

UNIVERSITY OF PENNSYLVANIA *Almanac*

Tuesday
April 10, 2018
Volume 64 Number 31
www.upenn.edu/almanac

ICA Receives \$4.5 Million To Endow Key Curatorial Positions

The Institute of Contemporary Art at the University of Pennsylvania (ICA) announced two landmark gifts to endow key curatorial positions: Daniel and Brett Sundheim have donated \$3 million, of which \$2.5 million will endow the chief curator position and \$500,000 will go to a new fund dedicated to exhibition outreach and community engagement; and Andrea B. Laporte has donated \$1.5 million to endow ICA's associate curator position. With these gifts, ICA now has four of its key leadership positions endowed, including the museum's director and all three of its senior curatorial positions.

"We're incredibly grateful to University of Pennsylvania alumni Daniel and Brett Sundheim and to Andie Laporte for their visionary



Brett and Daniel Sundheim

gifts, which enable ICA to remain at the forefront of contemporary art by securing long-term support for our curators and their ongoing work," said Amy Sadao, director of ICA. "As our board chair, Andie has played an invaluable role in the continued growth of ICA and the University, including helping to endow ICA's program curator position in 2012. The Sundheims are true advocates for contemporary art, and we're very excited that a part of their transformative gift will go towards the creation of a fund aimed at connecting wider audiences with our dynamic exhibitions program."

Mr. Sundheim has been on ICA's board since 2012 and Ms. Sundheim has recently taken her husband's place for a board seat. Their donation of \$3 million will endow the chief curator position held by Anthony Elms, who joined ICA in 2011 from Performa, where he was part of the organizational team behind the 2011 visual art performance biennial in New York, along with other independent curatorial projects. A portion of this donation is also dedicated to endowing



Andrea Laporte

a new marketing and outreach fund, ensuring ICA's programs are made accessible to audiences on campus, in Philadelphia and in the broader international art world. The Daniel and Brett Sundheim Exhibition Promotion Fund fulfills a long-range goal for ICA to establish a dependable source of support for promoting its year-round exhibitions, which are free for all.

Ms. Laporte became a committed volunteer at ICA after a long history of service to Penn and to the Walters Art Museum in her hometown of Baltimore, Maryland. She has served as a board member for Penn Nursing since 2001, assuming the role of board chair in 2016, and she has served the University of Pennsylvania as a Trustee since 2010, gaining Emerita status in 2017. She joined ICA's board in 2010 and immediately took on the role of board chair where she remained in place for six years. Ms. Laporte's recent gift of \$1.5 million endows ICA's associate curator position, currently held by Kate Kraczon, who has been at ICA for more than 10 years. Ms. Kraczon is currently organizing pioneering post-minimalist and feminist artist Ree Morton's first major retrospective in the U.S. in over three decades, which will open in September 2018; and is collaborating with ICA curator Alex Klein on the first solo U.S. museum exhibition of work by South Korean artist Suki Seokyeong Kang, opening this spring on April 27. Ms. Laporte will be honored at ICA's Annual Benefit this April for her support to ICA.

Mellon Foundation Awards \$1.533 Million to Penn for *The Inclusive City*

The Andrew W. Mellon Foundation has awarded a \$1.533 million grant to the University of Pennsylvania for a five-year project focused on urban diversity and inclusion entitled *The Inclusive City: Past, Present, and Future*.

The project builds upon the Mellon-funded Humanities, Urbanism, and Design (H+U+D) Initiative, a ground-breaking five-year collaboration by the School of Design (PennDesign), School of Arts and Sciences (SAS), and Penn Institute of Urban Research (Penn IUR) that brings together students and faculty to explore cities—past, present and future—and examines them at the intersection of the humanities and design disciplines. *The Inclusive City* project will retain the basic structure of the original H+U+D project, with a new thematic focus on diversity and inclusion.

"We are really excited to continue all the wonderful work we have done over the past five years, with our thanks to the generosity of the

Mellon Foundation," said Penn IUR co-director Eugénie Birch, who will co-lead the new initiative with Arts and Sciences Professor David Brownlee. Dr. Brownlee is the Frances Shapiro-Weitzenhoffer Professor of 19th Century European Art; Dr. Birch is the Lawrence C. Nussdorf Professor of Urban Research and Education, Department of City and Regional Planning, School of Design, chair of the Graduate Group in City Planning and co-director of Penn IUR. The grant will support the continuation of undergraduate and graduate fellow research programs; courses taught jointly by design and humanities professors; seminar series; and public lectures.

"Cities have been defined throughout history by their capacity to foster and derive energy from the mixing of peoples and their ideas," said Dr. Brownlee. "The project has twin objectives: to stimulate inter- and multi-disciplinary work on diversity and inclusion in the built environment



Eugénie Birch



David Brownlee

and to build an increasingly diverse and inclusive community of scholars who do this work."

To achieve these objectives, the project will engage almost two dozen departments across campus including: Architecture, City and Regional Planning, Fine Arts, Historic Preservation, Landscape Architecture, Africana Studies, Art and Archaeology of the Mediterranean World, Asian American Studies, Cinema Studies, Classical Studies, Comparative Literature, East Asian Languages and Civilizations, English, History, History of Art, Jewish Studies, Latin American and Latino Studies, Music, Philosophy, South Asia Studies, Theatre Arts, Urban Studies and Visual Studies.

The project will be guided by a steering committee composed of participating schools' deans as well as faculty with expertise and interest in inclusion and diversity in the academy.

INSIDE

- 2 Senate: SEC Actions; SP2 New Dean Committee; New Center for Translational Bioinformatics Director; WXP Meeting
- 3 Deaths; Honors & Other Things
- 5 President's Engagement and Innovation Winners
- 6 Tree Giveaway; Penn Relays; Penn Museum Middle East Galleries Opening
- 7 Update; 17th Annual Disability Symposium; CrimeStats; Sancho Performance
- 8 Research Roundup

The following agenda is published in accordance with the Faculty Senate Rules. Any member of the standing faculty may attend SEC meetings and observe. Questions may be directed to Patrick Walsh, executive assistant to the Senate Office, either by telephone at (215) 898-6943 or by email at senate@pobox.upenn.edu

Faculty Senate Executive Committee Actions Wednesday, April 4, 2018

Chair's Report. Faculty Senate Chair Santosh Venkatesh informed SEC members that the final SEC meeting will be held on May 9 at the Singh Nanotechnology Center's Glandt Forum. During that meeting, an election will be held to determine the four faculty representatives to the University Council Steering Committee for 2018-19. He further noted that constituency elections for SEC will start in early May for the constituencies whose representatives have terms concluding this year.

Past Chair's Report. Professor Laura Perna provided an update on the progress of the Senate Nominating Committee. She also reported that the Steering Committee for the Campaign for Community met earlier in the week. There is an increasing number of proposals being funded by the Campaign, and she suggested that faculty members consider it as a source of funding for events on campus. There are relatively few applications from staff, and the Steering Committee for the Campaign for Community encourages staff to apply.

Teach-In. Professor Venkatesh reported that the Teach-In was held at sites around campus from March 18-22, 2018. Though all events on March 21 were cancelled due to inclement weather, several of them are rescheduling their events into April. For example, the "Immigration Town Hall" will be held in the Law School's Fitts Auditorium on April 12 at 5 p.m., and the PPSA event, "Developing a Culture of Health," will be held on April 18 at 1 p.m. More information can be found at www.upenn.edu/teachin. During the Teach-In week itself, about 1,500 people attended 27 scheduled events. Based on feedback from participants, there appears to be a large appetite from students and members of the Philadelphia community for programs like those offered during the Teach-In. A particularly appreciated feature was the use of dialogues (rather than lectures) to foster constructive and open expression of different points of view. SEC members discussed how these dialogues could be carried forth into Penn classes in a more sustained way. They acknowledged the efforts of the Student Committee on Undergraduate Education in organizing guided discussion documents that faculty members could opt to use in their classes during the Teach-In week.

Moderated Discussion. Professor Venkatesh engaged SEC members in discussion of a number of pre-identified topics, including free speech and open expression, sexual harassment policies and strategies for facilitating the reporting of incidents, faculty retirement benefits and resources, and increasing demands on faculty. Questions and comments generated from the discussion will be consolidated and used to inform the development of committee charges for the 2018-19 academic year.

Geneticist Marylyn Ritchie New Director for Penn's Center for Translational Bioinformatics

Marylyn D. Ritchie, a nationally regarded geneticist and expert in using big data and machine-learning methods to improve human health, has been appointed as director, Center for Translational Bioinformatics, Institute for Biomedical Informatics (IBI) in the Perelman School of Medicine at Penn. Ritchie is also IBI's associate director for bioinformatics and associate director of the Center for Precision Medicine.



Marylyn Ritchie

"The recruitment of Dr. Ritchie represents a huge leap forward in Penn's plan to be a leader in genomic and precision medicine," said Daniel Rader, chair of the genetics department. "Dr. Ritchie will help leverage the Penn Medicine Biobank—among the largest in the country—and other genomic and phenomic resources at Penn Medicine into new discoveries and approaches to personalizing medical care."

Dr. Ritchie has an accomplished record of research aimed at developing and applying computational and statistical tools and approaches to improve understanding of the fundamental genetic architecture of such diseases as cancer, di-

abetes, hypertension, chronic obstructive pulmonary disorder and cardiovascular disorders. Her expertise includes creating algorithms for detecting interactions between genes and between genes and the environment. The aim is to analyze the data associated with such interactions to understand how they might increase susceptibility to disease. These results can then be used to tailor treatments and predict future patient outcomes. She also specializes in systems genomics approaches.

Before coming to Penn, Dr. Ritchie was the Paul Berg Professor of Biochemistry and Molecular Biology at Penn State University. She was also a professor in the Biomedical and Translational Informatics Institute and chief research informatics officer, both at Geisinger Health System.

Among her previous projects was leading a project at Geisinger Health System to link the genome data of over 50,000 patients with their medical histories, aiming to identify genetic and environmental sources of various diseases.

Correction: A correction has been made to the Salary Guidelines for 2018-2019. For the Faculty Increase Guidelines, salary increases that exceed 5.0 percent due to market conditions must also be made in consultation with the Provost. Read the complete corrected edition online at <https://almanac.upenn.edu/#of-record-salary-guidelines-for-2018-2019>

We are pleased to announce the formation of an ad hoc Consultative Committee to advise us on the selection of the next Dean for the School of Social Policy & Practice. The members of the Consultative Committees are listed below. The Committee welcomes—and will keep in the strictest confidence—nominations and input from all members of the University community. For fullest consideration, communications should be received, preferably in electronic form, no later than *May 15, 2018*, and may be sent to Adam Michaels at adampm@upenn.edu

—Amy Gutmann, President
—Wendell Pritchett, Provost

Consultative Committee for the Selection of a Dean of the School of Social Policy & Practice

Chair

Pam Grossman, Dean and George and Diane Weiss Professor of Education (GSE)

Faculty

Jacqueline Corcoran, professor (SP2)
Ezekiel Dixon-Román, associate professor and chair, data analytics for social policy certificate program (SP2)

Peter Frumkin, professor, Mindy and Andrew Heyer Chair in Social Policy, and director, nonprofit leadership program (SP2)

Amy Hillier, associate professor of social policy & practice and city and regional planning, and director, MS in social policy program (SP2 & Design)

Judith Long, Sol Katz Professor of Medicine and chief, general internal medicine, department of medicine (PSOM)

Phyllis Solomon, professor, Kenneth L. Pray Chair in Social Policy and Practice, and associate dean for research (SP2)

Mark Stern, professor and co-director, urban studies program (SP2)

Students

Brie Starks, master's student

Marquisha Lawrence Scott, PhD student

Alumni

David Ertel, W'87, WG'88, Trustee and chair, SP2 Board of Overseers

Jodi Bergstein Rabinowitz, C'87, SW'88

Ex Officio

Joann Mitchell, senior vice president for institutional affairs and chief diversity officer

Staff to the Committee

Adam P. Michaels, deputy chief of staff, president's office

Consultants to the Committee

Robin Mamlet, Witt/Kieffer

Robert Luke, Witt/Kieffer

WXPN Policy Board Meeting

The WXPN Policy Board Meeting will be held on *Thursday, April 19*, at noon at WXPN, 3025 Walnut Street. It is open to the public. For more information, call (215) 898-0628.

Deaths

Bayard Badenhausen, Psychology

Bayard Badenhausen, a former Penn psychology instructor, died in his home on October 7, 2017, in South Windsor, Connecticut, at the age of 97.

Dr. Badenhausen, a Philadelphia native, received his undergraduate degree in 1942 from Penn, followed by a Master's in Philosophy in 1945 and his doctorate in psychology in 1956. He served as an assistant instructor in psychology at Penn in 1944 and as an instructor from 1952 to 1953.

Dr. Badenhausen's career in psychology and psychoanalysis spanned more than 50 years. In addition to teaching at Penn, he worked for Batten, Barton, Durstine & Osborn (BBDO) and Continental Can Company in New York City. He also had a private practice in Greenwich Village, New York, from which he retired in 2015.

Dr. Badenhausen is survived by his wife, Cintra (C'49); children John (Donna), Susan



Bayard Badenhausen

Eldridge (Douglas), Morgan, Cintra H. Olson, and Cimbria; and three grandchildren Zohar (Brooke), Nadezhda, and Natasha.

Roger Farber, Penn Medicine

Roger Evan Farber, a member of the faculty at Penn Medicine from 1988 to 1996, passed away on January 24, 2018, from Alzheimer's disease. He was 79.

Dr. Farber was born in Buffalo, New York, where he attended Bennett High School and the University of Buffalo. He graduated from the University of Pennsylvania School of Medicine in 1963, where he met his wife. Dr. Farber completed his internship at the Buffalo General Hospital, served in the public health service at NIH and returned to Penn to complete his residency in neurology in 1969.

After relocating to Minneapolis, Dr. Farber co-founded the Noran Neurological Clinic. In 1988, he returned to Penn to join the neurology faculty; he taught and practiced with a particular emphasis on headache and pain. He opened his private practice, the Pennsylvania Headache and Pain Center, in 1995, where he alleviated the pain and suffering of his patients, and left Penn in 1996.

Dr. Farber is survived by his wife, Abigail; children, Deborah Farber Sonnenberg (David),

Daniel (Janey), Benjamin (Anna), and Rebecca (Martin); grandchildren Rachael, Hannah, Tovi, Elian, Madeline, Kathryn, Lucas, Leo, Lars, Preston and Quinn; and sister Carol Reddy (Michael).

Marvin Sachs, Penn Medicine

Marvin L. Sachs, a longtime faculty member of Penn's School of Medicine, passed away in his Philadelphia home on January 29, 2018, from the effects of Parkinson's Disease. He was 91.

After attending high school in his hometown of Allentown, Pennsylvania, Dr. Sachs graduated from Yale University and Harvard Medical School. He served as a physician in the U.S. Air Force, attaining the rank of captain. In 1955, Dr. Sachs came to Penn as a fellow in cardiovascular diseases. He served as an instructor in the medicine department, a dispensary physician for student health services and became an associate in medicine in 1961. In 1969, he earned tenure as an assistant professor in the department of cardiovascular medicine.

Dr. Sachs is survived by his wife Ruth; daughter Katie; son-in-law Daniel Kubiak; grandson Dylan; sister Ruth Meislin and brother David; nieces and nephews, and great nieces and nephews.

Honors & Other Things

Ezekiel Dixon-Román: Outstanding Book Award

Ezekiel Dixon-Román, an SP2 associate professor and chair of SP2's data analytics for social policy certificate program, received The American Educational Research Association's (AERA) Outstanding Book Award for his publication *Inheriting Possibility: Social Reproduction and Quantification in Education*.

Mr. Dixon-Román's book explores the dualism of nature and culture that has undergirded theories of inheritance, social reproduction and human learning and development. Through analyses of empirical data and cultural artifacts, his book reconsiders how we conceptualize the processes of inheritance and approach social inquiry to sharpen understanding and address the reproducing forces of inequality.

AERA is the largest national interdisciplinary research association devoted to the scientific study of education and learning. AERA will honor the recipients for their outstanding scholarship and service at the sixth annual Awards Luncheon on April 15 at the AERA Annual Meeting in New York City.

Ryan Fink: Research for Action Grant

Ryan Fink, research specialist at the Consortium for Policy Research in Education (CPRE), was awarded \$114,508 by Research For Action for a collaborative project with the Philadelphia Education Research Consortium (PERC),



Ezekiel Dixon-Román

Scan of Early Literacy Practices in Philadelphia's Charter Schools. This is a sub-award from a grant PERC received from the William Penn Foundation. The project plans to interview charter school personnel familiar with their school's approach to early literacy to understand the practices and approaches being implemented across charter schools in the city in order to identify opportunities for collaboration and knowledge-sharing, as well as to highlight opportunities for future funding to support the implementation of strong early literacy practices.

Ameena Ghaffar-Kucher and Thea Abu el-Haj: Spencer Foundation Grant

Ameena Ghaffar-Kucher, senior lecturer in the Graduate School of Education, and Thea Abu el-Haj, a Penn GSE alumna, received an award of \$42,945 from the Spencer Foundation for the project, *Unequal Citizens: Documenting the Civic Lives of American Muslim Immigrant Youth*. This national study focuses on the ways in which young people from diverse Muslim immigrant communities develop a range of understandings and practices in relation to civic identity and civic actions by examining the nature and development of civic identities and engagement across the domains of education, family and community.

David Hartt: Graham Foundation Fellow

David Hartt, assistant professor of fine arts, is among the five inaugural fellows as part of the new Graham Foundation program. The fellowship provides monetary support for the development and production of new and challenging works and the opportunity to present projects in an exhibition at the Foundation's Madlener House galleries in Chicago.

Mr. Hartt piloted the new program with

his new body of work *in the forest*, which premiered at the Graham in the fall of 2017. The multi-part installation *in the forest* continues his investigation into the relationship between ideology, architecture and the environment by revisiting architect Moshe Safdie's unfinished 1968 Habitat Puerto Rico project. Commissioned for the Graham Foundation, *in the forest* will travel to the Oakville Galleries, Ontario, in the fall of 2018.

The Graham Foundation for Advanced Studies in the Fine Arts fosters the development and exchange of diverse and challenging ideas about architecture and its role in the arts, culture, and society. The 2018 Fellows will continue this tradition of exploring new perspectives on spatial practices and design culture.

PCI's Celebration of Innovation Awards

The Penn Center for Innovation (PCI) held its second annual Celebration of Innovation, honoring Penn's faculty patent awardees for FY 2017 on February 28. The following awards were presented:

2017-2018 Inventor of the Year: Yvonne J. Paterson, professor of microbiology in the Perelman School of Medicine, for the following patents: Listeria-based Adjuvants, Methods for Constructing Antibiotic Resistance Free Vac-



David Hartt

(continued on page 4)



Yvonne Paterson

2017-2018 Emerging Inventor of the Year: *Daniel J. Powell*, associate professor of pathology and laboratory medicine and associate professor of obstetrics and gynecology in the Perelman School of Medicine for three patents: Human Alpha-folate Receptor Chimeric Antigen Receptor, Compositions and Methods for Treating Cancer and Chimeric Antigen Receptor Specific for Folate Receptor β.

2017-2018 Biomedical Device of the Year: *Haim Bau*, professor of mechanical engineering and applied mechanics, for Isothermal Nucleic Acid Amplification Reactor with Integrated Solid State Membrane.

2017-2018 Deal of the Year: *Drew Weissman*, professor of infectious diseases in the Perelman School of Medicine, in recognition of the 2017 license restructuring between Penn and mRNA Ribotherapeutics and sublicenses to Bi-ONTech and another large biotechnology company.

2017-2018 Startup of the Year: *EnaChip Inc.* Founded in 2016 by Mark Allen, Alfred Fittler Moore Professor and professor of electrical and systems engineering, EnaChip is developing new components based on micro-laminated magnetic structures to reduce the size and cost of electronic devices. EnaChip plans to integrate the magnetic components of electrical devices onto circuit boards, reducing power requirements and reducing heat radiating from the device.

2017-2018 Partner of the Year: *IP Group*, a British-based intellectual property business that specializes in the financing and commercialization of university intellectual property.

RealArts@Penn Summer Interns 2018

RealArts@Penn, a project of Penn's Center for Programs in Contemporary Writing (CPCW), has announced the recipients of its paid summer internships for 2018:

Journalism, Publications & Print
Downtown Bookworks Inc. (New York City)—*Stephanie Barron, Lillianne Leight Flathead Beacon* (Montana)—*Madeleine Lamou*

Library of Congress (Washington D.C.)—*Maya Arthur*
Philadelphia Media Network (Philadelphia)—*Dillon Bergen*
Philadelphia Magazine (Philadelphia)—*Andreas Pavlou*
Pitchfork Media (New York City)—*Dani Blum*

McSweeney's & the Believer (San Francisco)—*Trang Luu*
Small Press Distribution (San Francisco)—*Jamie Albrecht*

Museums

Morgan Library and Museum (New York City)—*Alexi Chacon*

cines, Non-hemolytic LLO Fusion Proteins and Methods of Utilizing Same, Compositions and Methods Comprising KLK3 of FOLH1 Antigen, Compositions Comprising Angiogenic Factors and Methods of Use Thereof.

2017-2018 Emerging Inventor of the Year: *Daniel J. Powell*, associate profes-

sor of pathology and laboratory medicine and associate professor of obstetrics and gynecology in the Perelman School of Medicine for three patents: Human Alpha-folate Receptor Chimeric Antigen Receptor, Compositions and Methods for Treating Cancer and Chimeric Antigen Receptor Specific for Folate Receptor β.

2017-2018 Biomedical Device of the Year: *Haim Bau*, professor of mechanical engineering and applied mechanics, for Isothermal Nucleic Acid Amplification Reactor with Integrated Solid State Membrane.

2017-2018 Deal of the Year: *Drew Weissman*, professor of infectious diseases in the Perelman School of Medicine, in recognition of the 2017 license restructuring between Penn and mRNA Ribotherapeutics and sublicenses to Bi-ONTech and another large biotechnology company.

2017-2018 Startup of the Year: *EnaChip Inc.* Founded in 2016 by Mark Allen, Alfred Fittler Moore Professor and professor of electrical and systems engineering, EnaChip is developing new components based on micro-laminated magnetic structures to reduce the size and cost of electronic devices. EnaChip plans to integrate the magnetic components of electrical devices onto circuit boards, reducing power requirements and reducing heat radiating from the device.

2017-2018 Partner of the Year: *IP Group*, a British-based intellectual property business that specializes in the financing and commercialization of university intellectual property.

Music

Shore Fire Media (New York City)—*Ashley Codner*

Television & Film

20th Century Fox (Los Angeles)—*Weslee Sixkiller*

Brooklyn Films (Los Angeles)—*Bryn Torres-Friedenberg*

David Stern and Stuart Gibbs, Writers (Los Angeles)—*Kelly Heinzlerling*

Doug Robinson Productions (Los Angeles)—*Daniel Horowitz*

Genre Films (Los Angeles)—*Justin Lee, Rebecca Lieberman*

Grandview (Los Angeles)—*Lexi Lieberman*
Management 360 (Los Angeles)—*Ari Lewis, Brian Park*

Nonfiction Unlimited (Los Angeles)—*Hughes Ransom*

Principato-Young Entertainment (Los Angeles)—*Sam Tolbert*

Principato-Young Entertainment (New York City)—*Mackenzie Holmes*

Tremolo Productions (Los Angeles)—*Lucy Nebeker*

Viacom Catalyst: Creative + Strategy (New York City)—*Lauren Donato*

Theater

1812 Productions (Philadelphia)—*Nick Seymour*

For more information about RealArts, visit <http://writing.upenn.edu/realarts/>

Jan Van der Spiegel: ISSCC Chair

Jan Van der Spiegel, professor of electrical and systems engineering, director of the center for sensor technology at Penn and the director of undergraduate research for the School of Engineering and Applied Sciences, has been elected conference chair of the International Solid-State Circuits Conference (ISSCC) for 2019 and 2020.



Jan Van der Spiegel

ISSCC is an annual, global forum that allows researchers at the forefront of solid-state circuits and systems-on-a-chip research to present and exchange ideas. It is sponsored by the Institute of Electrical and Electronics Engineers and the Solid-State Circuits Society. Through his research, Dr. Van der Spiegel explores top-down nanotechnology in order to design intelligent sensors and sensory processing systems.

Sharon Wolf: Jacobs Foundation Research Fellow

Sharon Wolf, assistant professor in the Graduate School of Education, was recently selected as one of the 11 global fellows of the 2018-2020 Jacobs Foundation Research Fellowship Program aimed at improving the learning, development and living conditions of children and youth. Dr. Wolf will spend her fellowship period advancing scientific knowledge and forming new insights about early childhood development, early childhood education and family well-being in West Africa.



Sharon Wolf

Dr. Wolf will spend her fellowship period advancing scientific knowledge and forming new insights about early childhood development, early childhood education and family well-being in West Africa.

McCabe Fund Awards Call for Applications: May 14

The McCabe Fund Advisory Committee is calling for applications from junior faculty in the Perelman School of Medicine (PSOM) and the School of Veterinary Medicine for the annual Thomas B. and Jeannette E. Laws McCabe Fund Fellow and Pilot awards. The McCabe awards were established in 1969 by a generous gift from Thomas B. and Jeannette E. Laws McCabe to the Perelman School of Medicine. The purpose of this gift is to support junior faculty who initiate fresh and innovative biomedical, clinical and surgical research projects. Eligible faculty are those who have received either limited or no external research funding while in their first through third years on the faculty at the PSOM or the School of Veterinary Medicine at Penn. Junior faculty in these schools should contact their department chair for information and application forms. The guidelines and instructions to determine eligibility are also available on the PSOM website www.med.upenn.edu/evdresearch/mccabefundawardprogram.html

The deadline for submission is Monday, May 14, 2018. The McCabe Fund Advisory Committee will select the winners at its annual meeting in June.

McCabe Fund Awards for 2018

Last year there were four winners of Fellow awards of \$40,000 each:

- John P. Reilly*, medicine; PSOM
- Jason A. Brant*, otorhinolaryngology; PSOM
- Ronnie Sebro*, radiology; PSOM
- Payman Zamani*, medicine; PSOM

There were 17 Pilot Award winners who received \$22,966 each:

- Park F. Cho-Park*, systems pharmacology and translational therapeutics; PSOM
- Omar Choudhri*, neurosurgery; PSOM
- Shinjae Chung*, neuroscience; PSOM
- Molly Church*, pathobiology, SVM
- Eric Joyce*, genetics; PSOM
- Yana George Kamberov*, genetics; PSOM
- Sushila Murthy*, anesthesiology & critical care; PSOM
- Seyed Ali Nabavizadeh*, radiology; PSOM
- Kathryn O'Connor*, orthopaedic surgery; PSOM
- Kyla Ortved*, clinical studies, SVM
- Marina Serper*, medicine; PSOM
- Payal D. Shah*, medicine; PSOM
- Jonathan M. Tan*, anesthesiology & critical care; CHOP
- Stacy K. Ugras*, surgery; PSOM
- Andrew E. Vaughan*, biomedical science; SVM
- Franz Weber*, neuroscience; PSOM
- Justin B. Ziemba*, surgery; PSOM

Class of 2018 President's Engagement and Innovation Prize Winners Announced at Penn

Penn President Amy Gutmann announced the recipients of the 2018 President's Engagement Prizes and President's Innovation Prize. Awarded annually, the prizes provide \$100,000 in funding, plus a \$50,000 living stipend for each team member, for Penn seniors to design and undertake post-graduation projects that make a positive, lasting difference in the world. The student recipients will spend the next year implementing their projects.

"Each prize recipient has conceived an innovative, impactful project that leverages Penn knowledge to address timely, consequential challenges," President Gutmann said. "I look forward to seeing the positive difference these students will make in Philadelphia, across the country, and around the world."

The Prizes are generously supported by Judith Bollinger and William G. Bollinger, in honor of Ed Resovsky; Trustee Lee Spelman Doty and George E. Doty, Jr.; and Emeritus Trustee James S. Riepe and Gail Petty Riepe.

The President's Engagement Prize winners are: Griffin Amdur, W'18, James McPhail, C'18, W'18, and Andrew Witherspoon, W'18, for *Chicago Furniture Bank*: Mr. Amdur, Mr. McPhail and Mr. Witherspoon will launch a furniture bank—an intermediary be-

tween people who have extra furniture and people who need furniture—in Chicago. Working with Caring Transitions, a national senior relocation, downsizing and estate sales company, Mr. Amdur, Mr. McPhail and Mr. Witherspoon will collect gently used furniture from the elderly and give those donations to vulnerable populations, including women and children facing domestic violence, recovering addicts and the formerly homeless. Their project will be the first furniture bank in the Chicago metropolitan area. Mr. Amdur, Mr. McPhail and Mr. Witherspoon are being mentored by Tyler Wry, assistant professor of management.

Svanika Balasubramanian, W'18, and Peter Wang Hjemdahl, W'18, for *rePurpose*: Ms. Balasubramanian and Mr. Hjemdahl are spearheading *rePurpose*, a social venture that aims to create an ethical and efficient recycling supply chain in India. They will implement a digital waste marketplace for kabadiwalas, marginalized street-side sorters in Mumbai who serve as crucial entry points to the city's vibrant recycling industry. By enabling them to access more waste on-demand and sell that waste at better margins, *rePurpose* will double the income of kabadiwalas, as well as divert waste from landfills toward recycling. Ms. Balasubramanian and Mr. Hjemdahl are being mentored by Rob-

ert Jensen, the David B. Ford Professor of Business Economics and Public Policy.

Alaina Hall, N'18, for *Healthy Pequeños (Healthy Little Ones)*: Ms. Hall's project is a nurse-led, multi-interventional health promotion effort that aims to address the global health problem of infectious disease in children. Working in partnership with the Nuestros Pequeños Hermanos orphanage in Miaatlán, Mexico, Ms. Hall will work to improve health education for children and their caregivers, strengthen infection screening and identification processes, and reduce exposure to infection-causing pathogens by providing filtered water and repairing damage to local sewage structures. Ms. Hall is being mentored by Cynthia Connolly, associate professor of nursing and the Rosemarie B. Greco Endowed Term Chair in Advocacy.

The President's Innovation Prize went to: Rui Jing Jiang, W'18, Brandon Kao, EAS'18, and Adarsh Battu, W'18, for *Avisi Technologies (VisiPlate)*. Ms. Jiang, Mr. Kao and Mr. Battu will use the President's Innovation Prize to further the development of *Avisi Technologies*, a healthcare startup that is creating a revolutionary treatment for the second-leading cause of blindness in the world: glaucoma. *VisiPlate*, *Avisi's* nanoscale ocular implant, has the potential to transform the industry paradigm for glaucoma treatment and vision loss prevention. Ms. Jiang, Mr. Kao and Mr. Battu, who have been working on *VisiPlate* since October 2016, are being mentored by Jeffrey Babin, associate professor of practice in mechanical engineering and applied mechanics.

"The problems that the recipients are seeking to solve transcend geographic, social and economic boundaries, and the solutions they are proposing are simple yet elegant," President Gutmann said. "From our very own Pennovention Center to the streets of Mumbai, *Chicago Furniture Bank*, *rePurpose*, *Healthy Pequeños* and *Avisi Technologies* embody and extend Penn's deeply held commitment to improving communities near and far. I congratulate all of this year's Prize recipients, and I wish them the very best as they prepare to launch their projects."

Over the past three years, Penn has awarded more than \$2 million in Prize funds and living stipends between the President's Engagement Prize and President's Innovation Prize, making these the largest prizes of their kind in higher education.

"These visionary projects," said Provost Wendell Pritchett, "exemplify the intellectual creativity, entrepreneurial drive and commitment to social justice of our dynamic Penn students. We are indebted to their faculty advisors and to the staff of the Center for Undergraduate Research and Fellowships, who worked closely with them to develop these exciting and inspiring ventures."

The President's Engagement and Innovation Prizes are intended to strengthen Penn's commitment under the Penn Compact 2022 to impactful local, national and global student engagement, as well as to innovation and entrepreneurship. Vice Provost for Education Beth Winkelstein chaired the President's Engagement Prize Selection Committee on behalf of Pritchett, and Executive Vice President Craig Carnaroli chaired the President's Innovation Prize Selection Committee.

Photos courtesy of The Office of the President



Andrew Witherspoon, Griffin Amdur and James McPhail



Peter Wang Hjemdahl and Svanika Balasubramanian



Alaina Hall



Brandon Kao, Rui Jing Jiang and Adarsh Battu



Penn's Creating Canopy Tree Giveaway Program: Register on April 16

In alignment with the goals of Penn's Climate Action Plan, the University promotes the importance of trees and the creation of public open spaces. To encourage the continual "greening" of our communities in the Greater Philadelphia area, Penn is again partnering with Philadelphia Parks and Recreation for the "Creating Canopy" tree giveaway.

Registration: A limited number of free trees will be given away on a first-come, first-served basis to those who pre-register. Registration will open on the Penn Sustainability website at 10 a.m. on *Monday, April 16* and will remain open until the tree inventory has been fully reserved.

Eligibility: Penn and UPHS staff and faculty who live in the City of Philadelphia or in the suburbs in Pennsylvania, Delaware or New Jersey are eligible.

Tree Selection: Information on particular trees will be available in the Tree Information Guide, which will be published online prior to the opening of registration. There will be a selection of small flowering trees, medium and large shade trees, and self-pollinating fruit trees.

Tree Pickup and Transport: The 2018 tree pickup will take place on *Tuesday, May 1*, 3-6 p.m., in the parking lot at Penn Park, located near the intersection of 31st Street and Lower Walnut Street. A map is available on the website. Bring your PennCard.

It is your responsibility to get your new leafy friend home. Bring your car or arrange a ride. The trees come in #5 pots (3-4 feet tall) and #7 pots (4-6 feet tall). Some past tree recipients have made creative use of wagons or hand trucks to transport their trees.

Cancellations: If you are no longer able to pick up your tree, please email sustainability@upenn.edu so that someone else can take your tree home.

Go online to <https://www.sustainability.upenn.edu/participate/staff-and-faculty/creating-canopy> for information on planting and caring for your tree. Email sustainability@upenn.edu with questions.



124th Penn Relays: April 26-28

A Philadelphia staple, the Penn Relays is one of the oldest and longest-running track and field events in the world. The 2018 running marks the 124th year of the Relays and will take place *April 26-28* at the historic Franklin Field.

Every April, the Penn Relays draw many of the nation's—and the world's—top track athletes to Franklin Field to run in the world's first and most recognized relay meet.

The Penn Relays features more than 22,000 entrants annually (that's more athletes than in the Olympic Games), representing more than 60 countries around the world. During the past ten years, more than 100,000 young men and women from high schools, colleges, clubs, the armed services, preparatory schools, junior high schools, middle schools, parochial schools and

elementary schools have competed. The athletes range in age from under eight to over 80.

This year, during some 33 hours of competition on Thursday, Friday and Saturday, more than 425 races will be run, an average of more than one race every 5 minutes.

Tickets for students are free Thursday and Friday with a PennCard, \$6 in advance on Saturday and \$10 at the gate. For faculty and staff: on Thursday, bring your child to work and get two free tickets with a valid PennCard. Plus, on Friday and Saturday get 50% off race day prices with a valid PennCard. (Offers only redeemable in person at the Franklin Field Ticket Office).

Tickets and additional information: (215) 898-6151 or www.ThePennRelays.com



Photos courtesy of The Penn Relays

Penn Museum's New Middle East Galleries Open April 21

Founded in 1887, the Penn Museum sent the first United States archaeological expedition to the Middle East—to the ancient Mesopotamian site of Nippur in what was then the Ottoman Empire. More than 130 years and hundreds of international expeditions later, the Museum remains a world leader in Near Eastern archaeology, with a collection of more than 100,000 artifacts; a leading collection of cuneiform tablets bearing early literary, historical and economic texts; strong Islamic period ethnographic and literary collections; and a rich archive of historic documents, field notes and photographs—as well as ongoing research projects in the region.

On *April 21, 2018*, the Penn Museum taps into that collection and research expertise to open the new Middle East Galleries—a suite of galleries that invites the visitor to travel on a remarkable 10,000-year human journey, from life in the earliest villages and towns to increasingly complex cities. Nearly 1,200 objects from the Museum's collections—including such world-renowned treasures as the crowning jewelry of a Sumerian queen from 4,500 years ago, the

famed *Ram-in-the-Thicket* statuette, and one of the oldest known wine vessels in the world—will be on view. Large-scale video projections, made to scale models, illustrator's renderings of scenes from the reconstructed past, smaller interactive stations and touchable reproductions provide diverse avenues to explore the collections and the stories they tell.

An evening in the fertile crescent celebrating the opening of the Middle East Galleries will take place *April 14, 2018*. At the Golden Gala, visitors are invited to enjoy cocktails and late-night dancing in a vast tent draped in gold and greenery, dine under one of the largest domed ceilings in the world and tour brand new galleries—showcasing magnificent objects thousands of years old—with the extraordinary team of curators and international designers who created them. For one night only, experience the celebrated architecture, gardens and fountains of the Penn Museum, dressed up as a lush, gold-tipped oasis reminiscent of the famed hanging gardens of Babylon. Visit www.penn.museum/gala/ to purchase tickets.



17th Annual Disability Symposium

The University of Pennsylvania invites you to the 17th Annual Disability Symposium on *Friday, April 13th, 2018*. This year's theme, "Positive Outlooks," explores disability trends, resolutions and possibilities. It invites us to explore resilience and embrace optimism in our work and with our students.

Participate in a full day of ideas and initiatives, led by outstanding plenary speakers and invited workshop presenters. Participate in conversations during breakfast and lunch; continue them at the symposium-ending snack-and-chat; and depart with increased knowledge to continue your positive work with students.

The Disability Symposium will take place in Houston Hall in the Perelman Quadrangle. Breakfast, lunch and the two plenary sessions will be held in Houston Hall's Bodek Lounge. Workshops also will be held elsewhere in Houston Hall. The building is wheelchair accessible.

The Symposium is made possible by a gift from Mary Perednia Landy, C'83, and Joseph P. Landy, W'83. For more information, visit www.vpul.upenn.edu/lrc/sds/currentsymposium.php

Featured Speakers

Jeanne M. Kincaid, Attorney, Drummond Woodsum. She is a nationally known disability lawyer and consultant, representing colleges and universities nationwide.

Karen Reivich, Director of Resilience and Positive Psychology Training at the Positive Psychology Center of the University of Pennsylvania.

Sancho: An Act of Remembrance

He was born on a slave ship but never a slave. He was immortalized by the great English painter Thomas Gainsborough, and in 1774 became the first British-African to vote. In this revealing and humorous one-man show, celebrated Royal Shakespeare Company actor Paterson Joseph (NBC's *Timeless* and HBO's *The Leftovers*) inhabits the curious, daringly determined Charles Ignatius Sancho—composer, social satirist, general man of refinement—while shining light on the often misunderstood narratives of African-British experience. Don't miss this Philadelphia premiere!

Sancho: An Act of Remembrance will be performed *April 13* at 7:30 p.m. and *April 14* at 2 and 8 p.m. at the Annenberg Center's Harold Prince Theatre. For tickets, visit www.annenbergcenter.org



Royal Shakespeare Company actor Paterson Joseph plays Charles Ignatius Sancho

Photo courtesy of TheAnnenberg Center

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 **March 26-April 1, 2018**. Also reported were 12 crimes against property (1 burglary, 1 drunkenness, 1 vandalism and 9 thefts) with 3 arrests. 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 **March 26-April 1, 2018**. 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.

03/29/18	11:25 AM	3800 Ludlow St	Complainant reported being struck by girlfriend
03/30/18	11:33 AM	3025 Walnut St	Unwanted emails received
03/30/18	8:59 AM	3943 Chestnut St	Business threatened by unknown person
03/31/18	11:44 PM	2930 Chestnut St	Complainant being harassed by phone

18th District

Below are the Crimes Against Persons from the 18th District: 2 incidents (1 domestic assault and 1 robbery) were reported between **March 26-April 1, 2018** by the 18th District covering the Schuylkill River to 49th Street & Market Street to Woodland Avenue.

03/29/18	11:53 AM	3800 Ludlow St	Domestic Assault
04/01/18	2:28 AM	1308 S 48th St	Robbery

Update

April AT PENN

CONFERENCES

10 *Prospects for Reform on International Migration and Refugees*; keynote address by Zeid Ra'ad Al Hussein, United Nations High Commissioner for Human Rights; 10 a.m.-5 p.m.; Perry World House; register: <https://tinyurl.com/y9tzdv9m> (Perry World House).

ON STAGE

12 *Quadramics Theatre Co. Presents "Pippin"*; 8:30 p.m.; Iron Gate Theatre; tickets: <https://quadramics-theater-company.ticketleap.com/quadramics-presents-pippin/> Also *April 13* at 6:30 p.m. and *April 14* at 12 a.m. and 7 p.m. (Quadramics).

TALKS

12 *Sexual Harassment Awareness*; Ralph J. De Lucia, The Office of Affirmative Action & Equal Opportunity Programs; noon; Ben Franklin Room, Houston Hall; register: <https://tinyurl.com/PPSAeventApril12th> (PPSA).

18 *Theorizing Visibility and Vulnerability in Black Europe and the African Diaspora*; 5:30 p.m.; Africana Studies Seminar rm. 330A; RSVP: facultycolloquium.eventbrite.com (Africana Studies).

19 *Why Electing Women Matters—And How You Can Help*; Valerie Arkoosh, Montgomery County Commissioner; Leanne Krueger-Braneky, PA House Representative; 3:30 p.m.; rm. 208, The ARCH; register: <https://tinyurl.com/y733g5yx> (Penn Forum for Women Faculty).

AT PENN Deadlines

The April AT PENN calendar is online. The deadline for the May AT PENN calendar is today, *April 10*.

Almanac

3910 Chestnut Street, 2nd floor
Philadelphia, PA 19104-3111
Phone: (215) 898-5274 or 5275
FAX: (215) 898-9137
Email: almanac@upenn.edu
URL: www.upenn.edu/almanac

The University of Pennsylvania's journal of record, opinion and news is published Tuesdays during the academic year, and as needed during summer and holiday breaks. Its electronic editions on the Internet (accessible through the Penn website) include HTML, Acrobat and mobile versions of the print edition, and interim information may be posted in electronic-only form. Guidelines for readers and contributors are available on request and online.

EDITOR	Marguerite F. Miller
ASSOCIATE EDITOR	Louise Emerick
ASSISTANT EDITOR	Alisha George
STUDENT ASSISTANTS	Alex Anderson Charlotte L. Bausch Jackson Betz Justin R. Greenman

ALMANAC ADVISORY BOARD: For the Faculty Senate: Martin Pring (chair), Sunday Akintoye, Christine Bradway, Daniel Cohen, Al Filreis, Cary Mazer, Beth Linker. For the Administration: Stephen MacCarthy. For the Staff Assemblies: Jon Shaw, PPSA; Marcia Dotson, WPPSA; Rachelle R. Nelson, Librarians Assembly.

The University of Pennsylvania values diversity and seeks talented students, faculty and staff from diverse backgrounds. The University of Pennsylvania does not discriminate on the basis of race, color, sex, sexual orientation, gender identity, religion, creed, national or ethnic origin, citizenship status, age, disability, veteran status or any other legally protected class status in the administration of its admissions, financial aid, educational or athletic programs, or other University-administered programs or in its employment practices. Questions or complaints regarding this policy should be directed to Sam Starks, Executive Director of the Office of Affirmative Action and Equal Opportunity Programs, 421 Franklin Building, 3451 Walnut Street, Philadelphia, PA 19104-6205; or (215) 898-6993 (Voice).



Linking Teen Driving Behaviors and Mental-Health Factors

Teenage drivers ages 16 to 19 are three times more likely to get into fatal accidents than their older counterparts. Within this age group, around 20 percent in the U.S. have been affected by symptoms associated with mental health disorders, including nine percent with a lifetime history of attention deficit hyperactivity disorder. Analyzing data from 60 teens who completed a simulated driving assessment and several questionnaires, Penn nursing researcher Catherine McDonald and colleagues from Penn Medicine, the Center for Injury Research and Prevention at CHOP and Utah State University linked mistakes behind the wheel to self-reported symptoms of ADHD and other mental-health disorders, findings they published in the journal *Nursing Research*.

“Previous studies have shown increases in crash risk related to an ADHD diagnosis,” says Dr. McDonald, who has secondary appointments in Penn Medicine and at CIRP. “We wanted to see if our data could get at the why of what is happening around driving behaviors.”

The research team began by recruiting 16- and 17-year-olds in Pennsylvania who had had their driver’s licenses no more than 90 days. Participants rated how closely numerous statements aligned with how they felt and thought, and they completed questionnaires about depressive symptoms and their driving behaviors. Parents assessed their child for ADHD symptoms and other mental-health problems.

All participants completed an assessment in the driving simulator at CIRP. The teens were exposed to different crash scenarios—a rear-end collision or a hidden hazard, for instance—that were avoidable if they were driving safely. The researchers analyzed the data on a variety of the participants’ actions, including how they behaved at stimulated stop signs, in which lane they drove, where they looked on the road and how they applied the brake in potentially dangerous circumstances.

The researchers noticed a clear link: The more inattention symptoms a teen reported, the more mistakes that driver made in the simulator.

“Inattention was associated with more errors in the simulator, and self-reported symptoms of hyperactivity and conduct disorder were related to more self-reported risky driving behaviors,” Dr. McDonald says. “This presents an opportunity to help intervene with patients and their families, to talk about the child’s whole health and mental well-being and how it might relate to driving behaviors.”

How Stem Cells from Gum Tissue Accelerate Wound Healing

Gum tissue repairs itself roughly twice as fast as skin and with reduced scar formation. Researchers at the School of Dental Medicine set out to determine whether and how gingival mesenchymal stem cells (GMSCs) play a role in accelerated wound healing.

Xiaoxing Kou, a visiting scholar at Penn Dental Medicine, was the first author on the work. Dr. Kou and Songtao Shi, chair and professor of Penn Dental Medicine’s department of anatomy and cell biology and the study’s senior author, collaborated with colleagues Chider Chen and Anh Le from Penn Dental Medicine as well as Yanheng Zhou from Peking University, Xingtian Xu from the University of Southern California, Los Angeles, Claudio Giraudo and Maria L. Sanmillan from the Children’s Hospital of Philadelphia and Tao Cai from the National Institute of Dental and Craniofacial Research.

From earlier work by Dr. Shi’s group and others, it was clear that mesenchymal stem cells perform many of their functions by releasing signaling molecules in extracellular vesicles. Comparing these extracellular vesicles in the skin and the gingiva, they found that the GMSCs contained more proteins, including the inflammation-dampening IL-1RA, which blocks the proinflammatory cytokine.

They examined wound tissue and found IL-1RA was increased in GMSCs around margins of wounds. Mice lacking IL-1RA, or in which it was inhibited, took longer to heal gingival wounds. In contrast, when the researchers isolated IL-1RA that had been secreted from GMSCs and injected it into wounds, it significantly accelerated wound healing.

“We found that mesenchymal stem cells, and especially gingival mesenchymal stem cells, release large amount of cytokines through an extracellular vesicle,” says Dr. Kou.

These findings may have special significance for people with diabetes. The researchers found that GMSCs in mice with diabetes were less able to secrete extracellular vesicles compared to GMSCs in healthy mice, and their GMSCs also had less IL-1RA secretion. Introducing extracellular vesicles secreted from the GMSCs of healthy mice reduced wound healing time in diabetic mice.

“Our paper is just part of the mechanism of how these stem cells affect wound healing,” Dr. Kou says, “but I think we can build on this and use these cells or the extracellular vesicles to target a lot of different diseases.”

Gene Therapy Corrects Macular Degeneration in Canine Model

Penn researchers have developed a gene therapy that treats a form of macular degeneration in a canine model, setting the stage for translating the findings into a human therapy for an inherited disease that results in a progressive loss of central vision that is currently untreatable.

The study, published in *Proceedings of the National Academy of Sciences*, was led by Karina E. Guziewicz, a research assistant professor in Penn’s School of Veterinary Medicine, and Artur V. Cideciyan, a research professor of ophthalmology in the School of Medicine. Collaborators included vision scientists from Penn Vet’s Division of Experimental Retinal Therapies, Gustavo D. Aguirre, professor of medical genetics and ophthalmology, William Beltran, professor of ophthalmology, and from Penn Medicine Samuel G. Jacobson, professor of ophthalmology.

Best disease, or vitelliform macular degeneration, is an inherited blinding disorder caused by mutations in the BEST1 gene. The Penn team has previously shown that dogs develop a similar disease. Examining the retinas of dogs with disease mutations, they found a retina-wide abnormality; the internal surface of the retinal pigment epithelium (RPE), critical for communication with the light-sensing photoreceptor cells, failed to develop normally, preventing the photoreceptors from coming into close contact. This could be detected when the affected dogs were only 6 weeks old.

They also found light exposure dramatically increased the severity of the RPE-photoreceptor separation. When returned to darkness, the separation decreased. It’s unknown whether this association is present in human patients, but they took steps to show that a similar separation between RPE and photoreceptors is affecting vision. By measuring the time it took for patients to adjust to darkness, the researchers obtained a proxy for the time it takes for nutrients to diffuse between these two layers of cells.

“This flow of nutrients normally occurs over a very small distance,” Dr. Cideciyan says. “So if you have a separation between these two layers, the recovery rate to get night vision slows down. The implication is that, if we could correct the apposition of these two tissues, we would correct the visual defect as well.”

That is what the researchers set out to do in testing the gene therapy construct. Using a harmless viral vector, they injected a healthy copy of the BEST1 gene, using either the canine or human version of the gene, into the dogs with the canine version of Best disease, at early- and middle-disease stages. Remarkably, they were able to correct both mild and more severe lesions.

Work remains to be done before embarking on human clinical trials, but given the closeness with which dogs recapitulate the human disease, the researchers are hopeful that the findings will translate.

An Algorithm for Finding Fraudulent Images

Konrad Kording, a professor in Penn’s department of bioengineering and a Penn Integrates Knowledge (PIK) Professor, and colleagues have a new technique for identifying fraudulent scientific papers by spotting re-used images. Rather than scrap a failed study, for example, a researcher might attempt to pass off images from a different experiment to give the false impression that their own was a success.

Dr. Kording, who also has an appointment in the department of neuroscience in Penn’s Perelman School of Medicine, and his collaborators developed an algorithm that can compare images across journal articles and detect such replicas, even if the image has been resized, rotated or cropped. They describe their technique in a paper, *Bioscience-scale automated detection of figure element reuse*, which was recently published on the bioRxiv preprint server.

“Any fraudulent paper damages science,” Dr. Kording says. “In biology, many times fraud is detected when someone looks at a few papers and says, ‘Hey, these images look a little similar.’ We reckoned we could make an algorithm that does the same thing.”

“Science depends on building upon other people’s work,” adds Daniel Acuna, lead author on the paper, and a student in Dr. Kording’s lab at Northwestern University at the time the study was conducted. “If you cannot trust other people’s work, the scientific process collapses and, worse, the general public loses trust in us. Some websites were doing this, anonymously, but at a painstakingly slow rate.”

Dr. Kording says he and his collaborators are now thinking of licensing out the algorithm to academic journals, but first need to consider some ethical questions. While the algorithm could potentially pick out phony results, it could also generate false accusations if an image reuse was simply a mistake.

“We can detect fraud at scale,” Dr. Kording says, “but there can be things that look like fraud that are not.”