Nikischer

This presentation will provide an overview of the Charles E. Scheidt Faculty Fellows in Atrocity Prevention Program at the Institute for Genocide and Mass Atrocity Prevention (I-GMAP), Binghamton University. The fellows program seeks to "...engage faculty in a guided process of learning and exploration of the potential for their own disciplines to contribute to atrocity prevention" (https://www.binghamton.edu/i-gmap/our-work/charles-e-scheidt-faculty-fellows-

program/index.html). Fellows spend a full academic year learning from I-GMAP's faculty, staff and practitioner visitors within a cohort of peers representing a wide variety of disciplines from across and beyond SUNY. The final culminating project of the fellowship requires faculty to incorporate atrocity prevention content into an academic course or program. Details about my personal experience as a fellow and how I wove a mass atrocity prevention unit into the course ADE 575: Family Violence and Adult Education will be shared.

Social Work

Toward an Empirical Definition of Microaggression

Presenter: Berg Miller

There is not yet sufficient research to inform a definition of microaggression that captures the complexity and heterogeneity of these incidences. The current scholarly definition by Sue et al. (2007) defines microaggressions as "brief and commonplace daily verbal, behavioral, or environmental indignities, whether intentional or unintentional, that communicate hostile, derogatory, or negative racial slights and insults towards people of color " (p.273). The study seeks to expand upon the existing definition. The study was exploratory and mixed methods with a transformative design. A web-based survey was used to collect qualitative and quantitative data from self-identified women and non-binary people of color employed by human service agencies (N=104). The quantitative data were analyzed using descriptive statistics. Neither the qualitative nor the quantitative results supported the definition of microaggressions proposed by Sue et al. (2007). The quantitative findings showed that very few participants reported experiencing microaggressions either "daily" (8%) or a "few times a week" (11%). Regardless of frequency, the qualitative findings suggested that microaggressions sometimes have lingering effects that can feel constant. On the other hand, the perception of these moments of subtle discrimination as "indignities" may not be an essential condition of their having occurred. Participants who experienced microaggressions did not consistently report them as bothersome. Based on a mixed methods analysis, future studies are needed to advance an empirically-supported definition of racial microaggression based on lived experiences of people of color to foster anti-racist social work education and practice.

Higher Education: Broke and Broken

Presenter: James Golden

Higher education has been mired in a protracted existential crisis over the last 20 years, as the field has faced not only a steady stream of environmental threats, such as recessions and demographic shifts, but also waning public faith in the value of a college diploma. This change in public perception has in many ways been the most devastating to the current functioning of campuses throughout the U.S., as the field's attempts to demonstrate value and relevance have caused academic leaders to unwittingly exacerbate such criticisms. The expansion of support and ancillary programs for students has resulted in significant increases in administrative and non-instructional spending while failing to result in significant improvements in retention or graduation rates or address concerns about whether going to college is "worth it." Moreover, in attempting to assert the relevance of a college degree, campus leaders have commodified the education process by marketing academic programs in terms of job readiness and post-graduation employment rates. However, doing so undermines the integrity, and indeed perceived relevance or value, of a general education curriculum among those already skeptical. For example, having a mechanical engineering student sit through a 15-week class on 16th-century literature is contrary to the utilitarian form of college education that campus leaders have marketed to the public. Accordingly, academic institutions need to reassess their identity, strategic focus, and curricular purpose in order to remain solvent, let alone relevant.

Sociology

Applying the Sociological Imagination: Developing a Lasting Living Memorial

Presenter: Amitra Wall

On May 14, 2022, an eighteen-year-old, self-identified white supremacist drove from Conklin, New York to an area that is heavily populated by African American residents in Buffalo, NY. Driven by hate, he parked at the Tops Friendly Market at 1275 Jefferson Avenue and shot thirteen people - killing ten and injuring three. Of those, 11 people were African Americans. Mayor Byron W. Brown and Governor Kathy Hochul created the 5/14 Memorial Commission to plan a living memorial that reflects the wishes of the families, survivors, and the community so that the legacies of the victims and survivors are honored and respected. This exhibit will apply the sociological imagination when outlining the steps and processes taken to ensure ongoing transparency and comfort to members of the community and to issue the Request for Submissions: Initial Call for Design Concepts.

Development of the Temporal Sense Scale (TSS) for General Populations

Presenter: Jie Zhang

Background: There have been measures of subjective passage of time, but few if any were structured for general populations.

Objectives: This study was to develop the Temporal Sense Scale (TSS) for general use in any population and test its validity with measures of well-being, life satisfaction, and psychopathologies in some selected samples.

Method: One sample was from medical staff in a public hospital (n=1,012), and a second sample consisted of heterogeneous non-medical employees (n=1,051), both in urban China. A self-administered questionnaire was used to collect demographics, well-being, life satisfaction, depression, suicidal ideation and temporal sense in both randomly selected samples. Reliability and validity tests were performed on the Temporal Sense Scale. Analyses were further conducted to examine to what extent temporal sense was associated with positive psychological outcomes (well-being and life satisfaction), as well as psychopathologies (depression and suicidal ideation).

Results: The Temporal Sense Scale showed high validity and strong internal reliability among both samples (Cronbach's alphas >0.93). Fast temporal sense was positively associated with well-being and life satisfaction, and negatively associated with depression and suicidal ideation in both groups. The significant associations remained even with age, gender, and other relevant factors controlled for.

Conclusions: The Temporal Sense Scale is hereby a valid measure of individuals' time sense, and the feeling of fast passage of time as measured by TSS can be an indicator of happiness. The TSS could be used to estimate certain people's well-being and life satisfaction.

Sponsored Programs

Research Involving Human Participants: Does my research need to be reviewed by the Institutional Review Board (IRB) or its representative?

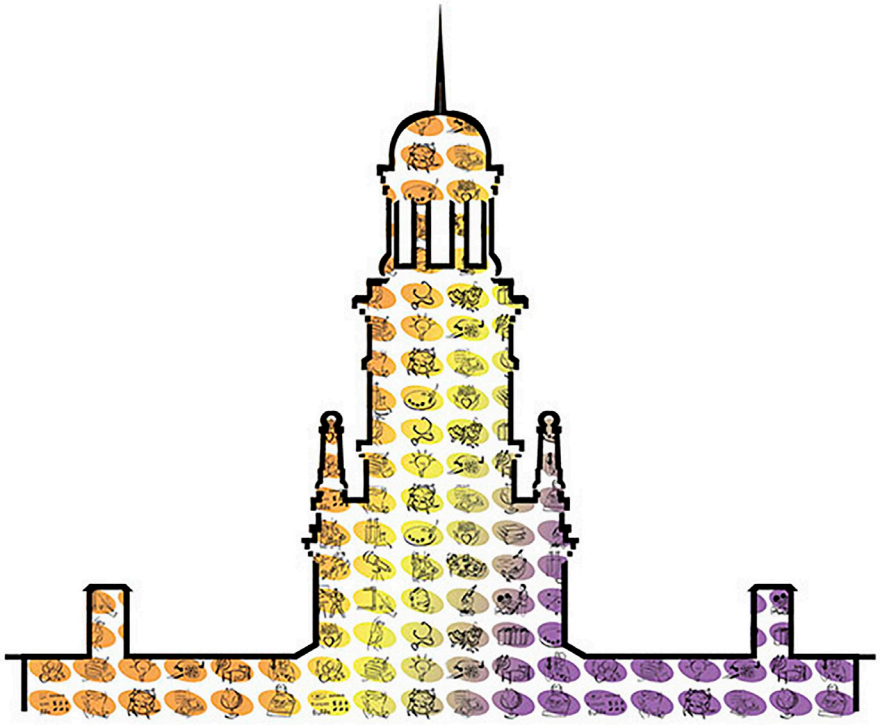
Presenter: Gina Game

If your research involves human participants, the answer is yes. This includes research in which you use a database of information that someone else collected. As long as you are doing research that involves living humans, your research requires some level of review.

Why do I need to do this?
A review of all research involving human participants is required by an agreement, called a Federal-Wide Assurance, signed by SUNY Buffalo State and the federal Office of Human Research Protection. This assurance is designed to protect the rights of participants. By protecting the participants, this oversight also protects the researcher and the campus. Failure to follow federal regulations, including failing to submit a protocol for review, can have serious consequences for both the researcher and the campus.

What do I need to do first?
Researchers should refer to the Research Compliance section of the Sponsored Programs website at https://sponsoredprograms.buffalostate.edu/suny-rf-pacs-irb-module for work instructions, templates, and the PACS Login. The SUNY RF Pre-Award and Compliance System (PACS) portal is a modular system and IRB was the first component to be activated. Researchers and administrators will benefit from this intuitive and easy-to-use system, reduce their effort on protocol creation and submission, reduce IRB turnaround times, and create IRB administrative efficiencies to better serve researchers and their study team members.

Researchers and administrators will be able to access the PACS IRB module to submit their protocols. User-friendly SmartForms will guide you through the submission process. The IRB has done away with paper submissions and only accepts electronic submissions.



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