Anne Frank Project

Building Stories: The Logistics, Leadership, and Learning Behind AFP's Social Justice Festival

Presenter: ***Jonise Hall***

The presentation explores the intentional planning, collaboration, and reflection that drive Buffalo State University's Anne Frank Project Social Justice Festival—a two-day, story-based learning event that brings together students, faculty, and community members. Drawing from four years of experience coordinating the festival, this presentation highlights the behind-the-scenes process: from defining annual themes and managing logistics to fostering collaboration among departments and community partners. It examines how theater-based approaches inform event design, creating hands-on, experiential spaces that promote belonging, reflection, and action. This poster also reflects on lessons learned about balancing structure with creativity, responding to campus needs, and centering participant experience over personal preference. Ultimately, the festival demonstrates how large-scale academic events can serve as catalysts for connection, social justice education, and collective growth—both on campus and beyond.

Art & Design

Developing Positive Disability Identities in Art Education

Presenter: ***Alexandra Allen***

The art classroom is commonly considered an inclusive environment where art educators are responsible for teaching students with a variety of support needs. A critical disability studies (CDS) methodology allows educators to move beyond adaptations and modifications in the classroom and consider the social conditions of disability, which can impact student disability identity. By adopting a CDS methodology, art teachers can take meaningful steps toward encouraging positive social relationships, reducing disability stigma, and promoting positive disability identity development in the art room. The purpose of this study was to gain a better understanding of the lived experience of adults with disabilities who attended K-12 public schools in order to determine how learning environments and social interactions contributed to their sense of belonging.

Critique as a Bridge Between Art and Code: Pivotal Discourse Artifacts in Media Arts Education

Presenter: ***Dave Mawer***

This work examines how discourse functions as a mediating artifact during classroom arts critique activities in a university-level STEAM media arts course. Drawing on Holland et al.'s (1998) theory of figured worlds and the Vygotskian concept of pivots, this research conceptualizes critique talk as a site where learners navigate and integrate the cultural concerns of programming and artmaking. Using microethnographic discourse analysis of recorded critiques, field notes, and student code-based artworks, the study identifies moments in which utterances, design suggestions, or evaluative comments operate as pivotal discourse artifacts—linguistic and conceptual tools that "open up" shifts in understanding across aesthetic and computational domains. Data analysis surfaced three recurring types of discourse pivots: displacement pivots, in which programming language substitutes for aesthetic description; bridging pivots, which connect technical and artistic reasoning within the same exchange; and problem-solving pivots, which computational proposals respond directly to aesthetic issues. These pivots illuminate how students improvise identity positions as both artists and programmers while co-constructing meaning about their work. Across these interactions, discourse functioned as a mediating artifact that maintained thematic coherence while enabling students to perform these hybrid artist-programmer identities. Findings suggest that critique in STEAM environments can serve as an epistemic practice that links making, reasoning, and identity formation, offering educators insight into how dialogic structures and artifacts of critique can scaffold inclusive, cross-disciplinary learning.

Business, Economics & Public Administration

Engage Human Intelligence with Artificial Intelligence: AI-Augmented Case-Based Learning in Business Law & Accounting (2023–2027)

Presenter: ***Eric Guo***

Beginning in 2023, SUNY Buffalo State piloted an AI-Augmented Case-Based Learning (AI-CBL) approach across Business Law (BUS 334/335) and Accounting (BUS 212/312/313). By late 2024, most instructors permitted structured AI use for teaching, learning, and research. This continuation study examines one guiding question: To what extent—and under which guardrailed conditions of prompt design and verification—does AI-CBL

improve students' conceptual understanding and professional judgment while upholding academic integrity given model fallibility and bias?

In AI-CBL, students use vetted AI tools to generate alternatives, surface rules/standards, and develop preliminary drafts, then verify with primary legal authorities or student-performed computations and defend decisions in brief oral checks. Early evidence indicates gains in explanation quality, rule application, and ethical reasoning, with stable integrity outcomes when disclosure and verification artifacts are required. The presentation shares workflow templates (prompt scaffolds, verification checklists, disclosure forms), course-specific applications in contracts/UCC and financial/managerial topics, and assessment strategies aligned with assurance-of-learning goals. Attendees will leave with a replicable model for using AI to support deep learning in professional curricula while addressing reliability, bias, and responsible-use expectations.

Road Map Linking the Jewish and Hispanic Communities of Buffalo, NY

Presenter: ***Michael Littman***

GOAL OF THIS PROJECT: To develop a roadmap linking Buffalo's Jewish and Hispanic communities. In these challenging times, it is increasingly valuable and important to build on existing community strengths, foster new community relationships, and create mutually beneficial shared initiatives. This can be achieved through dialogue, collaborative projects, enhancing cultural knowledge through a variety of programs, and resource sharing.

There are three components of the project highlighted. They are Step 1 to establish linkages, develop foundation structure, and build relationships. Step 2 to lauch a variety of shared initiatives. Step 3 to sustain and expand the partnership.

This project between SUNY: Buffalo State and the Buffalo Jewish Federation was funded by the 2025 Social Justice Faculty Externship and was done in collaboration with Rachel Beerman, Manager of Community Relations of the Buffalo Jewish Federation.

WNY's Potential as a Climate Destination: A Public Administration Perspective

Presenters: ***Suparna Soni****, Brian Bray, Laurie Buonanno*

Climate migration is predicted to be a significant phenomenon within the U.S. as individuals and families relocate from areas affected by extreme weather events, rising sea levels, and other environmental risks. Increasingly, Western New York (WNY) is being recognized as a climate haven region due to its geographic and environmental advantages

in an era of increasing climate change. As other regions of the US face more frequent natural disasters like hurricanes, wildfires, droughts, and rising temperatures, WNY's relative insulations from such events presents opportunities for growth, population migration, and sustainable development. As one pundit put it, "Buffalo's weather is going from a punchline to a lifeline." Vivek Shandas, an urban planning professor at Portland State University, predicts Erie County will see large population increases as other parts of the US continue to warm. Consequently, public administrators in regions such as WNY can position their area as a climate haven. Attracting climate migrants, however, will not be solely dependent on environmental factors. Non-environmental pull factors such as affordable housing, job opportunities, and public amenities also play a crucial role. To successfully attract migrants, public officials must understand and enhance these non-environmental pull factors. To what extent can the City of Buffalo and Erie County absorb and accommodate "climate refugees"? What non-environmental factors will attract individuals to migrate to potential climate havens in the US? How can public administrators enhance and promote pull factors to encourage climate migration?

Butler Library

Building a More Representative Collection at E. H. Butler Library

Presenters: ***Julie Setele****, Chris Hulsman*

How well does our academic library's collection reflect the diversity of our community? What kinds of stories about marginalized populations does our library hold? Diversity audits assess the extent to which libraries are succeeding at our goal to have diverse and inclusive collections in which users find themselves reflected. A common tool to improve diversity representation in school and public libraries, diversity audits are increasingly being used to assess academic library collections. This poster highlights the work of two Buffalo State librarians to conduct a diversity audit of the collection at E. H. Butler Library. Audits were conducted on the large collection of children's picture books, which are heavily used by students in the education department, as well as on the scholarly nonfiction collection, focusing initially on social science texts. We discuss the specific methods we used, challenges we overcame, and the significance our findings hold for the library and campus community.

Career, Technical, and Science Education

An Investigation of Thermal Resistivity

Presenters: ***Joseph Zawicki,*** *Daniel MacIsaac, David Henry*

Increasing electrical resistance is well-documented. As the temperature of a material increases, it becomes increasingly difficult for an electric current to pass through the material. While this is observed in the operation of many electrical devices, there are very few direct demonstrations of this phenomenon. Additionally, many of us have misconceptions about the interaction of electric currents with water or air.,Äã This investigation/demonstration uses incandescent light bulbs to demonstrate the impact of temperature changes on the conduction of an electrical current.

Center for China Studies

The Dilemmas and Optimization Strategies for Introducing Social Institutions in On-Campus After-School Services

Presenter: ***Jinguo Li***

Introducing social institutions into after-school programs can supplement after-school teaching staff, thereby alleviating pressure on schools. They can also offer a diverse range of after-school programs tailored students' individual development needs and systematic curriculum to ensure effective learning outcomes. However, during implementation, the introduction of social institutions presents a series of challenges, including management, quality, cost, and safety. This should be addressed through comprehensively reviewing institution qualifications and strictly controlling teaching staff; addressing the problem of student turnouver based on student development; clarifying the responsibilities of social institution teachers to enhance student safety; clarifying the differences between on-campus and off-campus courses to separate brand fees from teaching fees; and promoting healthy competition through on-campus supervision and evaluation.These measures should better leverage the functions and roles of private institutions.

Email Username Choice and Psychological Strain: Self-Esteem as a Mediator among College Students

Presenters: ***Jie Zhang****, Enshan Cui*

This study explores the link between email username choices (real name vs. pseudonym), self-esteem, and psychological strain among college students (N = 446). Using an online survey with validated scales (Rosenberg Self-Esteem Scale and Psychological Strain Scale), we found that real-name users exhibited significantly higher self-esteem (M = 29.75, SD = 4.87) than pseudonym users (M = 28.30, SD = 4.64; t(444) = 2.845, p = .005). Pseudonym users reported higher overall psychological strain (M = 46.94, SD = 9.76 vs. M = 44.88, SD = 10.50; t = -1.897, p = .059), with aspiration strain significantly elevated in this group (p = .028). Crucially, self-esteem fully mediated the link between username choice and psychological strain (indirect effect: 2.090, 95% CI [0.031, 0.156]). Gender and academic year predicted username preferences, with females and senior students more likely to use real names. These findings highlight online identity expression as a behavioral marker of psychological well-being and underscore self-esteem's buffering role against strain. Implications for campus mental health interventions are discussed.

Chemistry

A Conserved Intra-bundle Salt Bridge in the OATP1B Subfamily Controls Uptake Kinetics and Trans-porter Conformation

Presenter: ***Drew Barber***

The organic anion transporting polypeptide (OATP)-1B1 and -1B3 are liver-specific transporters that govern the uptake of numerous endogenous molecules and drugs before their metabolism and excretion by the hepatocytes. Structurally, these two transporters are members of the major facilitator superfamily, operating by the alternating access mechanism that facilitates the move-ment of solutes between extracellular and intracellular compartments. Given their dynamic na-ture, salt bridges often modulate the conformations of transporters and participate in the or-chestration of conformational changes. In this study, we identified and characterized a network of salt bridges within the internal cavities of OATP1B1 and OATP1B3 by cell-based uptake assays, uptake kinetics, and molecular dynamics simulations. These experiments revealed that the a salt bridge network centered around E185 salt bridge is crucial for uptake activities in these two proteins, as it stabilizes the inward cavity of the proteins. Furthermore, K41, R181, and E185 are in proximity to the ligand binding site but do not participate in ligand coordination.

These findings advance our understanding of the elaborate network of ionic interactions that govern the structure and dynamics of OATP1B1, OATP1B3, and other MFS transporters.

Capping Ligand Effects on Quick Freezing-Induced Au Nanoparticle Aggregates (QFIAAs) and Their Application in NIR-SERS Dye Screening

Presenters: ***Jinseok Heo****, Carleigh Cimmerer, Daniel Weglarski, Sujit Suwal*

This work extends our previous study on quick freezing-induced gold (Au) nanoparticle aggregates (QFIAAs) as near-infrared (NIR) surface-enhanced Raman scattering (SERS) substrates. Simple quick freezing of citrate-capped AuNPs produces reproducible NIR-SERS-active aggregates. Here, we examine how the size and charge of three capping ligands—citrate, tannic acid, and polyvinylpyrrolidone (PVP)—affect QFIAA formation and the adsorption behaviors of dyes on the resulting aggregates, which together determine SERS response. The small, negatively charged citrate ligands promote compact aggregation and efficient dye adsorption within hot spots, yielding highly sensitive SERS signals. Citrate vibrations also serve as internal Raman markers to monitor dye-induced secondary aggregation, a key factor since excessive clustering can distort hot-spot density and SERS responses. Dye adsorption on QFIAAs follows the Sips model, indicating heterogeneous adsorption sites within the aggregates. Dye adsorption and signal intensity depend strongly on dye charge and molecular geometry. Finally, QFIAAs were used to evaluate newly synthesized NIR dyes, revealing that strong electronic absorption alone at the excitation wavelength does not guarantee high SERS activity. These results establish QFIAAs as a quantitative, mechanistic platform for NIR-SERS studies.

Study on Amide Bond Conformation in Heterocyclic Backbone Containing Peptide

Presenter: ***Sujit Suwal***

Heterocyclic frameworks are key pharmacophores in both natural products and FDA-approved drugs, yet their application as amino acid surrogates remains underexplored. Our laboratory has developed an innovative synthetic strategy to construct a diverse library of heterocyclic amino esters via Buchwald/Hartwig amination followed by Suzuki/Miyaura cross-coupling. The resulting orthogonally protected intermediates can be readily saponified and incorporated into peptides and peptidomimetics through t-Boc solid-phase synthesis, enabling the generation of heterocyclic backbone-containing peptides (HBPs).

Using this approach, we have synthesized over forty derivatives and demonstrated their compatibility in peptide synthesis. Nuclear Magnetic Resonance (NMR) spectroscopy and molecular modeling studies confirmed that the amide bond conformation originates from the heterocyclic core. The versatility of these scaffolds has been showcased through the synthesis of structurally diverse and biologically relevant compounds using both solid-phase and solution-phase methods. A subset of these drug-like small molecules exhibited antibacterial activity against multiple bacterial strains. This presentation also highlights ongoing collaborations with the Gates Vascular Institute and Roswell Park Cancer Institute aimed at advancing mimetic peptide-based therapeutic design.

Communication

The Role of Listening in an Educational Setting

Presenter: ***Ann Liao***

This study examined the connections between listening competencies, self-regulation, and motivation on a college campus. Listening is among the most frequently identified communication behaviors. However, the links between various listening competencies, self-regulation, and motivation in an academic setting remain unclear. A survey was conducted, and responses from 417 students were collected. Self-regulation was measured by scales of efficacy, behaviors, and strategies. Motivation was studied in three dimensions: intrinsic, extrinsic, and amotivation. The five listening competencies / discriminative, therapeutic, critical, comprehensive, appreciative - were measured based on a validation study. Results show that all listening competencies correlated with self-regulation, intrinsic motivation, and extrinsic motivation. Moreover, amotivation was found to affect both self-regulation and listening competencies negatively. Listening competencies did not correlate with students' GPA, while GPA showed positive relationships with extrinsic motivation, self-regulation efficacy, and self-regulative behaviors. This investigation contributed to the understanding of the roles that listening competencies play in an academic setting.

Cricket Man – a Documentary

Presenter: ***Dorothea Braemer***

Cricket Man addresses climate change through the lens of a cricket breeder and university students creating branding campaigns for his nutritional cricket products. The cricket

breeder, Nicholas Alexander, has visited my Writing for Broadcast class for the past 4 semesters. While each student responds in a unique way, a general pattern can be observed: At first, students are resistant to the idea of crickets as a source of food. But their initial skepticism evolves into full-throated support as they learn about Nicholas Alexander's story and struggles. Students have proposed a variety of inspired campaigns, ranging from Brechtian comedies to nature-themed meditations to celebrity endorsements.

The Post Production Diversity Initiative – Year 2

Presenters: ***Robin Lazzara****, Dorothea Braemer, Meg Knowles*

The Post Production Diversity Initiative is a year-long program for 11 Buffalo State students and 11 community participants, designed to help emerging and established media makers find jobs in the post-production field, such as video editing and sound design. Now in its second year, PPDI is funded by a New York State workforce grant. PPDI is based around three foundational elements, all designed to prepare participants for entry level careers in video editing and audio mixing. The three elements are:

1. Building industry-focused knowledge through workshops with the Motion Picture Editors Guild

2. Building technical skills through certificate training in video editing and sound mixing.

3. Building social skills through networking opportunities, creative portfolio sessions, and mentorship.

Computer Information Systems

Teaching Tips from 45 Years of Teaching at Buffalo State

Presenter: ***Charles Arbutina***

Synopsis: This poster highlights some of the most effective teaching methods used at Buffalo State while teaching Computer Information Systems courses. While many of the methods are obvious, others may not be. How successful a student becomes and their long-term relationship with the instructor could very well be a measure of how effective the teaching methods used are. Besides citing effective teaching methods, examples of how graduates referred back to their course experiences are given.

The Importance of Cybersecurity Education

Presenters: ***Sarbani Banerjee****, Neal Mazur, Guanqiu Qi, Andrew Garrity*

As the amount of information, critical services, and interconnected computer systems continues to grow, cyberattacks are becoming increasingly sophisticated, frequent, and impactful. Over the past few decades, both governmental and non-governmental organizations have recognized the seriousness of this issue. However, the current cybersecurity workforce remains insufficient to meet the rapidly rising demand for skilled professionals — a shortage that is projected to widen in the coming years.

In response, many academic institutions have established cybersecurity programs to help address this growing need. This presentation examines the cybersecurity topics covered by leading university programs and how these topics are distributed across their curricula.

While the Internet has undoubtedly improved lives worldwide, it has also introduced new challenges such as cyberbullying, online fraud, racial abuse, pornography, and gambling — problems often exacerbated by a lack of awareness and self-protection among users. Research consistently shows that cybersecurity awareness among Internet users remains low to moderate, underscoring the urgent need for widespread cyber education.

To help meet this need, the authors received funding from the National Security Agency/National Science Foundation to organize the GenCyber Teacher Summer Institute (2022-2023)—a pioneering professional development initiative designed to empower high school educators in Western New York across diverse STEM disciplines to explore and integrate cybersecurity concepts into their teaching.

The objective of this presentation is to highlight the critical importance of educating modern learners about the risks of online engagement and to discuss effective strategies for promoting cybersecurity education within academic institutions.

Facing Change in Uncertain Times

Presenter: ***Stephen Gareau***

This literature review research examines the concept of 'change'—something that we are all regularly and ever-increasingly facing on a daily basis. The year 2025 seems to have been a 'perfect storm' of change, with major changes taking place at all levels—including changes in the workplace, technological change (such as the growth of AI), changes in societal norms, political change, economic change, environmental change, global migration, effects of war, etc. The presentation provides a concept analysis of 'change'—e.g., the nature of change, current global change patterns, fears about change, various

perspectives on change, benefits of change, change in the natural world, and change at the galactic level.

Human Intelligence Enhancement with AI: A Case Study of Database Systems Acquisition

Presenter: ***Ruth Guo***

Artificial intelligence (AI) is changing higher education at an exponent speed by shifting how instructors teach and how students learn. When utilized properly, AI can enhance both teaching efficiency and student learning outcomes. This study examines how AI tools can be integrated into the teaching and learning of database systems, not only to automate tasks but to enhance human intelligence--particularly critical thinking, problem-solving and the ability to pay attention to the details. Using a case study approach, the study analyzes how students interact with AI tools during the course work for "CIS 380: Database Systems I" for undergraduate students. The findings suggest that when AI is positioned as a cognitive aid rather than a replacement for human beings, it promotes deeper conceptual understanding and supports human intelligence enhancement, such as higher-order thinking skills and performance capability.

Smart Solar Cleaner: An Autonomous Robotic Arm System for Sustainable Energy Maintenance

Presenters: ***Gang Hu****, Andrea Galindo, Jhasmin MejiaAyala, Jonathan Rosten*

As solar energy adoption continues to expand, maintaining panel efficiency through regular cleaning is essential for maximizing power output and promoting sustainable energy use. This project focuses on developing an autonomous solar panel cleaning system using a Landbot-based robotic platform. Built by the engineering team, the Landbot is equipped with ultrasonic sensors installed by CIS students to enable autonomous navigation and obstacle avoidance. A robotic arm mounted on the vehicle performs automated cleaning tasks, including picking up a cleaning tool, rotating to a suitable position, executing wiping motions, and returning the tool to its holder. The next phase involves designing and implementing additional cleaning tools and motion patterns—such as brushes, wipers, and air sprayers—and developing corresponding control algorithms to enhance cleaning performance. Through simulation, programming, and iterative testing, the project aims to identify the most effective combination of tools, motion paths, and control strategies for efficient and reliable robotic solar panel maintenance.

A Lightweight Vision Mamba Coding UNet for Medical Image Segmentation

Presenter: ***Guanqiu Qi***

The segmentation of medical images is vital for advancing research in medicine and supporting precise clinical diagnoses. Over the past few years, neural network-based methods have become a major focus of research and have been broadly adopted in medical image segmentation. However, mainstream methods like Transformer have excessive computational cost requirements, which makes them impractical for mobile medical applications. Therefore, a Lightweight Vision Mamba Coding UNet (LVMC-UNet) is proposed, which integrates the Rotation-based Vision Mamba module (RVM) and Correlation Space Fusion module (CSF) in a lightweight manner. The RVM module processes the input images in parallel and introduces rotary positional encoding (RPE) on the Vision Mamba architecture to address the limitation of the Mamba module's insufficient ability to capture local details. The CSF module integrates multi-stage and multi-scale feature maps and introduces blueprint separable convolutions (BSConvs) to enhance intra-kernel correlation.

Criminal Justice

Cross-Pledging: An Undocumented Hazing Practice among Black Greek-Letter Organizations (BGLOs) – Insights from Alumni

Presenter: ***S. Marlon Gayadeen***

This exploratory study introduces and examines cross-pledging, an undocumented hazing practice within Black Greek-letter Organizations (BGLOs). Cross-pledging refers to the unsanctioned involvement of members from other Greek-letter organizations in the intake process of aspirants, without oversight from the host fraternity or sorority. Drawing on semi-structured interviews with nine graduate chapter members of the Divine Nine (D9) in Western New York, the study reveals that while most participants were unfamiliar with the practice, a notable portion had either heard of or experienced it. Thematic analysis identified three central themes: unfamiliarity, rumor and lived experience. Findings suggest that cross-pledging may reflect broader issues of secrecy, generational divides and mentorship gaps within BGLOs. This study contributes to hazing scholarship by documenting a previously unexamined practice and highlighting the importance of alumni engagement in mitigating harmful organizational intake processes.

Elementary Education, Literacy and Educational Leadership

Western New York Physics Teacher Alliance

Presenters: ***Dave Henry****, Joe Zawicki, Dan MacIsaac*

The Western New York Physics Teacher Alliance has been an important institution for local physics teachers for 40 years. WNYPTA was formed in 1986 by Dr. Mike DeMarco and Dr. Dewayne Beery as part of a professional development program designed to support new and veteran physics teachers. The organization meets on a Saturday morning monthly throughout the academic school year.

Math Intervention Using Thinking Tasks: A Case Study

Presenter: ***Dianne McCarthy***

Data from recent assessments such as TIMSS (Trends in Math and Science Study) and PISA (Program for International Student Assessment) show that US elementary students are struggling in mathematics. Using the current data, approximately half of all fourth graders are eligible for intervention. Intervention is targeted math instruction to assist students who are not able to meet grade- level expectations. Intervention is often provided using explicit instruction strategies. This research is a case study using thinking tasks for one-on-one intervention with a fifth-grade student. Preliminary results show positive growth in math understanding and in disposition.

Engineering Technology

Machine Learning Analysis of New York Clean Energy Trends

Presenters: ***Saquib Ahmed****, Joaquin Carbonara*

The transition from fossil fuels to renewable energy sources is central to mitigating greenhouse gas emissions, yet state-level adoption pathways remain uneven. This study develops a data-driven framework to assess the determinants of renewable market share in New York State, integrating socioeconomic, policy, and resource-based variables. A dataset of 200 observations (2016-2020) was analyzed using eight machine learning algorithms, including Linear Regression, Ridge Regression, ensemble methods (Random Forest, Gradient Boosting, AdaBoost, XGBoost), Support Vector Machines, and K-Nearest

Neighbors. Model evaluation employed a 60:20:20 train-validation-test split and four metrics—RMSE, MAE, MAPE, and R^2—to ensure robust generalization.

Quantitative findings highlight the dual importance of resource potential and socioeconomic context: solar potential and median income consistently emerged as the most influential predictors of renewable adoption. Among tested algorithms, Ridge Regression demonstrated the best out-of-sample performance (test RMSE = 5.99, MAE = 4.99, R^2 = 0.83), outperforming more complex tree-based methods that exhibited overfitting despite near-perfect training accuracy (e.g., XGBoost with train R^2= 1.00, test R^2 = 0.78). These results underscore that simpler, regularized models may offer greater reliability for energy forecasting under heterogeneous regional conditions.

The study advances methodological and policy insights by demonstrating that aligning investment with socioeconomic capacity and solar potential yields higher predictive accuracy for renewable growth. This framework provides a scalable tool for policymakers and energy stakeholders to design equitable, evidence-based strategies for accelerating the clean energy transition while ensuring environmental and economic sustainability.

AI-Driven Robotics for Solar Energy Maintenance: An Interdisciplinary Approach to Education and Sustainability (Electrical and Mechanical Development)

Presenters: ***Maryam Nasri****, Ethan Jablonski, Michael Calabrese, Zachary Ransbury, Ilya Grinberg*

This project, funded by the SUNY Innovative Instruction Technology Grant (IITG 2025/26, $30,000), focuses on the electrical and mechanical components of developing an automated robotic platform for solar-panel maintenance. The system integrates a wheeled mobile base with a six-degree-of-freedom (6-DOF) robotic arm to remove dust and debris that reduces panel efficiency. The Electrical Engineering Technology (EET) team designed power-distribution and protection circuits, developed motor-driver control and signal-harnessing, and implemented wireless communication between a Raspberry Pi and an Arduino microcontroller to enable remote operation. Mechanical efforts focused on chassis construction, mounting design, and the arm's structural integration to achieve balance and durability.

During Summer 2025, three ENT students were hired as paid research assistants to design, wire, and assemble the initial prototype. Their work included bench verification of current draw, thermal margins, and subsystem reliability. In Fall 2025, the same students continued in ENT 471/472 Senior Design I/II, refining power routing, debugging

teleoperation code, and demonstrating reliable motion and feedback telemetry. Bench and field tests confirmed stable power delivery, smooth control response, and repeatable arm performance, all aligned with the capstone assessment rubrics.

The project offers a reproducible, interdisciplinary platform that strengthens laboratory instruction and capstone design in EET and Mechanical Engineering Technology programs. A companion effort led by the Computing and Information Systems team focuses on the AI and autonomous navigation components.

Influence of Scanning Strategies on the Microstructure and Mechanical Performance of Laser Powder Bed Fused 15-5 PH Stainless Steel

Presenters: ***Ganesh Walunj****, Zackery Ungaro*

Precipitation-hardening stainless steel 15-5 PH is a high-performance alloy widely adopted in aerospace and tooling applications, with laser powder bed fusion (LPBF) offering the ability to produce near-net-shape parts featuring refined microstructures and an exceptional strength/toughness balance. While volumetric energy density and alloy chemistry are well-recognized determinants of LPBF quality, the laser scan strategy defined by the geometric path of the beam within and between layers plays a decisive role in governing melt pool dynamics, thermal gradients, and the resulting porosity, microstructure, and mechanical performance. This study delivers a direct, controlled comparison between two commonly implemented scanning strategies. Stripe (long-vector) and Chessboard (island) under a low-power LPBF regime, relevant to energy-efficient manufacturing. A total of 28 specimens were fabricated for each strategy, with the three highest-density samples from each set selected for further analysis. Initial hardness measurements revealed values of 365-385 HV for Stripe and 350-370 HV for Chessboard. Detailed microstructural characterization, tensile testing, and wear assessment are performed on these top-performing samples to determine the optimal scan strategy and processing parameters for 15-5 PH stainless steel, offering new insights into process structure/property relationships for precision LPBF manufacturing.

Enrollment Management & Student Success/Retention

Transforming Buffalo State Esports

Presenter: ***Fardan Allen***

Buffalo State Esports has been around for years dominating not only in WNY, but nationally in tournaments and games hosted by local schools and in conference play with ECAC. I have been advising our USG operated organization for years and have seen the growth since joining the Buffalo State community since August 2023. The Esports team is one of few schools locally in WNY who does not currently have a Esports lounge or dedicated space to compete. I wanted to showcase their talent during this fall forum to illuminate Buffalo State Esports. Let's continue to support our students in this billion dollar industry. GO BENGALS!

Exceptional Education

Building Faculty Morale and Early Recruitment through "Bring Your Child to Work Day"

Presenter: ***Kathy Doody****, Lisa Rafferty, Shannon Budin*

Faculty morale and campus climate are central to effective teacher preparation and student success. This pilot study explored the potential influence of a family-centered engagement initiative, Bring Your Child to Work Day and Beyond, at SUNY Buffalo State. The initiative was designed to enhance faculty and staff well-being through inclusive community-building and to provide children with exposure to diverse career paths, with possible implications for early recruitment into teacher education.

Survey data were collected from 24 pre-event and 19 post-event respondents using matched Likert-style measures of morale, institutional connectedness, and perceptions of work-life balance. Pre-event results indicated that 75% of participants agreed the campus environment reflects a family-friendly workplace, and 62.5% agreed that it supports work-life balance. Nearly all respondents (95.8%) valued opportunities for children to learn about varied career options.

Post-event responses, while limited in number, suggested increases in perceived institutional connectedness (73.7% agreement), in views of the campus as family-friendly (78.9%), and in recognition of recruitment potential, with 57.9% of participants more likely to consider Buffalo State for their child's education.

Qualitative feedback reflected positive impressions of the event and recommendations for improvement, including broader program diversity, expanded departmental participation, and stronger logistical supports. Although preliminary and based on a modest sample, these findings indicate that family-inclusive programming may contribute to faculty morale, collegiality, and recruitment-related perceptions.

In this presentation, the faculty-researchers will report on early outcomes, summarize lessons learned, and provide recommendations for adapting and scaling family-centered faculty engagement initiatives across higher education.

Launching an Academic Journal on a University Campus

Presenters: ***Kathy Doody****, Pamela Schuetze, Joseph Riggie*

Launching an academic journal on a college campus offers faculty and students a powerful avenue to foster research culture, professional writing, and scholarly collaboration. This presentation, "From Concept to Publication: Key Questions for Starting a Professional Journal on Campus," will guide researchers through the essential planning stages of creating a sustainable, peer-reviewed academic publication.

The poster will highlight core questions to consider before launching a journal, focusing on purpose, structure, and long-term viability. Guidelines for defining the journal's mission and scope, establishing an inclusive and transparent editorial process, and identifying institutional partnerships for faculty mentorship and administrative support will be provided. The poster will also address decisions regarding digital versus print formats, open access policies, and the use of platforms such as Digital Commons or institutional repositories.

Attention will be given to ethical and equitable publishing practices, reviewer training, and strategies for engaging both student and faculty contributors. Financial planning and sustainability will also be discussed, including identifying funding sources, budgeting for ongoing operations, and ensuring leadership continuity.

The poster will provide a practical roadmap of critical questions to address when developing a professional or student-led academic journal. The presentation will emphasize strategic planning, collaboration, and inclusivity, empowering institutions to create publications that advance scholarship, build research capacity, and strengthen academic communities.

Buffalo State University ABA Program

Presenter: ***Carol Shaw,*** *Kristy Blask*

Since Fall 2022, Buffalo State University's Exceptional Education Department has offered a master's degree in Applied Behavior Analysis (ABA), designed to prepare candidates for Board Certified Behavior Analyst (BCBA) certification and New York State licensure. The program emphasizes accessibility through a HyFlex model, allowing candidates from across New York State to engage in evening, summer, and January term coursework while maintaining full-time employment. Current enrollment includes 36 candidates, with 16 program graduates to date.

Candidates enter with diverse professional backgrounds, including roles as teachers, Registered Behavior Technicians, paraprofessionals, and clinicians, while others transition directly from undergraduate study. Fieldwork and supervision experiences are supported through partnerships with schools, agencies, and community organizations, ensuring candidates gain applied training across home-, school-, and clinic-based settings. All candidates complete a thesis integrating applied research with practice, addressing socially significant skills such as functional communication, discrete trial instruction, social skill acquisition, and classroom management.

Community engagement is an integral component, with candidates supporting inclusive programs such as "Ausome Evenings" and ACEing Autism. By combining rigorous academic preparation, supervised fieldwork, and research experiences, the program aims to develop ethical, evidence-based practitioners equipped to improve the quality of life for individuals with autism and their families.

Fashion and Textile Technology

The Global Appeal of K-Culture Contents: Insights from Brand Coolness & the Wow Factor.

Presenter: ***Keunyoung Oh***

The research poster, "The Global Appeal of K-Culture Contents: Insights from Brand Coolness & the Wow Factor," explores how affective and cultural structures contribute to the worldwide popularity of Korean cultural products. Using qualitative content analysis of the 2024 Hallyu White Paper by the Korea Creative Content Agency (KOCCA), the study identifies how ten dimensions of brand coolness—such as originality, aesthetic appeal, high status, and relevance—intersect to shape the desirability of K-Culture. The

researchers argue that K-Culture's success extends beyond entertainment, functioning as an emotional and symbolic system that integrates traditional values with global relevance. Sectors like music, fashion, film, and beauty demonstrate strong affective convergence, combining visual design, sensory experience, and cultural symbolism to evoke wow experiences—moments of delight, surprise, and memorability. The findings highlight that K-Culture's global resonance arises from its ability to transform familiarity into affective novelty, merging authenticity and innovation. Ultimately, the study frames K-Culture as both an economic and emotional ecosystem, where brand coolness and wow factor drive sustained cross-cultural engagement and appeal.

Mulberry Paper Dresses: From Tree to Textile

Presenter: ***Shantell Reid***

This design scholarship addresses textile waste, specifically the environmental and social impact of discarded garments in Ghana. The unsightly piles of clothing, along with the smell emanating from the gradual degradation of textile materials, has led to poor air quality and a constant stream of health issues for the people living in the surrounding areas, underscoring the need for sustainable garment design solutions (Priya, 2022). In response, this project employs an activist-led design framework, which centers design practices around a societal or environmental issue and seeks to advocate for a more effective solution (Harrington et al., 2024; Rezai & Khazaei, 2017).

This creative scholarship introduces an experimental garment constructed from mulberry tree pulp, a material that is both abundant and sustainable in Ghana's climate. The resulting paper dress exemplifies a biodegradable and recyclable approach to fashion: once used, the garment can either decompose naturally or be repurposed into new paper garments, or other paper products, thereby minimizing environmental pollution.

These paper dresses are modern day design that draws inspiration from the contemporary paper dress styles of the 1960s, reinterpreting them as sophisticated expressions of sustainability, material innovation, and artistic exploration. This scholarship contributes to the discourse on sustainable design by demonstrating how non-traditional materials and practices can address the pressing challenges of fashion waste and environmental degradation. Driven by design-led activism, new styles of paper dresses serve as both wearable art and environmental statements, promoting sustainable fashion through biodegradable materials that reduce textile waste and challenge industry norms.

Developing a Social Justice Pedagogical Framework for Fashion Courses using Participatory Action Research

Presenters: ***Arlesa Shephard****, Shantell Reid*

The fashion industry and the fashion curriculum have long struggled with concerns related to social justice. Through Participatory Acton Research (PAR) methodologies, students can develop a critical consciousness, analyze challenges, work collaboratively, and pinpoint creative solutions and alternative pathways for fashion design, manufacturing, and consumption that underscore the principles of social justice. PAR relies on the ability to reflect on the dimensions of sayings (i.e., how language is used in a lesson), doings (i.e., time, activity, physical space, and/or resources required for a lesson), and relatings (i.e., relationships, agency, and power) as part of the pedagogical process. Current studies on social justice pedagogy focus on social justice principles and theories. Few studies examine the pedagogical implementation of social justice within the classroom. This research proposes to fill a gap in the literature and provide practical pedagogical implications for other fashion educators. The purpose of this concept paper is to develop a pedagogical framework for implementing social justice within fashion courses using PAR. The pedagogical framework proposed here will focus on the key dimensions of PAR: sayings, doings, and relatings. By integrating PAR into courses, students develop the skills, knowledge, and commitment necessary to address social injustices within the fashion industry and contribute to building a more equitable and sustainable future. Teaching social justice in a fashion course using PAR provides students with a transformative learning experience that goes beyond theoretical knowledge to empower them as champions for change within the fashion industry.

Geosciences

A 40,000-year Packrat Midden Series from Cataviña, Central Baja California, Mexico

Presenters: ***Camille Holmgren****, Julio Betancourt, Kate Rylander, Thomas Van Devender, M. Cristina Peñalba*

Thirty packrat middens collected from boulder fields near Cataviña at 640-680 m elevation provide the first long chronology of macrofossils and pollen spanning the late Quaternary period in the Vizcaíno Desert of central Baja California, Mexico. This region, where vegetation transitions from Sonoran Desert into the Vizcaino Desert, has a diverse flora including ~1300 species of vascular plants, 900 of which are endemic. During glacial-interglacial cycles, changes in temperature and precipitation resulted in expansion and contraction of species'

ranges and reshuffling of plant communities in the North American deserts, including Baja California. Much of what is known about late glacial ecological dynamics in arid and semi-arid environments comes from fossil rodent middens. Middens from Cataviña document a rich woodland/chaparral assemblage during the late glacial and early Holocene that had expanded downslope into areas now dominated by desert scrub. Our record aligns with other packrat midden series from northern Baja California that indicate more extensive woodland/chaparral during the late glacial-early Holocene, suggesting a regional increase in cool season moisture. In contrast to midden series to the north, however, the lack of species indicative of warm-season precipitation in the Pleistocene middens from Cataviña bolsters other evidence attributing the ~100-150 mm increase in precipitation needed to support chaparral/woodland species to enhanced winter rainfall.

Teaching the Digital Twin Through Undergraduate Research Projects Using Self-made LiDAR Hardware and Data Collections

Presenters: ***Tao Tang****, Mary Perrelli, Sarbani Banerjee*

The concept of a digital twin model involves creating a virtual representation of the Earth's surface for human-made or natural objects. In Geographic Information Systems (GIS), a key step in developing a geospatial digital twin is to collect 3D data. However, technologies like LiDAR or laser scanning equipment, which are essential for generating 3D digital data from the real world, are often prohibitively expensive, particularly for higher education institutions. This research introduces a cost-effective approach to teach undergraduate students from computer science, geography, and urban planning programs for geospatial digital twins. The approach involves assembling laser scanning hardware and software to integrate 3D scalable digital data into a GIS platform.

For undergraduate student research projects, an LSLIDAR MS-C16 laser scanner was procured. This multi-line mechanical mapping LiDAR offers 360° 3D high-speed scanning capabilities with an effective range of 16 meters. The scanner was integrated with a laptop, portable power supply, and a GPS system mounted on a surveying tripod to capture original 3D digital mapping data. Through this integration, students gained hands-on experience with the necessary components and learned how to collect digital 3D digital twin data from the real world. Students collected 3D data was used to generate point cloud datasets of buildings on Buffalo State University campus, which were then translated into building information models (BIM) in the ArcGIS Pro platform on the digital map of the campus.

"Eighteen Hundred and Froze to Death": Central and Western New York's Year Without a Summer

Presenter: ***Stephen Vermette***

In the year 1815 the massive eruption of Mt. Tambora (Indonesia), the largest eruption in recorded human history, release massive quantities of ash and gases into the upper atmosphere. Over the next two years these gases circled the globe, dimming the skies over Europe and North America. Global temperatures dropped, agriculture failed, food shortages ensued, and 1816 became known as "The Year Without a Summer".

While global, a review of local newspaper articles and journal entries, in preparation of an upcoming article, documents the impact felt by settlers in Central and Western New York. Summer anomalies included frequent frosts through the summer, frozen grass on Independence Day, snow and ice-covered ponds and rivers, forest trees having a "sickly hue", and the need to replant crops. Unaware of the volcano's culpability, cause was attributed to God's chastisement due to ingratitude, spots on the sun, or to the cooling shadow of a rogue planet positioned between the earth and the sun. Hardships ensued and settlers moved away. On the other hand, misery associated with the absence of a summer, along with the opening of western lands after the War of 1812 (including Western New York), spurred a migration westward from areas to the east. Many settled in Western New York. For others, the village of Buffalo served as a hub on their way further west.

The Shumgain Gap and the Illusion of Earthquake Prediction

Presenter: ***Elisa Bergslien***

On July 16, 2025, a 7.3M earthquake struck offshore in the Alaska Peninsula "Shumagin Gap" region, the latest in a series of earthquakes magnitude 7 or greater. Curiously, of the five +7.0M earthquakes to strike in the past six years, four of them happened in July, and the last three happened at almost exactly two years intervals. There are some interesting things about these earthquakes. An image of the Aleutian subduction zone is commonly used in introductory physical geology textbooks as an example of a seismic gap, or segment of an active fault which produces significant earthquakes but has not slipped in an unusually long time compared with other segments along the same structure. Over the long term, displacement along a fault should be equal along all the segments, therefore the gap region is the most likely to have a future significant earthquake. High-resolution GPS measurements in the late 2010's suggested that the Shumagin Gap was weakly locked, i.e. there wasn't enough frictional contact for significant energy to build up but then

in 2020, an earthquake doublet, a M7.8 on July 22nd and a M7.6 on October 19th, struck the subduction zone. It was the first documented earthquake doublet involving a megathrust and strike-slip event. Theoretically, these earthquakes should reset the gap, adjusting the stress regime. Instead, there have been more large earthquakes. The goal of this project is to examine the pattern of aftershocks for these earthquakes and to investigate the evocative timing, reminiscent of the Parkfield, California pattern.

Great Lakes Center

Rapid Assessment of Dreissena Density in Lake Michigan in 2025

Presenter: ***Nikolai Barulin***

The Great Lakes Center at Buffalo State University, in collaboration with the U.S. Environmental Protection Agency, has developed an innovative assessment approach utilizing the Benthic Imaging System (BIS) to estimate the coverage, distribution, and density of Dreissena spp. in near real-time across large aquatic ecosystems such as the Great Lakes. Although this method may occasionally underrepresent smaller mussels in turbid environments, BIS provides a rapid and reliable tool for quantifying the density of ecologically significant larger mussels.

In 2025, as in the previous Lake Michigan survey in 2021, Dreissena density increased with depth, with the highest density found at depths > 50-90 m (7,147 m^2), and the lowest density at depths < 30 m (327 m^2). At these shallow depths, however, the quality of BIS imagery can be poor due to turbidity and prevalence of bottom algae, and the amount of juvenile mussels may be underestimated. In 2025, Dreissena spp. were found at 88% of all stations sampled, with the lowest occurrences (50%) recorded in the shallowest (<30 m) depth zone.

According to our rapid assessment, Dreissena occurrence in 2025 continues to decline at shallow depths (<30 m, 50%). This is evident when compared with the results of the density estimated by BIS in 2015 (97%) and 2021 (75%). We also observed a trend of increasing Dreissena density at depths > 90 m.

Great Lakes Center is a Key Player in the Largest Monitoring Program of Nenthic Invertebrates in the Great Lakes

Presenters: ***Susan Daniel****, Lyubov Burlakova, Alexander Karatayev, Nikolai Barulin, Kit Hastings, Brianne Tulumello, Kaira Kamke*

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, titled "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 the Great Lakes Center has been involved since 2012. The EPA Great Lakes Biology Monitoring Program (GLBMP) 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. Our project, led by Lyubov Burlakova and Alexander Karatayev, is combined with the Cooperative Science and Monitoring Initiative (CSMI). Additionally, we are involved in several applied research projects aimed at improving the existing monitoring program, studying Great Lakes benthoscapes, and increasing our understanding of linkages between lower trophic levels and fisheries using GLBMP data. Since 2012, the Great Lakes Center has received over $7 million in funding from EPA for benthic monitoring efforts. This funding allows us to continue our cutting-edge study of benthic invertebrates across all Great Lakes, making us responsible for the largest benthic monitoring program in the entire Great Lakes Region and one of the largest in the world.

Examining Summer Seiche Events on Lake Erie Using Buoy Data

Presenters: ***Brian Haas****, Ben Szczygiel*

Lake Erie is known for large waves and extreme weather events. Wind driven seiches are a particularly notable phenomena that have extensive impacts on the region. As part of the Great Lakes Observing System, we operate a weather/data buoy located 6 nautical miles NW of Dunkirk, New York, in the Eastern Basin of Lake Erie in approximately 100 feet of water. This buoy provides real-time monitoring of wind, water, and wave conditions to the scientific community and public alike. Using data from this buoy, we examined two seiche events from this past summer and their effects on water levels and the thermal dynamics of the Lake.

Invasive Crayfish Management Activity in Great Lakes Region

Presenter: ***Chris Pennuto***

Several crayfish species pose ecological and economic risk for aquatic habitats in the states and provinces around the Great Lakes, including at two known sites of invasion in western NY. Studies with colleagues across the region have identified bait vendor and aquarium trade sales as critical vectors for the arrival of invasive crayfish. Aquarium vendor surveys suggested ~40% of stores received unwanted crayfish, and ~25% of stores sold crayfish under a variety of names. Unfortunately, most stores were unaware of the identity of the crayfish they sold, and those species sold included invasive taxa. Our local work includes an intensive trapping campaign that is yielding some successes and a test of a new behavioral strategy. Our regional work has highlighted retail vendors as a vector source, has provided a crayfish identification workshop for resource managers, and has continued assessment of new crayfish management techniques. Future research on new methods for crayfish detection (e.g., eDNA primer development), enhanced trapping techniques (e.g., identifying female receptivity pheromones), and an update to native crayfish distribution and abundance are planned.

Health, Hospitality, Nutrition & Dietetics

Managing Food Insecurity and Chronic Disease: A Cross-Sectional, Mixed Methods Study Exploring How Food Pantries Meet the Needs of Individuals Managing Chronic Disease

Presenter: ***Danielle King***

Background: Food insecurity (FI) is defined as the limited or unreliable access to a sufficient quantity of nutritious, culturally appropriate foods. Approximately 13.5% of U.S. households experienced FI in 2023. Contributors to FI are often a result of poverty and income discrepancies, unaffordable housing, chronic health conditions, and inequities. FI individuals may rely on food assistance programs, such as pantries, to meet their nutritional needs. The purpose of this cross-sectional, mixed methods study was to explore how food pantries meet the dietary needs of individuals managing chronic disease.

Methods: Participants (n=44) were food pantry operators and clientele in Buffalo, NY. Pantry clientele and operators completed questionnaires related to level of FI and food pantry characteristics, respectively. All participants completed a nutrition literacy questionnaire. Cart inventories were conducted. Semi-structured, qualitative interviews were conducted with both pantry operators and clientele.

Results: Operators displayed proficient nutrition literacy, and interview responses suggested variety and nutritional value were high priorities, while meeting demand and obtaining culturally appropriate foods were recurring challenges. Most pantry clientele had very low FI (64.7%), had hypertension (83.3%) and diabetes (44.4%), and reported low nutrition knowledge (26.7%). Interviews with pantry clientele suggest food pantry offerings were not appropriate for managing chronic conditions; clientele further reported feeling a lack of representation and advocacy in the community and public policy.

Conclusions: Exploring perceptions and lived experiences of both pantry operators and clientele may provide insight into barriers and facilitators to obtaining food items to meet the dietary needs of individuals managing chronic disease.

History and Social Studies Education

Authoritarian Weather: Denial, Self-Censorship, and Living with Heat in Paraguay during the Stroessner's Long Dictatorship

Presenter: ***Bridget Chesterton***

This project considers how weather information was manipulated by the Dictatorship of Alfredo Stroessner in Paraguay (1954-1989). Because the regime desired to pretend that Paraguay was a "peaceful," "productive," and "comfortable place" to live and work, media reports never reported the temperature higher than 37 Celsius degrees. But reports from Argentina demonstrate that the weather was consistently higher than that in the region during the summer months. Controlling the narrative surrounding the weather demonstrates the authoritarian nature of the dictatorship and the lengths that it would go to promote "Peace and Progress with Stroessner," the dictatorship's slogan.

Mathematics

Promoting Applied Learning in Traditional Classroom Learning Environment - Fulbright U.S. Scholar's Experience in Vietnam

Presenter: ***Hongliang Xu***

Applied Learning has become a popular choice of teaching style in higher educational institutions in the United States. Applied Learning refers to an educational approach whereby students learn by engaging in direct application of skills, theories, and models. Students apply knowledge and skills gained from traditional classroom learning to hands-

on and/or real-world settings, creative projects or independent or directed research, and in turn apply what is gained from the applied experience to academic learning. Applied Learning experiences help students gain adaptive skills in social networking, communication, and critical thinking, strengthen the academic performance of students, increase student retention, and improve employment outcomes post-graduation.

As a Fulbright U.S. Scholar, I successfully carried out a teaching project ` Promoting Applied Learning in Traditional Classroom Learning Environment' in spring 2025 at Fulbright University Vietnam. The project was a collaboration between the Applied Mathematics programs of Buffalo State University (BSU) and Fulbright University Vietnam (FUV). The project activities included (1) Using the Embedded Model to teach course in Differential Equations, and using the Project-based and Technology-based Model to teach course in Operations Research; (2) Advising and mentoring senior students' capstone research; (3) Presenting seminars and lectures in curriculum/program development, collaborative educational partnership, and personal research experience; (4) Initiating a Master's pathway program in Data Science and Analytics between BSU and FUV; (5) Conducting survey on Applied Learning experience and outcomes. The survey results will be present in details.

Music

What Does Asian American Music Sound Like?

Presenter: ***Ho Eui Holly Bewlay***

In this presentation, "What Does Asian American Music Sound Like?," the presenter examines the historical trajectory of Asian American immigration and its complex socio-political implications. Following the abolition of slavery, Asian immigrants were brought to the United States as a source of labor but were systematically denied the rights of citizenship and property ownership. Such exclusionary practices may have contributed to patterns of internalized oppression and inter-minority competition, ultimately giving rise to the "model minority" construct.

Within this context, music emerged as a vehicle for self-expression among Asian Americans, reflecting their lived experiences of displacement, resilience, and identity formation. Some artists expanded their engagement beyond national boundaries, embracing transnational and diasporic identities through their artistic work.

By tracing these historical and musical developments, this study seeks to illuminate the ways in which cultural, social, and educational experiences inform artistic practice. The findings further suggest implications for arts educators, encouraging the cultivation of pedagogical frameworks that recognize and engage with the cultural diversity and intersectional identities of their learners.

Physics

Investigating Chaos on a Billiard Table

Presenter: ***David Ettestad***

The path of a spinless ball on a billiard table is fairly simple and not very interesting. If a sideways spin is added, the path becomes very complex and often chaotic. The path can remain chaotic or settle down into a limit cycle. This presentation analyzes how the amount of spin and the shape of the table affect which of those two options a given path will take.

Psychology

Comparison Between the Effect of a Novel Interview-style Laboratory Stressor and the Trier Social Stress Test on Cortisol and Energy Intake in Young-adult Females.

Presenter: ***Naomi McKay***

Cortisol reactivity in response to a stressor is associated with elevated energy intake. Cortisol, however, does not reliably elevate in response to many stressors used to test stress-induced energy intake. For example, the Trier Social Stress Test (TSST), which is a mock-job interview, is commonly used, but does not always stimulate a consistent elevation of cortisol. It is possible that the artificial nature of the task may dampen stress reactivity. Therefore, the current study tested two hypotheses. First, that a realistic interview would elevate cortisol more than the TSST, and second, that a realistic interview would stimulate higher energy intake compared to the TSST. Participants (n = 46 to date) were females 18-30 years old, and were randomly assigned to one of three test conditions, TSST, Interview, or No Stress. During the TSST, participants engaged in a mock job interview in front of three committee members. During the Interview condition, participants were informed that they were going to start their visit with an interview to determine if they were eligible to participate, which then proceeded similar to the TSST. Participants in the No-Stress condition sat quietly in the lab. A basket of snack foods was

offered to half the participants before, and half immediately after, their test session and energy intake was measured. Salivary cortisol was measured throughout the visit. Results found that the Interview condition stimulated a more robust elevation of cortisol. In addition, both stressors significantly suppressed energy intake compared to the No-Stress condition. This indicates that a more realistic stressor may more reliably stimulate salivary cortisol, but that this might not result in a different effect on energy intake.

Financial Helicopter Parenting and College Student Financial Well-Being

Presenters: ***Jill Norvilitis****, Alex Valery*

Financial socialization typically conceptualizes influences on children's financial well-being through modeling, instruction through parent-child discussion, and experiential learning. However, helicopter parenting, which is marked by age-inappropriate parental involvement in emerging adults' decision-making, does not fit into this model. The present study sought to examine the relationship between financial helicopter parenting and perceived financial well-being and financial self-confidence in 203 college students. Results indicate that financial helicopter parenting is related to having less confidence in financial abilities, engaging in financial strain behaviors, and reporting lower levels of financial well-being, though there was no relationship with student loan or consumer debt. This unique pattern of results suggests a need for modified interventions to improve financial well-being and behavior.

Maternal Childhood Maltreatment, Prenatal Substance Exposure, and Postnatal Adversity: Implications for Child Autonomic Reactivity and Regulation at Early School-Age

Presenters: ***Pamela Schuetze****, Madison Kelm, Olivia Bell, Rina Eiden*

Prenatal cocaine exposure may disrupt autonomic nervous system (ANS)function, is often used in tandem with other substances, and is associated with maternal childhood maltreatment. These risks may also affect offspring ANS function via non-optimal parenting and postnatal adversity. We tested two hypothesized models (one for parasympathetic and one for sympathetic response) that included maternal childhood maltreatment and prenatal substance exposure as predictors of non-optimal autonomic regulation during rest and in response to frustration at early school-age via autonomic regulation in infancy; chronicity of harsh parenting from infancy to preschool age; and cumulative postnatal adversities from birth to early school-age. Structural equation

modeling indicated that the hypothesized models fit the data well (Figures 1A and 1B). PCE was associated with lower baseline RSA in infancy and harsh parenting from infancy to preschool age. Maternal childhood maltreatment was marginally associated with higher infant baseline RSA which was marginally associated with baseline RSA at early school-age. In addition, maternal childhood maltreatment, prenatal tobacco and alcohol exposure were associated with higher postnatal adversity. Higher postnatal adversity predicted lower average baseline SCL and SCL during a frustration task. Findings provide further evidence that PCE is associated with alterations in infant ANS function. Specifically, lower baseline RSA may reflect wear and tear of the parasympathetic nervous system, leading to less available physiological resources for responding to stress. Further, findings support intergenerational transmission of risk from maternal childhood maltreatment directly to infant ANS function and to child ANS function via increased cumulative environmental risk. Specifically, lower baseline SCL and SCL reactivity may reflect a more passive response to stress, likely due to chronicity of stress and wear and tear of the sympathetic nervous system over time. Interestingly, maternal childhood abuse predicted higher infant baseline RSA. Both higher and lower baseline RSA have been characterized as non-optimal within the literature, with baseline RSA positively associated with susceptibility to environmental risk.

Small Business Development Center

Small Business Enterprise Certification Growth Plan

Presenter: ***Bailey Brouillard***

The Small Business Enterprise Certification Growth Plan assists small businesses through the intensive application processes to become certified and secure more contracts.

Marketing Solutions and Contract Readiness

Presenters: ***Karina Loera****, Donald Williams*

The Greater Buffalo Small Business Development Center (SBDC) at Buffalo State University Marketing Solutions and Contract Readiness Certificate Program helps established entrepreneurs expand their businesses through contracts with anchor institutions: large corporations, government entities, and prime contractors.

This certificate program provides practical, hands-on training to strengthen business credibility and competitiveness. Core topics include developing an effective sales pitch,

understanding how to work with anchor institutions, sustainability for small businesses, certifications and licenses, lending and insurance, digital marketing, and procurement.

Since its launch in October 2021, the program has completed 19 cohorts, reaching a total of 370 participants, including 179 in-person participants since its relaunch in September 2023.

Program outcomes demonstrate significant impact: 62% of participants secure a contract within months of completion, and another 20% maintain active leads, resulting in 80% of participants reporting measurable business growth after completing the program.

By combining expert instruction, peer learning, and individualized business advice, the Marketing Solutions and Contract Readiness Program serves as a catalyst for business expansion and long-term sustainability in Western New York. Through this initiative, Buffalo State University continues to equip small business owners with the tools, confidence, and connections needed to successfully compete in institutional contracting opportunities.

Speech-Language Pathology

Speech-Language Pathology Summer 2025 Pilot Program - Expanding Student Clinical Experiences Through Community Partnerships

Presenters: ***Kathryn Budin****, Christina Mule', Theresa Cinotti, Sara Mann Kahris, Kathleen McNerney*

Graduate students in the Department of Speech-Language Pathology (SLP) participated in a novel clinical program in summer of 2025. Although most community externships occur in the second year of the SLP Graduate Program, eighteen first year graduate students had the opportunity to provide speech-language services in community agencies. Agencies included The Arc, Aspire Center for Learning, Aspire Day Services, Bornhava, Buffalo Hearing and Speech Center, OLV Human Services, and The Summit Center. Services were provided under the direct supervision of licensed and certified speech-language pathologists.

The Pilot Program had numerous benefits. Many students had the opportunity to work with populations that have not yet worked with in our campus Speech-Language-Hearing Clinic, including children birth to 5-years, school-aged children with autism, and adults with intellectual challenges. The program helped to address workforce needs in these currently underserved populations. As an example, NYS is 50th out of 50 for timely service delivery in

Early Intervention, with 80% of school districts reporting waitlists and 93% reporting provider shortages in NY (Gura et al., 2025).

Students' and supervisors' survey feedback was overwhelmingly positive. According to survey results, community supervisors were impressed by the students' knowledge, skills, and professionalism, and 100% of supervisors expressed interest in working with our students in future placements.

Sponsored Programs Office

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.