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Grand Opening of the Pavilion of the Hospital of the University of Pennsylvania



A night view of the 1.5 million-square-foot, future-ready hospital that opened on October 30, 2021. See page 3 for a story about the grand opening of the Pavilion.

Anthea Butler and Nancy Hirschmann: Geraldine R. Segal Professors in American Social Thought

Anthea Butler, professor of religious studies, and Nancy J. Hirschmann, professor of political science, both in the School of Arts and Sciences, have been appointed Geraldine R. Segal Professors in American Social Thought.

Dr. Butler is a widely-recognized historian of American religion and an expert on African American religion, evangelicalism, and Pentecostalism. Her research combines the archive-driven historical study of evangelical Christianity with the study of race and religion, gender and religion, and religion, media and politics. Her books include *White Evangelical Racism: The Politics of Morality in America*, published in 2021, and *Women in the Church of God in Christ*. Dr. Butler is chair of Penn's department of religious studies and President-Elect of the American Society for Church History. She is an opinion columnist for MSNBC Daily, and is a sought-after commentator on the BBC, MSNBC, CNN, the History Channel, and PBS.

Dr. Hirschmann is an internationally-known feminist theorist, historian of political thought, and analytic philosopher, with particular expertise on the concept of freedom. She is the author of eleven books and the recipient of many fellowships and awards, including the American Council of Learned Societies Fellowship, the Institute for Advanced Study Fellowship, and the European University Institute's Fernand Braudel Senior Fellowship. Dr. Hirschmann has played a highly visible role in both the University and the profession, having served as Vice-President of the American Political Science Association and, at Penn, as director of the program on gender, sexuality and women's studies



Anthea Butler



Nancy Hirschmann

and the Alice Paul Center for Research on Gender, Sexuality and Women, as well as vice-chair of the department of political science. She has served on the editorial boards of several leading journals such as the *Journal of Politics* and *Politics and Gender*, and served on the local advisory board for *Hypatia*.

The late Bernard G. Segal, C'28, L'31, HON'69, and Geraldine R. Segal, ED'30, GR'78, established the Geraldine R. Segal Professorship in American Social Thought in 1978. The late Geraldine R. Segal completed her PhD in sociology at Penn and was the author of *In Any Fight Some Fall* and *Blacks in the Law*. Bernard Segal, a former University Trustee, was one of America's most respected lawyers and received Penn's Alumni Award of Merit in 1977. The professorship is interdisciplinary in nature and awarded to a scholar of national reputation whose central interests include human rights, civil liberties, and race relations.

Penn Medicine: \$9.5 Million Grant from Warren Alpert Foundation to Increase Diversity in Genetic Counseling Programs

Penn Medicine has been awarded a \$9.5 million grant from the Warren Alpert Foundation to continue its efforts to increase diversity in genetic counseling, a field that, despite impressive leaps forward in genetic knowledge, lacks a diverse workforce. The Alliance to Increase Diversity in Genetic Counseling grant will support 40 underrepresented students in five genetic counseling programs in the northeastern U.S. over five years to expand all dimensions of diversity. The Perelman School of Medicine at the University of Pennsylvania's master of science in genetic counseling program will lead this effort, joined by participating genetic counseling master's degree programs at Boston University School of Medicine; Rutgers University, the State University of New Jersey; Sarah Lawrence College; and the University of Maryland School of Medicine. Ten students will be selected yearly to receive full tuition support and a cost of living stipend.

The University of Pennsylvania's master of science in genetic counseling program (MSGC) and the collaborative programs are committed to increasing diversity and inclusion in the genetic counseling field and encouraging post-graduate training and career advancement opportunities for genetic counselors. Previous philanthropic gifts to the MSGC program have supported a robust summer internship for undergraduates who are underrepresented in genetic counseling, which, in its first year, led to several rising juniors and seniors learning about the field and considering applying to the program. The Class of 2023 is Penn MSGC's most diverse ever, with 35% of students from underrepresented backgrounds.

"We are honored to receive this grant from the Warren Alpert Foundation to continue to expand diversity and inclusion in genetic counseling while growing the overall genetic counseling workforce," said Daniel J. Rader, chair of the department of genetics in the Perelman School of Medicine and chief of the divisions of human genetics at Penn and Children's Hospital of Philadelphia. "The foundation is extraordinarily forward-thinking in making this generous funding available to address a critical need as the implementation of genomic medicine continues to rapidly expand."

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Trustees Fall Meeting Coverage

The Trustees of the University of Pennsylvania held their fall meetings on November 4 and 5, 2021. During Friday's Stated Meeting, Chair Scott L. Bok launched proceedings by presenting memorial resolutions for two Emeritus Trustees who have passed away recently: Robert Fox ([Almanac April 27, 2021](#)) and Paul Kelly ([Almanac March 16, 2021](#)). Both resolutions passed. The Trustees also approved a resolution of appreciation for Robert Levy for his leadership of The Power of Penn campaign, which he brought to a record-breaking close under extraordinary conditions during the COVID-19 pandemic. It was announced that Homecoming activities would include the Alumni Award of Merit presentation.

The Trustees approved a resolution to establish Penn Live Arts. The Board of Advisors of the Annenberg Center for the Performing Arts was renamed the Board of Advisors of Penn Live Arts. The name change to Penn Live Arts ([Almanac July 13, 2021](#)) reflects the center's growing role as a hub for the arts.

President Amy Gutmann reported on the conclusion of the Power of Penn campaign, the most successful in Penn's history. The campaign raised more than \$5.4 billion for key priorities of inclusion, innovation, and impact across the University. That brings the total raised since 2004, when President Gutmann was appointed, to more than \$10 billion.

President Gutmann then presented the following six resolutions, which all passed:

- A resolution in appreciation for Maureen Rush, Vice President for Public Safety and Superintendent of the Penn Police Department, who is retiring after 27 years at Penn.
- A resolution on the extension of the appointment of Frederick Steiner as Dean of the Stuart Weitzman School of Design ([Almanac October 26, 2021](#)).
- A resolution to appoint John Heuer as Senior Vice President for Human Resources.
- A resolution to appoint MaryFrances McCourt as Senior Vice President for Finance and Treasurer.
- A resolution to appoint Thomas Murphy as Senior Vice President for Information Technology and University Chief Information Officer.
- A resolution to appoint Anne Papageorge as Senior Vice President for Facilities and Real Estate.

Interim Provost Beth Winkelstein presented the academic report, which included a description of the new Biotech Commons, which replaced the Biomedical Library ([Almanac October 12, 2021](#)). She announced that the process to review the University's accreditation by the Middle States Commission on Higher Education is underway and will culminate with a decision by the Commission during the 2023-2024 academic year. The process provides an opportunity for Penn to reflect on its priorities, future, and well-being. She presented a resolution on faculty appointments and promotions, which was passed.

Seven resolutions were passed by the Budget & Finance Committee.

Resolutions were passed to elect Joel Greenblatt an Emeritus Trustee; Patricia Martin and Cheryl Peisach Term Trustees; and Osagie Imasogie and Ann Reese Charter Trustees. Eight appointments to Penn Medicine and other boards were also approved.

The next meeting of the Trustees will be on Thursday, December 9, 2021. For more information, visit <https://secretary.upenn.edu/trustees-governance/open-trustee-meeting>.

Deaths

Thomson Kuhn, Wharton Computing

Thomson Manning Kuhn, C'70, the former director of academic computing at the Wharton School, passed away on October 23 after a recent battle with metastatic pancreatic cancer. He was 73.

Mr. Kuhn was born in Philadelphia and raised in Jenkintown, Pennsylvania, where he graduated from Jenkintown High School. He received a bachelor's degree in history from Penn in 1970, then served in the U.S. Navy and Naval Reserves during the Vietnam War. In 1975, he received a master's degree in communications from Temple University. The next year, he came to Penn, where he worked until 1989 as the associate director and then director of academic computing at the Wharton School. While at Penn, Mr. Kuhn oversaw the yearly Daisy Day fundraiser at CHOP.

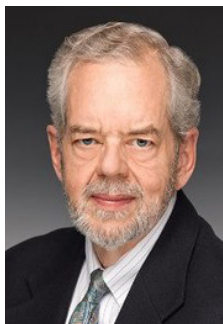
In 1989, Mr. Kuhn went on to work for the American College of Physicians (ACP) as a senior systems architect, specializing in health IT policy, until his retirement in 2016. After retiring, he continued to work as a consultant for ACP, helping advance and shape health IT policy. "I learned an immense amount from him about many aspects of computers and technology and analysis," said Andrew Langman, Mr. Kuhn's colleague at the ACP in an online tribute. "He was a very intelligent and a very decent person."

Mr. Kuhn is survived by his children, Casey (Alison) and Kira (Dusty); four grandchildren; and his brother, Gordon (Nancy). A memorial will be held privately. In lieu of flowers, please consider donating to the Rainforest Foundation, Inc. (rainforestfoundation.org), Pancreatic Cancer Action Network (pancan.org) or NPR (npr.org).

J. Sanford Schwartz, Leonard Davis Institute, PSOM and Wharton

J. Sanford (Sandy) Schwartz, M'74, RES'77, the Leon Hess Professor of Medicine and Health Care Management and Economics at the Perelman School of Medicine and the Wharton School and director of the Leonard Davis Institute of Health Economics from 1989 to 1998, passed away on June 24. He was 72.

Dr. Schwartz graduated from the University of Rochester in 1970 with a bachelor's degree in history. After graduating, he attended medical school at the Perelman School of Medicine. While a third year student, he participated in a U.S. Public Health Service International Fellowship, studying the health care system of Israel and how it was impacted by cultural factors. After completing the fellowship in 1973, he returned to Penn, earning an MD in 1974 and completing a resi-



Thomson Kuhn

dency in medicine at the Hospital of the University of Pennsylvania three years later.

Dr. Schwartz began his career at Penn as an instructor in the department of medicine and soon was also hired as a researcher and as a staff physician in the same department, conducting clinically-oriented health services research that focused on assessment of medical interventions and practices, medical decision making, and the adoption and diffusion of medical innovation. In 1978 and 1987, he was promoted to assistant professor and associate professor, respectively. In 1989, he accepted a dual appointment at Wharton, and four years later, in 1993, he became a full professor in both Wharton and the School of Medicine. From 1989 to 1998, he also served as executive director of the Leonard Davis Institute of Health Economics; he was also co-director of Penn's Robert Wood Johnson Clinical Scholars Program and faculty master of Fisher Hassenfeld College House for eight years. Over the years, he received numerous recognitions and awards, including the Christian R. and Mary F. Lindback Award for Distinguished Teaching ([Almanac April 22, 2003](#)). He was named the first Leon Hess Endowed Professor in Internal Medicine in 2007 ([Almanac February 13, 2007](#)), honoring his "innovation and determination," in the words of School of Medicine Dean Arthur Rubenstein. Dr. Schwartz was an active member of the Penn community, serving on Faculty Senate and University Council committees and speaking on panels frequently around Penn.

In the academic sphere, Dr. Schwartz served as an advisor and consultant to a wide range of groups in the public and private sectors. He was the founding director of the American College of Physicians' Clinical Efficacy Assessment Project and served as president of the American Federation for Clinical Research and the Society for Medical Decision Making. His expertise benefited the medical community at the national level; he served as vice chair and as a council member of the National Academy of Medicine, the latter a position that was still active when Dr. Schwartz died. In addition, he was the founding editor of the American Journal of Managed Care from 1995 to 2002 and served on the board of several other journals during his distinguished career.

"Being a mentor was one of the highlights of Sandy's career," his colleagues A. Mark Fendrick (of the University of Michigan) and Michael Chernew (Harvard) wrote in the American Journal of Managed Care. "Known for his accessibility, Sandy shared his talents with hundreds of students, researchers, and clinicians—young and old. Sandy reveled in watching his trainees grow their own national reputations in academia, the private sector, and public service. He may have been just as likely to drive you to the airport as to comment on your research methods. It was his characteristic candor and good humor, and his own method to guiding students and researchers toward excellence, that made Sandy special."

Most importantly, Dr. Schwartz was a loving husband, father, grandfather, and friend. Nothing was more important to him than human connections: his own family and welcoming people into his family.



J. Sanford Schwartz

To Report A Death

Almanac appreciates being informed of the deaths of members of the University community.

Email almanac@upenn.edu.

Grand Opening of the Pavilion of the Hospital of the University of Pennsylvania

Marking a historic milestone for Philadelphia and beyond, Penn Medicine officially opened the doors of its 1.5 million-square-foot, future-ready Pavilion on Saturday, October 30, as clinical staff transported 310 patients from the Hospital of the University of Pennsylvania (HUP) into the new facility.

The 17-story building on Penn Medicine's West Philadelphia campus, which houses 504 private patient rooms and 47 operating rooms, is an expanded footprint of HUP. The Pavilion houses inpatient care for cardiology and cardiac surgery, medical and surgical oncology, neurology and neurosurgery, and transplant surgery, and it is home to HUP's new emergency department.

At 7 a.m., the Pavilion's two-floor emergency department (ED)—which has replaced HUP's existing ED—opened. A massive operation to safely transport patients across indoor bridges and tunnels connecting HUP to units at the Pavilion began at 9 a.m. and extended throughout the day, made possible by years of planning and the coordinated assistance of staff members and hundreds of volunteers. A celebratory ribbon-cutting occurred at 8:30 a.m. with University and health system leaders, including Penn President Amy Gutmann and HUP CEO Regina Cunningham.

The Pavilion is poised to serve as a launch pad for Penn Medicine's next generation of pioneering advances in patient care, according to Kevin Mahoney, CEO of the University of Pennsylvania Health System.

"It's a thrilling time to be part of Penn and our broader Philadelphia community, and we are truly honored to be part of such a dramatic and positive change, as we celebrate the opening of the Pavilion," Dr. Mahoney said. "This new building now stands as a testament to Penn's mission to serving humanity—from West Philadelphia to the East Coast, and beyond. The team who designed, built, and now care for patients in the Pavilion has shown us what the future of medicine looks like and ensured that Penn will be the epicenter of the very best care for generations to come."

The \$1.6 billion facility—the culmination of years of planning and construction—represents the latest piece of a connected medical campus, which includes HUP, the Perelman Center for Advanced Medicine for outpatient care, and the Smilow Center for Translational Research. It is the largest capital project in the University of Pennsylvania's history, the largest hospital project in the Philadelphia region, and one of the largest hospitals in the United States.

Features of the Pavilion include:

- A "reinvented" emergency department designed to decrease wait times, speed diagnosis, and improve the care experience.
- Hybrid operating rooms that enable surgeons and physicians to work side-by-side and perform image-guided surgeries with greater precision.
- An advanced epilepsy monitoring unit (EMU) and a human neurophysiology research lab, which will bring neuroscience research and neurological care closer together.

- IRIS—a 75-inch screen and smart board—installed in every patient room allows patients to review imaging and key information about their care with their physicians, nurses, and other providers. Through IRIS, patients also have greater control of their environment at their fingertips for lighting, shades, temperature, and more, so they can personalize the room to their comfort.

The state-of-the-art hospital was designed with the future in mind, and as advances in medicine evolve, so will the building, said J. Larry Jameson, executive vice president of the University of Pennsylvania for the Health System and dean of the Perelman School of Medicine.

"Thanks to the work of a great team, we are primed for a remarkable transformation of the way we care for patients," Dr. Jameson said. "We aim to do nothing less than redefine health care for the people who count on us every day."

Design and planning for the Pavilion was orchestrated by PennFIRST, an integrated project delivery team comprised of Penn Medicine employees, health care design firm HDR, architect Foster + Partners, engineering firm BR+A, and construction managers L.F. Driscoll and Balfour Beatty, among others. The multilayered Pavilion design process used behavioral research to guide design choices at each step, including input from thousands of employees who paved the way for the Pavilion through a series of life-size mockups of clinical spaces and simulations that the design team used to test design assumptions and generate feedback.

Office of the Provost: New At-Risk Scholars Program

Penn Global and the Office of the Provost announced the creation of the University of Pennsylvania's new At-Risk Scholars Program.

The At-Risk Scholars Program provides central University support to Penn schools, centers, and departments who wish to help at-risk scholars escape persecution and danger to themselves and their families through a period of residence at Penn. The program is intended to simultaneously lend humanitarian aid and refuge to at-risk scholars and enhance the University's teaching, research, and service missions.

The At-Risk Scholars Program provides limited matching financial support to Penn schools, centers, and departments wishing to host at-risk scholars, artists, writers, journalists, public intellectuals, and other individuals who help to advance the University's teaching, research, and service missions. In addition, International Student and Scholar Services (ISSS), a department in Penn Global, provides support for U.S. visa applications, entry into the United States, and compliance with U.S. immigration policies, as well as resources for integrating into life in the United States and at Penn.

For more information about sponsorship requirements and to apply for support, please visit the program's website: <https://global.upenn.edu/at-risk-scholars-program>.

Applications must be completed and submitted by a faculty or staff member of the sponsoring Penn organization. Applications will be considered on a rolling basis.

If you have any questions, or would like to learn more about the program, please contact Penn Global at global@upenn.edu.

Wharton: First Ivy League School to Accept Tuition Payments in Cryptocurrencies

The Aresty Institute of Executive Education at the Wharton School of the University of Pennsylvania announces the launch of its newest online program, economics of blockchain and digital assets. Developed in partnership with Prysm Group, a leading blockchain economic consulting firm, this six-week Wharton certificate program is designed for business and technology professionals seeking to learn about blockchain and digital assets through its value-driving principle: economics. Program participants will be able to pay the tuition fee in cryptocurrencies including Bitcoin, Ethereum, and USD Coin, a first for any Ivy League institution or U.S. business school.

The blockchain and digital assets industry has produced opportunities that were impossible to envision even a few years ago. Washington-based think tank Atlantic Council reported that 83 countries worldwide have begun initiatives relating to central bank digital currencies (CBDCs). DeFi Pulse (DeFi), a decentralized finance analytics firm, found that the total value locked in DeFi applications has increased over 1,500 percent in just two years to over \$100 billion. PwC expects blockchain to boost the global GDP by \$1.8 trillion by 2030, indicating that the applications of this technology are only beginning to reveal themselves. Furthermore, Deloitte found that 83 percent of businesses are discussing or working on cryptocurrencies in the context of solutions or strategies. In response to this fast economic paradigm shift, Wharton Executive Education has designed this program to assist business leaders in identifying and capturing the value generated by this disruptive technology.

With program highlights including introducing a standard valuation methodology for digital assets—the fundamental token valuation (FTV)—

seven business school case studies, and over 50 program lecture videos featuring Wharton faculty and industry experts, the program seeks to allow students to align theory with practice and give them the tools necessary to engage deeply with this emerging technology in a business context.

"We designed this program for business professionals and executives from a range of backgrounds, including traditional finance, management, and tech," said the program's academic director, Kevin Werbach of the Wharton School. When asked about the goals of the program, Dr. Werbach said, "Blockchain and digital assets are not going away. We hope to equip business leaders, consultants, and entrepreneurs to identify the value drivers of these innovative technologies and to give them the practical understanding to build solutions."

With industry case-study topics ranging from how large legacy enterprises can use blockchain to get ahead to what criteria digital asset creators use in selecting which protocol to issue it on, Wharton's economics of blockchain and digital assets program takes an in-depth look at challenges that business leaders have gone through, discusses how they made their decisions, and explores essential lessons learned.

The goal of this asynchronous, online program is to educate business leaders at their own pace on how this general-purpose technology can be applied to their businesses and unlock value for the global economy.

The economics of blockchain and digital assets program is now open for limited enrollment for its first cohort, which begins on January 3, 2022. To register or receive more information on the program, visit www.blockchain.wharton.upenn.edu.

Report of the Committee on Manufacturer Responsibility 2020-2021 Academic Year

Committee on Manufacturer Responsibility

I would like to thank Steven O. Kimbrough, professor of operations, information and decisions, the Wharton School, for his leadership this past year as chair of the Committee on Manufacturer Responsibility. I also thank all Committee members for their participation and thoughtful contributions. The Committee's report for 2020-2021 is below.

—Medha Narvekar, Vice President and University Secretary

The following report for the 2020-2021 academic year was sent to Medha Narvekar, Vice President and University Secretary from Dr. Kimbrough, chair of the Committee on Manufacturer Responsibility (CMR), in accordance with the effectiveness of monitoring; review the state of compliance of the apparel licensees and review any alleged violations of the Code.

The Code of Workplace Conduct for the Penn Licensed Product Manufacturers is attached hereto below and published *of record*.

Report of the Committee on Manufacturer Responsibility 2020-2021 Academic Year

It is my pleasure to report on the deliberations of the Committee on Manufacturer Responsibility during the 2020-2021 academic year.

Code Compliance

The Committee was made aware of a report from the Worker Rights Consortium (WRC) on instances of forced labor in the Xinjiang Uyghur Autonomous Region ("XUAR") of China. University administration informed the committee that Penn's licensing agency worked closely with the WRC to understand the nature of the allegations and identified one University licensee that had dealings with a factory that was implicated in the WRC report. Although it was determined that no Penn-branded items were manufactured under such conditions, Penn's agency sent notice to the licensee requesting an end to the association with the implicated factory. The licensee promptly agreed to comply with the request.

As of June 2021, 137 of 138 licensees were reviewed and found to be in compliance with the Code. One licensee did not respond to our questionnaire, and consequently, was not renewed for 2020-21.

I would like to express my appreciation to all the committee members for their work on the committee.

—Steve Kimbrough, Chair, Professor OPIM

Code of Workplace Conduct for Penn Licensed Product Manufacturers

I. Introduction

With a view to stimulating economic growth and development, raising living standards, meeting staffing requirements and overcoming unemployment and underemployment, the University of Pennsylvania has adopted this Code of Workplace Conduct (the Code) to promote full, productive and freely-chosen employment.

The University of Pennsylvania expects its licensees to conduct their business in a manner consistent with this Code, and to follow workplace standards that adhere to this Code. The Code is subject to amendment to reflect any subsequently developed standards by the University.

II. Notice

This Code shall apply to all trademark licensees of the University of Pennsylvania. Throughout this code the term "licensee" shall include all persons or entities that have entered a written licensing agreement with the University to manufacture products bearing the name, trademarks and/or images of the University. Additionally, this Code shall apply to all of the licensee's contractors. Throughout this Code the term "contractor" shall include each contractor, subcontractor, vendor, or manufacturer that is engaged in a manufacturing process that results in a finished product for the consumer. "Manufacturing process" shall include assembly and packaging.

As a condition of being permitted to produce and/or sell licensed products bearing the name, trademarks and/or images of the University, each licensee must comply with this Code and ensure that its contractors comply with this Code. All licensees and contractors are required to adhere to this Code; however, no licensee or contractor may represent that they have been certified as being in compliance with this Code.

III. Standards

University licensees and their contractors must operate workplaces that adhere to the following minimum standards and practices:

Legal Compliance

University licensees and their contractors must comply, at a minimum, with all applicable legal requirements of the country in which products are manufactured. Where this Code and the applicable laws of the country of manufacture conflict or differ, the higher standard shall prevail. Such compliance shall include compliance with all applicable environmental laws.

Ethical Principles

Licensees shall commit to conducting their business according to a set of ethical standards that include, but are not limited to, honesty, integrity, trustworthiness, and respect for the unique intrinsic value of each human being.

Environmental Compliance

Licensees and their subcontractors will be committed to the protection of the local environment, including their factories and their surroundings.

They will protect residential areas around their factories, disposing of garbage and waste in such a way so as not to endanger the safety and health of nearby areas.

Employment Standards

1. Wages and Benefits

Licensees and their contractors must provide wages and benefits which comply with all applicable laws and regulations and which match or exceed the local prevailing wages and benefits in the relevant industry, whichever provides greater wages and benefits. The University is strongly committed to the employees of licensees receiving a "living wage."

2. Hours of Work

- a. Except in extraordinary circumstances, or as required by business necessity, employees shall not be required to work (regardless of location) more than the lesser of:
 - i. forty eight (48) hours per week and twelve (12) hours of overtime; or
 - ii. the limits on the regular and overtime hours allowed by the law of the country
 - iii. In addition to their compensation for regular hours of work, employees shall be compensated for overtime hours at such a premium rate as is legally required in that country, but not less than at a rate equal to their regular hourly compensation rate.
- b. Employees shall be entitled to at least one day off in every seven (7) day period.

3. Homework

The employer must ensure that work not done at the place of manufacture is performed in a manner safe for the employee and any persons who may be in the surrounding vicinity.

4. Child Labor

Licensees and their subcontractors shall not employ any person younger than 15 (or 14 where the law of the country of manufacture allows) or younger than the age for completing compulsory education in the country of manufacture where such age is higher than 15. Young workers will not be forced to work overtime hours that would prevent them from attending school. Licensees agree to work with governmental, human rights and non-governmental organizations as determined by the University and licensee to minimize the negative impact on any child released from employment as a result of enforcement of this code.

5. Forced Labor

Licensees and their subcontractors shall not use any forced labor, whether in the form of prison labor, indentured labor, bonded labor or otherwise.

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6. *Harassment or Abuse*

Licensees and their subcontractors shall treat every employee with respect and dignity. Licensees and their subcontractors will not subject any employee to any physical, sexual, psychological or verbal harassment or abuse.

7. *Nondiscrimination*

Licensees and their subcontractors will not subject any person to any discrimination in employment, including hiring, salary, benefits, advancement, discipline, termination or retirement, on the basis of gender, race, religion, age, disability, sexual orientation, pregnancy, marital status, nationality, political opinion or political affiliation, union involvement, or social or ethnic origin. Because, historically, the overwhelming majority of workers in light industry are women, assuring and safeguarding women's rights is of particular importance for all parties.

- a. Women workers will receive equal remuneration for comparable work, including benefits, equal treatment, equal evaluation of the quality of their work, and equal opportunity to fill all positions, as male workers.
- b. Pregnancy tests will not be a condition of employment, nor will they be demanded of employees. Workers will not be forced or pressured to use contraception.
- c. Women who take maternity leave will not, because of the maternity leave, face dismissal or threat of dismissal, loss of seniority, or reduction of wages. Licensees must permit women returning from maternity leave to return to their prior position or comparable position at least at their prior wage rate and benefits. Local laws and regulations, or the prevailing practice in the relevant industry, whichever is greater, shall determine appropriate length of maternity leave.
- d. Licensees and their subcontractors shall provide, to the extent required by applicable law and regulations, or the local prevailing practice in the relevant industry (whichever is greater), services and accommodations to pregnant women, including but not limited to access to legally required health care provided by the employer, government or other provider.

8. *Health and Safety*

Licensees and their contractors must provide workers with a safe and healthy work environment free from recognized hazards and must, at a minimum, comply with local and national health and safety laws. If residential facilities are provided to workers, they must be safe and healthy facilities. Workers will not be exposed to conditions that may endanger their reproductive health without their informed consent.

9. *Freedom of Association*

Licensees and their contractors shall recognize freedom of association and collective bargaining with bargaining representatives of their own choice. No employee shall be subject to harassment, intimidation or retaliation as a result of their efforts to freely associate or bargain collectively.

IV. Compliance

Prior to the date of annual renewal of a license agreement, the licensee shall be required to provide the following to the University, as set forth in the license agreement.

- A. The company names, owners and/or officers, and addresses, phone numbers, e-mail addresses, and the nature of the business association of all the licensees' contractors and manufacturing plants which are involved in the manufacturing process of items which bear, or will bear, the name, trademarks and/or images of the University;
- B. Written assurances that it and its contractors adhere to this Code (except that in the initial phase-in period, licensee must provide such written assurances within six months of receipt of this Code); and
- C. A summary of the steps taken, and/or difficulties encountered, during the preceding year in implementing and enforcing this Code at each site.

Licensees and/or their contractors are responsible for conducting regular inspections of each facility at which University products are manufactured to ensure workplaces are free from recognized hazards as established in consensus standards as well as hazards as defined by local law.

V. Remediation

If the University determines that any licensee or contractor has failed to remedy a violation of this Code, the University reserves the right to ter-

minate its relationship with any licensee in accordance with the terms set forth in the licensee agreement.

VI. Public Disclosure

- A. The company names, owners, and/or officers, addresses, and nature of the business association, including the steps performed in the manufacturing process, of all the licensees' contractors and manufacturing plants which are involved in the manufacturing process of items which bear, or will bear, the name, trademarks and or images of the University shall be made public information.
- B. The Licensee shall be required to supply each year a list of all factory locations referred to in paragraph A above, and all locations Licensee anticipates will be used during the term of the License. Any additions or deletions to this list shall be reported to the University within two months of the effective date of such addition or deletion.

VII. Monitoring and Oversight

The President will establish a Committee on Manufacturer Responsibility ("the committee") on the implementation of the University's Code of Conduct.

Composition and Selection

1. *Voting Members*

- a. Three members of the University faculty selected by the President in consultation with the Chair of the Faculty Senate, one of whom will chair the committee.
- b. Four members of the student body, including two representatives chosen by the Civic House, and one undergraduate and one graduate student, to be chosen by the Undergraduate Assembly (UA) and the Graduate and Professional Student Assembly (GAPSA), respectively.
- c. One representative of University staff selected by the Penn Professional Staff Assembly (PPSA) and the Weekly-Paid Professional Staff Assembly (WPPSA) respectively.

2. *Ex-Officio Members (non-voting)*

- a. Representative of Business Services
- b. Representative of the Office of the President
- c. Representative the Office of the Provost
- d. Member of the Office of the General Counsel
- e. Representative of the Office of the University Secretary

An administrative staff person and a work-study intern will staff the committee. The intern will be appointed by the committee, and paid by the Office of the President. The administrative staff person will be appointed by the Office of the President.

The division of responsibilities will be as follows:

1. *Staff Person.* The administrative staff person will act as a liaison between the committee and the Office of the President to ensure timely implementation of all decisions of the committee. The staff person will also send out notices for committee meetings to ensure maximum participation, and work closely with the intern to coordinate all committee-related administrative tasks.
2. *Intern:* The intern will to the best of his/her abilities research the University's licensees in order to recognize violations of the Code. This responsibility will include the compilation of a list of licensees and the maintenance of any relevant records necessary to enforce the Code, including information received from monitoring organizations about licensees for consideration by the committee. The intern will also actively work on developing mechanisms with other campuses who have signed Codes of Conduct to improve the effectiveness and efficiency of the codes.

Decision-Making

A simple majority of the committee (not including ex-officio members) must be present either by telephone or in person for a vote to take place. Only members who are present may vote, and decisions will pass by majority of members present and voting.

Meeting Schedule

The committee will meet no fewer than once each semester, with additional meetings to be scheduled as necessary in the determination of the committee chair, in the chair's discretion.

(continued on page 6)

(continued from page 5)

Responsibilities

1. *Reviewing the Code of Conduct*

The committee will review the code annually to evaluate its effectiveness. Amendments to the code must be submitted to the committee for its approval.

2. *Review Effectiveness of Monitoring*

The committee will review, at least annually, the effectiveness of the organization(s) conducting monitoring to ensure compliance with this Code and take appropriate steps to ensure effective monitoring.

3. *Reviewing the State of Compliance*

Licensees will be reviewed on an annual basis.

4. *Reviewing Violations*

The committee will review any alleged violations of the University's code of conduct including consulting with monitoring organizations, such as the Fair Labor Association (FLA), and the Workers Rights Consortium (WRC), and determine whether they constitute violations. Based on this judgment, the committee will recommend an appropriate course of action to the Trademark Licensing Unit. At the same time, should the Trademark Licensing Unit identify any alleged violations, the department will consult with the committee on an appropriate course of action.

Public Accountability

1. The Office of the University Secretary will publish the University's Code of Conduct annually and amendments as necessary in *Almanac*.
2. The Trademark Licensing Unit will make available to any interested persons information regarding licensees' working conditions, monitoring reports, and other relevant materials.
3. The committee will work with other schools and interested organizations to improve responsible business practices in the manufacture of licensed University products.

Seeking and Rewarding Responsible Business Practices

1. The committee will work with the Trademark Licensing Unit to seek out manufacturers that have instituted proactive measures to insure the responsible production of goods and give them preference by encouraging the University to consider doing business

with them, taking into consideration competitive price, quality, and style.

2. Through the efforts of the committee in seeking out manufacturers with demonstrated responsible business practices, the University commits itself to giving preference to those with responsible monitoring policies, particularly manufacturers that agree to sign disclosure agreements with the University, taking into account competitive price, quality, and style. Representatives of departments responsible for purchasing University products will keep in regular contact with the committee.

Members of the Committee on Manufacturer Responsibility 2020-2021

Steven Kimbrough (Chair), Wharton
Mark Stern, Social Policy & Practice
Kathleen Hall, Graduate School of Education
Jon Shaw, PPSA
Sai Mamidala, Undergraduate Assembly
Joan Dartey, Undergraduate Assembly
Dai'meer Bryant, GAPSA

Ex Officio members

Lizann Boyle Rode, Office of the Secretary
Christopher Bradie, Business Services
Sean Burke, Office of the General Counsel
Jessie Burns, Provost's Office
Leah Popowich, Office of the President

Response

Dear Steve:

Thank you for forwarding your report on the work of the Committee on Manufacturer Responsibility in 2020-2021. I commend you and the committee for your thorough review of Penn's licensees and careful work in ensuring that Penn's licensees are aligned with the University's goals.

Also please accept my thanks for your significant contributions of time and talent during your time as chair of the committee. I look forward to your continued counsel as chair in the coming year.

—Medha Narvekar, Vice President and University Secretary

Penn Medicine: \$9.5 Million Grant from Warren Alpert Foundation to Increase Diversity in Genetic Counseling Programs

(continued from page 1)

"On the 50th anniversary of genetic counseling being established as a field, we celebrate the first time an alliance of genetic counseling programs has collaborated to increase diversity and inclusion with scholarships, post-graduate training, and career advancements for genetic counselors," said Kathleen Valverde, program director of the Penn MSGC.

A key rationale for increasing diversity in the genetic counseling workforce is to improve support for patients from underrepresented backgrounds. The field is currently comprised of 95 percent white women. Therefore, underrepresentation of genetic counselors from diverse backgrounds can strain critical dialogue between genetic counselors and patients, whose health outcomes are often improved through interaction with medical professionals they can relate to more personally. Unless genetic counseling becomes more accessible, existing disparities will be exacerbated. Addressing this issue will require integrated strategies, including expanding genetic research, improving genetic literacy, and enhancing access to genetic technologies and genetic counseling among underrepresented populations in a way that avoids stigmatization and other harms.

"Supporting innovative organizations dedicated to understanding and curing disease through groundbreaking research, scholarship, and

service is why we are delighted to award Penn with this generous grant from the Warren Alpert Foundation," said August Schiesser, executive director of the Warren Alpert Foundation. "Recruiting and training underrepresented individuals in genetic counseling will increase the numbers of professionals in the field, leading to an increase in access to community-based genetic education and genetic counseling services delivered by individuals who reflect different populations."

"The Penn MSGC program leadership brings extensive experience in genetic counseling education and, with this grant, it will expand its reach to diverse students preparing them to be successful professionals who will advance the field of genetic counseling," said Emma Meagher, a professor of medicine and pharmacology, chief clinical research officer and associate dean of master and certificate programs in the Perelman School of Medicine.

Interested applicants for Penn can visit <https://www.med.upenn.edu/geneticcounseling> for more information. Penn's application deadline is January 5, 2022, with deadlines for Boston University School of Medicine, Rutgers University, Sarah Lawrence College, and the University of Maryland School of Medicine ranging across December 2021 and January 2022. Ten students will be selected yearly to receive full tuition support and a cost of living stipend.

I is for Institute: New Podcast from the ICA

What's in a name? What does institutional care look like? How do institutions hold and withhold stories and shape the stories we tell?

These questions and others are at the center of *I is for Institute*, a new podcast that the Institute of Contemporary Art (ICA) at the University of Pennsylvania launched on October 20, 2021.

Each episode illuminates the challenges and opportunities within arts organizations while emphasizing ways in which each responds to the seismic cultural shifts of our moment—from urgent calls for racial justice and equity to the possibilities for decolonization and increased accessibility within arts institutions.

I is for Institute investigates and reimagines the role of arts organizations today. New episodes of *I is for Institute* are available each month at iisforinstitute.icaphila.org/ and soon through the following platforms: Apple Podcasts, Google Podcasts, Spotify, and Soundcloud. Conversations can be accessed as free, print-on-demand PDFs on iisforinstitute.icaphila.org.

Honors & Other Things

Mary Frances Berry: 2021 Lewis Award

Mary Frances Berry, the Geraldine R. Segal Professor of American Social Thought and professor of history emerita in the School of Arts & Sciences, has been awarded the 2021 Lewis Award for History and Social Justice by the American Historical Association. The annual award recognizes a historian for leadership and sustained engagement at the intersection of historical work, public culture, and social justice. The prize is named in memory of John Lewis (1940–2020), the civil rights leader who represented Georgia with grace and distinction in the United States House of Representatives for 34 years. It was established with an endowment gift from the Agentives Fund.

Dr. Berry is the author of 12 books, including *Five Dollars and a Pork Chop Sandwich: Vote Buying and the Corruption of Democracy* (2016); *We Are Who We Say We Are: A Black Family's Search for Home Across the Atlantic World* (2014); *Power in Words: The Stories Behind Barack Obama's Speeches, From the State House to the White House*, cowritten with Josh Gottheimer (2010), *And Justice For All: The United States Commission On Civil Rights And the Struggle For Freedom in America* (2009); and *My Face Is Black Is True: Callie House and the Struggle for Ex-Slave Reparations* (2005).

Dr. Berry has had a distinguished career in public service. From 1980 to 2004, she was a member of the U.S. Commission on Civil Rights, and from 1993 to 2004 served as chair. Between 1977 and 1980, she served as the Assistant Secretary for Education in the U.S. Department of Health, Education, and Welfare. She has also served as provost of the University of Maryland and chancellor of the University of Colorado at Boulder.

Institute of Education Sciences 2021 Fellows

The Predoctoral Training Program in Interdisciplinary Methods for Field-Based Research in Education, which supports scholars conducting research that informs education policy and practice, selected nine doctoral students to participate in the inaugural year of the program at Penn GSE. Led by Penn GSE's Rebecca Maynard and Brooks Bowden, the program's goal is to strengthen scholars' preparation to become leaders in the education research workforce.

This year's fellows, selected from across the University of Pennsylvania, will participate in an interdisciplinary core curriculum, conduct research with faculty and industry mentors, and apprentice with an education agency focused on questions of policy and practice.

The 2021 IES fellows are:

Johanna Bernard (education policy, Graduate School of Education) holds a MEd in child studies from Vanderbilt University and a BA in psychology from Bowdoin College. Ms. Bernard's research interests include language and literacy, global and international education, school and society, quantitative research, and psychology and human development.

Ellen Bryer (sociology, School of Arts & Sciences) holds a BA in sociology from Smith College. Ms. Bryer's research interests include the sociology of education, social stratification, transition to adulthood, and wealth.

Ellie DeWitt (education policy, Graduate School of Education) received a BA in psychology and public policy from Gettysburg College. Her research interests lie in evidence-based problem solving to improve the lives of vulnerable young children using secondary and administrative data sources.

Maya Kaul (education policy, Graduate School of Education) holds a BA in philosophy, politics, and economics from Pomona College and studied Finnish teacher education and development at the University of Helsinki as a Fulbright scholar. Ms. Kaul's research is driven by the question of how to uplift the teaching profession through investing in high-quality teacher education and development.

Monica Mielke (criminology, School of Arts & Sciences) holds a BA in sociology and Germanic studies from the University of Chicago. She is interested in the connections between juvenile justice and education and in improving outcomes for youth involved in the justice system.

Pooja Patel (higher education, Graduate School of Education) received a BA in international studies from the University of Richmond, a MA in higher education from Boston College, and a Gates Millennium Scholarship. Ms. Patel's current research examines "free college" and college promise program design and financial sustainability.

Noelle Suntheimer (interdisciplinary studies in human development, Graduate School of Education) holds a BS in psychology from the University of Massachusetts Amherst and a MEd in human development from Penn. Her research interests include the underlying processes by which adversity interrupts children's learning of academic and non-academic skills and the protective mechanisms that can mitigate the negative consequences of adversity.

Elena van Stee (sociology, School of Arts & Sciences) holds a BA in sociology and religion from Calvin College. Her research centers on the intersections of class, mobility, and religion in the United States, particularly in the context of higher education. Her current research explores how undergraduate students from different backgrounds and universities have been impacted by the COVID-19 pandemic.

Zach Weingarten (economics, School of Arts & Sciences) holds a BA and MA in economics from the University of Georgia.

Marylyn Ritchie and Sarah Tishkoff: National Academy of Medicine

Two Penn faculty members, Marylyn D. Ritchie and Sarah A. Tishkoff, have been elected members of the National Academy of Medicine (NAM). Election to the NAM is considered one of the highest honors in health and medicine and recognizes people who have demonstrated outstanding professional achievement and commitment to service.

Drs. Ritchie and Tishkoff are among 100 new members elected by current members. Established originally as the Institute of Medicine in 1970 by the National Academy of Sciences, the NAM addresses issues in health, science, medicine, and related policy and inspires actions across sectors. With their election, NAM

members make a commitment to volunteer their service in National Academies activities.

Dr. Ritchie is a professor in the department of genetics, director of the Center for Translational Bioinformatics, associate director of the Institute for Biomedical Informatics, and associate director of the Center for Precision Medicine in the Perelman School of Medicine. Her work has focused on understanding the genetic architecture of complex human diseases, leading to new bioinformatics tools for big data analysis in genetics, genomics, and clinical databases. She is being recognized "for paradigm-changing research demonstrating the utility of electronic health records for identifying clinical diseases or phenotypes that can be integrated with genomic data from biobanks for genomic medicine discovery and implementation science." Dr. Ritchie has previously been honored as a Genome Technology Rising Young Investigator, an Alfred P. Sloan Research Fellow, and a KAVLI Frontiers of Science fellow of the National Academy of Science, and she has been recognized by Thomson Reuters as one of the most highly cited researchers in her field.

Dr. Tishkoff is the David and Lynn Silfen University Professor in the Perelman School of Medicine's department of genetics and the School of Arts & Sciences' department of biology. She is also the director of Penn's Center for Global Genomics and Health Equity. Her election recognizes her status as "a pioneer of African evolutionary genomics research." Her research combines field work, laboratory research, and computational methods to examine African population history and how genetic variation can affect a wide range of traits, such as why humans have different susceptibility to disease, how they metabolize drugs, and how they adapt through evolution. Dr. Tishkoff is a member of the National Academy of Sciences and a recipient of an NIH Pioneer Award, a David and Lucile Packard Career Award, a Burroughs/Wellcome Fund Career Award, an American Society of Human Genetics Curt Stern award, and a Penn Integrates Knowledge professorship.

Chioma Woko: Robert Wood Johnson Foundation HPRS Dissertation Award

Annenberg School for Communication doctoral candidate Chioma Woko has won a dissertation award from the Robert Wood Johnson Foundation's Health Policy Research Scholars (HPRS), a national leadership program for doctoral students who conduct research that supports health equity and well-being.

Ms. Woko, an HPRS fellow, will receive up to \$10,000 in support of her research. Her dissertation, "The Effect of Source Credibility on Promising Message Themes: A Message Pretesting Study to Address COVID-19 Vaccine Hesitancy Among Black Americans", focuses on investigating public health communication strategies that can increase vaccine uptake in Black communities.

In addition, Ms. Woko was previously awarded a 2021 Russell Ackoff Doctoral Student Fellowship from the Wharton Risk Management and Decision Processes Center ([Almanac September 14, 2021](#)). Her research has been published in *Journal of Health Communication*, *Journal of the Association of Nurses in AIDS Care*, and *Health Communication*.



Food Insecurity

Each year, we see the outpouring of kindness and generosity from Penn's faculty and staff in supporting the many worthy causes represented by the Penn's Way campaign. Our partner organizations (United Way of Greater Philadelphia and Southern New Jersey, Philadelphia Alliance for Change, and Penn Medicine) work closely with us to ensure that the Penn community's contributions are used to address needs across our region.

During this time of unprecedented need at every level, families, nonprofits, and local businesses are struggling to stay afloat. Community organizations and foundations are being called upon to help people who have lost jobs, health care, homes, etc., and charitable organizations that work to assist people are themselves struggling. The Penn community has demonstrated year after year that we can, and will, rise to meet the challenge.

We encourage the Penn community to bring home the message of caring by contributing to organizations that support the three "Pillars of Need" identified by the Penn's Way Campaign:

- Health care disparity
- Food insecurity
- Social justice

This week we are highlighting organizations that focus on food insecurity:

Food for All <https://foodforall.com/> (C02300)
 Sunday Breakfast Rescue Mission <https://sundaybreakfast.org/> (C1075)
 MANNA <https://mannapa.org/> (C1102)
 SHARE Food Program <https://www.sharefood-program.org/> (C1019)
 Rise Against Hunger <https://www.riseagainsthunger.org/> (C0921)
 Feed the Children <https://www.feedthechildren.org/> (C0718)
 Caring for Friends (formerly Aid for Friends) <https://caringforfriends.org/> (C1072)
 No Kid Hungry <https://www.nokidhungry.org/> (C0756)
 Feeding America <https://www.feedingamerica.org/> (C0792)
 Food Bank of South Jersey <https://foodbanksj.org/> (06529)
 Philadelphia Orchard Project <https://www.phillyorchards.org/> (C0417)

If you have an organization within the campaign that you would like to support, whatever their mission, you can be sure that they need your contribution this year more than ever. You can see more organizations that support our Pillars of Need on the website. Login at www.pennsway.upenn.edu to help.

—Penn's Way Leadership

Penn's Way Raffle Prize Drawings

Visit <https://pennsway.upenn.edu> for more information. Paper forms must be submitted by noon on Friday, and online participation must be completed by midnight on Sunday for inclusion in a given week's drawing that Monday morning. *Note:* list subject to change.

Week Five drawing—November 8

PDC Graphics: Gift card to Mission Taqueria (\$50 value): *Mary Kathryn Jedziewski*, Perelman School of Medicine
 Business Services: Penn fashion scarf (\$100 value): *April Tidwell*, Penn Carey Law School
 Corporate Facilities Inc: Barnes & Noble gift card (\$50 value): *Carl Anthony*, Pennsylvania Hospital
 Thermo Fisher Scientific: Gift card to New Deck (\$50 value): *Kyle Little*, CPUP Oral Surgery
 Thermo Fisher Scientific: Gift card to White

Dog (\$50 value): *William Cullina*, Morris Arboretum
 SoulCycle: Two one-day passes (\$68 value): *Michelle Vaughn*, Division of Finance, Financial Systems
 Hip City Veg: \$25 Gift Card: *John Kostrubiak*, HUP Penn-Comm Transfer
 4Imprint: Penn-Branded Backpack (\$95 value): *Meghan Mastrangelo*, HUP Oncology

Week Six drawing—November 15

Corporate Facilities Inc: Barnes & Noble gift card
 Thermo Fisher Scientific: Gift card to Target (\$50 value)
 Thermo Fisher Scientific: Gift card to Lowe's (\$50 value)
 Thermo Fisher Scientific: Gift card to Home Depot (\$50 value)
 Thermo Fisher Scientific: Gift card to Bed, Bath & Beyond (\$50 value)
 SoulCycle: Two one-day passes (\$68 value)



Providing Students with ISBNs and Book Price Information

The Higher Education Opportunity Act requires universities to make available to students, for each course, the International Standard Book Numbers (ISBNs) and price information for required/recommended books and supplemental materials.

To comply with this requirement, the University of Pennsylvania has worked closely with Barnes & Noble, managers of the Penn Bookstore, to maintain a simple and cost-effective process

to provide ISBNs to our students. Through the bookstore's online system, students will have access to a complete list of materials for all their courses, along with the ISBNs for each listed text.

As in the past, textbook information can be provided to other vendors, and students are in no way required to purchase their books at the Penn Bookstore.

One Step Ahead

Security & Privacy
Made Simple

Another tip in a series provided by the
 Offices of Information Security, Information
 Systems & Computing and Audit,
 Compliance & Privacy

Using Duo Mobile, Even Without a Signal

The Duo Mobile app, which assists you in the Two-Step Verification process, works best when you use its Push feature for one-touch functionality. However, there might be times when you lack reliable network access, yet still need to use Duo Mobile. For example, you may be traveling and not want to use an expensive cellular roaming plan or an unfamiliar WiFi network, or you may find yourself in a location with a weak or non-existent data signal.

Fortunately, you can still use Duo Mobile without relying on data access. After you have configured the Duo Mobile app to connect with your Two-Step Verification account, it can generate passcodes to access PennKey-protected websites—even when your mobile device is not connected to any WiFi or cellular network.

To generate a passcode when you are trying to log in to a PennKey-protected site, open the Duo Mobile app on your mobile device, and then:

1. Click "Show" in the lower right corner of the "University of Pennsylvania" profile panel. A passcode will appear.
2. Enter the generated passcode in the Two-Step verification code box on the site you want to access. (Be sure to omit any spaces shown in the passcode display on the Duo Mobile app.)

Stay safe: University technical support will never ask you for your Duo passcode or your PennKey password. Never give anyone your passcode, and only use it when you've accessed a website that requires it.

For information on using the Duo Mobile app for Two-Step Verification: <https://www.isc.upenn.edu/two-step-quick-start>

For additional tips, see the One Step Ahead link on the Information Security website: <https://www.isc.upenn.edu/security/news-alerts#One-Step-Ahead>

From the University Leadership

Update to Penn Community on Penn's Efforts to Combat the Effects of Climate Change

November 5, 2021

Climate change represents an existential threat to our country and world. It is impossible to ignore the impact that CO₂ emissions and other greenhouse gases are having across the globe. Since our last update to the Penn community, two new reports by the United Nations confirm the influence of human activity in accelerating climate change and current carbon cutting plans from various nations are woefully insufficient in aggregate to meet the 1.5C degree temperature threshold.

Penn has long been committed to combatting climate change, and we take great pride in the important contributions the University has been able to make through our research, educational efforts, on-campus operations, and investment strategies. As an institution, we have made our Climate and Sustainability Action Plan [goals](#) a top priority, and we also recognize that our plans must be dynamic and adaptable so that we can keep pace with the rapidly evolving challenges of climate change. In that light, we write today to share with you new initiatives—consistent with our research and education missions—to further our leadership role in addressing the effect that climate change is having on our world.

Investment Initiatives

Last April, the Office of Investments articulated the goal of achieving net zero greenhouse gas emissions across the endowment by 2050. To this end, the office is making strides across several fronts, including the completion of an initial assessment to determine the largest contributors to the endowment's carbon footprint and subsequent engagement with investment managers about those positions. The office has also made new investments that specifically support the transition to a low-carbon economy. While these investments demonstrate an attractive investment profile on a standalone basis, we are excited by the technological and business model innovation that they will support. The office plans to provide a more detailed update on its work pertaining to its 2050 net-zero goal around the end of the calendar year.

Given Penn's institutional goals related to combatting climate change, we are announcing today that we are ceasing any new commitments to private equity vehicles dedicated to investments in fossil fuel production. Similarly, we will continue our policy of not making direct investments in companies engaged in the production of fossil fuels. We also will continue to encourage and, in certain cases, support investment managers or companies that are actively and materially investing in the energy transition.

This change builds on the foundation of prior actions, including:

- The Trustees' directive that we "thoughtfully incorporate climate change into investment decision making."
- The University's announcement that we did not directly hold investments in companies focused on the production of thermal coal or bituminous (tar) sands – two of the most carbon-intensive energy related investments – as well as our intention not to hold direct investments in companies focused on their production in the future.
- The growth in Penn's venture capital portfolio of investments in companies focused on climate change solutions.

Educational Initiatives

Penn's academic engagement with sustainability is expansive and highly visible. To call out only a few specific examples, Penn now has:

- Over 400 courses related to sustainability offered since 2014;
- Fourteen new academic programs introduced across six schools; and
- Eight new centers focused on sustainability created across five schools.

We applaud our faculty's commitment to teaching courses in this subject area as well as the tremendous intellectual interest by our student body to expand their understanding of the effects of climate change. We further support their passion to build and translate into concrete impact what they are learning to create a more sustainable world. We are particularly proud that several of Penn's recent President's Engagement and Innovation Prize winners have organized their ideas, proposals, and projects consistent with fighting climate change.

We are pleased to announce that, starting this academic year, the University will expand the current President's Engagement and Innovation Prizes for graduating seniors to include a new prize category designated specifically as a President's Sustainability Prize. This new category of prize will award up to \$100,000 for project implementation expenses to the student

or team with a winning sustainability project, as well as \$50,000 for living expenses for each student prize recipient.

Research Initiatives

Penn's impact on the world through groundbreaking research has been profound. Our faculty have made enormous contributions to the betterment of humanity through the creation of new knowledge and by discoveries that have improved the lives of millions. At this time, we are investing in supports to help focus the intellectual might of our research community on solving the challenges that are presented by climate change.

The last two decades have witnessed game-changing technologies in renewable energy generation, such as solar and wind, and short-term energy storage, such as Li batteries, as evidenced by the rapid growth of the solar panel and electric vehicle industries. Yet most of the energy use in the U.S. is based on traditional sources that contribute to climate change. Realizing the potential of a new energy future based on diversified energy sources and optimized energy use will transform society. And Penn is poised to lead that transformation.

Fundamental progress is needed now to advance efficient energy storage, generation of liquid fuels from clean sources, and effective energy deployment in complex systems such as cities, rural agriculture, and next generation smart energy grids. There is also a tremendous opportunity to develop CO₂ capture from the air and oceans, storing it or transforming it into fuel, simultaneously mitigating effects of climate change.

Penn has a leadership position in energy science, spanning chemistry, physics, and engineering with emerging strengths in environmental science. Penn's Kleinman Center for Energy Policy also fosters impactful research to create conditions for policy innovation that will support a just and efficient transition to sustainable energy. Working together here on campus, and also collaborating across institutions, the Penn community of senior level intellectual leadership and outstanding young faculty members is strong and positioned to lead in energy science and sustainability as well as in energy policy. With the platform of this underlying intellectual leadership, and the addition of the Vagelos Laboratory for Energy Science and Technology, Penn is positioned to drive the energy and sustainability solutions of the future.

At this time, Penn is planning an additional \$60 million strategic investment to recruit at least 10 top faculty in energy and the environment in addition to building state-of-the-art facilities and infrastructure to accelerate the urgent advances needed in sustainable energy.

Advances in Operations

Penn remains on track to reach its carbon neutrality pledge by 2042, building on our 44% carbon reduction since 2009. We continue to make progress on our Climate and Sustainability Action Plan 3.0 goals across all initiatives and are continuing to strategize how best to keep moving forward with impact. Earlier this week, the Association for the Advancement of Sustainability in Higher Education notified Penn that we have earned gold rating based on data submitted through the Sustainability Tracking, Assessment & Rating System (STARS) reporting process. This places Penn among the top quartile of reporting institutions. We are also pleased to share with you that the spectacular Penn Medicine New Patient Pavilion is the largest certified project in the world to achieve gold or higher in LEED Healthcare and the first hospital in the U.S. over 1 million square feet to achieve such a designation (details can be found [here](#).) This is in addition to the 38 LEED certified buildings Penn has constructed since 2006.

Highlights of other recent initiatives since we last updated you include:

- Environmental Innovations Initiative (EII) spearheaded a very successful Climate Week at Penn in collaboration with representatives across campus for several days of approximately 45 programs and events, hundreds of participants, and a hybrid format that provided outreach to many more people this year than prior years. More information on EII can be found at this [link](#).
- The construction of Pennsylvania's largest solar facilities—from which Penn and the Health System will purchase 75% of its electrical demand—also remains on schedule. The facilities are projected to pro-

(continued on page 10)

From the University Leadership

Update to Penn Community on Penn's Efforts to Combat the Effects of Climate Change

(continued from page 9)

duce approximately 450,000 MWh of electricity annually. Starting in 2023, the University's Power Purchase Agreement will supplement the University's past and ongoing energy conservation and sustainability efforts, reduce the University's entire academic campus carbon emissions by 45% from its 2009 levels, and meet the goal of the Paris Climate Accord seven years early. (Full details can be found [here](#).)

- In July, Penn announced a Climate Impact Offset (CLIO) program based on the strong work of the Travel Sustainability Working Group, comprised of Penn faculty and staff working collaboratively. The fees that will be collected as part of this initiative (\$11 for domestic flights and \$25 for international flights) are an important part of the University's strategy to address the carbon emissions resulting from air travel. The University is planning to invest the proceeds in verified carbon offset projects, such as improving air quality, reducing the urban heat island effect, and improving economic conditions locally. (For more information, see the announcement [here](#).)

Conclusion

Across every area of the University, Penn has taken major steps to reduce its carbon footprint and to work for ways to lessen the impact of climate change on society. The added steps we are announcing today will strengthen those efforts. We want Penn to lead the way to a more sustainable future, and we ask all of you in the Penn community to work with us in making this important work succeed. Together, we can and must build a more sustainable and livable world.

—Scott L. Bok, Chair, Board of Trustees

—Amy Gutmann, President

—Beth A. Winkelstein, Interim Provost

—Craig R. Carnaroli, Senior Executive Vice President

—J. Larry Jameson, EVP for UPHS and Dean of the Perelman School of Medicine

Update

November AT PENN

CHILDREN'S EVENTS

Penn Museum

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

- 16** *At-Home Anthro Live: Step-By-Step: The Meaning and Making of Moccasins*; 1 p.m.

CONFERENCES

- 12** *Learning to Listen in Troubled Times*; Ernesto Pujol, fine arts; Aaron Levy and Teya Sepinuck, the Listening Lab, give a series of talks about the art and science of listening; noon-4:30 p.m.; Upper Gallery and room B1 Meyerson Hall; info and to register: <https://snfpaideia.upenn.edu/engage/events/> (SNF Paideia Program).

EXHIBITS

Penn Museum

Online and in-person events. Info: <https://www.penn.museum/calendar/>.

- 12** *Graduate Guide Highlights Tour*; 11 a.m.
Virtual Global Guide Tour: Asia Galleries; 2:30 p.m.
13 *Egypt Galleries Tour*; 11 a.m.
Global Galleries Tour: Africa Galleries; 2:30 p.m.
14 *Rome Gallery Tour*; 11 a.m.
Global Guide Tour: Middle East Galleries; 2:30 p.m.

FITNESS & LEARNING

- 9** *CURF Majors & More*; grab-and-go dinner and a question-and-answer session about Penn's Center for Undergraduate Research and Fellowships; 6 p.m.; Rodin College House (CURF).
10 *Dentistry & Oral Surgery CE Series - X-Ray, Block, & Extract*; describes how to perform tooth extractions in cats and dogs by taking a radiograph, performing a nerve block, and removing a tooth; noon; Zoom meeting; register <https://www.alumni.upenn.edu/PVDentistryNov10> (Penn Vet).

Re-Membering Ancient Futures Workshop; introduces the genre of Indigenous futurism as a

decolonizing technology in the context of Black and Brown colonized realities in the U.S.; 3-5 p.m.; online event; register: <https://ppeh.sas.upenn.edu/events/re-memberingancientfutures> (Gender, Sexuality & Women's Studies).

The Classroom in the City; Chi-Ming Yang, English; will consider why and how to engage the city of Philadelphia through your syllabus, assignments, and class discussions; 4 p.m.; tent outside Fisher-Bennett Hall (English).

Graduate School of Education (GSE)

Online and in-person events. Info: <https://www.gse.upenn.edu/news/events-calendar>.

- 9** *Managing Holiday Stress*; 12:30 p.m.; Zoom meeting.
10 *Healthy Aging Brain with Penn Memory Center*; noon; location TBA.
11 *#teachtruth: Making Black Lives Matter at School and in Educational Policy*; 4 p.m.; Zoom meeting.

- 13** *Mid-Career Doctoral Program's Annual Open House*; 1-3 p.m.; floor 5, 3440 Market Street.

- 16** *Penn Employee Information Session*; 12:30 p.m.; Bodek Lounge, Houston Hall.

Nursing

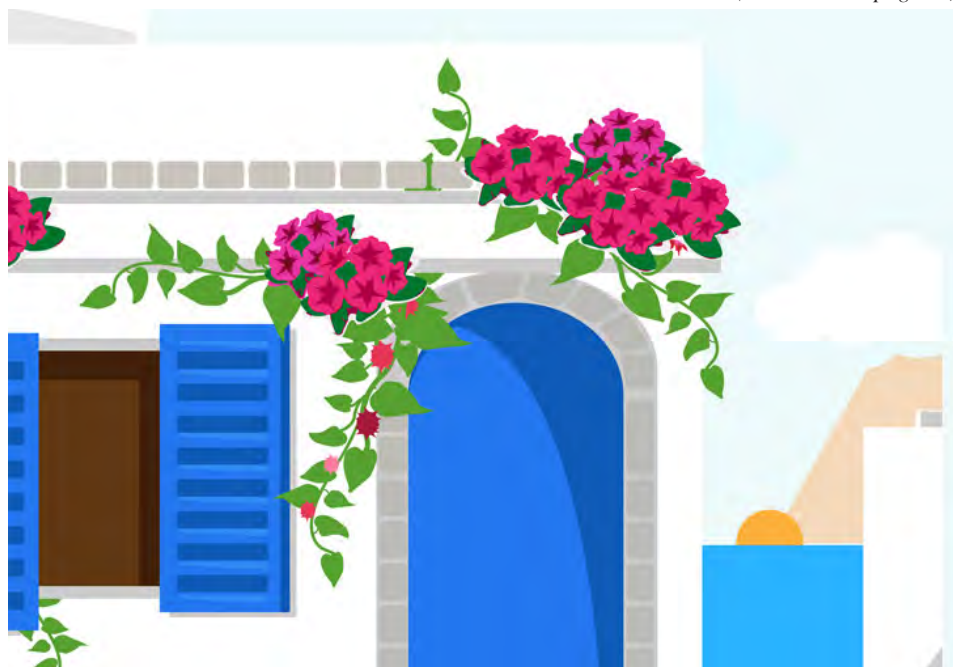
Online events. Info: <https://www.nursing.upenn.edu/calendar/>.

- 10** *Executive Leadership DNP Webinar*; 6 p.m.
11 *Admissions Webinar - Accelerated Nursing Program*; 3 p.m.

MUSIC

- 12** *Counterparts: Blue Since the Day We Parted*; performance by famous Penn acappella group in its 40th year, featuring hits by Dua Lipa, Charlie Puth, John Legend, Bill Withers, Aretha Franklin and many more; 6 p.m.; Harold Prince Theater, Penn Live Arts Annenberg Center; tick-

(continued on page 11)



On November 12 and 13, the Penn Singers will perform the classic musical *Mamma Mia*, featuring the songs of ABBA, at the Penn Live Arts Annenberg Center. See Onstage.

(continued from page 10)

ets: <https://pennlivearts.org/event/counterparts>. Also November 13, 9 p.m.

ONSTAGE

12 *Mamma Mia*; Penn Singers perform the famous show that heavily features ABBA's hits; 8:30 p.m.; Harold Prince Theater, Penn Live Arts Annenberg Center; tickets: <https://pennlivearts.org/event/penn-singers-1042>. Also November 13, 12:30 p.m. and 5:30 p.m.

13 *Legacy On Broad*; college dance teams compete in the largest Bollywood-fusion dance competition on the east coast; 6 p.m.; Zellerbach Theater, Penn Live Arts Annenberg Center; tickets: <https://pennlivearts.org/event/legacy-on-broad-1036>.

READINGS & SIGNINGS

15 *Choose Your Medicine*; Lewis Grossman, American University; Fitts Auditorium, Gittis Hall and online event; register: <https://tinyurl.com/grossman-reading-nov-15> (Penn Carey Law).

Kelly Writers House

Online and in-person events. Info: <http://writing.upenn.edu/wh/calendar/1121.php>.

10 *A Poetry Reading By Erica Kaufman*; 6 p.m.; garden, Kelly Writers House and YouTube livestream.

11 *A Conversation with Clayton Neuman*; 5 p.m.; YouTube livestream.

SPECIAL EVENTS

11 *Virtual Veterans Day Flag Raising Ceremony*; features Penn's NROTC Midshipmen, presentation of colors from the Hollenback Center, and speech by Vincent John Ciuccoli, Philadelphia Consortium NROTC; 9 a.m.; location TBA (Office of Affirmative Action).

12 *Asian Pacific American Heritage Week: ASAM Sharing Our Roots*; kickoff celebration for the University of Pennsylvania's week-long celebration of Asian Pacific-Islander American (APIA) heritage and culture, featuring grab-and-go food; 5 p.m.; room 208, ARCH; register: <https://tinyurl.com/apahw-nov-12> (Asian American Studies).

TALKS

9 *Taking It to the Streets: The First Amendment Right to Gather and Report the News in the Aftermath of the 2020 Protests and Beyond*; Nimra Azmi and Rob Balin, Davis Wright Tremaine; 4 p.m.; online event; register: <https://tinyurl.com/azmi-balin-nov-9> (Penn Carey Law).

The Ecology of Homicide: Race, Place, and Space in Post-War Philadelphia; Howard Gillette, Rutgers; 5:30 p.m.; Zoom meeting; register: <https://tinyurl.com/gillette-talk-nov-9> (Penn Carey Law).

10 *Higher Education in Prison: The Precarious Promise of Second Chance Pell*; Sarah Tahamont, University of Maryland; noon; room 410, McNeil Building (Criminology).

What I Learned After Writing "Learning from the Germans"; Susan Neiman, Einstein Forum; noon; Zoom meeting; register: <https://tinyurl.com/neiman-talk-nov-10> (Germanic Languages & Literatures).

Earthen Poetics: The Intersections of Haptics, Mined Materials, and the Black Body; Kirsten Pai Buick, University of New Mexico; Alexandra Moore, UC Santa Cruz; Levester Williams, artist; 5:30 p.m.; Zoom meeting; register: <https://tinyurl.com/africana-studies-nov-10> (Africana Studies).

11 *Beyond Curve-Fitting: What's Next for Deep Learning in Biomedical Imaging?* Mert Sabuncu, Cornell; 11 a.m.; Glandt Forum, Singh Center for Nanotechnology and Zoom; join: <https://upenn.zoom.us/j/2822214402> (Electrical & Systems Engineering).

Local to Meso-Scale Order in Electronic Ceramics Characterized by Aberration-Corrected Scanning Transmission Electron Microscopy; Elizabeth Dickey, Carnegie Mellon University; 12:30 p.m.; Auditorium, LRSM Building (Materials Science & Engineering).

More Than an Altar: Faith, Culture, and Resilience of Asian/American Business Owners in Philadelphia During COVID-19; Rupa Pillai, Asian American Studies; 3:30 p.m.; room 204, Cohen Hall (Religious Studies).

Single-Cell Multi-Omic Velocity Infers Dynamic and Decoupled Gene Regulation; Joshua Welch, University of Michigan; 3:30 p.m.; BlueJeans meeting; join: <https://bluejeans.com/812676289/1348> (CCEB).

Endothelial Cell Heterogeneity During Sprouting Angiogenesis; Georgia Zarkada, Yale; 4 p.m.; Austrian Auditorium, CRB and Zoom meeting; join: <https://tinyurl.com/zarkada-talk-nov-11> (Physiology).

12 *Approaches to Grounded Language Acquisition from Human Interaction*; Cynthia Matuszek, University of Maryland, Baltimore County; 10:30 a.m.; Wu & Chen Auditorium, Levine Building and Zoom meeting; join: <https://tinyurl.com/matuszek-talk-nov-12> (GRASP Lab).

Additional events are available in the online November AT PENN calendar.

The deadline to submit events for the December AT PENN calendar is today, November 9. To submit an event for that calendar or a future update, email the details to almanac@upenn.edu.

Virtual Veterans Day Flag Raising Ceremony

The Office of Affirmative Action and Equal Opportunity Programs, the Penn Veterans Collaborative, and Penn NROTC invite the Penn community to attend the Virtual Veterans Day Flag Raising Ceremony on Thursday, November 11 from 9-9:30 a.m.

The ceremony will include Penn's NROTC Midshipmen and a presentation of the colors from the Hollenback Center, featuring Col. Vincent John Ciuccoli, USMC, commanding officer of the Philadelphia Consortium, and guest speaker Lynn Manuel, Veterans and Military Affiliated Coordinator at Penn Student Records & Financial Services.

To view the ceremony, [click here](#) to visit the YouTube link.

For more than two centuries, military veterans have been a part of the Penn community. For a brief history of veterans at Penn, see the Benchmarks article ([Almanac November 11, 2014](#)).

Almanac

3910 Chestnut Street, 2nd floor
Philadelphia, PA 19104-3111
Phone: (215) 898-5274 or 5275
Email: almanac@upenn.edu
URL: www.upenn.edu/almanac

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The University of Pennsylvania Police Department Community Crime Report

About the Crime Report: Below are the Crimes Against Persons or Crimes Against Society from the campus report for October 25-31, 2021. Also reported were 14 crimes against property (5 other thefts, 2 bike thefts, 2 frauds, 2 retail thefts, 2 thefts from building, and 1 vandalism). Full 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 and includes all criminal incidents reported and made known to the University Police Department between the dates of October 25-31, 2021. The University Police actively patrol from Market St to Baltimore Avenue and from the Schuylkill River to 43rd St 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 the Division of Public Safety at (215) 898-4482.

10/26/21	3:03 PM	3900 Locust Walk	Complainant struck on buttocks
10/26/21	4:28 PM	200 S 41st St	Confidential sex investigation
10/27/21	6:47 AM	4200 Chestnut St	Cell phone stolen from Uber driver
10/30/21	1:52 PM	51 N 39th St	Family member of patient threatened a nurse

18th District

Below are the Crimes Against Persons from the 18th District: 5 incidents (3 assaults, 1 rape, and 1 robbery) were reported for October 25-31, 2021 by the 18th District covering the Schuylkill River to 49th St & Market St to Woodland Avenue.

10/25/21	2:46 PM	3100 Blk Market St	Assault
10/26/21	3:07 PM	3900 Blk Locust Walk	Assault
10/26/21	4:28 PM	200 Blk S 41st St	Rape
10/27/21	6:58 AM	S 42nd & Chestnut Sts	Robbery
10/29/21	3:51 AM	19 S 44th St	Assault

Nerve Repair with Help From Stem Cells

A new approach to repairing peripheral nerves marries the regenerating power of gingiva-derived mesenchymal stem cells with a biological scaffold to enable the functional recovery of nerves following a facial injury, according to a study by a cross-disciplinary team from the University of Pennsylvania's School of Dental Medicine and Perelman School of Medicine.

Faced with repairing a major nerve injury to the face or mouth, skilled surgeons can take a nerve from an arm or leg and use it to restore movement or sensation to the original site of trauma. This approach, known as a nerve autograft, is the standard of care for nerve repair, but has its shortcomings. Besides taking a toll on a previously uninjured body part, the procedure doesn't always result in complete and functional nerve regrowth, especially for larger injuries.

Scientists and clinicians have recently been employing a different strategy for regrowing functional nerves involving commercially-available scaffolds to guide nerve growth. In experimental approaches, these scaffolds are infused with growth factors and cells to support regeneration. But to date, these efforts have not been completely successful. Recovery can fall short due to a failure to coax large numbers of regenerating axons to cross the graft and then adequately mature and regrow myelin, the insulating material around peripheral nerves that allows them to fire quickly and efficiently.

In an innovative approach to guided nerve repair, shared in the journal *npj Regenerative Medicine*, the Penn team coaxed human gingiva-derived mesenchymal stem cells (GMSCs) to grow Schwann-like cells, the pro-regenerative cells of the peripheral nervous system that make myelin and neural growth factors. The current work demonstrated that infusing a scaffold with these cells and using them to guide the repair of facial nerve injuries in an animal model had the same effectiveness as an autograft procedure.

"Instead of an autograft, which causes unnecessary morbidity, we wanted to create a biological approach and use the regenerating ability of stem cells," said Anh Le, senior author on the study and chair and the Norman Vine Endowed Professor of Oral Rehabilitation in the department of oral and maxillofacial surgery/pharmacology in Penn's School of Dental Medicine. "To be able to recreate nerve cells in this way is really a new paradigm."

For more than a decade, Dr. Le's lab has pioneered the use of GMSCs to treat several inflammatory diseases and to regrow a variety of types of craniofacial tissue. Gingival tissue is easily extracted and heals rapidly, offering an accessible source of GMSCs. In fact, gingival tissue is often discarded from routine dental procedures. Dr. Le said the potential of GMSCs to help in nerve regrowth also owes in part to the cells' common lineage.

Dr. Le and colleagues led by Qunzhou Zhang, a faculty member at Penn Dental Medicine, were able to apply their previous understanding of GMSCs to grow them in a collagen matrix using specific conditions that encouraged the cells to grow more like Schwann cells, the cells' identity confirmed with a variety of genetic markers. To move the work forward, Dr. Le reached out to the Perelman School of Medicine's D. Kacy Cullen, a bioengineer who has worked on nerve repair for 15 years. Dr. Cullen and colleagues have expertise in creating and testing nerve scaffold materials. Using commercially available scaffolds for nerve growth, the researchers introduced the cells into collagen hydrogel. "The cells migrate into the nerve graft and create a sheet of Schwann cells," Dr. Le said. "By doing so, they are forming the functionalized nerve guidance to guide axon generation in the gap left by an injury."

When Drs. Le and Cullen's groups collaborated to implant these grafts into rodents with a facial nerve injury and then tested the results, they saw evidence of a functional repair. The animals had less facial droop than



Cross-disciplinary Penn team is pioneering a new approach to peripheral nerve repair.

those that received an "empty" graft and nerve conduction was restored. The implanted stem cells also survived in the animals for months following the transplant.

Dr. Le noted that this approach would give patients with oral cancer or facial trauma the opportunity to use their own tissue to recover motor function and sensation and to have cosmetic improvements following a repair. And while Dr. Le's group focuses on the head and neck, further work on this model could translate to nerve repair in other areas of the body as well. "I'm hopeful we can continue moving this forward towards clinical application," she said.

—Adapted from an article in *Penn Today* by Katherine Unger Baillie. Read the full text at <https://tinyurl.com/nerve-repair-stem-cells>.

Novel Gene Therapy Platform Speeds Search for Ways to Cure Blindness

A collaboration among scientists from the University of Pennsylvania, University of Pittsburgh; University of California, Berkeley; and Carnegie Mellon University has developed a platform to identify top-performing viral vectors that could deliver gene therapies to the retina with maximum efficiency and precision.

The technology, described in a paper published October 19, 2021 in the journal *eLife*, streamlines development of gene therapy approaches for the treatment of genetic blinding disorders, saving time and resources.

"This novel approach accelerates identification of the most efficient viral vectors that can be used to develop gene therapies to treat blinding conditions in people and in animals," said William Beltran, a professor of ophthalmology at Penn's School of Veterinary Medicine and an author of the new paper who led the experiments at Penn.

Even though blinding genetic disorders that affect the retina are considered rare, approximately 1 in every 3,000 people worldwide carries one or more copies of genes that cause retinal degeneration and vision loss. For centuries, many people with inherited blindness were all but guaranteed to spend a portion of their lives with vision loss.

Now, with several gene therapies already on the market in Europe and the United States, and dozens more entering clinical trials, hope for people with inherited blindness is within reach. But a key obstacle remains: ensuring that vectors, or inactivated viruses carrying the therapeutic genetic code, enter the particular cells that scientists are targeting. The retina is composed of hundreds of millions of cells that are arranged into a series of layers, so precisely targeting the vector to a specific location is not a trivial task.

To approach the problem, researchers developed a computational platform called scAAVengr, which uses single-cell RNA sequencing to quickly and quantitatively evaluate—among dozens of options—which adeno-associated virus vector, or AAV, is best suited for the task of delivering a gene therapy to a specific part of the retina. The traditional approach of evaluating AAVs is painstakingly slow, requiring several years and many experimental animals. It is also not very precise, since it doesn't directly measure if AAVs not only entered the cells but also delivered their gene therapy cargo.

In contrast, scAAVengr uses single-cell RNA sequencing, which detects if the cargo arrives at its destination safely. With scAAVengr, that screening process takes months, not years. Penn Vet researchers from the division of experimental retinal therapies helped accumulate candidate vectors using a directed evolution approach in dogs, which Dr. Beltran and colleagues have long studied en route to establishing experimental gene therapies for inherited vision disorders. Dogs naturally develop blinding disorders that recapitulate many features of human disease, and the canine eye anatomy closely resembles that of human eyes. The directed evolution method enabled the team to identify variants that were particularly good at targeting the outer retina, where photoreceptors—rods and cones—and retinal pigment epithelial (RPE) cells are found.

Researchers at the University of Pittsburgh validated these candidates using non-human primates, leading to the identification of variants that precisely target cells of the outer retina, in particular, the light-sensing photoreceptor cells and RPE, two cell types crucially important to a successful vision restoring gene therapy. These candidate AAVs were also efficiently expressed in these cells following an intravitreal injection.

The platform's uses are not limited to the retina—the researchers showed that it works just as well for the identification of AAVs that target other tissues, including the brain, heart, and liver.

—Adapted from an article on *PennVet* by Katherine Unger Baillie. Read the full text at <https://tinyurl.com/novel-gene-therapy>.