5th Annual Provost's Symposium on Engaged Scholarship:
Embracing AI to Strengthen Community Partnerships

MARCH 14, 2024 | 8:30 A.M. TO 4 P.M.

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Conference Welcome

Welcome to the 5th Annual Provost's Symposium on Engaged Scholarship: Embracing AI to Strengthen Community Partnerships.

Today, we will examine how artificial intelligence can impact academic-community partnerships. We will hear from the chief academic officers from Delaware's colleges and universities, from faculty advancing the considered and ethical application of AI, and from Representative Cyndie Romer, chair of the Delaware House Committee on Technology & Telecommunications.

We will also hear case studies and participate in breakout discussions designed to spark ideas to advance our work.

We encourage you to actively engage in discussions, and forge new connections that will serve our students, faculty, staff and Delaware's communities.

Sincerely,

2024 PROVOST'S SYMPOSIUM PLANNING TEAM

Shonda Poe, Delaware State University

Justina M. Thomas, Delaware Technical Community College

Joel Worden, Goldey-Beacom College

Matthew Robinson, University of Delaware

Leann Moore, University of Delaware

Denise Wells, Wilmington University

#DEProvostSymposium24

CYNDIE ROMER

Cyndie Romer is a state representative for the 25th District, serving the southern Newark area. She has been a community advocate, actively serving on committees for the NAACP – Newark Branch, Moms Demand Action, and the ACLU of Delaware. She is passionate that everyone, regardless of race, gender, sexual orientation, or economic status, should have equitable opportunities for advancement. She is a director at Diamond Technologies, which provides IT support and cybersecurity to regional businesses. She is chair of the Delaware House Committee on Technology & Telecommunications and holds a bachelor's degree in Economics from the University of Delaware.
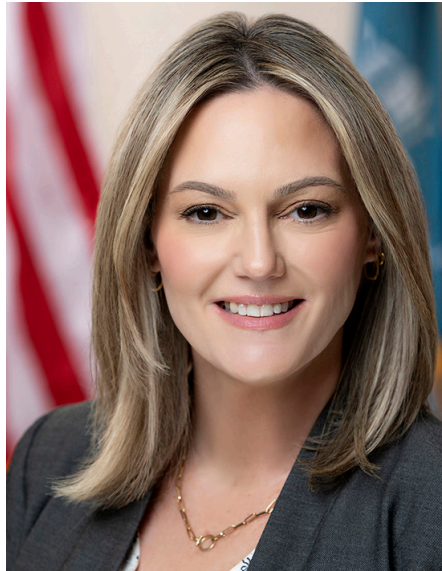
DELAWARE STATE UNIVERSITY

Clytrice Watson, Ph.D. Professor of Biology; Associate Provost for Academic and Student Service

Clytrice Watson is a professor of Biology and the associate provost for Academic and Student Service at Delaware State University (DSU). During her 18-year career at DSU, she has served in many capacities including the interim dean for the College of Mathematics, Natural Sciences and Technology, associate dean for Student Success, director of Forensic Biology, associate director for the MARC U*STAR program, director for student support and scholarship and director of the Research and Engineering Apprenticeship Program (REAP). She completed a 2-year rotation with the National Science Foundation as a program officer for the Historically Black Colleges and Universities Undergraduate Program (HBCU-UP) in the Directorate for Education and Human Resources. She earned her bachelor's in biology from Norfolk State University, a master's degree in biology from Delaware State University and a doctorate from the University of Maryland Eastern Shore in Food Science and Technology/Microbiology. As a leader in the HBCU community, she completed a certificate of Academic Leadership via the NSF-funded Opportunities for Underrepresented Scholars (OURS) graduate certificate program at The Chicago School of Professional Psychology.

DELAWARE TECHNICAL COMMUNITY COLLEGE

Justina M. Thomas, Vice President for Academic Affairs at Delaware Technical Community College

Justina M. Thomas is the vice president of Academic Affairs at Delaware Technical Community College. She served in a college-wide leadership role as principal investigator and project director for the U.S. Department of Labor Federal Trade Adjustment Assistance Community College and Career

Training Round 1 and Round 3 grants. She began her career at Delaware Tech in 1997 as a full-time instructor in the Developmental Studies Department at the Owens Campus. She then served as instructional coordinator and department chair. She also served as the teaching resource center coordinator. She received a bachelor's degree in English and secondary education from Salisbury University and a Master of Instruction from the University of Delaware. She is a graduate of the college's 2006 Leadership Development Program. She received Delaware Tech's Excellence in Student Success Award in 2014 and the Excellence in Teaching Award in 2005.

GOLDEY-BEACOM COLLEGE

Joel Worden, Ph.D., Provost and Vice President for Academic Affairs at Goldey-Beacom College

Joel Worden earned his Ph.D. in English at the University of Delaware in 2005. He joined the faculty of Goldey-Beacom College the same year and rose through the ranks to achieve full professorship in 2017. In January of 2021, he became Associate Provost, and in July of 2023 he assumed the role of Provost & Vice President for Academic Affairs.

UNIVERSITY OF DELAWARE

Laura Carlson, Ph.D., Provost
Laura A. Carlson, a distinguished administrator, educator and researcher with more than 25 years of higher education experience became provost of the University of Delaware in June 2022. As the University of Delaware's chief academic officer, Carlson is responsible for the administration and continuous enhancement of all programs of instruction, research and service supporting the academic mission of the University, and for facilitating the success of UD faculty and students. Her appointment at UD follows a long and robust career at Notre Dame, where she served in several key

leadership roles including vice president, associate provost and dean of the Graduate School.

Carlson's primary research interest is spatial cognition – how we mentally represent the places and objects around us. Her work has been supported by grants from the National Institutes of Health and the National Science Foundation. She takes an interdisciplinary approach to her work, publishing with scholars across the fields of computer science, engineering, architecture and linguistics. Carlson is a cum laude graduate of Dartmouth College with a special major in psychology of language. She received a Master of Arts degree at Michigan State University and earned her Ph.D. at the University of Illinois, Urbana-Champaign.

WILMINGTON UNIVERSITY

Jim Wilson, Ed.D., LPCMH (DE), NCC, ACS; Vice President for Academic Affairs

James Wilson is the vice president for Academic Affairs at Wilmington University and professor. He holds degrees in Counseling Psychology (Ed.D.), Pastoral Counseling (M.S.), and Ministry (M.A.R.). Wilson is a Licensed Professional Counselor of Mental Health, National Board Certified Counselor and an Approved Clinical Supervisor and member of the American Counseling Association. He has served the State of Delaware in numerous ways including appointments by Delaware Governors to the Delaware (licensure) Board of Mental Health and Chemical Dependency Professionals (two terms as president) and the Delaware Sentencing Accountability Commission (SENTAC). He also serves on the Delaware P-20 Council and is a member of the Delaware Medical Reserve Corps (mental health).

Presenters and Facilitators

Matthew Kinservik, Ph.D., Vice Provost for Faculty Affairs, University of Delaware

Matthew Kinservik is the vice provost for Faculty Affairs, providing support and oversight for all phases of faculty life at the University. In order to promote the highest academic standards and inclusive excellence, the vice provost for Faculty Affairs advises the provost on faculty recruitment and promotion and tenure; assists the colleges in recruitment and mentoring; oversees the promotion and tenure process; and serves as the liaison to the Faculty Senate, the UD chapter of the American Association of University Professors, and the University of Delaware Association of Retired Faculty.

Thomas Powers, Ph.D., Associate Professor of Philosophy; Director, Center for Science, Ethics, and Public Policy Program, University of Delaware

Tom Powers is Associate Professor in Philosophy and in the Biden School of Public Policy and Administration, and the founding director of the Center for Science, Ethics, and Public Policy. He is also a faculty affiliate of the Delaware Biotechnology Institute, the Data Science Institute, the Sociotechnical Systems Center, the Center of AI Excellence, and the Center for Autonomous and Robotics Systems, all at the University of Delaware. His research focuses on ethics in information technology, including the ethics of AI.

Kathleen McCoy, Ph.D., Associate Professor of Philosophy; Director, Science, Ethics, and Public Policy Program, University of Delaware

Kathleen F. McCoy is a professor at the University of Delaware with primary interest in Artificial Intelligence, Computational Linguistics/Natural Language Generation, and Accessibility for People with Disabilities. From 2000-2009 she served as the Director of UD's Center for Applied Science and Engineering in Rehabilitation. She has served in leadership roles in the Association for Computational Linguistics (ACL), and in the conference series for the International ACM SIGACCESS

Conference on Computers and Accessibility. McCoy spent a sabbatical year (2015-2016) and continues to consult for the National Institute on Disability Independent Living and Rehabilitation Research (NIDILRR) which is part of the Administration for Community Living in the US Department of Health and Human Services. In this capacity, she served as Co-Chair of the Interagency Committee on Disability Research Subcommittee on Assistive Technology.

Bill Whitney, Ph.D., Assistant Vice Provost for Experiential Learning, Lehigh University

Bill Whitney was named assistant vice provost for Experiential Learning Programs in 2022. Prior to that, he served in the role of administrative director for the Office of Creative Inquiry at Lehigh University since its inception in January 2017. Bill holds a Ph.D. in Theatre and Drama from the University of Wisconsin-Madison and has been an adjunct professor in the Department of Theatre at Lehigh and the Department of Performing Arts at Cedar Crest College. Prior to his current role, Bill served for six years as executive assistant in Lehigh's Office of the President. In his assistant vice provost role, Bill champions the Impact Fellowships and Mountaintop Summer Experience programs through the Office of Creative Inquiry, and will serve as the lead instigator of the Lehigh 360 initiative. He will work across disciplinary borders to support and strengthen current experiential learning opportunities at Lehigh University, as well as those yet to be created. Bill also holds a master's degree in Drama from Washington University in St. Louis, and B.A. degrees in English and Theatre Arts from Nebraska Wesleyan University.

C. Joshua Simpson, Ed.D., Associate Professor and Faculty Development Manager, Center for Teaching Excellence, Wilmington University

Danny Walker, Ed.D., Chair, Philosophy & Arts, College of Education and Liberal Arts, Wilmington University

Mary Wheeling, Ph.D., English professor and Director of Faculty Development, Goldey-Beacom College

[Laura Thompson](#), Ph.D., Instructional Design, Delaware Technical Community College

[Jason Silverstein](#), Instructional Designer, Delaware Technical Community College

[Fatima Boukari](#), Ph.D., Associate Professor, Mathematics Physics and Computer Science, Delaware State University

[Jeff Klein](#), Ed.D., Senior Policy Scientist, Center for Research in Education & Social Policy (CRESP), University of Delaware

[Héc Maldonado-Reis](#), Director, Research Development & Analytics, Tech Impact

Poster Abstracts

DELAWARE STATE UNIVERSITY

1. Convolutional, Recurrent Neural Networks and support Vector Machine Algorithms for sentiment analysis through EEG signals

Jessica A Gabriel-Perez, Azyah A Martin, Lillie E Hunter, Fatima Boukari, Delaware State University

Mental health issues are a growing concern in our society. Its impact on individual well-being and health cannot be understated. In response, scientists have designed tools to gauge mental stress in its early phases. Electroencephalogram (EEG) signals can provide comprehensive insight into mental states and conditions. In this project, we propose to use Variational-Autoencoders that extract important features and reduce noise from EEG signals. Next, we will build and compare different machine learning and deep learning models for EEG sentiment analysis. We propose to build and compare Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), and Support Vector Machine (SVM) for the detection of emotional states based on the EEG data.

The different Deep Learning models will be trained on EEG data to find patterns of brainwave activity associated with different emotions. After preprocessing, normalization and noise removal using Variational Autoencoders, we implemented and compared different models. To

achieve the best results, we used different optimizers, loss functions and experimented with early stopping and regularization layers to prevent overfitting. SVM results show 89% accuracy, while the CNNs and RNNs results show 96% accuracy. As future work, we propose to use hybrid architectures that combine both RNN and CNN layers to leverage the strengths of both networks.

It's important to note that while EEG can provide valuable insights into emotional states, its application for sentiment analysis requires careful consideration of ethical and privacy concerns, as well as the need for robust data analysis techniques to derive meaningful conclusions from EEG signals.

2. ResNet-Based Deep Learning Modeling of Bacteria and Antibiotic Informed classification: Effect of Averaging Spectral data

Deyvon T Ross, Tavianne E Maultsby, Fatima Boukari, Delaware State University

We present the outcomes of preprocessing Raman spectral data obtained from diverse bacteria [2] on the training and testing accuracy of a deep learning model for bacteria Multi-classification. Bacteria, which are prevalent single-cell organisms, present challenges in detection, identification, and analysis due to the time-consuming, costly, error-prone, and sometimes complex nature of existing techniques. For biomedical applications, this may impact rapid diagnosis and treatments for bacterial infections, create inequity to access to costly complex assays, as well as create errors at diagnosis. Raman spectroscopy is a powerful technique commonly used to determine the vibrational modes of biomolecules (e.g. proteins, carbohydrates, lipids, DNAs), turning the measured spectra into fingerprints of the molecules and the materials at hand. In this project, we used a publicly available dataset of 60,000 Raman spectra measured from samples of 30 bacterial species. We analyzed the spectral peaks to determine the vibrational modes in the 382-1792 cm-1 wavenumber range, assigning some peaks to various biomolecular components of the samples. Further, we developed and trained a ResNet-based convolutional neural network (CNN) with the spectral data as input and classification of the bacteria as output. In this work, we evaluate

the effect of different ways of averaging the spectral data on the training and testing of the CNN model. Averaging tends to improve the signal-to-noise (SNR) of the spectra. We applied three approaches for averaging, namely sequential, rolling, and random. The sequential and rolling averaging reduces the dataset size whereas random averaging can increase the dataset size and can hence improve the training of the CNN model with a larger set. We found that the training accuracy increases regardless of the averaging method. However, the testing accuracy increases with random averaging compared with those derived from testing with sequential- or rolling-averaged datasets. The results can be applied for the development of a systematic approach to integrate machine learning modeling with general spectral data and demonstrate, as an example, the potential use of Raman spectroscopy and machine learning for rapid and accurate bacterial diagnosis.

GOLDEY-BEACOM COLLEGE

3. Bridging Theory and Practice: The Critical Role of Academic Librarians in AI Policy Development

Russell Michalak, Goldey-Beacom College

As the integration of Artificial Intelligence (AI) within academic settings deepens, the imperative for ethical AI policy-making escalates. This proposal outlines a paper aimed at highlighting the pivotal role of academic librarians in the formation and execution of AI policies at higher education institutions. Grounded in the principles outlined in "From Ethics to Execution," this poster showcases how academic librarians' unique expertise in information ethics, privacy, and interdisciplinary collaboration significantly contributes to developing comprehensive, ethical AI frameworks.

4. Scalable AI Literacy

Alexandra Salas, Goldey-Beacom College

Iterative AI Literacy: Teaching with AI means learning with and alongside AI. Exercising and honing a broad set of critical skills including writing, inquiry and prompt development, ethical awareness, evaluation and fact-checking.

5. Delaware Sea Grant in the Urban Corridor

Emily Maung-Douglass and Emily Rodden, University of Delaware

In Spring 2023, Delaware Sea Grant (DESG) hired the program's first-ever personnel dedicated to addressing the unique challenges facing the state's urban watershed communities. While the majority of DESG's portfolio rests on projects based in southern DE at the mouth of the DE Bay, these two new hires are extending the capacity of and name-recognition of the DESG program, building on the momentum of a series of discrete projects carried out in the greater Wilmington area.

DESG's new Urban Watershed Specialist and Resilient Urban Ecosystems Research Associate are engaging with stakeholders in Wilmington and the surrounding area. Initial engagement focuses on connecting with surveying work currently underway done by 20+ by partner agencies, initiatives, community groups, and others in the area, as well as understanding needs and informational gaps. Based on these initial conversations, DESG has developed and executed work in the urban watershed including professional development training, resource sharing, environmental education, outreach events and products in partnership with community organizations. The ultimate aim is to determine the best way to support and complement pre-existing efforts, as well as increase external awareness of the DE Sea Grant program and its services.

6. The Impacts of Community Feedback on Delaware's State Health Improvement Plan

Peyton Free, Palma Bauman, University of Delaware

The State Health Improvement Plan (SHIP) Process is a comprehensive five-year action cycle aimed at analyzing and addressing gaps and emerging health issues in Delaware. The Division of Public Health in Delaware has collaboratively partnered with the University of Delaware to execute this process. Currently in its third year of the five-year action cycle, the State Health Assessment is nearing completion, while the SHIP is actively in progress. The primary objective of the SHIP

is to delineate how the health department and the community can collaborate to enhance the overall health of the population, as outlined by the National Public Health Accreditation Board (PHAB). Employing a strategic process that evaluates and identifies the specific needs of Delawareans, community initiatives and interventions are designed and implemented to effectively address and combat health disparities. The SHIP process includes three sequential phases: a State Health Assessment, a State Health Profile, and the SHIP, all designed using Rippel's Vital Conditions Framework. Data collected during community outreach initiatives have facilitated the recognition and prioritization of multisolving initiatives within the community. Furthermore, stakeholders have contributed valuable insights into health outcomes and disease states that are of the highest concern to residents of the state of Delaware. The community-derived data will play a crucial role in informing the State Health Improvement Plan, serving as a guiding document for initiatives and stakeholders in Delaware. This collaborative effort aims to strategically enhance health outcomes and address pressing health disparities within the state.

7. Disruption, Adaptation, and Maintenance of Domestic Violence Services during the COVID-19 Pandemic

Annaliese Pena, University of Delaware

Background: The COVID-19 pandemic disrupted many aspects of domestic violence services including sheltering, in-person advocacy, and access to mental health, visitation, and legal services.

Methods: To understand how various aspects of service provision were disrupted across the course of the pandemic, we surveyed a national census of U.S. based domestic violence direct-service agencies. Email addresses were collected from online directories available at either domesticshelters.org or the Tribal Resource Tool. Each agency received a link to complete a survey using the online platform Qualtrics. The survey included five sections: services provided; work environment during COVID-19; disruptions caused by COVID-19; personal and organizational disaster preparedness; and demographics.

Results: Twenty-two percent of 1,341 agencies responded to the survey.

At the start of the pandemic, the most disrupted services were legal and court, sheltering, and mental health/counseling services. Hazard pay, flexible scheduling, and additional information technology support were the most frequently mentioned supports provided to mitigate disruptions and support service providers and advocates. Disruptions and supports changed over the course of the pandemic.

Discussion: The COVID-19 pandemic disrupted the provision of services and advocacy to victims and survivors of domestic violence. In order to bolster community engagement and support for service providers, first responder status is necessary and coordinated community responses (CCR's) with stakeholders (law enforcement etc.) is critical. Maintaining supportive measures post-pandemic requires continued investment in this critical yet underfunded sector and applying lessons learned from COVID-19 related disruptions and adaptations.

8. RespondDE: Helping DE Be Its BEST in supporting Mental Health Crises

Jennifer Saylor, University of Delaware

This community engagement program is a partnership with the Division of Substance Abuse and Mental Health (DSAMH) and Delaware Behavioral and Emotional Support Team (DE BEST) which is managed in the School of Nursing. Since its development in 2018, the DE BEST team has grown to over 300 volunteers and dedicated over 400 hours a year to achieve its mission "to build and enhance resilience in Delaware before, during and after community crisis or disaster". DE BEST team members are trained to provide emergency emotional support services and share mental health and preparedness resources to increase community resilience in Delaware. DE BEST provides a presence of hope in restoring the path to recovery for survivors of a mass crisis who may be dealing with loss and trauma. A volunteer corps, DE BEST is a component of RespondDE, Delaware's Medical Reserve Corp (MRC) unit, and DE BEST services mimic SAMHSA's Crisis Counseling and Training Program (CCP). The DE BEST team includes community members with and without professional experience as well as UD faculty, staff, and students. Volunteers are trained in Psychological

First Aid and have taken disaster preparedness and response training to achieve National MRC competency requirements. When called to duty, DE BEST volunteers provide immediate mental health support to survivors and responders of a traumatic community event or disaster. DE BEST also conducts outreach to promote volunteerism, increase knowledge and understanding about mental health and substance use, and enhance preparedness throughout our community.

9. HEALTH for All: Meeting Delaware Residents' Health Needs through Mobile Health and Community Engagement

Emma Mathias, Jennifer Horney, and Christine Sowinski, University of Delaware

Background: The HEALTH for All (H4A) program serves community members in New Castle County, Delaware ZIP Codes 19703, 19805, 19802, 19801, and 19720. H4A provides health and wellness programs to low-income, underserved populations who experience health disparities in partnership with more than 20 community agencies while providing experiential learning opportunities for UD students.

Methods: H4A clients complete a follow-up survey including demographic, healthcare access information, and the 12-item short-form health survey (SF-12) and answer questions related to Long COVID. Students and community partners complete evaluations of their experience working with H4A.

Results: Between 01/26/2023 and 05/25/2023, 73 community members completed the questionnaire. Most respondents were women (58 of 73; 79.45%) and African American (40 of 73; 54.79%). Less than 10% of respondents reported not having access to health insurance (6 of 73; 8.22%) and 2.74% reported not having access to stable housing (2 of 73). Respondents had lower-than-average self-reported physical health. Nearly half of respondents reported having tested positive for COVID-19 (31 of 73; 42.47%) and 4 respondents reported having symptoms that lasted 3 months or longer they did not have prior to COVID. All of the respondents who reported symptoms lasting 3 months or longer described their COVID symptoms as severe at their worst.

Discussion: H4A addresses health disparities and provides future health professionals with experiential learning opportunities. Overall, students and partners are satisfied and grateful for the services and experiences provided. Mobile health is an effective way to identify populations with health disparities and collect primary data to guide larger projects that engage those most at risk.

10. Enhancing Delaware's Local Food Systems: A Collaborative Approach

McKenna Halverson, Evyn Appel, Miranda Perez-Rivera and Allison Karpyn, University of Delaware

Purchasing locally grown food products benefits both individuals and communities by providing support to local farmers, promoting consumption of fresher foods, reducing carbon emissions, and enhancing local employment opportunities. Despite these advantages, the Farm to School survey conducted by the United States Department of Agriculture, demonstrates that in 2019, only 8% of Delaware's school food budget was spent on locally sourced foods products. Prior research demonstrates that school food authorities express interest in purchasing more local foods; however, barriers such as difficulty finding local producers, delivery challenges, and lack of availability of precut or processed foods hinder their efforts. To address this issue, our team is collaborating with the Delaware Department of Agriculture to develop a statewide procurement plan and capacity assessment. This project involves conducting interviews with diverse stakeholders, including local farmers, school food authorities, large-scale produce and poultry distributors, and state-level leaders to gain insight into the facilitators and barriers to local food purchasing among schools. Findings from this study will inform the development of resources aimed at fostering policy change and encouraging increased purchasing of locally grown food products in Delaware.

11. A Vision for the Future: Working with Creative Vision Factory During a Time of Transition

Signe Bell, Michael Kalmbach, and Caleb Mathis, University of Delaware

Policy Scientists and UD students from the Biden School's Center for Community Research and Service have been working with Creative Vision Factory since 2022 to help them navigate changes in their community and funding structures. Facilitating a visioning meeting with organizational stakeholders formalized the relationship in 2022 and the receipt of a 2023 Wilmington community engagement mini grant has allowed the work to grow. Signe Bell of CCRS and Michael Kalmbach of Creative Vision Factory have been working together to explore relocation options, organizational and operational structures, and partnership models to move CVF into its next phase. A new operational partner and location have been secured and work on the application for Creative Vision Factory to become an independent 501(c)3 nonprofit charitable organization is underway. The project has offered an opportunity for undergraduate and graduate public policy students to work with a successful and impactful community organization to pivot into its next phase.

12. Understanding the Impacts of Westside Community Healthcare's Feeding Families Program: A Community Research Partnership

Allison Karpyn, Eunice Holman, Lydia De Leon, Ruthann Richardson, Heather Patosky, Deborah Bryant, Maggie Norris-Bent, McKenna Halverson, Nicole Kenndy, John Oluwadero and Samuel Van Horne, University of Delaware

Our community research partnership with Westside Family Healthcare aims to comprehensively assess the impacts of the Feeding Families Program. This program, initiated in 2021, is designed to combat food insecurity, enhance access to fresh foods, offer regular nutrition counseling, and educate participants on managing chronic diseases. The ongoing partnership, building upon a successful pilot effort, currently serves 48 participants, providing weekly fresh produce food boxes, essential countertop cooking appliances, and dedicated support from dietetic and social service professionals. Eligible participants are patients

of Westside Family Healthcare, identify as food insecure, and live with uncontrolled hypertension or uncontrolled diabetes. The research project seeks to better understand challenges and strengths in program operations and outcomes such as dietary modifications, A1C levels, BMI, and blood pressure. Through rigorous data collection and analysis, this collaboration aims to enhance program efficacy, refine participant support strategies, and contribute valuable insights to the broader field of Food as Medicine interventions. This project is funded by the Highmark Blue Cross Blue Shield Delaware BluePrints for the Community grant program administered by the Delaware Community Foundation.

13. Making evaluation useful for community partners

Dana Holz, University of Delaware

This poster will highlight the work of the Center for Drug and Health Studies and our evaluation work with state partners in the behavioral health and criminal justice fields. We will talk about how we work to ensure that our evaluation process is useful for state partners and talk about the ways in which we involve community partners in each stage of the evaluation.

14. Collaborative Community-Based Partnerships for Strengthening Flood Resilience Capacity in Smallholder Farmers Communities in Nigeria

Sunday John Oluwadero and Allison Karpyn, University of Delaware

Nigeria, like many other countries, has been grappling with the increasing frequency and severity of floods, posing significant challenges to vulnerable communities. Smallholder farmers in coastal communities are particularly susceptible to the adverse impacts of floods due to their dependence on agriculture for subsistence and livelihood. Ibaji Local Government Area (LGA), situated along the banks of the River Niger in Kogi State, has been severely affected by recurrent floods, with the 2012 and 2022 floods being particularly devastating, leading to loss of lives, destruction of properties and farmlands, disease outbreaks, and mass displacement of communities. Despite existing policies aimed at enhancing flood resilience, their effectiveness remains

uncertain. This gap has prompted community-based nonprofits to leverage social networks, inclusive communication, and digital technology in early warning practices, climate-smart agriculture, and policy advocacy through community-based partnerships.

In Kogi State, Nigeria, a youth-led nonprofit, Building Nations Initiative (BNI), engaged local health workers and primary school teachers in Ibaji LGA to introduce and implement ProjectRECOVER as a locally-led adaptation intervention with the goal of enhancing the advocacy and livelihood recovery capacities of smallholder farmers impacted by the flood.

This poster presentation explores the challenges and opportunities in flood resilience planning through collaborative community-based partnerships, especially as it relate to locally-led adaptation approaches to flood. It provides an overview of locally-led adaptation strategies adopted by communities in Ibaji LGA to prepare, respond, and recover from the impacts of the 2022 flood crisis on their livelihoods.

15. City of Wilmington Green Jobs Program Impact Study

Martha Narvaez and Jhaney Hamlett, University of Delaware

The City of Wilmington's Green Jobs Program (2011-2023) has employed over 175 youth, 14-18 years old, in a six-week environmentally focused paid internship. The key components of this program include environmental education, field work, and professional development. Through participation in this program youth can help to transform their communities into a greener, cleaner, safer community while experiencing meaningful employment and education opportunities and exposure to environmental careers.

The City of Wilmington Department of Parks and Recreation and the University of Delaware Water Resources Center (DWRC) have partnered on the implementation of this program since its inception (2011). The program is coordinated by the DWRC, administered by the City of Wilmington's Department of Parks and Recreation, and includes approximately 20 organizations (nonprofit, governmental, private, and academic) that host the youth each summer. The program is a true partnership.

For the past several years the City of Wilmington, DWRC and program partners have requested feedback on the program's impact and on the current education and professional activities of past participants. This project, funded by the University of Delaware Wilmington Partnership Mini Grant, led by DWRC in partnership with the City of Wilmington Department of Parks and Recreation, developed and coordinated survey tools, analyzed survey responses, and reported on the impacts of the City of Wilmington Green Jobs Program participants. The poster will provide a summary of the program and the results of the survey which will help guide the program's growth, development and potential program refinement.

16. Cooperative Extension - Extending Knowledge and Changing Lives

Jennifer Volk, University of Delaware

Since 1869, University of Delaware Cooperative Extension has served Delawareans with a mission consisting of three elements: teaching, research and "extension." UD Cooperative Extension fulfills the third part of this mission, offering university knowledge, research and resources to businesses, individuals, families and youth. Representing one of the state's land-grant universities, our educational programs focus on sustainable agricultural and urban production systems; environmental stewardship; nutrition, food safety and wellness; and personal and economic development. This poster will provide an introduction to the UD Cooperative Extension Service and its impact on communities throughout the state of Delaware.

17. Empowering Students and Educators with Geospatial Skills

Mary Schorse and Tracy DeLiberty, University of Delaware

As our world continues to become more and more interconnected, it is critical for the next generation of decision makers to have the skills needed to leverage tools that can help them explore the extent of our global interconnectivity, and more importantly, to be able to assess the global impacts of local actions. Geospatial technologies that leverage digital mapping and satellite imagery assist in that assessment, and are a skillset highly sought after across all sectors of society.

The Delaware Center for Geographic Education (DGE) and DelawareView (DV), both housed within the University of Delaware's Department of Geography and Spatial Science, are collaborators on an initiative to increase awareness of the power of digital maps and satellite imagery to better understand the world around us. The initiative targets teachers and students across Delaware and unfolds via a number of different strategies: i) develop high quality instructional materials which utilize geospatial technologies as a teaching tool, ii) provide professional development workshops on using geospatial technologies for K-12 educators, iii) engage K-12 students with GIS and satellite imagery through games, specialized workshops and dual enrollment classes, and iv) insert geospatial technologies into existing career exploration and job training programs for secondary school students. The DCGE/DV partnership has been working closely over the past several years with DE Department of Education, the Delaware Social Studies Coalition, the Delaware Teachers of Science and school districts across the state to develop geospatial capabilities for tomorrow's workforce.

18. Quantifying Delaware's Secondary to Post-Secondary Student Pipeline: A Novel Open Source Approach Towards Estimating Workforce Eligible Populations

Samet Bayram, University of Delaware and Dharneeshkar Jayaprakash, Sarthak Ahir, Christy Grothues, Tech Impact

For state education and labor policymakers and administrators, understanding the secondary education to eligible workforce pipeline would enable data-driven decision-making toward building a resilient and thriving future labor market. Moreover, it would assist variable stakeholders in understanding the effectiveness and return on investment (ROI) of the dollars attributed to different initiatives over time. A major barrier is the lack of multi-level longitudinal data that integrates high school and higher education journeys. To address this, we present a novel open-source approach that wrangles and integrates multi-source data to engineer the first quantitative representation of Delaware's (DE) secondary school-

to-eligible workforce population pipeline. Data ranges from 2015 to 2022 and is labeled by graduation year-based cohorts so we can make inferences at the cohort and/or grade levels. Stratified by the Carnegie Classification of Institutions of Higher Education we quantify variable pathways towards workforce eligibility by making absolute and relative comparisons across the student journey. For example, of all 2015 DE 9th graders (cohort 2018; N=13,856): 1) 73% graduated from 12th grade in DE, 2) 40% enrolled in a DE 4-year degree school, yet 3) only 22% (approximately one in five) earned a bachelor's degree from a DE institution. As high school cohorts graduate this data set will progressively expand, eventually allowing us to map the average student trajectory to the workforce, accounting for variability over time. New space for collaboration can now exist for researchers and others to leverage and optimize this methodology for future comparative studies across states.

19. Evidence of Success: The Bookworms Reading Curriculum in Delaware and Maryland

Henry May, Jeff Klein, and Sharon Walpole, University of Delaware

The Bookworms Curriculum is a unique curriculum published in Open Educational Resources (OERs)--it is FREE to schools and districts. The Center for Research in Education and Social Policy (CRESP) conducted an independent evaluation of the rollout and impact of the Bookworms Curriculum and associated professional development in the Seaford, DE and Cecil County, MD school districts. In Seaford, the Bookworms Curriculum has been a success; all subgroups of students showed improvement after the introduction of the Bookworms Curriculum. In the MD study, CRESP analyzed standardized achievement test data from seven cohorts of students (N = 8,806) in grades 2–5 in 17 elementary schools across three school years using a comparative interrupted time-series design to estimate the change in students' achievement trajectories after the implementation of Bookworms. Results confirm a significant positive impact of Bookworms on achievement, with gains compounding over time and producing a substantial effect by the end of 5th grade.

20. Increasing Organizations' Collaboration through Committee Development

Kimi Moore and Alison Biloon, University of Delaware

In Delaware, Kent County ranks last in overall health outcomes and overall health factors[1]. In Dover, there are disjointed efforts to improve youth's health. Members of organizations in Dover highlight the need for streamlined communication between organizations as many are unaware of others' events.

University of Delaware Cooperative Extension brought together 76 individuals, representing 44 organizations, to partner on projects to improve the health of Dover youth. The Dover Youth Committee (DYC) meetings were held bimonthly and subcommittee meetings were held monthly. DYC emails out members' events and opportunities for partnership to members as needed.

The Coalition Effectiveness Inventory assessment showed that the DYC improved as a coalition in several areas such as coalition structure and membership. Additionally, the Levels of Collaboration Scale assessment showed an increase in collaboration with multiple key DYC members. This is further evidenced by DYC members planning committee-led community dinners set for 2024. Members were asked to complete a feedback survey after the final 2023 meeting. Of those who completed the survey:

- 71% stated they have networked or partnered with another organization because of their relationship with the DYC.
- 100% stated that DYC communication increased their knowledge of Dover area events.
- 82% believed that the DYC has likely had an impact on their organization.
- 100% plan to stay involved in 2024.

Committee members stated communication, space to connect, and committee-developed resources are the DYC's biggest strengths.

[1] County Health Rankings and Road Maps. Delaware. https://www.countyhealthrankings.org/app/delaware/2023/rankings/kent/county/outcomes/overall/snapshot

21. Pilot and Preparation of an Undergraduate Community Engagement Course: Latinx Families & Communities

Kate Riera, University of Delaware

This presentation describes the development and design of a new course on diverse families with strong components of social justice and experiential learning. An essential element of this process included piloting the curriculum and community learning experiences with an undergraduate student. The course explores a variety of topics and provides a basic overview of issues relevant to the understanding of Latinx families and children in the United States their implications for the socialization, education, health and well-being of Latinx children and their families. A main component is the emphasis on the experiential study of effective practices in the delivery of social services through community engagement.

22. Promoting and Supporting Mentoring and Research Skills Among Black Youth

Lawrence Livingston, University of Delaware

This project is significant to the academic well-being, and identity development of students at both the high school and college levels. The partnership was a collaborative endeavor, advancing equity, specifically improving material conditions and/or outcomes for a historically marginalized community in Wilmington. Black students face several challenges impacting their matriculation and graduation at both the high school and college levels. Poverty is a leading factor; it is estimated that approximately 32% of Black students live below the poverty line. As such, this project seeks to disrupt and/or minimize negative educational experiences and outcomes for Black youth by engaging them in a process that centers their experiential knowledge of their lives/communities, simultaneously equipping them with academic skills necessary for improved educational outcomes.

The Partnership with the Center For Structural Equity (CFSE) in Wilmington is a grass-roots organization founded to address the need to empower and equip communities to respond to systemic violence. It utilizes the Street Participatory Action Research (S-PAR) methods

for ways to gather data useful to the community's needs. One of the CFSE programs is for young people and uses Youth Participatory Action Research (YPAR) methods to support the educational and advocacy skill development of youth.

23. International Coaching Enrichment Certificate Program: International Sport Development Program

Connor Feeny, University of Delaware

The International Coaching Enrichment Certificate Program (ICECP) is one of the most recognized and respected coach education programs in the world. The ICECP is offered in partnership between the United States Olympic and Paralympic Committee (USOPC), Olympic Solidarity and the University of Delaware. The courses are taught by Team USA's Sport Performance and University of Delaware experts, as well as other leading international sport professionals in their respective fields.

The ICECP offers two courses of study. One is the residential program, which launched in 2008, and consists of an online learning component prior to participants traveling to the United States for the in-person portion of the program, which includes in-person learning, project development, and an apprenticeship experience. The second course of study is the virtual program, which was recently launched in 2021, and offers the same online learning modules as the residential program, but does not include any in-person components.

The overall goal and mission of ICECP is to provide participants with the tools and information needed to promote the development of sport in their home countries.

24. Delaware Sea Grant: Solving community environmental issues through dialogue and action

Christopher Petrone, University of Delaware

Delaware Sea Grant (DESG) advances the understanding, development, use and conservation of marine and coastal resources through high-quality research, extension, and education activities that benefit the

public and the environment. Our work focuses on topics ranging from coastal hazards to aquaculture to marine debris. We are also preparing the next generation of environmental leaders through hands-on research, education, and workforce development activities, and sharing trustworthy information on environmental topics with people from all walks of life. Delaware Sea Grant achieves societal impacts through community engagement and trust via workshops, programs, demonstration projects, exhibits, publications, videos, public lectures, community meetings, and one-on-one consultations. With an annual budget of just over $2M between federal and state funds, we invest approximately 50% in community-driven applied research projects. Recently funded projects include PFAS monitoring in Delaware Bay, better understanding of home acquisition strategies in the face of sea level rise, assessing biological and ecological impacts of Delaware's recreational shark fishery, and understanding the accumulation of microplastics in Delaware waters. DESG also funds fellowships and internships, including the prestigious John A. Knauss Marine Policy Fellowship, which places Masters and PhD students in the executive and legislative branches of the federal government. DESG prides itself on being an "neutral broker" of the best-available science, with a focus on partnering to solve communities' most pressing environmental issues.

25. AI-ding Science Learning

John R Jungck, University of Delaware

AI affords many new ways to help students learn. I will share three distinct approaches: (1) Intelligent tutoring: We developed MENDEL: Machine Enhanced Non Dogmatic Enquiry Learning for helping students to interpret the underlying genetic phenomena after they have performed numerous genetic crosses rather than give them answers or explicit guidelines on what to do next. (2) Software development: using ChatGPT to help students program by not having to worry about syntax issues. (3) Data wrangling : AI helps students cope with the challenges that arise in massive complex problems of using very heterogeneous data formats.

26. The Child Care Workforce Wellbeing Initiative: supporting the health and wellbeing of educators

Laura Lessard, Rena Hallam and Stephen McLaren

The Child Care Workforce Wellbeing Initiative focuses on understanding and supporting the health and wellbeing of the child care workforce. Our work is grounded in the idea that interdisciplinary approaches are best positioned to support this important workforce. This Initiative is conducted as a collaboration with the Delaware Institute for Excellence in Early Childhood and many child care programs and professionals across the state. Two of our flagship projects, Shining the Light on You and Lunch Breaks, provide evidence-based wellbeing programming for educators in home and center-based settings. Several research and evaluation projects on these programs will be presented, with both quantitative and qualitative data.

WILMINGTON UNIVERSITY

27. Scholarly Delaware Youth Soccer

Scott Walton, Candace Vogelsong, Turner Lee, Shannon Jost, Wilmington University

Delaware Union Soccer and Wilmington University collaborated in growing and educating our local youth in a community partnership. WilmU has Board members, coaches, and families who are involved in helping our youth soccer programs. In Fall 2023 WilmU also sent a Marketing student to assist in growing the programs digital footprint. Our community, staff, instructors, students, and especially our youth has all seen the benefits of this collaboration between Delaware Union Soccer and Wilmington University.

28. The Intersection of AI and DEI&B

Anthony L. Buffone, Charles J. Simpson, Rick S. Beno, and Cheryl Wilmore, Wilmington University

Wilmington University recognizes the ability of Artificial Intelligence (AI) to revolutionize learning and strengthen community partnerships. By integrating AI, the university aims to enhance collaboration with local

partners and promote economic and social prosperity. The professional growth of faculty is vital, ensuring they harness AI effectively with a strong commitment to ethical usage that resonates with the university's principles.

The integration of AI is not just about technology—it is about enhancing pedagogical practices, centering on faculty and students, and fostering inclusivity and transparency. The adoption of AI serves as a catalyst, not a complete solution, and necessitates ongoing reassessment and refinement of teaching methodologies and puts the human experience at the heart of technological progress.

Wilmington University champions collaboration with local partners to devise AI solutions tailored to specific community needs. Such partnerships enrich student learning and contribute to wider community development. The university emphasizes AI as a tool, one that requires a strategic and considerate application to promote significant, beneficial transformations in education. To facilitate AI adoption, the university initiated a workshop series in 2023, addressing fear and uncertainty, increasing confidence in technology, identifying relevant applications of Generative AI, using insights to inform new policies, and empowering individuals to confidently navigate AI.

With over 1,500 adjunct faculty engaged in industries and communities nationwide, the university empowers them to lead positive AI-driven change. This Distributed Leadership approach enables participants to confidently embrace a growth mindset and community specific application of Generative AI technologies.

To complete an evaluation of today's symposium, please visit our Qualtrics survey.