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Patricia M. Ruiz: Executive Director of Student Health and Counseling

The University of Pennsylvania has announced the appointment of Patricia Ruiz as the new executive director of Student Health and Counseling, effective March 1, 2024. Dr. Ruiz is a certified advanced practice nurse with expertise in college health. An experienced student affairs administrator, clinician, and educator, she brings more than 20 years of experience in diverse higher education settings.



Patricia Ruiz

“I am thrilled to join the Wellness at Penn team and look forward to collaborating on this work with the incredibly talented clinical staff within Student Health and Counseling,” said Dr. Ruiz. “In my role, I hope to facilitate a culture of collaboration to inspire innovation, ensuring that health care is meaningful, high quality, and responsive to the needs of the entire student community.”

Before coming to Penn, Dr. Ruiz served as the director of the Student Health Center at

Montclair State University, where she was responsible for planning and directing all areas of clinical care, regulatory compliance, fiscal responsibilities, and overseeing the public health of the students and campus. She received her bachelor of science in nursing from Fairfield University, her master of science from Columbia University, her doctor of nursing practice from Rutgers University, and her post-master’s teaching certificate from Penn.

“Dr. Ruiz is an exciting addition to our Wellness team,” said Benoit Dubé, associate provost and Chief Wellness Officer. “Her extensive experience in caring for the student community at Montclair, matched with her dedication to collaboration and innovation will serve our student community well—furthering our vision of a campus that integrates the science, theory, and practice of wellness.”

In her role, Dr. Ruiz will lead the student-facing clinical team and help to advance Wellness at Penn’s mission to infuse wellness across its eight domains throughout the Penn experience through inclusive, innovative, and impactful initiatives.

Through this role, Dr. Ruiz will oversee the medical care and behavioral health services that nurture the resilience and success of the more than 26,000 undergraduate, graduate, and professional students at Penn.

Marylyn D. Ritchie: Inaugural Vice Dean of Artificial Intelligence and Computing for the Perelman School of Medicine

Marylyn D. Ritchie has been appointed as the inaugural vice dean of artificial intelligence and computing for the Perelman School of Medicine, effective April 1. Interim dean of the Perelman School of Medicine and EVP for the Health System Jonathan Epstein made the announcement on March 28, 2024.



Marylyn Ritchie

Dr. Ritchie is the Edward Rose, MD and Elizabeth Kirk Rose, MD Professor of Genetics; director of the division of informatics in the department of biostatistics, epidemiology, and informatics; and director of the Institute for Biomedical Informatics (IBI). She is also co-director of the Penn Medicine BioBank and vice president of research informatics in the University of Pennsylvania Health System. She will continue to serve in these roles as she expands her leadership to encompass artificial intelligence (AI) and computing.

As part of Penn Medicine’s recent strategic plan, *Serving a Changing World*, the importance of AI and computing was underscored in the

many discussions of Penn Medicine’s research pillar: to make breathtaking discoveries and put them to work. As the co-lead of this pillar, Dr. Ritchie uniquely understands how technological advances require Penn to lead in data-driven research, teaching, and applications while also deploying powerful technologies beneficially and responsibly.

In this vice dean role, Dr. Ritchie will work with Penn Medicine leadership to develop and implement Penn Medicine’s strategy for AI and computing across its integrated missions: research, education, and healthcare delivery. She will also serve as an ambassador with the Health System, other schools across the University of Pennsylvania, CHOP, and external and internal partners as we build and foster greater connections and collaborations in AI, machine learning, and research computing. Her continued leadership of the IBI, which will serve as a coordinating center for AI activities across PSOM, will provide the necessary cross-department/cross-school infrastructure and expertise to advance Penn’s work in this rapidly changing and impactful domain.

“Dr. Ritchie is a valued colleague whose meaningful contributions have greatly enriched our PSOM community,” said Interim EVP Epstein. “I am grateful that she will be serving in this new and important role, and please join me in congratulating her on this appointment.”

2024 U.S. News Graduate School Rankings

Each year, *U.S. News & World Report* ranks graduate and professional schools in business, medicine, education, law, engineering and nursing.

Seven of Penn’s schools are in the top 10 list. Specialty rankings in the top 10 are listed below; for more, see *U.S. News’* website: www.usnews.com.

	2024
Wharton School	1
Finance	1
Real Estate	1
Executive MBA	1
Marketing	2
Accounting	2
Business Analytics	3
International	3
Management	5
Production/Operations	6
Entrepreneurship	8
PSOM-Research	3
Pediatrics	1
Psychiatry	4
Anesthesiology	5
Internal Medicine	6
Surgery	7
Ob/Gyn	7
Radiology	10
Penn Carey Law School	4
Business/Corporate Law	4
Contracts/Commercial Law	5
Criminal Law	7
School of Nursing	4
Administration	2
Adult/Gerontology, Acute Care	3
Nurse Practitioner-Psychiatric	3
DNP Executive Leadership	4
Adult/Gerontology, Primary Care	5
Nurse Practitioner-Family	8
School of Veterinary Medicine	5
Graduate School of Education	7
Higher Education Administration	2
Education Policy	3
School of Social Policy & Practice	8
School of Arts & Sciences	—
English	3
Statistics	7
Economics	9
Engineering & Applied Science	19
Biomedical/Bioengineering	8

(—) Indicates not ranked.

INSIDE

- From the Senate Office: SEC Actions; Provost’s Lecture on Diversity; Dipti Pitta Awarded Grant From the Gerstner Philanthropies For Research and to Mitigate Dairy Cattle Methane Emissions; Earth Week 2024
- Of Record: Salary Guidelines for 2024-2025; PPSA 2024 Call for Board and Committee Nominations
- Honors & Other Things
- Deaths: Emily Falk: Director of APPC’s Climate Communication Division
- Update: April AT PENN; Weekly Crime Reports
- Research & Innovation

From the Senate Office

The following is published in accordance with the Faculty Senate Rules. Among other purposes, the publication of SEC actions is intended to stimulate discussion among the constituencies and their representatives. Please communicate your comments to Patrick Walsh, executive assistant to the Senate Office, by email at senate@pobox.upenn.edu.

Faculty Senate Executive Committee Actions Wednesday, April 10, 2024

Report from the Tri-Chairs. Faculty Senate Chair Tulia Falletti reported that the second “roundtable” sponsored by the Faculty Senate will be held on Thursday, April 18, at 4:30 p.m., in the Penn Carey Law School’s Fitts Auditorium. The entire Penn community is welcome to attend. Panelists include Risa Lieberwitz (professor of labor and employment law, School of Industrial and Labor Relations, Cornell University), Geoffrey Stone (Edward H. Levi Distinguished Service Professor of Law, former dean and provost, University of Chicago), and Keith Whittington (William Nelson Cromwell Professor of Politics, department of politics, Princeton University), with moderation by Sophia Rosenfeld (Walter H. Annenberg Professor of History and chair, Penn department of history). Registration and more information is available here: <https://button.provost.upenn.edu/senate/are-academic-freedom-and-open-expression-under-siege>.

Update from the Presidential Commission on Countering Hate and Building Community. Commission co-chairs Vijay Kumar (Nemirovsky Family Dean of SEAS) and Katharine Strunk (dean of GSE), offered an update on the commission’s work to-date and sought feedback on four discussion questions: (1) What values do you think Penn must uphold in order to ensure every member of our community feels they belong? Put another way, what should be Penn’s core values? (2) What makes you feel part of the Penn community? What has made you feel more included? Has anything made you feel excluded or feel like you did not belong? (3) If Penn were to be the ideal place to be, what would it look like? and (4) What can constituents do on campus and beyond to help move Penn towards this vision?

Dipti Pitta Awarded Grant From the Gerstner Philanthropies For Research and to Mitigate Dairy Cattle Methane Emissions

Dipti Pitta, the Mark Whittier and Lila Griswold Allam Associate Professor of Ruminant Nutrition at Penn Vet, has received a \$508,884 grant from Gerstner Philanthropies to support her continuing work to imprint the rumen function and prevent methanogen colonization in dairy calves. This research has the potential to permanently curb methane emissions from dairy herds in the United States. Dr. Pitta’s study represents a vital step towards developing novel microbial interventions to not only curb methane emissions, but also to improve the performance of the American dairy system and the sustainability of animal agriculture.

“Methane is a contributor to rising land temperatures across the world, and it’s important that we pursue methods that can significantly reduce methane emissions,” said Dr. Pitta. “Developing innovative mitigation strategies to reduce enteric methane formation, while working at the interface of microbiology, agriculture, and dairy nutrition, is the primary area of my research.”

This newly funded study builds upon Dr. Pitta’s prior work. Along with her team of investigators, Dr. Pitta will validate a special probiotic “cocktail” on commercial herds. According to Dr. Pitta’s earlier pilot study in calves, the mixture, cultivated from natural gut bacteria, contributed to significant health benefits and a reduction in methane production in these calves. Over the course of eight weeks, dosed calves gained approximately 20 pounds more body weight than their control counterparts. They experienced lower stress levels, reduced inflammatory responses, and exhibited minimal methanogen populations. The goal of this latest phase of research is to validate the persistence of methane mitigation later in life and scale-up probiotic supplementation for commercial use on livestock farms to permanently curb enteric methane emissions.

The grant was awarded through Gerstner Philanthropies’ environment program, which fosters the translation of academic innovations for practical implementation to address climate change. It funds solutions-oriented research that reduces methane emissions from agricultural sources. Since its launch, Gerstner has awarded over \$230 million in grants distributed across four program areas.

“Dr. Pitta’s research portfolio has demonstrated continued success in the reduction of methane flows, a significant contributor to greenhouse gas emissions,” said vice president of Gerstner Philanthropies Elizabeth Gerstner. “Gerstner’s investment will accelerate the commercial viability of agricultural solutions to ensure our world’s climate security.”

“The support provided by Gerstner Philanthropies will be instrumental in our ongoing investigation of the ruminant mechanisms of methane formation,” said Dr. Pitta. “Gerstner’s investment will enable us to push the boundary of what we know and understand, paving the way for innovations to permanently knock-out methanogens and stabilize our warming planet. I want to express my sincere appreciation to Gerstner for their unwavering commitment to advancing scientific research with real-world impact.”

Dr. Pitta is a founding member of Penn Vet’s Center for Stewardship Agriculture and Food Security. Through her Agricultural Systems and Microbial Genomics Laboratory, Dr. Pitta’s seminal work in controlling methane production from dairy cows has also been awarded a prestigious USDA-NIFA IDEA grant of \$995,000, in addition to other current grants and research awards from the USDA, the Pennsylvania Department of Agriculture (PDA), the Center for Poultry and Livestock Excellence, and the industry, totaling over \$5 million.

Provost’s Lecture on Diversity: April 24

On Wednesday, April 24 at 3 p.m., Jamila Michener, an associate professor of government at Cornell University and this year’s Provost’s Distinguished Visiting Faculty Fellow, will deliver the Provost’s Lecture on Diversity: *Power From the Margins and the Promise of Democracy*.

Pundits, scholars, and ordinary people alike lament the decline of democracy in the contemporary United States. Trust in democratic institutions is at a nadir while political cynicism and support for authoritarianism are on the rise. In this broader context of political malaise, where are the avenues for building a more robust democratic polity? Drawing on insights from qualitative research, Dr. Michener will highlight how building power within racially and economically marginalized communities around issues directly related to their material interests (like health and housing) is a promising pathway. Grassroots political organizing is (perhaps unexpectedly) an antidote to the social cleavages that accelerate democratic backsliding. Such organizing can forge a route to transforming both the polity and the political economy so that both are more attuned to communities that teeter at the margins of the existing power structures.

The lecture will be held in Michael A. Fitts Auditorium at the Penn Carey Law School and is sponsored by the Office of the Provost.

Please register at https://upenn.co1.qualtrics.com/jfe/form/SV_e3euXcpGXXgbH0i.

Earth Week 2024

April 20-26

Earth Week presents an opportunity for students, faculty, and staff to engage in cross-disciplinary events designed to educate and inspire action. This year’s theme is *Restore & Regenerate*—to inspire us to think of what replenishes and revitalizes our planet’s natural systems while building community. Earth Week elevates our collective impact by encouraging involvement from all schools and centers at Penn.

A [calendar of events](#) is available on the Penn Sustainability website. Activities include campus tours, panel discussions, craft projects, e-waste drives, and exhibits. Some highlights:

- April 22—[Create and print](#) your own greeting cards with Penn Libraries.
- April 23 and 25—[Dispose](#) of your e-waste and learn about composting at Penn Carey Law.
- April 24—[Volunteer](#) to help prepare Penn Farm for a new growing season.
- April 26—[Learn](#) about the impacts of lead exposure to people, wildlife, and the environment.
- April 26—[Visit](#) GreenFest, a long-running Penn tradition for student organizations to share their visions and projects related to environmental sustainability.

There is still time for your school or center to host an event for Earth Week. Use this [online submission form](#) to participate, or email sustainability@upenn.edu.

PPSA 2024 Call for Board and Committee Nominations

Nominations are open to all monthly-paid, full-time Penn staff for election to positions on PPSA's Executive Board, as well as for potential appointment as PPSA representatives to University committees.

PPSA is a volunteer organization operated by and for all monthly-paid, overtime-exempt, University staff members. PPSA's mission is to support and focus staff engagement and collaboration within the University of Pennsylvania community. Involvement with PPSA activities allows you to network with your colleagues through numerous workshops and events that enhance your professional development and work life at Penn.

PPSA:

1. Provides a forum through which staff can engage in dialogue about issues facing the University and higher education
2. Participates and collaborates in University governance through University Council and other committees and task forces
3. Serves as an informational network to promote seminars and programs that enrich the quality of experience and work life for professional staff
4. Provides a supportive network to assist the University in achieving its goals and objectives

Executive Board members assist with program development and coordination. The board meets monthly. University committee members meet regularly and are expected to report to the Executive Board periodically. Service through PPSA is a rewarding and enjoyable experience that requires only a couple of hours per month. It is a wonderful opportunity to meet colleagues from across the University who will help to enrich your work life at Penn.

Executive Committee Nominations

The following positions are open for nomination:

- *PPSA Chair-Elect* (1 position, three-year term of service): The chair is the principal executive officer who calls for and presides over meetings, prepares agendas, and provides leadership and representation of PPSA at University Council and University-level bodies. After one year, the chair-elect automatically succeeds to the office of chairperson.
- *Members At-Large* (4 positions, two-year term of service): The members at-large participate in Executive Board meetings, manage PPSA projects and events, and serve on other University committees as needed.

All monthly-paid, full-time University staff members are encouraged to self-nominate or nominate colleagues for consideration using the [form](#) by no later than May 10, 2024.

All nominees will be asked to complete a brief candidate bio and written personal statement. The final list of candidates will be announced via PPSA's mailing list before the election.

The 2024-2025 election for officers will occur following PPSA's annual meeting, to be held on Thursday, May 23, at noon in the Irvine Auditorium's Café 58. Our election meeting guest will be Reverend Chaz Howard, Uni-

OF RECORD

Salary Guidelines for 2024–2025

The University's merit increase program is designed to recognize and reward the valuable contributions of faculty and staff to the University's commitment to the highest levels of excellence in teaching, research, and administration by paying market-competitive salaries in a fiscally responsible manner.

Presented below are the merit increase guidelines for July 1, 2024.

Faculty Increase Guidelines

Below are the standards for faculty increases that the deans are asked to follow. The deans will give the department chairs their guidelines at the school level regarding available resources.

- The minimum academic salary for new assistant professors will be \$88,914.
- Merit increases for faculty should be based solely on performance as evidenced by scholarship, research, teaching, and service to the University and the profession.
- The aggregated merit increase pool for faculty will be 3.75 percent. Some schools and centers may have financial constraints that can only support budget growth of less than 3.75 percent. Salary increase recommendations that are below 1.0 percent for non-meritorious performance, as contrasted with general limits applied to an entire class of faculty, must be made in consultation with the Provost. Likewise, salary increases that exceed 5.0 percent must also be made in consultation with the Provost. Deans may wish to give careful consideration to salary adjustments for faculty who have a strong performance record but whose salaries may have lagged behind the market.

Staff Increase Guidelines

- The aggregated merit increase pool for staff will be 3.75 percent. The merit increase range is zero to 5.0 percent. Individual merit increases may not exceed 5.0 percent regardless of a staff member's performance rating.
- Staff in monthly-paid, weekly-paid, or limited service positions are eligible for a merit increase if their time type is full-time (including phased retirement) or part-time and they were employed by the University on or before February 29, 2024. The following groups are not eligible: student workers, contingent workers, temporary workers, interns, residents, staff on unpaid leave of absence, staff on long term disability, and staff who are covered by collective bargaining agreements.
- The merit increase program is designed to recognize and reward performance. The foundation of this program is the Performance Review in Workday. Salary increases should be based on performance contributions within the parameters of the merit increase budget. The Performance Review in Workday documents each staff member's performance and contributions and establishes performance goals for the new fiscal year. All staff must receive a performance review for the next review cycle whether or not they receive merit increases. Schools and centers are requested to submit performance reviews by June 7, 2024. The Division of Human Resources/Staff and Labor Relations is available to discuss performance management issues.
- Aggregated merit increases within a school or center may not average more than 3.75 percent regardless of staff performance rating distributions, however, may average less if a school or center establishes a lower percentage merit pool based on financial constraints. Performance expectations should be raised each year as staff grow in experience and job mastery. Performance ratings and merit increases should reflect a normal distribution for all staff. Staff members with unacceptable performance are not eligible for a merit increase.
- The merit increase program does not include bonuses, the same as in prior years.

Division of Human Resources/Compensation is available to discuss specific merit increase parameters with schools and centers.

—John L. Jackson, Jr., Provost

—Craig Carnaroli, Senior Executive Vice President

versity Chaplain and Vice President for Social Equity & Community. Lunch will be served.

All full-time, monthly-paid University staff members are welcomed and encouraged to attend the meeting as guests of PPSA. A registration form will be sent via email to members of the PPSA listserv. You may register for the listserv by visiting <http://ppsa.upenn.edu>.

University Committee Nominations

PPSA invites you to nominate yourself or others for a one-year service term on other University committees, including the 2024-2025 University Council Committees. The Council committees, which also include faculty and student members, serve as advisory bodies, and play important roles in shaping academic and administrative policy across the campus. Please consider taking advantage of

this opportunity to learn about the administrative structure of the University and have input into its decision-making.

For more information on the work of the University Council committees, visit <https://secretary.upenn.edu/univ-council/committees>.

University committee members will be appointed by the PPSA tri-chairs from among all applicants following the election.

Questions on the nomination and election process can be directed to ppsa@lists.upenn.edu. The election process is governed by the PPSA Bylaws, available on the PPSA website at <http://ppsa.upenn.edu>.

To nominate yourself or someone else, please fill out the form here: https://upenn.col.qualtrics.com/jfe/form/SV_9ujkxzN3paXj5rM.

—Penn Professional Staff Assembly (PPSA)

Honors & Other Things

School of Arts & Sciences Names 20 Dean's Scholars

Penn Arts & Sciences has named 20 students from the College of Arts & Sciences, the College of Liberal & Professional Studies, and the Graduate Division as 2024 Dean's Scholars. This honor is presented annually to students who exhibit exceptional academic performance and intellectual promise. The students will be recognized at the Stephen A. Levin Family Dean's Forum on April 17.

College of Arts & Sciences

Natascha Barac, C'23, English and Physics
Rema Bhat, C'24, Political Science
Sophie Faircloth, C'24, Linguistics, submatriculation in Linguistics
Andreas Ghosh, C'24, VIPER: Physics, Chemical and Biochemical Engineering
Sophia Mwaisela, C'24, History
William (Zijian) Niu, C'24, Biochemistry, Chemistry, and Biophysics
Liam Phillips, C'24, Russian and East European Studies and Comparative Literature
William Stewart, C'25, Music
Yijian (Davie) Zhou, C'24, Philosophy and Psychology, submatriculant in Philosophy

College of Liberal & Professional Studies—Undergraduate Program

Joe Daniel Barreto, LPS'23, Bachelor of Applied Arts and Sciences

Professional Master's Programs

Abigail P. Blyler, Master of Applied Positive Psychology

Graduate Division—Doctoral Programs

Adwaita Banerjee, Anthropology
Charlie Cummings, Physics and Astronomy
Cianna Z. Jackson, Classical Studies
Ryann Michael Perez, Chemistry
Rashi Sabherwal, Political Science
Timmy Straw, Comparative Literature and Literary Theory
Elena Gayle van Stee, Sociology
Christine Soh Yue, Linguistics
Oscar Qiu Jun Zheng, East Asian Languages and Civilizations

Roopali Kulkarni: ADA and PDA Awards

Roopali Kulkarni, an assistant professor in Penn Dental Medicine's department of oral medicine and assistant director of the postgraduate oral medicine program, was recently recognized with two awards—the 2024 10 Under 10 Award presented by the American Dental Association (ADA) and the 2024 Pennsylvania Dental Association (PDA) Recognition Award.



Roopali Kulkarni

Developed by the ADA New Dentist Committee in 2017, the ADA 10 Under 10 Award recognizes 10 dentists nationwide who graduated from a dental school accredited by the Commission on Dental Accreditation within the last 10 years. Winners are

selected for demonstrating excellence in their work and inspiring others in science, research & education, practice excellence, philanthropy, leadership, and advocacy. This year's awardees were chosen from over 145 submissions reviewed by the ADA.

"Being a national '10 Under 10' Award winner is a dream come true," said Dr. Kulkarni. "It is such an honor to be recognized alongside so many inspiring new dentists who have already influenced the landscape of our profession."

Last year, Dr. Kulkarni was recognized with a similar award at the state level, receiving the inaugural 10 Under 10 Award from the PDA. The PDA award highlights and celebrates the outstanding contributions of new dentists who have made significant contributions to their professions, their communities, and organized dentistry.

Dr. Kulkarni was honored again by the PDA this year with the 2024 PDA Recognition Award. Each year, this award is given to a member of the PDA who has contributed original research, whose achievements and high standards have aided and advanced the science and art of dentistry, or whose public life and activities reflect great credit upon the health profession.

Cerianne Robertson: George Gerbner Postdoctoral Fellow

Cerianne Robertson has been named the 2024-2026 George Gerbner Postdoctoral Fellow at the Annenberg School for Communication at the University of Pennsylvania. Her appointment will begin September 1, 2024.

The George Gerbner Fellowship, named in honor of the school's second dean, is awarded in alternate years to a graduate of Penn's Annenberg School for Communication or USC's Annenberg School for Communication and Journalism. The faculty of the opposite school selects the recipient from the group of applicants.

Ms. Robertson will earn her PhD in communication in May 2024 after completing her dissertation, "The Stadium and the Community: Refusal, Resistance, and Negotiation Around Los Angeles' Olympic Stadiums."

Her research investigates the politics of stadium-centered development in Los Angeles in the context of the region's preparations to host the Olympics in 2028. At USC, she received the Haynes Lindley Doctoral Dissertation Fellowship for 2022-2023 and the Annenberg Graduate School Fellowship for 2023-2024.

Before beginning her doctoral work at Annenberg, Ms. Robertson completed a master's degree in sociology at the University of Cambridge, where her thesis also related to the Olympics: "Contesting the Media Event: Alternative Media at the Rio 2016 Olympics." She also holds a bachelor's degree in social studies from Harvard University.

Ms. Robertson focuses on how power is formed, networked, wielded, and challenged



Cerianne Robertson

in contests over cities' futures. She researches spectacular urban development projects and sports mega-events, as well as everyday struggles for survival and dignity.

Ms. Robertson's work has appeared in academic journals such as *International Journal of Communication*, *Journal of Urban Technology*, *Interface*, and *Communication & Sport*. She has been invited to write book chapters that have been published in Oxford University Press and Routledge.

She has worked in the United States, South Africa, Botswana, Germany, and Brazil. Her academic service includes ad hoc reviews for the *Journal of Urban Affairs* and *International Journal of Communication*. In May 2022, she co-organized a panel at the International Communication Association conference, "Olympics, Media, Discourse, and Power." She has also presented at other conferences, including those of the American Association of Geographers, North American Society for the Sociology of Sport, and American Sociological Association.

Paul Sniegowski: Penn-Made President

Paul Sniegowski, the Stephen A. Levin Family Dean of the College of Arts and Sciences, will leave his position August 1, 2024 to become the president of Earlham College. The announcement was made by School of Arts & Sciences dean Steven Fluharty. Dean Sniegowski has served as dean of the College since 2017.

Dean Sniegowski, a professor of evolutionary biology, has been a member of the Penn faculty for 27 years. He oversaw the College's transition to remote learning during the COVID-19 pandemic. His accomplishments include the creation of the First-Generation, Low-Income Dean's Advisory Board and overseeing the creation of the environmental humanities and data science minors.

From 2012 to 2016, Dean Sniegowski chaired the school's Committee on Undergraduate Education. He has also chaired the Faculty Senate Committee on Students and Educational Policy, served on the faculty advisory boards of the College of Liberal & Professional Studies and the Center for Teaching and Learning, and chaired the School of Arts & Sciences' Teaching Awards Committee. From 2011 to 2017, he served as the disciplinary hearing officer for Penn's Office of Student Conduct and the Sexual Violence Investigative Office.

"Paul has promoted inclusion in the undergraduate learning experience through a number of means," Dean Fluharty said in an announcement. "Being named to a college presidency is a tremendous honor, and Paul's appointment at Earlham is a well-deserved tribute to his devotion to student learning and to liberal arts education."

Earlham College is a Quaker college located in Richmond, Indiana.



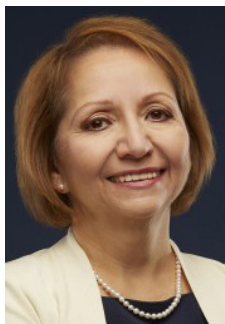
Paul Sniegowski

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Antonia Villarruel: Above & Beyond Award

Penn Nursing dean Antonia M. Villarruel was recently honored with a 2024 Above & Beyond: Women Award from City & State: Pennsylvania. The award celebrates influential women in Pennsylvania who demonstrate exemplary leadership in their respective fields, making significant contributions to society in business, public service, media, nonprofit, and organized labor.



Antonia Villarruel

Dean Villarruel was honored with this designation because she has had a career of firsts. She was the first Latina dean at an Ivy League nursing school, Penn Nursing, which she has led for nearly a decade. Dean Villarruel was also the first (and to date, the only) Latina nurse inducted into the National Academy of Medicine. She was in the first generation of her Detroit Mexican American family to go to college. Now she is part of the first generation of American nurses to earn a PhD, reaching the top echelon of academia with her groundbreaking research on sexual health.

At Penn Nursing, Dean Villarruel was the first dean to secure her own National Institutes

of Health research funding. Her cross-cultural investigations of sexual health, which she began as a graduate student at Penn, led to an intervention program used as a national model.

"I'm proud of being able not only to do that research, but also disseminate it in vulnerable communities," said Dean Villarruel, who directs the WHO Collaborating Center for Nursing and Midwifery Leadership. She received her award in late March at the annual City & State Pennsylvania Above & Beyond Awards Gala at the Fittler Club in Center City, Philadelphia.

Penn Nursing: #1 Nursing School by QS World University

The University of Pennsylvania School of Nursing (Penn Nursing) holds its number one spot as the world's leading nursing school, according to a recent ranking by *QS World University*. The rankings highlight the world's top universities in 55 different subject areas from 1,559 institutions, of which 64 universities are new to the rankings.

"All of us at Penn Nursing are incredibly proud to be ranked the #1 nursing school in the world for the ninth consecutive year," said Penn Nursing dean Antonia M. Villarruel. "This ranking affirms our school's leadership in advancing health equity and meeting the educational needs of the broader health care community—needs that continue to rapidly evolve. Penn Nursing is prepared to solve care challenges and advance health equity by innovating. It's the throughline in everything we do, and this ranking is an indicator of our success."

Emily Falk: Director of APPC's Climate Communication Division

As part of its 30th anniversary celebration, the Annenberg Public Policy Center (APPC) has opened a new area of research, the climate communication division, led by Annenberg School for Communication vice dean Emily Falk.



Emily Falk

"This moves the policy center into an important new area in which communication plays a critical role," said APPC director Kathleen Hall Jamieson.

The new climate division joins APPC's communication science and institutions of democracy divisions, which are led, respectively, by Penn Integrates Knowledge professor Dolores Albarracín and political science professor Matt Levendusky.

Dr. Falk, a professor of communication, psychology, marketing, and operations, information and decision at the Annenberg School, directs Penn's Communication Neuroscience Lab and studies the science of behavior change, using tools from psychology, neuroscience, and communication to explore the characteristics of persuasive messaging, and successful communication more broadly. She has been recognized as an outstanding early-career researcher by the International Communication Association, the Association for Psychological Science, the So-

ciety for Personality and Social Psychology, the National Institutes of Health, and the Defense Advanced Research Projects Agency.

The climate communication division is envisioned as a hub for interdisciplinary, translational research on climate communication and the neural, psychological, and sociological mechanisms that motivate climate action. Its work will focus on topics at both local scales (for instance, environmental justice initiatives in West Philadelphia) and global scales (such as the development and evaluation of media campaigns that communicate climate science knowledge).

"We're hoping to bring together people from across Penn, the local community, nationally and internationally to create cutting-edge science about climate communication," Dr. Falk said. She added that two areas were of special interest.

"One is focusing on the beliefs, attitudes, and behaviors relevant to climate in areas such as transportation, food, and energy," she said. "The second is resilience and social connection. We're particularly interested in working with young people to create the tools and psychological resources they need to innovate and develop new ways of thinking about climate and address the challenges we face as a global community."

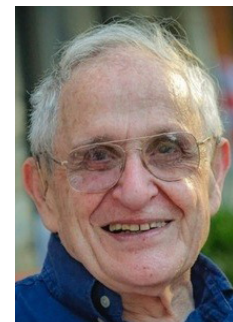
Dr. Falk said the division would collaborate closely with other research centers at Penn, including the Penn Center for Science, Sustainability, and the Media, under the leadership of Michael Mann, and her own Communication Neuroscience Lab.

Deaths

Willys Kent Silvers, PSOM

Willys Kent Silvers, a former professor of human genetics in the Perelman School of Medicine, died on January 24. He was 95.

Born and raised in New York, Dr. Silvers graduated from the Ethical Culture Fieldston School in 1946. He pursued his premedical studies at Johns Hopkins University, where he remained until 1950. While at Johns Hopkins, Dr. Silvers spent several summers at the Jackson Laboratory in Bar Harbor, Maine, as part of the laboratory's summer program. He worked with psychologist Joseph Royce on dog behavioral studies, earning scholarships for his contributions. Afterwards, he earned his PhD from the University of Chicago. Dr. Silvers dedicated himself to research upon graduating, embarking on a prestigious postdoctoral fellowship funded by the National Institute of Health at Brown University.



Willys Kent Silvers

Dr. Silvers and his wife moved to Philadelphia in 1957. He took a position at the Wistar Institute while his wife, Abigail Silvers, began her studies at the University of Pennsylvania Medical School. Dr. Silvers was recruited to the University of Pennsylvania to help develop the department of human genetics, where he served as the chair of the genetics graduate program. His research primarily centered on pigment cell biology and transplantation biology. He coauthored *The Immunobiology of Transplantation* in 1971 before authoring *Coat Colors of Mice*, a book focusing on the genes that influence coat color in mice.

Dr. Silvers received recognition for his substantial contributions to academia, earning accolades such as the Mary F. Lindback Award for Distinguished Teaching and the Dean's Award in Graduate Teaching. He retired from his position at Penn in 1996 but remained active in research at the Chase Cancer Center, where he focused on the development and treatment of melanomas.

Dr. Silvers is survived by children, Deborah and Kent; and grandchildren, Nicholas and Willys Kent, III.

Dr. Silvers expressed his wish for no funeral services. In lieu of flowers, contributions in his memory can be directed to the Abigail Adams Silvers Scholarship Fund, care of the Baldwin School at 701 Montgomery Avenue, Bryn Mawr, PA 19010.

To Report A Death

Almanac appreciates being informed of the deaths of current and former faculty and staff members, students and other members of the University community. Call (215) 898-5274 or email almanac@upenn.edu.

However, notices of alumni deaths should be directed to the Alumni Records Office at Suite 300, 2929 Walnut St., (215) 898-8136 or email record@ben.dev.upenn.edu.

**Division of Public Safety
University of Pennsylvania Police Department Crime Report**

About the Crime Report: Below are the Crimes Against Persons and/or Crimes Against Property from the campus report for **April 1-7, 2024**. The Crime Reports are available at: <https://almanac.upenn.edu/sections/crimes>. Prior weeks' reports are also online. —Eds.

This summary is prepared by the Division of Public Safety (DPS) and contains all criminal incidents reported and made known to the Penn Police, including those reported to the Philadelphia Police Department (PPD) that occurred within our patrol zone, for the dates of **April 1-7,**

2024. The Penn Police actively patrol from Market Street to Baltimore Avenue and from 30th Street to 43rd Street in conjunction with the Philadelphia Police.

In this effort to provide you with a thorough and accurate report on public safety concerns, we hope that your increased awareness will lessen the opportunity for crime. For any concerns or suggestions regarding this report, please call DPS at (215) 898-7297. You can view the daily crime log on the [DPS website](#).

Penn Police Patrol Zone

Market Street to Baltimore Avenue and from 30th Street to 43rd Street

Crime Category	Date	Time	Location	Description
<i>Assault</i>	04/02/24	9:14 PM	4228 Walnut St	Simple assault
<i>Assault-Domestic</i>	04/05/24	5:35 PM	51 N 39th St	Domestic assault
	04/06/24	2:34 AM	4200 Locust St	Domestic assault
<i>Bike Theft</i>	04/04/24	12:18 PM	3730 Walnut St	Secured bike taken from bike rack
<i>Other Assault</i>	04/07/24	8:42 PM	51 N 39th St	Terroristic threats
<i>Other Offense</i>	04/03/24	12:35 AM	3900 Walnut St	Attempted scooter theft/failure to appear/Arrest
<i>Retail Theft</i>	04/01/24	7:22 PM	4233 Chestnut St	Retail theft of alcohol
	04/03/24	7:43 PM	4233 Chestnut St	Retail theft of alcohol
	04/03/24	5:48 PM	4233 Chestnut St	Retail theft of alcohol
	04/04/24	9:25 AM	3601 Walnut St	Retail theft
	04/04/24	11:16 AM	3744 Spruce St	Retail theft of consumable goods/Arrest
<i>Theft from Building</i>	04/01/24	4:29 PM	1 Convention Ave	Medical device taken from hospital
	04/01/24	8:59 PM	3816 Chestnut St	Theft of wallet
	04/02/24	11:29 AM	3942 Spruce St	Items taken from coat rack
	04/03/24	3:46 PM	3400 Civic Center Blvd	Theft of wallet/credit cards used
	04/04/24	11:53 PM	329 S 42nd St	Theft of package
<i>Theft from Vehicle</i>	04/06/24	1:36 PM	4239 Baltimore Ave	Theft of wallet from café
	04/01/24	3:08 PM	3400 Civic Center Blvd	Currency taken
	04/06/24	12:52 PM	4200 Walnut St	Theft of license plate from vehicle parked on highway

Philadelphia Police 18th District

Schuylkill River to 49th Street & Market Street to Woodland Avenue

Below are the Crimes Against Persons from the 18th District: 5 incidents were reported for **April 1-7, 2024** by the 18th District, covering the Schuylkill River to 49th Street & Market Street to Woodland Avenue.

Crime Category	Date	Time	Location
<i>Aggravated Assault</i>	04/01/24	12:30 PM	414 S 48th St
	04/06/24	1:34 PM	3000 Market St
<i>Assault</i>	04/02/24	9:14 PM	4228 Walnut St
	04/04/24	4:04 PM	131 S 48th St
<i>Domestic Assault</i>	04/06/24	2:35 AM	4200 Blk Locust St

The Division of Public Safety offers resources and support to the Penn community. DPS has developed a few helpful risk reduction strategies outlined below. Know that it is *never* the fault of the person impacted (victim/survivor) by crime.

- See something concerning? Connect with Penn Public Safety 24/7 at (215) 573-3333.
- Worried about a friend's or colleague's mental or physical health? Get 24/7 connection to appropriate resources at (215) 898-HELP (4357).
- Seeking support after experiencing a crime? Call Special Services (support and advocacy resources) at (215) 898-4481 or email an advocate at specialservices@publicsafety.upenn.edu.
- Use the [Walking Escort](#) and [Riding](#) services available to you free of charge.

- Take a moment to update your cell phone information for the [UPennAlert Emergency Notification System](#).
- Download the [Penn Guardian App](#), which can help police better find your location when you call in an emergency.
- Access free [self-empowerment and defense courses](#) through Penn DPS.
- Stay alert and reduce distractions. (Using cell phones, ear buds, etc. may limit your awareness.)
- Orient yourself to your surroundings. (Identify your location, nearby exits, etc.)
- Keep your valuables out of sight and only carry necessary documents.

Update

April AT PENN

CHILDREN'S ACTIVITIES

Penn Museum

Info: <https://www.penn.museum/calendar>.

23 *K-12 Archaeology Talk with Dr. Steve: The Sphinx That Moved to Philadelphia*; gives students exclusive, behind-the-scenes access to Dr. Phillips' own work as a team member excavating Petra's Temple of the Winged

Lions; 11 a.m.; Rainey Auditorium, Penn Museum; tickets: \$15.

CONFERENCES

17 *Physics of Soft Matter: Self-Assembling, Responsive, Smart (and Squishy!)*; conference honoring David Weitz, recipient of the 2024 Bower Award and Prize for Achievement in Science; 8-11:15 a.m.; room 419, Fisher-Bennett Hall; info: <https://www.lrsm.upenn.edu/event/fi-award-david-weitz/> (LRSM).

19 *To Make the Revolution Irresistible: The Role of the Artist in the 21st Century*; seeks to address the question of political artmaking practices, and shed light on artists that make community-oriented and public-facing work; 7-8 p.m.; Public Trust, 4017 Walnut Street; info: <https://wolfhumanities.upenn.edu/events/make-revolution-irresistible> (Wolf Humanities Center, Cinema & Media Studies). *Also April 20*, 10 a.m.-6 p.m.; Class of 1978 Orrery Pavilion, Van Pelt Library.

(continued on page 7)

FILMS

18 *Early Access Screening: Robot Dreams*; Dog lives in Manhattan and he's tired of being alone; one day he decides to build himself a robot; their friendship blossoms, until they become inseparable, to the rhythm of 80's NYC; 7 p.m.; Heyer Sky Lounge in Harrison College House; RSVP: <https://tinyurl.com/robot-dreams-apr-18> (Cinema & Media Studies).

FITNESS & LEARNING

17 *Trans-Affirming Pedagogy in Language Classrooms: Creating and Modifying Course Materials*; participants will learn practical approaches to trans-affirming pedagogy in language classrooms and discuss specific strategies for creating and modifying course materials that rely on gendered terms across languages; noon; room 134, Van Pelt Library; register: <https://tinyurl.com/ceili-workshop-apr-17> (Center for Excellence in Teaching, Learning & Innovation).

Graduate School of Education

Info: <https://www.gse.upenn.edu/news/events-calendar>.

18 *Crisis, Capacity, Cognition, & Collective Intelligence*; 8:30 a.m.-3 p.m.; 5th floor, 3440 Market Street.

Penn Chief Learning Officer Virtual Information Session; noon; online webinar.

23 *Education Entrepreneurship Virtual Information Session*; noon; online webinar.

MUSIC

19 *(Deep) Listening: Reflection*; soulful (deep) listening session that will contain spacious and sultry explorations of jazz, R&B, and hip-hop histories by a range of exciting experimental artists, including performances by key-yaA, St. Sol, and DJ Love; 7 p.m.; Institute of Contemporary Art; register: <https://tinyurl.com/ica-listening-apr-19> (Institute of Contemporary Art).

ON STAGE

18 *Theatre Arts Program: She Kills Monsters*; tells the story of Agnes Evans as she leaves her childhood home in Ohio following the death of her teenage sister, Tilly; when Agnes finds Tilly's Dungeons & Dragons notebook, however, she finds herself catapulted into a journey of discovery and action-packed adventure in the imaginary world that was her sister's refuge; 7 p.m.; Bruce Montgomery Theater, Annenberg Center; free admission; register: <https://tickets.pennlivearts.org/0/89142> (Penn Live Arts). *Also April 19 and 20, 7 p.m.; April 21, 2 p.m.*

READINGS & SIGNINGS

22 *The Paradox of Violence in Venezuela: Revolution, Crime, and Policing During Chavismo*; David Smilde, Tulane University; Verónica Zubillaga, Brown University; noon; room 403, McNeil Building (Center for Latin American & Latinx Studies).

Kelly Writers House

Unless noted, in-person events at Arts Café, Kelly Writers House. Info: <https://writing.upenn.edu/wh/calendar/0424.php>.

22 *New Translations from Kharkiv, Ukraine*; Katerina Derysheva, Ukrainian poet; noon.

TALKS

16 *Activation and Incorporation of Rare Sugars Into Bacterial Surfaces*; Tania Lupoli, New York University; noon; Carolyn Hoff Lynch Lecture Hall, Chemistry 1973 Building (Chemistry).

What's Gender Got to Do With It? Kate Gilmore, Planned Parenthood; 12:30 p.m.; World Forum, Perry World House; register: <https://tinyurl.com/gilmore-talk-apr-16> (Perry World House, Gender, Sexuality & Women's Studies).

The Enemy's Property; Theodore Hughes, Columbia University; 5:15 p.m.; room 402, Cohen Hall (East Asian Languages & Civilizations).

17 *Why Listening Matters*; Matthew Levensky, political science; 11:50 a.m.; Ben Franklin statue, College Hall (60 Second Lectures).

Engineering in the Age of AI; Michael Kearns and Surbhi Goel, computer & information science; René Vidal, Racheff University; noon; online webinar; register: <https://pennengdean.wufoo.com/forms/q1ierf5bljls59o/> (Penn Engineering).

The James Webb Space Telescope: A New Era for Space Exploration; Mike McElwain, NASA; 3:30 p.m.; room 4E19, DRL (Physics & Astronomy).

Miguel De Cervantes Meets Pedro Almodovar; Bruce Burningham, Illinois State University; 5:30 p.m.; room 401, Fisher-Bennett Hall (Spanish & Portuguese, Cinema & Media Studies).

Decolonization, Ethnonationalism, and the Soviet Union: A View from South Africa; Hilary Lynd, University of California, Berkeley; 6 p.m.; room 543, Williams Hall (Comparative Literature).

Evolution of HIV/AIDS Research: Past, Present, and Future Perspectives; Steven Meanley, Penn Nursing; Ron Collman, Center for AIDS Research; Alfred Giosa, Penn Nursing; 8 p.m.; LGBT Center; register: <https://tinyurl.com/lgbt-center-talk-apr-17> (LGBT Center).

18 *Molecular and Micro-Structural Mechanics and Design of Soft Materials*; Mary C. Boyce, Columbia University; 11 a.m.; Glandt Forum, Singh Center for Nanotechnology (Mechanical Engineering & Applied Mechanics).

Living the Hard Promise: Understanding Social Media Discourse in Times of Crises; Guobin Yang, communication; noon; Café 58, Irvine Auditorium; register: <https://tinyurl.com/yang-talk-apr-18> (Knowledge By the Slice).

Miniaturized Biomedical Devices for Navigation, Sensing and Stimulation; Saransh Sharma, Massachusetts Institute of Technology; noon; room 327, Towne Building (Electrical & Systems Engineering).

"We Will Put Them Out": The Legal and Imperial Formations of Anti-Asian Violence in Twentieth Century America; Hardeep Dhillon, Asian American studies; noon; room 240A, Silverman Hall, and Zoom webinar; join: <https://tinyurl.com/dhillon-talk-apr-18> (History, Carey Law School).

Using Computers to Derive Protein Structure from Sparse Data – A Case Study for Mass Spectrometry; Steffen Lindert, Ohio State University; 3:30 p.m.; room 225, Towne Building (Bioengineering).

Epigenetic Analysis of Lung Progenitor Function During Development, Regeneration, and Disease; William Zacharias, Cincinnati

Children's Medical Center; 4 p.m.; room 11-146, Smilow Center (Penn-CHOP Lung Biology Institute).

The Labors of Resurrection: Necromancy and the Democratic Storytelling of W.E.B. Du Bois and Toni Morrison; Shatema Threadcraft, Vanderbilt University; 4:30 p.m.; room 250, PCPSE (Africana Studies).

Temple Tracks: Labor, Piety, and Railway Construction in Asia; Vineeta Sinha, National University of Singapore; 5:15 p.m.; room 110, Annenberg School (Center for East Asian Studies, South Asia Center).

Narratives of the Deluge; Emma Mendel, McHarg Fellow; room B3, Meyerson Hall (McHarg Center).

19 *Semantics, Typology*; Dorothy Ahn, Rutgers University; 10:15 a.m.; room 401, Fisher-Bennett Hall (Linguistics).

Physics-Compatible Kinetic-Energy and Entropy Preserving (KEEP) Scheme for High-Fidelity Simulation of Compressible Turbulence; Soshi Kawai, Tohoku University; 2 p.m.; room 534, 3400 Market Street (Penn Institute for Computational Science).

23 *Flows About Superhydrophobic Surfaces*; Ehud Yariv, Technion; 10 a.m.; room 101, Levine Hall (Mechanical Engineering & Applied Mechanics).

Genetic Testing for Obesity Risk: Ethical & Social Considerations; Cassie Houtz, medical ethics & health policy; noon; room 1402, Blockley Hall, and Zoom webinar; register: <https://tinyurl.com/houtz-talk-apr-23> (Medical Ethics & Health Policy).

Sex, Courtship, and Bird Behavior Go High Tech; Marc Schmidt, biology; 6 p.m.; Morris Arboretum & Gardens; register: <https://tinyurl.com/schmidt-talk-apr-23> (Penn Science Café).

This is an update to the [April AT PENN calendar](#), which is online now. Email almanac@upenn.edu to submit events for a future AT PENN calendar or weekly update.

Almanac

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Nurses Cite Poor Working Conditions as their Top Reason for Leaving

A new study from the University of Pennsylvania School of Nursing's Center for Health Outcomes and Policy Research (CHOPR)—published in *JAMA Network Open*—showed that, aside from retirements, poor working conditions is the leading reason nurses leave healthcare employment. These study findings come at a time when hospital executives cite staffing problems as their most pressing concern.

"Prior studies evaluate nurses' intentions to leave their job. Our study is one of the few evaluating why nurses actually left healthcare employment entirely," said lead author K. Jane Muir, a CHOPR postdoctoral research fellow, an associate fellow of the Leonard Davis Institute for Health Economics, and a National Clinician Scholar at the University of Pennsylvania. The study surveyed 7,887 registered nurses in New York and Illinois who left healthcare employment between 2018 and 2021.

Across a variety of healthcare settings including hospitals, long-term care facilities, and ambulatory care, planned retirement was the most cited reason nurses are leaving healthcare employment. Closely behind retirements, insufficient staffing, burnout, and poor work-life balance topped the list. Among retired nurses in the study, only 59% stated that their retirement was planned, suggesting nearly half of nurse retirements are premature exits due to poor working conditions.

"Nurses are not principally leaving for personal reasons, like going back to school or because they lack resilience," said senior author Karen Lasater, an associate professor of nursing, the Jessie M. Scott Term Chair in Nursing and Health Policy, and a senior fellow of the Leonard Davis Institute for Health Economics. "They are working in chronically poorly staffed conditions which is an ongoing problem that predates the pandemic."

The study authors say that healthcare employers could also retain more nurses through solutions that enhance nurses' work-life balance. This includes greater flexibility in work hours, such as shorter shift-length options, higher pay-differentials for weekend/holiday shifts, and on-site dependent care.

"Nurses are retiring early and leaving employment in the healthcare sector because of longstanding failures of their employers to improve working conditions that are bad for nurses and unsafe for patients," said Dr. Muir. "Until hospitals meaningfully improve the issues driving nurses to leave, everyone loses."

Adapted from a [Penn Nursing news release](#), April 9, 2024.

Understanding the Northeast Earthquake

On April 5, people in the Northeast, including many at Penn, experienced an unusual disruption to their day as the ground beneath and walls around started to shake for about half a minute. The magnitude 4.8 earthquake was, for some, a once-in-a-lifetime occurrence. Centered in New Jersey, the quake did little damage.

To learn more about the mechanics of earthquakes and to discuss this rare event, *Penn Today* spoke with David Goldsby, a professor and department chair of Earth & environmental science in the School of Arts & Sciences, and Robert Carpick, the John Henry Towne Professor in the department of mechanical engineering and applied mechanics in the School of Engineering and Applied Science.

What is an earthquake, and what causes quakes like the one that hit the East Coast?

Dr. Carpick: Simply put, an earthquake is a sudden and dynamic geologic event caused by the movement of pieces of the Earth's crust pushing against each other.

Imagine standing on a sidewalk where there's some dirt and small pebbles between your leading foot and said sidewalk. If you try push that foot forward, it won't move at first, but with more and more force it'll eventually slip and might slide quite suddenly.

Dr. Goldsby: Over time, as force accumulates, these pieces can no longer withstand the energy without moving, leading to a sudden slip; this is the essence of an earthquake. An earthquake occurs when there's a sudden displacement along a fault, a crack in the Earth's crust. Before the earthquake, this fault is "locked," accumulating stress over time until the force surpasses the fault's frictional strength, leading to a rapid slip. This process not only causes the ground to shake, but also releases accumulated elastic strain energy from the surrounding rocks, which is then partly transformed into seismic waves that propagate from the earthquake's origin.

Does Philadelphia lie near a fault line?

Dr. Carpick: Philadelphia is about 70 miles south of the Ramapo fault zone, which runs through New York, New Jersey, and Pennsylvania. The closest parts of that fault system are between Doylestown and Easton, Pennsylvania.

Dr. Goldsby: Overall, there are certainly myriad faults below and near

Philly, but there are no major fault lines that would produce major devastating earthquakes.

Do your research interests overlap with earthquakes?

Dr. Carpick: David and I have been funded by the National Science Foundation to look at the underlying physics and mechanics of earthquakes, trying to get at the atomic-level processes that precede the sliding events. It will take a lot of work, but eventually we hope what we're learning can, combined with the work of many others, lead to ways to actually predict earthquakes and how they will behave.

Adapted from a [Penn Today article](#) by Nathi Magubane, April 9, 2024.

A Hopeful Time for Cryptosporidium Research

Due to the many technical difficulties studying *Cryptosporidium*, scientists have struggled for many years to advance research on the single-celled parasite, which is one of the leading causes of deadly diarrheal disease. Multiple breakthroughs in the past decade, said biologist Boris Striepen of Penn's School of Veterinary Medicine, have made this a tractable pathogen and disease.

With support from the Bill & Melinda Gates Foundation and the National Institutes of Health, the Striepen Lab and others have pursued an ambitious research agenda. Genetic engineering of the parasite, along with new culture and animal models, enabled progress toward drugs and vaccines. For the first time in many years, new candidate drugs have now entered human trials.

Dr. Striepen and Christopher Hunter, also of Penn Vet, sought to amplify these advances by organizing the First Biennial *Cryptosporidium* Meeting, held at Penn. It included academic researchers from across disciplines, scientists from leading pharmaceutical companies, representatives of United States and international public health agencies, and leading clinicians from some of most impacted countries, including Zambia, Kenya, Colombia, Bangladesh, and India.

"There had been transformational progress, and we thought this a great opportunity to bring everybody together to ask," Dr. Striepen said. "Now that we have the tools to address this problem, where is the field and what should we do next?"

He stresses the gravity of cryptosporidiosis—the disease caused by the parasite—and the importance of finding drugs and vaccines. The conference spanned the field, from the fundamental biology of the life cycle of *Cryptosporidium* to the state of drug development and challenges of clinical trials for the disease, which is most prevalent in highly vulnerable babies and toddlers.

Dr. Striepen said 10% of child mortality worldwide comes from diarrheal disease, and, after rotavirus, *Cryptosporidium* is a main cause. The disease tracks with poverty, and low-income regions are most affected. "It has this vicious cycle relationship with malnutrition, so malnourished kids are very susceptible," he said, "but having this infection also sets kids up for future malnutrition."

Dr. Striepen is hopeful not only because of how much progress has been made on *Cryptosporidium* but also because of how many young scientists and physicians attended the conference. Two such people are fifth-year immunology PhD student Breanne Haskins and postdoctoral fellow Aurelia Balestra, who both came to Penn specifically to work on *Cryptosporidium*.

Ms. Haskins works on the T cell response to the parasite, which she said is important because people who lack T cell responses can remain chronically infected or suffer from repeat infections. Ms. Haskins adds that the lone FDA-approved drug is not effective in some individuals, such as those with HIV/AIDS. Specifically, Ms. Haskins researches the components from the parasite and host that are necessary to induce T cells, which she said could potentially identify future vaccine targets.

Along with the negative impact *Cryptosporidium* infection has on children and the need for a vaccine, one of Ms. Haskins' takeaways from the conference was that many cases go undiagnosed because diagnostic tools aren't accessible in lower-income countries. Ms. Balestra added that cryptosporidiosis is not on the World Health Organization's list of neglected tropical diseases, despite meeting the criteria. She argues that including it is critical to increasing awareness, securing funding, and improving disease monitoring.

In a session with other molecular biologists at the conference, Ms. Balestra gave a talk about sexual development and fertilization in *Cryptosporidium*. She explains that, just as humans have sperm and eggs, *Cryptosporidium* produces male and female gametes. However, these parasite gametes differ significantly from human ones, so scientists don't know how the male and female gametes fuse to form a zygote. Her research focuses on finding out, and she has demonstrated that sexual development is essential for the parasite's growth.

Adapted from a [Penn Today article](#) by Erica Moser, April 2, 2024.