University at Buffalo

Health Impact

From the University at Buffalo School of Public Health and Health Professions   Summer/Fall 2024

When Artificial Intelligence Meets Health

SPHHP Moves Toward the AI Future

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Thanks for your time (really!)

The field trainers, preceptors and other volunteers whose longstanding support help keep SPHHP's educational wheels spinning came out for the school's first-ever Volunteer Thank-You Breakfast in May. In between noshing and networking, those in attendance heard from Dean Jean Wactawski-Wende about the school's successes over the past year. Pictured are exercise science preceptors Darren Wojcicki of The Warrior Factory (left) and Andrew Ray of Roswell Park Comprehensive Cancer Center with Exercise and SPHHP Nutrition Sciences Undergraduate Clinical Coordinator Rebecca Begalle.

Welcome to the latest issue of *Health Impact.* I'm excited to share with you developments happening at UB and our School of Public Health and Health Professions in the field of artificial intelligence (AI), which we'll explore in detail in our cover story.

UB has long been a leader in AI research, with over 200 researchers working on cutting-edge projects. Now, thanks to the groundbreaking Empire AI initiative, we're poised to take a giant leap forward. This $400 million investment, including a state-of-the-art AI computing center at UB, will revolutionize our capabilities and impact.

What intrigues me most is the potential for AI to address major societal challenges, particularly in health. From early disease detection to personalized treatment plans, from analyzing health disparities to predicting disease outbreaks due to climate change, the possibilities are endless.

In this issue, you'll discover how our faculty are already harnessing AI's power. You'll read about innovative projects in biostatistics, epidemiology and education. You'll learn how we're integrating AI literacy into our curriculum, preparing the next generation of public health and health profession leaders.

As we learn about and adapt to this technology, we remain committed to our core mission: improving health and well-being for all. With AI as a new tool in our arsenal, the future of health may bring us to places we've never thought of.

I invite you to join us on this journey.

Jean Wactawski-Wende, PhD
Dean and SUNY Distinguished Professor

Clinical Nutrition MS Accredited for Full Seven Years

SPHHP's Clinical Nutrition MS program has been accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) for the next seven years, the longest term possible.

The accreditors made their site visit to the school in 2023 and conducted a thorough evaluation with no follow-up visits required, highlighting the quality of the program.

"The achievement of a full seven-year accreditation term from ACEND for our Clinical Nutrition MS graduate program signifies a seal of excellence and rigor, affirming the dedication of our faculty to uphold the highest standards in dietetics education," said Nicole Becklem, MS, RDN, CCMS, the program's director.

"For students and prospective students, it offers assurance of a comprehensive curriculum that not only imparts foundational knowledge but also has embedded advanced competencies essential for future dietetics practice. Being the sole fully accredited in-person graduate program in dietetics in Buffalo, NY, underscores the prestige and leadership of our department within the School of Public Health and Health Professions at UB, positioning graduates for success in diverse roles including management, interprofessional collaboration, and high-level practice."

The factors ACEND mentioned in its evaluation of the program included:

» Collegiality and support of faculty and administrators

» Interprofessional education among health care professions

» Diverse on-site experiences and dedication of preceptors

» Competency assessment methods

» Curriculum innovation and program directors' leadership

"The Clinical Nutrition program at UB has been training exceptional clinicians for more than 20 years," added David Hostler, PhD, chair of the Department of Exercise and Nutrition Sciences, where the program is housed. "This excellent result from the accreditation visit is the result of the dedication of our nutrition faculty to the students and the program."

Students in the Clinical Nutrition MS program prepare a meal designed to gauge a test group's reaction to its taste, health profile, presentation and cost.

Webinar Spotlights UB's Pan-American Collaboration

The innovative collaboration between UB's Center on Health in Housing and the Pan American Health Organization (PAHO) has been a source of productive research and action for years now. But earlier this year, UB took center stage during a PAHO-sponsored webinar, streamed Americas-wide.

PAHO is the specialized health agency of the Inter-American System and WHO's Regional Office for the Americas, working with countries throughout the region to improve and protect people's health. The Center on Health in Housing is a collaboration between SPHHP and the School of Architecture and Planning, administered by SPHHP's Office of Global Health Initiatives.

The recent webinar, "Housing and Health: Implications for Health Equity", featured center faculty member Elizabeth Bowen, PhD, LCSW, associate professor in the School of Social Work, and Meghan Holtan, a PhD candidate in urban and regional planning. The two highlighted challenges around housing and health in the Americas region from PAHO's perspective, offering a look at the concept of housing as a key social determinant and its direct and fundamental relationship with health equity.

Holtan detailed five factors in the relationship between housing security and health: the physical condition of housing, residential stability, housing affordability, location and the surrounding environment, and the opportunities for care and social connections that housing often provides.

Bowen advocated housing as a human right and cited a 2022 study indicating that only 44 percent of 189 United Nations member countries had the constitutional right to housing in 2020.

Other speakers during the webinar represented a range of regional perspectives from Guatemala, Argentina and other countries in the Americas, as well as from PAHO.

"One thing that stands out to me from the webinar," said Bowen, "was that ... some presenters presented in English and some presented in Spanish, while interpreters offered live translations via Zoom into the audience member's first language. This was my first time presenting this way, and it made a really positive impression. It provided a seamless way of being able to interact with the other speakers and audience members across languages and cultures."

Holtan seconded Bowen's comment about working with and learning from colleagues across the Americas: "One thing that I appreciated about one of the other presentations from the webinar was the open acknowledgement of the political drivers of social determinants of health, such as housing."

A long-term partnership

In 1988, UB's Center on Health in Housing became a PAHO/WHO Collaborating Centre for Research on Healthy Settings, and the cross-border work began.

Via the collaborating center, faculty from across UB have shared—and continue to share—with PAHO their expertise on accessible housing, environmental exposures, food systems and healthy neighborhoods.

"I have enjoyed working with colleagues from PAHO, WHO, and other collaborating centers in Pan-America. Some of our UB members were involved in developing housing-related guidelines and providing technical reports," said Associate Professor of Epidemiology and Environmental Health Lina Mu, MD, PhD, who along with Associate Professor of Urban and Regional Planning Emmanuel Frimpong Boamah, PhD, co-directs UB's collaborating center.

"We felt UB's expertise was well recognized and being utilized to contribute to regional and global health."

Research in the Extreme

Professor of Exercise and Nutrition Sciences David Hostler, PhD, doesn't shy away from intensity. From the heat that firefighters face to the intense pressure under which many divers operate, the research he directs at the Center for Research and Education in Special Environments (CRESE) has always aimed to understand how people can stay safe and productive even in extreme surroundings.

Some of Hostler's most recent projects focus on the world of submariners, SEALs and divers—in other words, the United States Navy.

For the Naval Submarine Medical Research Laboratory: "Nitrogen Narcosis Study" What happens if sailors in a disabled submarine—who may be hot, dehydrated and breathing too much carbon dioxide–need to be rescued? Can they assist in their own rescue? The Navy has developed a tablet-based application to test an individual's cognition to help answer these questions. Hostler and his colleague, Hayden Hess, PhD, will test the subjects' reactions in the center's hyperbaric chamber when they are hydrated and dehydrated to find out how those conditions affect the ability to think and react. The results of the study will help the Navy understand when planning a rescue.

With Creare, LLC, for the U.S. Navy Office of Naval Research: "Physiological Monitoring to Accelerate Safe Decompression" Detecting air bubbles in the bloodstream of divers gives a good indication of suffering decompression sickness, also known as the bends, when they rise to the surface. The current method of testing for bubbles—ultrasound—is only available after surfacing. CRESE is testing a device developed by Creare that measures bubbles in real time while divers are still submerged, which could make for much safer decompression and rising. The hyperbaric chamber is again the setting to create air bubbles in test subjects and test how well the new device works versus ultrasound.

For the U.S. Navy Naval Sea Systems: "Thermal Strain During Diving in Warm, Contaminated Water" Another project for which Hostler is principal investigator looks at divers' body temperature and heat tolerance when operating in warm water environments while wearing a drysuit. Thermal strain ultimately affects the divers' ability to handle tasks effectively. Fully encased dive suits and completely sealed helmets allow divers to work—perhaps clearing a ship for mines or repairing a broken propeller—in warm contaminated water. But does that equipment really make divers' lives safer when they're already in a hot environment with no way to regulate their body temperature? This study will shed light on the ramifications of such scenarios.

Hostler is not alone in the special environment realm. Hess also has a strong interest in diving research. The other principal CRESE investigators, Riana Pryor, PhD, and Luke Pryor, PhD, work primarily on research in hot environments.

How much physical activity is truly beneficial for people over 60? A new study led by **Michael J. LaMonte, PhD,** research professor of epidemiology and environmental health, provides an answer. Published in *JAMA Cardiology,* the study of nearly 6,000 U.S. women aged 63–99 reports that, on average, 3,600 steps per day at a normal pace was associated with a 26% lower risk of developing heart failure. The observational study from the Women's Health Initiative looked at accelerometer-measured physical activity, sedentary time and heart failure risk.

"In ambulatory older women, higher amounts of usual daily light and moderate intensity activities were associated with lower risk of developing heart failure with preserved ejection fraction independent of demographic and clinical factors associated with heart failure risk," said LaMonte.

The New England Journal of Medicine was the outlet for an International Agency for Research on Cancer (IARC) special report on alcohol use and cancer risk. SPHHP's **Jo Freudenheim, PhD,** SUNY Distinguished Professor of Epidemiology and Environmental Health, was a member of the working group that authored the report, "The IARC Perspective on Alcohol Reduction or Cessation and Cancer Risk." The report's first author is past Richard V. Lee Lecturer Susan Gapstur, PhD, of the IARC. Significantly, the authors agreed that, based on the epidemiological evidence (particularly large studies of long-term alcohol cessation) stopping drinking can lower the risk of getting cancers caused by alcohol. The working group specifically noted that reducing or eliminating alcohol use decreased the risk of oral and esophageal cancers.

SPHHP Dean **Jean Wactawski-Wende, PhD,** was a contributing author of a recent article in the *Journal of the American Medical Association* (JAMA) about the groundbreaking Women's Health Initiative (WHI) hormone trials. The article aims to help clinicians interpret WHI findings that sought to determine the long-term risks and benefits of hormone therapy after menopause, focusing on chronic disease rather than menopausal symptoms. The estrogen-plus-progestin trial was halted in 2002 due to safety concerns, showing increased risks of breast cancer, heart disease, stroke and blood clots. The estrogen-only trial indicated increased risks of stroke and blood clots but lower breast cancer risk. The *JAMA* paper suggests that for menopausal women under 60, estrogen-alone therapy's benefits likely outweigh the risks. For estrogen-plus-progestin, the risk remains but is small in women under 60. Wactawski-Wende emphasized the importance of clinician consultation and using the smallest effective dose for the shortest time.

When Artificial Intelligence Meets Health

SPHHP Moves Toward the AI Future

As artificial intelligence shakes up the world, the University at Buffalo—and the School of Public Health and Health Professions—are gearing up to harness and advance this powerful technology for the greater good. The effort is benefiting from a major New York State initiative that places UB at the center of an innovative AI research program, which, ultimately, positions social good firmly as its baseline.

UB has a rich, 40-year history in AI research and is recognized as a leader in the field. Over 200 university researchers work on AI and data science projects. Those projects include work that most people would associate with AI like robotics, cybersecurity, etc. But researchers and faculty in the health sciences areas are applying their expertise to developing and using AI in areas such as drug discovery, diagnostics, women's health and much more.

All of this will take a giant leap forward thanks to Empire AI, a groundbreaking consortium of New York's leading educational institutions, including the State University of New York, that New York State Governor Kathy Hochul and the state legislature launched this year. Empire AI aims to harness the power of AI to address major societal challenges in fields like health care, education, social justice and climate change.

Significantly, Empire AI committed $275 million to create a state-of-the-art AI computing center at UB. The project has also secured over $125 million from SUNY and the other founding institutions Columbia University, Cornell University, New York University, Rensselaer Polytechnic Institute, the City University of New York and the Flatiron Institute. Funding is also coming from private partners, for a total investment of more than $400 million.

The governor emphasized the importance of the initiative, stating, "Whoever dominates the AI industry will dominate the next chapter of history."

AI and society

Empire AI's commitment to social good and health care is a central part of its mission, according to SPHHP Dean Jean Wactawski-Wende, PhD. She emphasizes that the consortium plans to leverage AI not just for economic growth but also to address serious societal challenges and improve people's health.

Said Venu Govindaraju, PhD, UB's vice president for research and economic development, "With UB as the home of Empire AI, our Institute for Artificial Intelligence and Data Science, and our six health sciences schools plus engineering, UB clearly has the talent and experience to lead AI in health...."

Indeed, Govindaraju's office and the Office of the Vice President of Health Sciences have already put rubber to the road by offering funding for multidisciplinary projects at UB using artificial intelligence to enhance health care. Researchers will submit proposals to compete for the interdisciplinary seed funding for their projects.

In health, as in so many arenas, the potential applications of AI are numerous and promising. Among many others:

» Researchers could develop AI systems to assist in early disease detection, personalized treatment plans and drug safety.

» AI could also help in predicting patient outcomes or optimizing hospital operations.

» In the realm of community health, AI tools could analyze data on systemic health disparities, helping policymakers make more informed decisions to address these issues.

» In environmental health, AI models could be used to improve air and water monitoring, disease outbreak prediction due to climate change and more.

In SPHHP, AI is already playing a role in research and in education, with faculty and investigators implementing it in small and more substantial ways.

Underpinning AI

Statistics, for instance, works hand in glove with AI.

"While we might consider some AI methods (e.g., driving of autonomous vehicles) as outside of the realm of statistics, many potential applications of AI methods require statistical models where the advancement of statistical methodology is critical to their success," explained **Doug Landsittel, PhD,** chair of the Department of Biostatistics. He offered an example in the potential use of neural networks—the heart of AI—for clinical prognosis using large sets of data from electronic health records.

Landsittel and other researchers in the department are already working to refine the statistical methods that underlie AI. He notes the many AI challenges that need statistically valid methods to address issues like predicting the risk for undergoing certain medical procedures. He also noted that statisticians are more frequently working with other fields to add the statistics perspective.

"We really need multidisciplinary teams," he emphasized. If a target of AI, for example, is the prognosis and predictions of treatment effectiveness, "this is a very multidisciplinary problem that needs a multidisciplinary approach. I'd like to see AI development run like we run a clinical trial, with statisticians, clinicians, data collectors, informaticians, engineers and computer scientists all involved from day one."

Ultimately, Landsittel emphasized, statistical methods are essential for the advancement of AI, and the Department of Biostatistics is already waist deep in the effort: "Our faculty have published, and will continue to publish, and apply for funding in these topics to advance the utility of AI methods."

Accelerating AI use

Research Professor **Michael LaMonte, PhD,** is making use of an AI-aided device in a project with the national Women's Health Initiative. It involves wearable activity monitors—accelerometers—to measure daily activity patterns and intensities in women between 63 and 99 years old.

"We train the accelerometer based on several criteria or 'gold standard' sources of truth to recognize patterns in the raw acceleration data that represents different types of movement such as changing posture from lying to sitting to standing; walking at different stride lengths and rates; and intensities of varying magnitude both in absolute and relative contexts," LaMonte explained.

"We also are using AI to process large amounts of electrocardiogram (ECG) data obtained from the same women while wearing a cardiac patch on their chest. In this way, we can measure heart rate variability, an indicator of autonomic nervous system regulation of heart rate and blood pressure. AI also allows us to align the beat-to-beat heart information with the second-to-second acceleration data from the accelerometer."

To LaMonte's knowledge, this is one of the first, if not the first, large epidemiological study on older women enrolled from the community setting to collect high-dimensional data in the cardiac and movement domain and apply AI as a tool to process and learn from the data in a manner that might not be possible in the absence of AI methodologies.

In fact, the WHI project is a great example of the kind of multidisciplinary efforts that Biostatistics' Doug Landsittel advocates.

"I am not expert in AI," LaMonte said. "The work we are doing is based on strong and mutually fulfilling partnerships with AI scientists and bioinformaticians together with our epidemiological, biostatistical and clinical team members."

Promoting AI ethics

Though she sees definite possibilities for AI in public health, the forays of Clinical Associate Professor **Jessica Kruger, PhD, MCHES,** into AI are primarily in the realm of education. Director of SPHHP's Teaching Innovation and Excellence and a member of UB's Task Force on Generative AI in Teaching and Learning, she has a keen perspective on what's happening from a teaching standpoint—in her words, "a lot."

The UB AI task force made concrete recommendations: "Faculty should choose what they want to do, but they need to make explicit what they expect from students," Kruger explained. For instance, she said that the syllabi for SPHHP's Master of Public Health classes will soon have explicit language about student use of AI, mostly because students get differing messages from different sources.

Kruger believes that teaching UB students AI literacy—its ethical uses and how they can use it day to day—is vitally important.

Collaborating on a huge effort

The associate director for education of UB's Institute for Artificial Intelligence and Data Science (IAD), Associate Professor of Biostatistics **Rachael Hageman Blair, PhD,** has been working with AI "for a long time." Her expertise is in data mining, networks and clustering methodologies that makes data from differing sources easier to work with, and she has published several papers in these areas.

Hageman Blair's research exemplifies the kind of collaborations that make effective use of AI. One study, funded by a National Science Foundation grant and piloted by SPHHP, is trying to figure out how a common byproduct of yeast used in medicines, cosmetics and many other products can be produced in larger quantities to keep up with demand. Study investigators are using AI to rapidly test millions of genetic mutations of yeast to determine which might best increase the byproduct's production and should be tested by lab colleagues.

The other focus for Hageman Blair is her role overseeing the educational directives of IAD, which she's been part of since its inception. With three master's and PhD programs, the institute enrolls 800 to 900 students every year in the 18-month program, which includes SPHHP-led biostatistics and statistical data mining courses. The institute also runs a summer series of short courses designed to meet the needs of students and industry and a signature annual conference, IAD Days.

Hageman Blair is also involved in other moves to grow UB's footprint in AI. She recently was chair of a STEM group for the Office of the Vice President for Academic Affairs' Task Force on Generative AI in the Classroom.

"Every school and instructor needs to be aware of how both students and educators use AI," she said. "Focus groups and surveys suggest that the perspective from students is positive, and that professors are more skeptical and have concerns over their ability to evaluate learning outcomes." The task force just released a report to stakeholders on generative AI in the classroom and provided additional awareness on issues such as limitations in AI detection, and bias in tools such as plagiarism detectors.

Ultimately, Hageman Blair feels the benefit of Empire AI is huge. "I don't think we even realize it yet. The recognition for UB has been remarkable. We've done so much great work in the institute, and this will boost our capacity to do the massive simulations that require so much computing power. Other schools don't have that edge." o-----o

"There's a learning curve for students and faculty. AI isn't perfect, but it is a tool in the toolbox, whether it's spell check or it helps you think about a broader topic," she said.

"Our school is actually going to build a class on AI for students. By fall, we'll have a short tutorial on what AI is and information on future possibilities. I could see a whole course on AI and public health." That's a topic she's already written about in a paper: "We said that you cannot not use this. You need to understand its capabilities and become familiar with it. We also highlighted why it's important to teach students how to use it."

On a more concrete AI note, a student is building Kruger a chatbot for a course she teaches.

"We'll feed it the syllabus along with questions that students might be hesitant to ask about—can I get an extension on my project, would you provide me a recommendation, etc. This sort of use is a unique application of AI in teaching and supporting student success."

2024 Saxon Graham Lecturer Elisa Bandera (second from left) with (left) Pauline Mendola, EEH chair, Saxon Graham Jr., and SPHHP Dean Jean Wactawski-Wende.

Saxon Graham Lecturer Explains Diet's Role in Cancer Risk

Elisa Bandera, MD, PhD, the 17th annual Saxon Graham Lecturer, has had her eye on the history of cancer prevention recommendations pretty much since her arrival in Buffalo–and the United States–in the early 1990s.

After completing medical school in her native Spain, Bandera achieved a PhD in epidemiology and community health from the University at Buffalo in 1995. She began working with renowned epidemiologist and former chair of SPHHP's Department of Epidemiology and Environmental Health, Saxon Graham, on cutting edge research into chronic diseases. That work set her on a path helping build multiple versions of healthy living recommendations not just for Americans, but also for the global population.

Her work earned her a place with the World Cancer Research Fund and the American Institute for Cancer Research, which tasked her and other experts with creating recommendations for reducing the risk of developing different cancers.

Successful at that task, she joined the American Cancer Society in its attempt to pare down existing recommendations available since 1984. At the time, they noted avoiding obesity, lowering fat intake, increasing fibrous foods and cruciferous vegetables, and decreasing alcohol consumption. Eventually, a lengthy list was pared to four recommendations: achieve and maintain a healthy body weight, increase physical activity, follow a healthy dietary pattern and reduce the consumption of alcohol.

"We know that people ... that follow the guidelines do better," Bandera said. "For breast cancer survival, there's a lot of literature."

No magic diet exists, she said, nor a magic pill—despite some seemingly marketable products that provide results only when they're taken—to reduce the risk of cancer. It takes hard work and following a mostly plant-based diet where alcohol isn't even considered, especially in the case of breast cancer, on which the American Cancer Society's recommendations focus.

Meanwhile, obesity is another noteworthy risk factor. For both women and men, obesity is the second-leading risk factor behind smoking, she said, citing a 2018 study in *A Cancer Journal for Clinicians*. The issue is measuring obesity. Researchers and clinicians argue over what methods to follow and which are effective. Bandera is a proponent of taking body-mass index measurements and pairing them with waist circumference, even if BMI's uses are criticized in some circles.

"In our own research, we found waist circumference was a great marker of increased risk in survivors," Bandera said. "This study was of black women with breast cancer. It was much more than BMI. It's a measure ... about central [body] obesity, so people who have greater waist circumference ... are more likely to have metabolic syndrome. And that's going to increase risk of cardiovascular disease and many other [chronic diseases]."

The annual Saxon Graham Lecture is presented by SPHHP's Department of Epidemiology and Environmental Health and the family of Dr. Saxon Graham. ○-----○

Compassion Is Passion for OT Expert, Gresham Lecturer

As Ginny Stoffel, PhD, transitioned from student to teacher, instructing occupational therapy students at the University of Wisconsin–Milwaukee for the past 40 years, she realized compassion was vital to her success. From self-care to classroom work and from research to leadership within her discipline, compassion has grown from an interest to a genuine way of living her life.

Such enthusiasm led her to develop a personal definition of compassion, which she shared with current rehabilitation science faculty and students during the 17th annual Glen E. Gresham Visiting Professorship and Lecture in April.

"Compassion, for me, has become an interest... probably more based on my lived experience and the experiences of other people near me," she said. "And when compassion was present, what a difference that made in the ultimate lessons learned in the grace and the respect that a person feels."

Stoffel laid out eight different dimensions where compassion toward oneself could make all the difference in the world. And coming out of the COVID-19 pandemic, she said, there's a need for compassion for everyone. Emotional compassion, she noted, is a huge aspect of self-care. Recognizing when we're struggling within ourselves, and understanding how to address it when it occurs, is a significant step.

Then there's physical compassion or having a true understanding of where you're at and not holding a standard over your head that weighs you down when you don't accomplish goals associated with whatever you're attempting to do. Instead, she said, find what you love and do it.

She laid out compassionate self-care approaches to social, spiritual, financial and occupational well-being, and spoke of how to lead with compassion in classroom and in research positions. In research, she said, compassion can play a large role in identifying participants and making sure they feel safe and secure in participating. Identifying those individuals who would make great participants can be a challenge, she said.

How a study is carried out, including how researchers ask intimate questions, can be challenging. Understanding a person's desired pronouns or their affiliations—and respecting their decisions regarding these topics—can help them feel welcome and invite them to share more with researchers when the time comes, she said.

In the end, she said, graciously giving thanks and demonstrating humility will help win the day.

The Glen E. Gresham Visiting Professorship and Lecture is presented twice a year by SPHHP's Department of Rehabilitation Science. o-----o
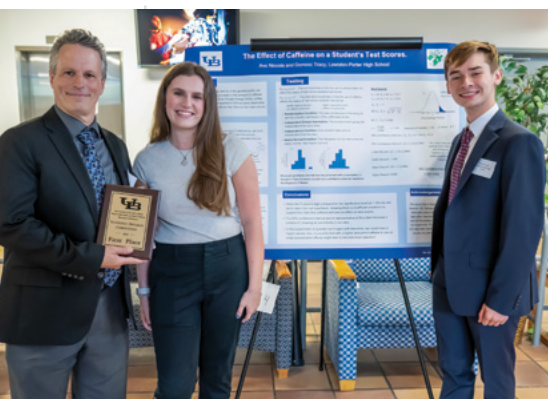
Stats Students Shine

Energy drinks, artificial intelligence and allergy attacks were just some of the topics presented at this year's Statistics Program Competition for high schoolers, funded by UB's Department of Biostatistics and the Biostatistics, Epidemiology and Research Design core of the Clinical and Translational Science Institute. Forty-seven students from Amherst, Grand Island, Lewiston-Porter, Nichols and Royalton-Hartland high schools presented their statistical findings on the subject of their choice, using knowledge learned from their AP Statistics classes. Douglas Landsittel, chair of the Department of Biostatistics, presented the grand prize to Lewiston-Porter High School's Ava Niccola and Dominic Tracy, who studied the effect of caffeine on high school students' test scores.

Occupational Therapy's Christopher Stavisky, Triple Threat

His interweaving of clinical practice, research and teaching might be the reason that Christopher Stavisky, PhD, was the recipient of SPHHP's 2024 Award for Excellence in Teaching. A clinical assistant professor in the Department of Rehabilitation Science, Stavisky has seamlessly moved among the three realms and now shares his unique perspective with future occupational therapists in his classes.

Though he began his studies in kinesiology and knew he wanted a career in medicine or health, an undergraduate professor mentioned OT to Stavisky, sparking his interest. He finished his kinesiology degree, completed a master's degree in OT, and ultimately earned a PhD in education.

Before Stavisky's professional journey led him to Buffalo, he was a senior occupational therapist at the University of Rochester Medical Center. There, he balanced clinical work with part-time PhD studies, taking advantage of the tuition benefits the university system offered. During his 13-year tenure, he focused on brain and spinal cord injury rehabilitation, upper extremity prosthetics (including myoelectric devices), and cognitive rehabilitation, his personal favorite.

His research now spans various aspects of concussion rehabilitation, an interest deeply rooted in his clinical background in cognitive rehabilitation. Working with neuropsychologists and speech therapists in Rochester, he focused on helping patients improve their everyday functional abilities, often using assistive technology. His involvement in a sports concussion clinic further cemented his dedication to this field.

Today at UB, his grant-funded research is focused on aspects of concussion rehabilitation. One project finds him collaborating with Dr. John Leddy, medical director of the UB Concussion Management Clinic, examining an aerobic exercise protocol initially tested on athletes recovering from concussion and modifying it for military use.

Another project, co-led with fellow Rehabilitation Science faculty member Jake McPherson, PhD, explores an aerobic exercise protocol and its potential application for the worker's compensation population. Stavisky's role in these projects goes beyond the physiological aspects of rehabilitation; he delves into the psychosocial side, investigating the motivational climates created by rehab professionals.

Integrating his teaching with research, Stavisky enriches his medical conditions courses with insights from his brain injury rehab projects. He also applies his research on motivational climates to his teaching methods, mirroring the supportive environments he studies in clinical settings.

Teaching future OTs, however, is what really motivates Stavisky: "I'm really lucky to be able to go into work and teach students how to be professionals in our field—that's what excites me the most. It's the opportunity to give back to the profession for the career it has given me," he said.

Stavisky has a deep commitment to adaptive sports for kids, a passion that informed his dissertation. He has been a coach for over 15 years with Rochester Rookies, an adaptive track and field team. This community activity allows him to blend his OT skills with his love for sports, making a tangible difference in young athletes' lives.

With his broad clinical background, dedication to research and passion for teaching, Stavisky will likely continue to help inspire future occupational therapy professionals, one student at a time.

Christopher Stavisky (right) with OT students (from left) Brianna Egan, Elsa Cheung, Monty Arora, and Rishat Arian.
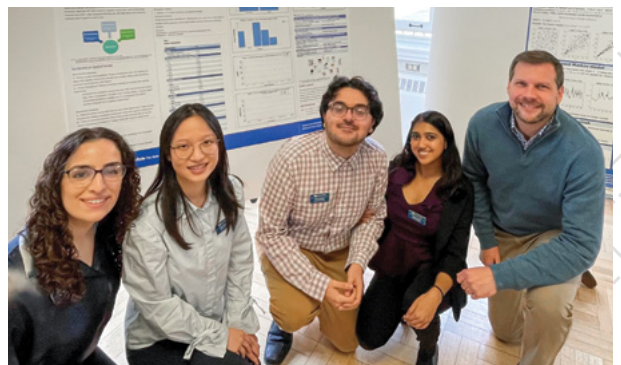
High honors for SPHHP faculty

SUNY Chancellor's Award

Two SPHHP faculty members were named recipients of the 2024 SUNY Chancellor's Award for Excellence, system-wide recognition for consistently superior professional achievement and the ongoing pursuit of excellence.

Clinical Associate Professor **Janice Tona, PhD, OTR,** received the Chancellor's Award for Excellence in Teaching, which honors those who consistently demonstrate superb teaching at the undergraduate, graduate or professional level.

Tona has four decades of experience as a registered occupational therapist and three decades of experience in academia. She is regarded for her "remarkable commitment to educate and mentor students through profound times of change and challenge."

As director of the occupational therapy program, "her implementation of creative solutions during the COVID-19 pandemic preserved the continuity of students' education and fieldwork, resulting in all class of 2021 occupational therapy students graduating that year."

Tona is a collaborative educator who has fostered projects that include UB's Interprofessional Education (IPE) program and micro-credential program. She has also collaborated with the School of Dental Medicine on providing dental care to people with disabilities, which has led to improved training for students in both fields.

This spring, Tona also was named to the Roster of Fellows of the American Occupational Therapy Association. The roster honor recognizes occupational therapists who, through their knowledge, expertise, leadership, and advocacy, have made a significant contribution to the profession.

Associate Professor **Rachael Hageman Blair, PhD,** received the Chancellor's Award for Excellence in Faculty Service, which recognizes sustained and "consistently superior service contributions of teaching faculty."

Hageman Blair, a member of the UB community since 2011, is "an exemplary scholar and a passionate educator." An expert in artificial intelligence, bioinformatics and data mining, Hageman Blair serves as co-director of UB's Institute for Artificial Intelligence and Data Science.

She is a nationally and internationally recognized biostatistician whose "unique skillset in high-demand topics makes her an incredibly sought-after scholar in the field." In addition, Hageman

Blair is widely regarded for her cross-disciplinary mentorship, guiding students from the Department of Biostatistics, as well as other departments within SPHHP and serves as associate director of education in UB's Institute for Artificial Intelligence.

Hageman Blair's popularity among students is demonstrated by the fact that enrollment for Statistical Data Mining I and II, courses she has taught since 2012, has surpassed 600 students over the past three years—a number considered "unprecedented" in the history of the Department of Biostatistics.

American Statistical Society Fellowship

Professor of Biostatistics **Lili Tian, PhD,** has been elected a fellow of the American Statistical Association (ASA). Tian received this award, according to ASA, for "key and significant contributions to statistical methodology for biomarker evaluation and biomarker combination, for leadership in statistical education and for exemplary service to the statistics profession."

ASA is the second-oldest continuously operating professional association in the country, composed of the world's largest community of statisticians. The distinction of ASA fellow is prestigious and based on the member's outstanding professional contributions, leadership and commitment to the field of statistical science. The title of ASA fellow is awarded to just one-third of the top 1% of ASA members, reflecting their outstanding contributions to statistical sciences.

SPHHP Students Live the Academic Dream at Commencement and Beyond

The end of the academic year is typically a flurry of activity at SPHHP, and this past spring was no exception. From presenting research to being presented with a diploma, students were perhaps the busiest school population. The pictures on these two pages show that, though busy, these students seemed to be living the proverbial dream.

1. This year's Perry Poster Day saw a record number of submissions to present at the annual event showcasing student research. Each department awarded prizes to the most effective posters. Here is MPH/Epidemiology winner Savanna Salter for her poster "Postpartum Depression and Advanced Maternal Age: A Scoping Review."

2. Rehabilitation Science PhD student winner Ignacio Novoa-Cornejo (left) won an award for his poster "Neuronal Morphology in Rat Medial and Lateral Vestibular Nuclei after Blast Exposure." With him is Professor of Rehabilitation Science James Lenker.

3. The Department of Rehabilitation Science White Coat Ceremony marks Physical Therapy students' transition from classroom instruction to clinical learning, a tradition that dates back some 40 years. Assistant to the Chair Emily Luchterhand passes a white coat to student Emily Sirface

4. Students at the White Coat Ceremony also recite a professional oath that emphasizes their commitment to ethical practice, patient care and professional conduct.

5. This year's Hooding Ceremony of the Department of Rehabilitation Science recognized candidates who reached their academic degrees beyond the bachelor's. Faculty members stood, reached and sometimes bent knees to place the hood on students like Jordan Green, DPT '24, who completed their graduate programs.

6. At the close of the Hooding Ceremony—no words needed...

7, 8, 9. No matter how many commencement ceremonies take place over the years, the event is always celebratory. 2024 saw a record number of students cross the stage to receive acknowledgement of (and cheers and/or flowers) their momentous accomplishments.

10. Guest speaker Pastor George Nicholas, CEO of the Buffalo Center for Health Equity, urged graduating students to use their skills and knowledge to fight for health equity for all communities.

11. Student commencement speaker Sirawar Matin, DPT '24, captures his success as everyone does these days—with a selfie.

First-Gen to Professor: Rachel Hoopsick's Path to Public Health

Rachel Hoopsick, PhD '19, MPH '13, MS '12, always had an interest in human health, but her perspective shifted when she discovered public health during her undergraduate years. Initially, Hoopsick thought she'd become a direct care provider. A junior-year elective in epidemiology at Daemen University, however, changed everything.

"That course opened my eyes to the importance of prevention and collective public health, not just individual treatment," she said.

Hoopsick's academic journey is a testament to her evolving understanding of health. She completed her Bachelor of Science degree in natural science from Daemen in 2010, but her newfound passion for public health led her to UB. She earned her Master of Science degree in epidemiology and, wanting to dive deeper into health systems and population engagement, she pursued a Master of Public Health (MPH) with a concentration in Health Services Administration.

Hoopsick's early career ranged from health education to applied epidemiology. Her work, particularly with community-based nonprofits, focused on providing behavioral health services to people with substance use disorders and mental illness.

"Seeing firsthand how these issues affect people, families, and communities was eye-opening," she said. This exposure led her to a PhD in community health and health behavior at SPHHP, which she completed in 2019. Postdoctoral work in UB's Department of Family Medicine centered on addiction management and health services research.

In 2021, Hoopsick took on a tenure-track assistant professor role at the University of Illinois Urbana-Champaign. There, she teaches epidemiology and mentors doctoral students in the Department of Kinesiology and Community Health.

The public health perspective

Hoopsick's research is evidence of her evolving knowledge of public health. She uses a socioecologic perspective and epidemiologic methods to study risk and resilience in substance use and mental health, particularly among high-stress jobs in fields like health care and the military.

"Once you've been in this field for a little while, you start to see everything from a public health perspective.

Collectively, we can identify and solve our time's greatest public health challenges," she said.

"Each data point represents a real person, a family, a community," Hoopsick emphasized. "The insights we derive and the solutions we create can have tangible impacts locally, nationally, and globally. This motivates me every day."

Hoopsick reflected on her education at SPHHP: "As a Western New Yorker, I feel incredibly lucky to have had SPHHP (figuratively) in my backyard! The education I received across three degrees from there was immersive, engaging and well-rounded."

She gratefully recalled the mentorship she received, particularly from her primary advisor and dissertation chair, Greg Homish, chair of the Department of Community Health and Health Behavior: "Neither of my parents went to college, so as a first-gen student, every step of my academic journey has been mystifying, to say the least! The support from my academic mentors was crucial. They provided me with encouragement, advice and space to thrive."

Hoopsick's journey underscores the vital role of public health in addressing complex challenges. "Public health is everywhere and everything," she asserted. "Programs like SPHHP's are training the next generation of leaders to creatively address health problems on all scales."

To current students, Hoopsick offers simple yet meaningful advice: "Don't worry if you don't know exactly what you want to do when you graduate. The program is a journey about learning who you are and where you want to be. Embrace the broad range of careers in public health, and find your passion."

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"Dr. Tian is a recognized leader in the areas of biomarker evaluation and classification methods," said Douglas Landsittel, PhD, chair of SPHHP's Department of Biostatistics. "Her methodological work has contributed valuable extensions to popular statistical methods, which are essential for accurate evaluation of biomarkers and diagnostic tests across a greater range of applications. Many of her nearly 120 publications are published in highly ranked statistical journals."

During her career, Tian has also focused on exact and computationally efficient statistical procedures for reliability and other important measures in applied fields including public health, cancer research, epidemiology and health policy studies. She has made significant contributions to statistical/biostatistical research, demonstrated by her many citations in scientific research journals as well as books and proceedings.

"A central theme in my research is the development of proper performance metrics and accurate classification methods for facilitating biomarker evaluation and disease diagnosis. These metrics and methods are vital in medical and biological research, especially in biomarker discovery and diagnostic studies, as well as in information theory and other related fields," Tian explained.

RESNA President

James A. Lenker, PhD, OTR/L, ATP, RESNA Fellow, associate professor of rehabilitation science, will serve as president of the Rehabilitation Engineering Society of North America (RESNA). Lenker previously served a four-year term as treasurer of RESNA, and this year is completing a two-year term as president-elect. His research interests include computer-based assistive technology, evaluation of accessible public transportation systems and usability testing to support development of new assistive technology products.

RESNA is the professional organization dedicated to promoting the health and well-being of people with disabilities through increasing access to technology solutions.

RESNA advances the field by offering advanced certification for assistive technology (AT) professionals, continuing education, and professional development; and developing AT standards in areas ranging from transportation standards to accommodate wheelchair users to standards for accessible parks and recreation facilities. It also promotes research through publication of a peer-reviewed journal, *Assistive Technology*, now in its 35th year; public policy initiatives; and sponsored forums for idea exchange among its multidisciplinary membership.

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