

Penn Engineering to Develop Intelligent, Adaptive and Resilient Robot Teams with \$27 Million Army Research Lab Grant

The United States Army Research Laboratory (ARL) has awarded the University of Pennsylvania's School of Engineering and Applied Science a five-year, \$27 million grant to develop new methods of creating autonomous, intelligent and resilient teams of robots.

These teams, consisting of multiple different types of robots and sensors with varying abilities, are designed to assist humans in a wide range of missions in dynamically changing, harsh and contested environments. These include search and rescue of hostages, information gathering after terrorist attacks or natural disasters, and humanitarian missions.

The award is part of ARL's Distributed and Collaborative Intelligent Systems and Technology (DCIST) Collaborative Research Alliance. Penn Engineering will lead this alliance in collaboration with the Army Research Laboratory, Massachusetts Institute of Technology's department of aeronautics and astronautics (AeroAstro) and Georgia Institute of Technology. The consortium also includes faculty from University of California San Diego, University of California Berkeley and University of Southern California.

DCIST involves imbuing teams of heterogeneous robots and sensors with the intelligence to learn and adapt to different settings and perform new tasks along with humans. Key to this vision is building resilience to disruption.

Teams of robots and human first responders might eventually be used to survey a disaster site for victims, but unpredictable environments and ongoing hazards could damage or destroy some of the robots, or disrupt communications between them. If each robot were just preprogrammed and given specific instructions, that could lead to gaps in their search. But if the team was able to reconfigure itself in response to damage, the remaining robots could collaboratively decide how to reorganize and work with human partners to complete the mission.

"We want to have teams of robots that know how to work together, but can figure out how to keep working even if some of their teammates crash or fail, if GPS signal is unavailable, or if cloud services are disrupted," said Vijay Kumar, Engineering's Nemirovsky Family Dean and director of the DCIST program. "This means
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Penn Engineering: Launching the A. James Clark Scholars Program with \$15 Million Gift from the A. James & Alice B. Clark Foundation

The A. James Clark Scholars Program has been established in the School of Engineering and Applied Science at the University of Pennsylvania with a \$15 million gift from the A. James & Alice B. Clark Foundation. It is the largest one-time gift to undergraduate support in the University's history. The Clark Scholars Program will provide financial aid and create a new academic program for undergraduate engineering students.

The gift honors the late A. James Clark, former CEO of Clark Enterprises and Clark Construction Group LLC, one of the country's largest privately-held general building contractors. It is designed to prepare future engineering and business leaders, with an emphasis on low income families and first-generation college students. Mr. Clark never forgot that his business successes began with an engineering scholarship. This has guided the Clark family's longstanding investments in engineering education and reflects their commitment to ensure college remains accessible and affordable to high-potential students with financial need.

"This spectacular gift partners the Clark Foundation with Penn Engineering around the shared goal of providing access to a stellar education in engineering to create the next generation of leaders," said Penn President Amy Gutmann. "Each component of the program reflects our University's commitment to inclusion, innovation and impact. Clark Scholars will benefit from a network of faculty, administrators, notable guests and fellow students to learn, experience and apply knowledge to benefit society throughout their professional and personal lives."

The program will enroll ten students per incoming class, with recruitment underway for the first cohort beginning in the fall of 2018. Clark Scholars pursue rigorous engineering coursework, take at least two business classes, volunteer in community service activities and participate in enrichment seminars and events with leaders in the field. Scholars will also engage in personalized mentoring, research projects and innovation training. From their arrival on campus through their senior year, students will participate in a comprehensive, multi-faceted educational experience that includes programming targeted at each specific stage of their academic and professional journeys.

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Etienne Benson and Dawn Teele: Janice and Julian Bers Assistant Professors in the Social Sciences

Etienne Benson, assistant professor of history and sociology of science, and Dawn Teele, assistant professor of political science, have been named Janice and Julian Bers Assistant Professors in the Social Sciences.

Dr. Benson is an accomplished scholar of the history of technology and the environment whose research explores the history of relationships between humans and animals and the history of environmentalism and the environmental sciences. His book, *Wired Wilderness: Technologies of Tracking and the Making of Modern Wildlife*, focuses on the development and use of surveillance technologies to track and understand wildlife.

Dr. Benson is currently serving as director of the undergraduate Science, Technology and Society program, and has served as a member of the Fellowships and Awards Selection Committee of the Penn Humanities Forum and as co-convenor of the Environmental Humanities Faculty Working Group. Before joining Penn in 2013, he was a Ziff Environmental Fellow at the Harvard University Center for the Environment and a research scholar at the Max Planck Institute for the History of Science in Berlin.

Dr. Teele's research, which examines the causes and consequences of voting rights reform, forms of bias in politics, and social sci-



Etienne Benson



Dawn Teele

ence methodology, has won several prizes and awards, including the Women and Politics Research Section's award for the best paper presented at the American Political Science Association (APSA) Conference in 2016, and the Gabriel Almond Award for Best Dissertation in Comparative Politics from the APSA. Dr. Teele has published in a variety of academic journals, is the editor of a volume on field experiments and is finishing a book about the practical politics of women's suffrage.

Since joining Penn in 2015, Dr. Teele has served as a faculty advisor for University Research Scholars and as a member of the Fulbright Committee. She holds a BA in economics from Reed College and a PhD in political science from Yale University.

Janice and Julian Bers established these chairs in 1972 to recognize assistant professors who demonstrate outstanding promise as teachers and scholars in the social sciences. The late Janice Bers graduated from Penn with an education degree in 1939. Her husband, the late Julian Bers, graduated from Wharton in 1931. He received Penn's Alumni Award of Merit in 1968, and served as a trustee of the University, while Janice Bers served as president of her class and on the 50th reunion gift committee.

SENATE From the Senate Office

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 Agenda Wednesday, November 1, 2017

3-5 p.m.

Houston Hall – Golkin Room (Room 223)

1. Approval of the Minutes of October 4, 2017 SEC Meeting (1 minute)
2. Chair's Report (5 minutes)
3. Past-Chair's Report (5 minutes)
C4C applications are being accepted now at <https://provost.upenn.edu/initiatives/campaign/grants>
4. Update from the Office of the President (45 minutes)
Discussion with President Amy Gutmann
5. Penn Global Strategic Plan (45 minutes)
Discussion with Vice Provost for Global Initiatives Ezekiel Emanuel and Executive Director for Global Initiatives Amy Gadsden
6. New Business (5 minutes)

Deaths

Justin Hamano, Penn Law student

Justin Hamano, a 31-year-old third-year Penn Law student, died on October 15.

Mr. Hamano grew up in Japan before coming to the United States in high school. He studied theater at New York University, graduated in 2009 and worked as a paralegal and labor organizer before beginning studies at Penn Law. He also held a master's certificate of labor studies from CUNY.

While at Penn, Mr. Hamano served as political director of Lambda Law, deputy voting rights director of the Democracy Project and senior editor of the *University of Pennsylvania Law Review*.

He won a 10-week summer fellowship from the Peggy Browning Fund, which provides "public-interest labor-law fellowships" to students with a demonstrated commitment to workers' rights. He used the fellowship to spend the summer of 2016 working at the Service Employees International Union in Washington, D.C.

He is survived by his parents, Sylvia Brown, L'84, and Kenzo Hamano, Gr'86.

Emile Riggs Mohler III, Vascular Medicine

Emile Riggs Mohler III, professor of medicine at the Hospital of the University of Pennsylvania and at the Presbyterian Medical Center of Philadelphia and director of vascular medicine at the University of Pennsylvania Health System, died on October 13 of Lou Gehrig's disease. He was 56 years old.

Dr. Mohler was raised in Ellicott City, Maryland and graduated from Loyola High School in 1979. He earned a bachelor's degree from Boston College in 1983, a master's in physiology from Georgetown University in 1984 and a medical degree from Georgetown in 1988.

He joined Penn in 1996 as an instructor in cardiovascular medicine. He became assistant



Justin Hamano

professor of medicine at the Hospital of the University of Pennsylvania (HUP) in 1997 (*Almanac* April 29, 1997). He became associate professor of medicine for HUP, for the Philadelphia VA Medical Center (VAMC) and for Presbyterian Medical Center (PMC) in 2002 (*Almanac* March 4, 2003). Finally, he became professor of medicine at HUP, VAMC and PMC in 2011. He also was a clinician educator and held a CPUP clinical position. He retired in October 2017.

Dr. Mohler conducted cardiovascular research at Penn through the Mohler Lab, a component of the vascular medicine research program within the cardiovascular division and the department of medicine.

He was a member of the American Board of Internal Medicine Cardiovascular Committee, the Society of Vascular Medicine, the American Heart Association and the American College of Physicians, and a fellow of the American College of Cardiology. He was also a founder of the vascular council for the American Society of Echocardiography. He was awarded the Master of SVM designation from the Society for Vascular Medicine in June of this year.

Dr. Mohler published 250 articles and edited seven books, and was a member of the editorial boards of *Endovascular Today*, *Thrombosis Research* and *Vascular Medicine*.

He is survived by his wife, Bonnie MacManus Mohler; three sons, Riggs, Greg and John; his parents, Emile R. Mohler Jr. and Peggy Mohler Strahan; and three brothers, Bill, Bob and Tom.

In lieu of flowers, donations may be made to The Mohler Innovation Fund for Biomedical Research at Penn Medicine and sent to Allyse Orsini, 3535 Market St., Suite 750, Philadelphia, PA 19104. Checks should be made payable to Penn Medicine with "Mohler Fund" in the memo line.



Emile Riggs Mohler

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SEAS: Robot Teams

designing networks with loose, flexible connections that can change on the fly. That way, a single event can't bring down the entire network. More importantly, we want them to learn to perform tasks they may have never performed and work alongside humans that they may never have worked with."

The three important research focus areas are distributed intelligence and learning; creating a cohesive team of autonomous robots, sensors, computational resources and human experts; and building resiliency in group behaviors.

With multiple types of assets collectively assessing a complex, continuously changing scenario and determining how best to assign their individual skills to a broadly defined problem, such human-robot teams of the future would be ideal first-responders to dangerous situations.

"The technology we're working will better allow humans to respond by projecting their intelligence without directly coming in harm's way," Dr. Kumar said.

Other Penn faculty and staff involved in the research include Alejandro Ribeiro, associate professor in the department of electrical and systems engineering; Ani Hsieh, research associate professor in the department of mechanical engineering and applied mechanics; George Pappas, Joseph Moore Professor in the departments of electrical and systems engineering, computer & information science, and mechanical engineering and applied mechanics; Kostas Daniilidis, Ruth Yalom Stone Professor in the department of computer and information science; Camillo Taylor, professor in the department of computer and information science; and Giuseppe Loianno, a research scientist in the GRASP Laboratory.

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SEAS: Clark Scholars Program

"In addition to educating engineers who will invent and innovate, every Clark Scholar will have opportunities to gain research experience and enroll in service-learning courses. We will also provide them with the critical thinking and analytical skills required for entrepreneurship," said Vijay Kumar, Nemirovsky Family Dean of Penn Engineering. "We look forward to welcoming our first cohort of Clark Scholars to campus, and will support and guide them through this critical period of learning as they grow into leaders."

As part of the academic program, Penn Clark Scholars will participate in a first-year service learning course titled "Computer-Controlled Indoor Plant Growing Environment," which integrates engineering, agronomy and biology. Enrolled students will apply technology to hands-on work in urban gardens at local Philadelphia schools.

"Mr. Clark believed in eliminating financial barriers so that promising students could achieve their full potential," said Joe Del Guercio, president and CEO of the A. James and Alice B. Clark Foundation. "The program intentionally nurtures original thinking, cultivates broad perspectives, encourages the development of practical applications of new technologies and requires meaningful public service—all geared toward developing the leadership skills that the future will require."

In addition to Penn, the Clark Foundation has made engineering investments at The Johns Hopkins University, The George Washington University, University of Virginia, Virginia Tech and Vanderbilt University, with additional programs set to launch next fall

University Council Meeting Agenda

Wednesday, October 25, 2017,

4 p.m.

Bodek Lounge, Houston Hall

- I. Approval of the Minutes of September 6, 2017. (1 minute)
- II. Follow Up Comments or Questions on Status Reports. (5 minutes)
- III. Presentation by the President, Provost, and other Administrators on the State of the University. 60 minutes (presentation 30 minutes, discussion 30 minutes)
- IV. New Business. (5 minutes)
- V. Adjournment.

Trustees Fall Meetings

November 2-3, 2017

Inn at Penn

Thursday, November 2

- 8:30-10 a.m., Local, National, & Global Engagement Committee
- 10:15-11:45 a.m., Facilities & Campus Planning Committee
- 2-3:30 p.m., Student Life Committee
- 3:45-5:15 p.m., Academic Policy Committee
- Budget & Finance Committee

Friday, November 3

- 11:30 a.m.-12:30 p.m., Stated Meeting of the Trustees

**Ileana Pérez-Rodríguez:
Elliman Faculty Fellow**



Ileana Pérez-Rodríguez

Steven J. Flu-harty, dean of Penn Arts and Sciences, is pleased to announce that Ileana Pérez-Rodríguez has joined Penn as assistant professor of earth and environmental science and Elliman Faculty Fellow as of July. A microbial ecologist who investigates the transfer of energy and matter

between hydrothermal environments and microorganisms, Dr. Pérez-Rodríguez conducts experiments under different temperature and pressure conditions to evaluate the principles of microbial growth relevant to chemosynthetic metabolisms.

After completing her PhD dissertation defense at Rutgers University in September 2011, Dr. Pérez-Rodríguez was the Barbara McClintock Postdoctoral Fellow and the Center for Dark Energy Biosphere Investigations (C-DEBI) Postdoctoral Fellow at the Carnegie Institution of Washington, and then was C-DEBI Postdoctoral Scholar-Research Associate at the University of Southern California.

The Elliman Faculty Fellows are being funded by a generous gift from former Penn Arts and Sciences Overseer David D. Elliman, C'73, WG'77, and his wife, Dr. Andrea Branch, through the Bawd Foundation. Mr. Elliman, who has been an advisor to many of the School's other innovative science initiatives, including the Vagelos Program in Life Sciences and Management, is greatly interested in energy and other areas of scientific research. A former biology major, he is the founding principal of the Elmrock Group of investment companies and is a board member of the Jackson Laboratory and Urban Electric Power, an early-stage energy storage company.

FOR COMMENT

Changes to Penn's Alcohol and Drug Policy and Antihazing Regulations

Earlier this year, the Task Force on a Safe and Responsible Campus Community recommended updating Penn's Alcohol and Drug Policy and Antihazing Regulations. These policies were established in the 1980s and have been reviewed and updated periodically. The proposed changes were developed by the Offices of Alcohol and Other Drugs, Fraternity and Sorority Life, Student Affairs, Student Conduct, and others.

To view the proposed changes on the Task Force website, please visit: https://provost.upenn.edu/uploads/media_items/task-force-changes.original.pdf Anyone in the Penn community with questions or concerns should contact Rob Nelson, executive director for education and academic planning in the Office of the Provost, at (215) 898-7225 or erob@upenn.edu by November 30, 2017.

The proposed changes are also being reviewed by the Academic Planning and Budget Committee, Council of Graduate Deans, Council of Professional Masters Deans, and Council of Undergraduate Deans, as well as by the Graduate and Professional Student Assembly and the Undergraduate Assembly. After this consultative and comment period is complete, a final version of the proposed changes will be submitted to the Provost for final review.

From the President, Provost and EVP

To the Penn Community:

Regarding Recent Tragedies, and the Help and Support Available to You

This has been a challenging year for everyone in the Penn community. Students, faculty and staff have been personally impacted by devastating natural disasters and the horrific mass murder in Las Vegas; political uncertainty affecting DACA students and those who travelled to Penn from around the world; and the tragic deaths of four Penn students since the start of the semester: undergraduates Nicholas Moya and Henry Rogers, Penn Vet student Brett Cooper, and Penn Law student Justin Hamano. Our sense of loss is enormous and the sadness felt by the family and friends of these four promising young people is heartbreaking.

As a community, we are grieving and coping in many different ways. Penn's exceptional staff and faculty have been working diligently to be as supportive as possible. They have been reaching out to friends and classmates who have been most deeply impacted and they have been meeting with all who seek help.

Campus Conversation: October 30

To strengthen and support our campus community, and as part of our ongoing Campaign for Community, we hope you will join us for a Campus Conversation on *Monday, October 30*, from 5 -7 p.m. at the Zellerbach Theater in the Annenberg Center for the Performing Arts. We will be joined in discussion by members of our community from across campus to discuss what we can do, individually and collectively, to take care of ourselves and others and to foster individual and community resilience. A community that values wellness, community support and resilience is best poised to find creative and constructive solutions to our challenges.

The Campus Conversation will be one part of our ongoing effort to support and care for one another. We intend to have follow-up conversations through College Houses and Academic Services and elsewhere around campus in coming weeks. Through these follow-up conversations, we hope to gather and refine additional ideas to support our community. We welcome your input.

It is in challenging times such as these that we are blessed to be members of the Penn community. Everyone needs to know that we are here for each other. If you are in distress, please reach out to friends, colleagues or the professional staff at Penn. If you know of a friend, colleague or student in distress, please reach out as well. And please consider attending our Campus Conversation.

As additional details of the meeting are developed, information will be posted on the Campaign for Community website at <https://provost.upenn.edu/initiatives/campaign/events/campus-conversation>

Below are resources that are always available to those in need of support or who are supporting others:

- Counseling and Psychological Services (CAPS): (215) 898-7021 (24/7 access to clinicians.)
- Student Health Service: (215) 746-3535
- Student Intervention Services: (215) 898-6081
- University Chaplain's Office: (215) 898-8456
- Employee Assistance Program: 1-888-321-4433

The University's HELP Line (215) 898-HELP or (215) 898-4357 is available 24/7 to respond and direct members of our community to the appropriate resources.

—Amy Gutmann, *President*

—Wendell Pritchett, *Provost*

—Craig Carnaroli, *Executive Vice President*

—Larry Jameson, *EVP for the Health System and Dean of the Perelman School of Medicine*

2017 Perelman School of Medicine Awards of Excellence

The following faculty members will receive this year's Perelman School of Medicine Awards of Excellence at the 22nd annual dinner on Wednesday, November 8. The awards recognize outstanding performance by faculty in the research, clinical and mentoring areas.



Kenneth Zaret



Katherine Nathanson



Jalpa Doshi



Benjamin Voight



Rinad Beidas

Kenneth S. Zaret, the Joseph Leidy Professor, is the winner of this year's Stanley N. Cohen Biomedical Research Award, which recognizes a member of the PSOM faculty for a body of work with an emphasis on biomedical research. Dr. Zaret is an international leader and scholar in the fields of transcriptional regulation, epigenetic mechanisms and regenerative medicine. He is well known for discovering the first "pioneer factors," which are critical determinants of the constellation of expressed genes that constitute cellular identity. His most recent work has placed him at the vanguard of major advances in unraveling the molecular underpinnings of early development and cell fate choice, and of reprogramming differentiated cells into stem cells. His work has also branched out from purely basic research into translational science with his efforts to reprogram pancreatic cancer cells into induced pluripotent stem cells, and then to re-differentiate the induced pluripotent stem cells through the progressive stages of pancreatic cancer. His discovery of a secreted molecule THBS2, in combination with an established marker, detects these cancers with a high level of sensitivity and specificity and may revolutionize the way in which pancreatic cancer patients are diagnosed and treated. His colleagues said of him, "Ken Zaret is a rigorous, impactful and visionary scientist whose accomplishments ... have been truly extraordinary."

Katherine L. Nathanson, professor of medicine and deputy director of the Abramson Cancer Center, is the winner of this year's William Osler Patient Oriented Research Award. This award is granted to a member of the PSOM faculty for a body of work with an emphasis on clinical research. Dr. Nathanson leads an internationally recognized research program which focuses on basic discovery of germline and somatic genetic variation leading to cancer, and the translation of cancer genetics research into improved clinical care for patients. She has emerged as an international leader in the genetics of several different cancer types, including testicular cancer, melanoma, renal and adrenal cancers, and hereditary breast and ovarian cancers. Dr. Nathanson is the foremost expert in the field of inherited susceptibility to Testicular Germ Cell Tumors (TGCT). Her research in the area of the genetic basis of hereditary breast and ovarian cancer has had a profound impact on those who suffer from these diseases, as it has greatly increased our understanding of the heterogeneity of and identified genetic causes of familial breast cancer. She has used genetic/genomic information to directly impact and improve therapeutic outcomes in melanoma. Finally, she has made essential contributions to

our understanding of the somatic and inherited genetics of pheochromocytoma/parangliomas (PCC/PGL). As one colleague noted, "Dr. Nathanson enriches the entire scientific enterprise of the Perelman School of Medicine patient-oriented research community in ways that few other physician-scientists do."

Jalpa A. Doshi, professor of medicine, is the winner of this year's Samuel Martin Health Evaluation Sciences Award. This award is granted to a member of the PSOM faculty for a body of work with an emphasis on health services research. The goal of Dr. Doshi's research is to understand how pharmaceuticals can be better accessed and utilized in the health care system to improve health care quality while balancing costs. Her work uses strong research designs from economics and epidemiology to produce policy-relevant empirical research of the highest quality, and shows a mastery of the complementary disciplines of health economics, pharmacoepidemiology and biostatistics. Dr. Doshi's research program has helped to identify potential improvements to prescription drug insurance policies that will enhance access to needed prescription drugs and deter use of unnecessary ones. In addition to generating empirical findings with important clinical and policy implications, her work has advanced the methods used in pharmaceutical outcomes and cost-effectiveness research so as to enhance its usefulness in real-world decision making. She has repeatedly been nationally recognized for the impact of her work and has continued to contribute to the community through service, teaching and mentorship.

Benjamin F. Voight, associate professor of pharmacology, is the winner of this year's Michael S. Brown New Investigator Research Award, which recognizes emerging faculty investigators engaged in innovative discoveries. Dr. Voight is a human statistical and population geneticist whose work focuses on understanding the evolutionary and genetic basis of complex human disease, with the long-term goal of identifying novel gene targets for therapeutics. He is recognized as a pioneer and leader in applying Mendelian Randomization approaches to perform causal inference studies between genetically heritable biomarkers and complex diseases. He is a highly regarded population geneticist, whose work has led the field in developing statistical models that capture two fundamental forces that shape populations: mutation and purifying selection. His findings in this area represent a substantial advance for the field and have profound implications for evolutionary genetics studies. He is also recognized for his work to genetically dissect cardiometabolic disease, specifically type-2 diabetes and coronary heart disease. Dr. Voight's willingness to follow sci-

entific leads into new experimental areas, to establish promising collaborations and to push translational science forward demonstrate him to be on a sustained career trajectory of important, significant long-term impact.

Rinad S. Beidas, assistant professor of clinical psychology in psychiatry, is the winner of this year's Marjorie A. Bowman New Investigator Research Award, which recognizes a junior faculty member whose research has illuminated a fundamental clinical problem or improved the organization and delivery of health care. Dr. Beidas' work centers on the implementation of evidence-based practices to community settings with a particular focus on understanding how organizations and systems can support the implementation of multiple evidence-based practices across publicly funded mental health clinics. This work has allowed for a deeper understanding of the context of community mental health in the City of Philadelphia, which serves as an exemplar for other public mental health systems. She currently directs a study which will rigorously determine the most accurate and cost-effective way to assess fidelity to evidence-based treatment for youth, and has also been awarded a grant to partner with stakeholders to develop a multi-level menu of strategies to implement evidence-based firearm safety programs in pediatric primary care to prevent youth suicide in collaboration with two large health systems. She is a recognized national leader in the field of implementation science and she is a highly sought-after collaborator and mentor, as evidenced by a recent social network analysis which named her among the top 10 implementation scientists nationally.

Aimee S. Payne, Albert M. Klugman Associate Professor of Dermatology, is the winner of this year's Lady Barbara Colyton Prize for Autoimmune Research. This award recognizes a PSOM faculty member who has been engaged in innovative discoveries and outstanding research in the area of autoimmune diseases. Dr. Payne's research studies pemphigus, a severe autoimmune blistering condition which is a paradigm of a tissue-specific autoantibody-mediated disease, both potentially fatal and extremely disfiguring. Her clinical understanding of the intricacies of pemphigus and her training as a scientist have been applied to studies in the laboratory which have elucidated pathophysiology in ways that have suggested new approaches to targeted therapy of the disease. Dr. Payne's team has recently described a novel method for re-engineering chimeric antigen receptor T cells for targeted immunotherapy of pemphigus. By using the pemphigus autoantigen desmoglein 3 as the extracellular

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Aimee Payne



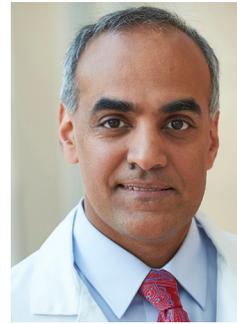
Jason Christie



Scott Kasner



Gillian Ladd Lautenbach



Sunil Singhal



John McGreevey

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domain (the “bait”) on a chimeric autoantibody receptor (CAAR), the team can genetically engineer a patient’s T cells to specifically seek out and kill pemphigus-specific B cells, while sparing the good immune cells that protect from infection. In recognition of the potential for CAAR-T therapy to induce lasting remissions of autoimmune disease without the risks of generalized immune suppression, Dr. Payne’s work was named a “Top 10” research paper of 2016 by the Clinical Research Forum.

Jason D. Christie, Robert M. Kotloff/Nancy Blumenthal Professor for Advanced Lung Disease, is the recipient of this year’s Arthur Asbury Outstanding Faculty Mentor Award. This award recognizes a faculty member who has fostered the professional development of others by providing inspiring and effective counsel and opportunities for achievement. Dr. Christie’s focus has been on understanding the mechanisms of acute lung injury, especially in lung transplant patients. In his role as mentor, he has strongly and positively affected dozens of trainees and junior faculty, many of whom comment on his “remarkable ability to consistently elevate those whom he mentors, to encourage them to achieve their truest potential.” Nineteen of his past or current primary faculty trainees maintain academic faculty positions at Penn and other peer institutions. As one of his former mentees summarized it, “Jason listened carefully to my hopes and ideas, challenged me to articulate precisely my plan for achieving those hopes, facilitated my networking with others whose advice and knowledge broadened my worldview and modeled for me how to inspire others to work alongside you toward mutual goals. It is no exaggeration to state that I owe the vast majority of my current happiness and success to Jason’s mentorship.”

Scott E. Kasner, Ruth M. and Tristram C. Colket, Jr. President’s Distinguished Professor, is the winner of this year’s Louis Duhring Outstanding Clinical Specialist Award. This award goes to a teaching and practicing physician in a clinical or ancillary department who combines biomedical research with clinical insight and knowledge to provide leading-edge service and creative care to patients and colleagues. Dr. Kasner has served as director of Penn’s Comprehensive Stroke Center and chief of the Division of Stroke for nearly 20 years. Under his leadership, in 2004 HUP became the first JCAHO-certified Stroke Center in the city of Philadelphia and in 2012 Penn was again first in the city and among the national leaders as a certified advanced Comprehensive Stroke Center. The Penn Stroke Team led by Dr. Kasner is on call 24/7/365 to provide acute care and consulta-

tion for stroke patients arriving at HUP, and the telestroke program he launched at Penn in 2012 allows the Stroke Team to provide expertise to remote hospitals via a video of the patient and a tele-radiology link. He is a superb and expert clinician, of whom his colleagues have said, “In the ‘seconds count’ world of acute stroke care, Scott Kasner is the best stroke specialist I have ever had the pleasure of working side-by-side with,” and, “Dr. Kasner’s clinical skills are inspiring. Whenever a case becomes complicated, Dr. Kasner’s opinion is the one residents, fellows and attendings alike seek out ... His patients benefit from every interaction with him, as he can comfort, teach, and guide them with a limitless source of both knowledge and good humor. ... he is the vascular neurologist I would send family and friends to see.”

Gillian Ladd Lautenbach, associate professor of clinical medicine, is the winner of this year’s Sylvan Eisman Outstanding Primary Care Physician Award. This award recognizes a Health System primary care physician who goes beyond the norm and exemplifies the Health System’s excellent care. Dr. Lautenbach is an internist focused on ambulatory care, and in 2003 joined the practice currently called Penn Medicine University City where she has grown a dedicated practice of devoted patients. “First and foremost,” said one colleague, “Gillian is an excellent and trusted clinician. She has outstanding clinical judgment, warm interpersonal skills and is extremely caring and empathetic.” She maintains a similar commitment to excellence in patient care at the practice level. Dr. Lautenbach served as lead physician of the Penn Internal Medicine Associates practice from 2008 to 2016, and worked to identify and improve problems like wait times during office visits, patient flow issues and access for sick patients. She introduced and piloted new initiatives such as walk-in flu clinic, Saturday hours and walk-in hours. Dr. Lautenbach’s work focuses on transforming how the care team functions, enhancing staff roles and team interaction to support better patient care in and out of the office. As a long-time colleague summarized it, “This combination of clinical expertise, commitment to improving care to all patients, and effective collaboration with the care team make Dr. Lautenbach the model of the general internist of the future.”

Sunil Singhal, William Maul Measey Associate Professor in Surgical Research, is the recipient of the Luigi Mastroianni, Jr., Clinical Innovator Award. This award recognizes a clinician who has pioneered the invention and development of new techniques, procedures and approaches which change medical practice. Recognizing that of the over three million people each year who undergo cancer surgeries, over 20% of

patients recur locally because the surgeon could not identify all the disease, Dr. Singhal developed an innovative translational and clinical research program dedicated to improving the ability to identify tumor tissue intraoperatively using nanoparticle and receptor-directed fluorescent imaging. He completed the first four clinical trials in the United States, demonstrating that tumors can be made to “glow,” alerting surgeons to the presence and extent of disease. His innovations include both the design and administration of fluorescent agents in the development of intraoperative cameras to permit real-time imaging. He has recently expanded his work to robotic surgical platforms, allowing the surgeon to have standard optical as well as fluorescent enhanced 3-D imaging of tumors during robotic assisted procedures. His initial work in lung cancer has been extended to other tumors, including breast tumors, brain tumors, urologic tumors and pancreatic tumors. The techniques developed by Dr. Singhal have the potential to significantly improve surgical outcomes for cancer.

John D. McGreevey, III, associate professor of clinical medicine, is the winner of this year’s Alfred Stengel Health System Champion Award. This award is granted to a physician who has contributed significantly to the clinical integration of the Health System. As associate chief medical information officer, Dr. McGreevey leads projects related to expansion, integration and optimization of the electronic health record (EHR) and he provides clinical guidance for computerized decision support. The centerpiece of his recent accomplishments is his leadership of the Health System’s implementation of PennChart. He envisioned and organized an infrastructure comprised of spokespeople from each specialty in the Health System who could represent their specialties across Penn Medicine sites in partnership with the PennChart project. The process has advanced the Health System’s goal of having consistent clinical practices and PennChart content, regardless of the Penn Medicine site. His “Power of One” motto was chosen to represent the PennChart project and the values it embodies: one integrated EHR, one consistent way of practicing medicine at Penn Medicine and the ability of one individual to help promote EHR adoption by making a personal commitment to change. His leadership was critical to the success of the project, and as a colleague noted, “To watch John lead is to see the principles of collaboration and multidisciplinary teamwork at work at the highest level. He is a natural leader who easily strikes the balance between welcoming all perspectives but having the knowledge and authority to make difficult decisions.”

OF RECORD

All members of the University community are reminded that the use of the Penn logo, shield and University's name is subject to approval. The following policy outlines permitted uses as well as the approval process.

If you have any questions, please do not hesitate to contact the office at ofsec@exchange.upenn.edu or visit www.upenn.edu/secretary/nameuse.html

—Leslie Laird Kruhly,
Vice President and University Secretary, Office of the University Secretary

Use of University Name Policy

On September 30, 1791, an act confirmed an agreement which united the University of the State of Pennsylvania with the College, Academy and Charitable School and provided that the name of the institution would be “The Trustees of the University of Pennsylvania.”¹ To facilitate communication both internally and externally, the institution's name is commonly simplified as the “University of Pennsylvania,” or, more recently, “Penn.”

The University regulates use of its name, the names of its schools and programs, its shield and related insignia, trademarks and logos (“insignia”) to ensure that such use is related to the University's educational, service and research missions and promotes its objectives. Responsibility for overseeing use of the University's names and insignia lies with the Secretary of the University.

Official Use

When representing the University in an official capacity, all units of the University and members of the faculty and administration must use “University of Pennsylvania” in their publications and documents. Approved University stationery must be used for official correspondence.

University names and insignia may be used in connection with any academic University program provided that the program has been approved in advance by the responsible department chair and dean or director, and Provost, as appropriate. University units, faculty, staff and student organizations that wish to use University names or insignia in connection with any non-academic University program, activity, service or product must obtain the approval of the Secretary of the University before proceeding. Requests to use University names or insignia must first be presented to the appropriate department chair and dean, director, or, in the case of student organizations, to the Vice Provost for University Life, for review. If approved by the dean, director, or Vice Provost, a request with supporting information must be submitted to the Secretary for review. The Secretary will review the proposed use and determine, in consultation with appropriate colleagues, whether it is properly related to the University's missions and whether the benefits of the proposed use outweighs any risks associated with the use. The Secretary may approve the proposed use, with or without conditions, or disapprove the proposed use.

Licensed Uses by Outside Entities

University names or insignia may be used on products or in connection with services offered by outside entities only under license from the University. Requests for such licenses are processed jointly through the Office of the Vice President for Business Services (“Business Services”) and the Penn Center for Innovation (“PCI”), and with guidance from the Office of the University Secretary.

Outside sponsors of University programs or activities often seek to use University names or insignia in promotional or advertising materials. While the University is pleased to recognize the contributions of sponsors, such recognition must not suggest University endorsement of the sponsor's activities. Therefore, University names or insignia may not be used in connection with any outside entity's name or logo without prior approval of the Secretary of the University. In general, the Secretary will approve uses which recognize or acknowledge the sponsor's contribution to the University program or activity. Uses which, in the Secretary's judgment, may suggest University endorsement or approval of the sponsor's goods or services will not be permitted.

Private Use

University faculty, staff and students may refer to their affiliation or status with the University in connection with personal activities, including consulting, provided that the affiliation or status is accurately represented and any title or position is accurately identified, and provided that such use does not imply University endorsement of the activity. In some cases, a disclaimer of University endorsement may be required. (See, for example, *Handbook for Faculty and Academic Administrators*, section II.E.10.) Use of University insignia in connection with personal activities is prohibited. The University's name must not be used in any announcement, advertising matter, publication, correspondence, or report in connection with personal or non-University activities if such use in any way could be construed as implying University endorsement of or responsibility for any project, product, or service.

Related Policies

All faculty, staff and students are reminded that University equipment, stationery, campus mail service, and electronic media are to be used solely for University business by authorized University personnel and by officially recognized campus organizations. See *Human Resources Policy No. 003*. Additional information on faculty and staff involvement in extramural activities and organizations can be found in the *Conflict of Interest Policy for Faculty Members*, and *Human Resources Policy Nos. 005 and 006*.

¹ *Statutes of the Trustees of the University of Pennsylvania*, p. 1.

One Step Ahead

Security & Privacy
Made Simple

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

Click-Through Agreements: Unnecessary Risks Are Just a Click Away

At some point in our lives, we have all clicked “Agree” or “Yes” on a click-through agreement to install new software or get access to an Internet service. The agreement usually presents itself in a small box, and if you click “No” or “Disagree,” you are unable to use the software or service.

In your personal life, by clicking “Agree” you are legally saying that you will abide by the terms and conditions set out in the license agreement. It is basically “take it or leave it.” If you have not even read it, then you do so at your own risk.

In your professional life, by clicking “Agree” to access software or services that will involve Confidential University Data, you may potentially be exposing Penn to unnecessary risks. You may be agreeing legally to conditions that you do not understand or have not read.

Click-through agreements can present significant legal and business issues. They can place sensitive data at risk, expose Penn to liability, compromise ownership of intellectual property or cause you or Penn to pay additional fees.

Click-through agreements may include problematic terms such as:

- All warranties are expressly disclaimed—the software or service is provided “as-is”
- Little or no protection for confidentiality of information
- No vendor liability for damages—including if the vendor causes a security breach that exposes Penn's sensitive data
- In contrast, the purchaser will have liability for all forms of damages
- Vendor may gain an ownership right in Penn's data or intellectual property for its own use

For third-party vendors, applications or services that will host, store or have access to Confidential University Data, you should not agree to a click-through agreement. Instead:

- Consult the Data Classification and Review Framework at https://secure.upenn.edu/computing/security/cloud/data_classification_and_review_framework.pdf

- Use the SPIA for Vendors Tool to vet the third party at http://www.upenn.edu/computing/security/cloud/spia_for_vendors.pdf

- Contact Purchasing Services so that they may assist you in entering into a contract that has appropriate security and privacy protections based on the sensitivity of the data.

For additional tips, see the
One Step Ahead link on the
Information Security website:
www.upenn.edu/computing/security/

Visit www.upenn.edu/pennsaway for more information about the raffle and making a pledge.

Entries must be received by 5 p.m. on the prior Friday for inclusion in a given week's drawing.

Penn's Way 2018 Raffle

Week 3 (Awarded October 17)

New Deck Tavern—Gift card (value \$50):
Natalie Kizewski, HUP

ThermoFisher—Amazon gift card (value \$50): Catherine Shillington, HUP

Morris Arboretum—Family fun pack (value \$100): Laura Burba, HUP

Gift Baskets for Thought—Penn-themed gift basket (value \$75): Rhonda Nichols, HUP

Philadelphia Eagles—Autographed photo of Donnie Jones (value \$70): Kaitlyn Mulhern, Presbyterian Medical Center

[Solidcore]—Gym gift certificate (value \$100): Madeline Stekowicz, Pennsylvania Hospital

Week Five (October 31 Drawing)

Penn Business Services—Branded Travel Accessories (value \$50)

Thermo Fisher—Barnes & Noble gift card— (value \$50)

Thermo Fisher—iTunes gift card (value \$50)

Penn Business Services—Fitbit (value \$80)

Philadelphia Union—Two tickets (value \$65)

BioLegend—Goody bag with puzzle, water bottle, t-shirt & Starbucks card (value \$60)

GenScript—LaCie Porsche mobile drive 1TB (value \$100)

Portable 3-Year Academic Calendar



Did you know that Penn's new 3-year academic calendar is available on *Almanac's* website, Penn's mobile website and as a PDF?

You can also sync the calendar with MS Outlook, Apple iCal, Google calendar and your mobile devices by visiting www.upenn.edu/almanac/acacal.html and following the instructions from the link at the top of the page.

Update

October AT PENN

FILMS

29 *Phantom of the Opera (1925)*; live organ music by Peter Krasinski; 2 p.m.; Irvine Auditorium (free).

Nosferatu (1922); live organ music by Peter Krasinski; 7 p.m.; Irvine Auditorium (free).

MUSIC

29 *La Tribu de Abrante with Combo Chimbita*; doors open 7 p.m.; World Café Live (WXPN).

READINGS

All events at Arts Café, Kelly Writers House.

24 *A Conversation with Jason Zweig*; 5 p.m.; RSVP: mingo@writing.upenn.edu (KWH).

25 *Bob Dylan's Time Out of Mind*; Al Filreis, English, and Patrick Bredehoft, alumni relations; noon; RSVP: wh@writing.upenn.edu (KWH).



The Morris Arboretum's *Hidden Gems Tour* on *Saturday, October 28* at 11 a.m. highlights little known garden spots, structures, sculptures, trees and vistas. Guides will reveal something different about these garden gems—an atypical angle in viewing them or a little-known story about them, such as the Japanese Overlook (above). For more info, visit: www.morrisarboretum.org

30 *Journalism in Crisis*; Yevgenia Albats, *The New York Times*, and Dick Polman, *Newsworks*; noon; RSVP: wh@writing.upenn.edu (Provost's Interdisciplinary Arts Fund, Perry World House).

SPECIAL EVENT

25 *Chili Cook off + Chopped*; 5:30 p.m.; Kelly Writers House; RSVP: wh@writing.upenn.edu (KWH).

TALKS

24 *Alphavirus Vaccines: Novel Platforms and Attenuation Approaches*; Scott Weaver, Galveston National Laboratory; noon; Sarah and Matthew Caplan Auditorium, Wistar Institute (Wistar).

26 *Evolution of Neural Circuits Generating Species-specific Courtship Song in Drosophila*; David Stern, Howard Hughes Medical Institute; 4 p.m.; Tedori Family Auditorium, Levin Building (Biology)

Hands Up, Don't Shoot: Debility, Capacity, Disability; Jasbir Puar, Rutgers; 4:30 p.m.; rm. 401, Fisher-Bennett Hall (English, Alice Paul Center).

Jewish Thought and Scientific Discovery in Early Modern Europe: Twenty-Five Years Later; David Ruderman, Jewish history; 5 p.m.; Class of 1978 Orrey Pavilion, Van Pelt-Dietrich Library (Jewish Studies).

Migrate; C.P. Krishnapriya and K. Narendran, artists from Chennai, India; 5 p.m.; Gallery, Charles Addams Fine Arts Hall (South Asia Center).

30 *The Invisible Gorilla: From the Classroom to the Real World and Back Again*; Christopher F. Chablis, Geisinger Health System; 3:30 p.m.; Levin Auditorium, Stephen A. Levin Building (Psychology).

AT PENN Deadlines

The October AT PENN calendar is now online at www.upenn.edu/almanac. The deadline for the December AT PENN calendar is November 7.

Almanac

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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.

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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 9-15, 2017**. Also reported were 17 incidents with 5 arrests (9 thefts, 4 other offenses, 3 vandalisms, 1 DUI). Full reports are available at: www.upenn.edu/almanac/volumes/v64/n10/creport.html 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 **October 9-15, 2017**. The University Police actively patrol from Market Street to Baltimore Avenue and from the Schuylkill River to 43rd Street in conjunction with the Philadelphia Police. In this effort to provide you with a thorough and accurate report on public safety concerns, we hope that your increased awareness will lessen the opportunity for crime. For any concerns or suggestions regarding this report, please call the Division of Public Safety at (215) 898-4482.

10/10/17	8:51 PM	4000 Ludlow St	Complainant struck with rock
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18th District Report

Below are the Crimes Against Persons from the 18th District: 6 incidents with 0 arrests (3 domestic assaults, 1 aggravated assault, and 2 robberies) were reported between **October 9-15, 2017** by the 18th District covering the Schuylkill River to 49th Street & Market Street to Woodland Avenue.

10/09/17	8:15 PM	4444 Sansom St	Domestic assault
10/10/17	10:15 PM	4024 Ludlow St	Aggravated assault
10/11/17	1:44 PM	4820 Spruce St	Domestic assault
10/11/17	9:59 PM	4537 Osage Ave	Robbery
10/13/17	1:55 AM	14 S 43rd St	Domestic assault
10/13/17	3:02 AM	4700 Larchwood Ave	Robbery

Discussions in Introductory Qualitative Courses

Henry Towsner

When I teach introductory math courses, students sometimes tell me that what they like about math is that the answers are unambiguously right or wrong. That's not the impression I want my students to have: like any other subject, the most interesting parts of math are the more ambiguous questions about why things work and how to think about them. I wanted to incorporate class discussions to bring those less clear-cut parts of the subject back to the course, but the perception that math courses always focus on objective material—and the other design choices about a course that lead students to believe it—was a challenge; no one gets much out of a discussion when everyone knows the professor will announce the one true answer at the end.

The first issue to resolve was figuring out what I wanted class discussions to be about. One approach was to turn some of the more difficult problems from the homework into topics for class discussions. That required some modifications—I quickly found that the very features that make a good homework problem often make a poor discussion topic. I've spent a lot of time carefully streamlining homework and exam problems, making sure they can only be interpreted one way so that students don't waste time or miss the point over a misunderstanding. Taking those problems as written, there isn't much to discuss.

The questions that come up outside of a classroom (or even in classes in other subjects) are never as cleanly formulated, however. There's always some judgement and discretion in taking an actual situation and figuring out how the techniques from class apply to it. The benefit of rethinking the course format isn't just covering the same content better; it's an opportunity to revisit topics that have slipped out of the curriculum. Instead of always protecting students from that ambiguity, discussions gave us a chance to confront it head on.

Not every question I tried led to a good discussion. Some of our hardest homework problems require coming up with the right trick to get started. In class, that just meant that the few fastest students got a chance to shine, while the rest had no way to participate. A better choice was problems that invited lots of different attempts, but require a lot of tedious work when students try to identify the right approach at home; I could act as a calculator, letting them engage and trial and error much faster than they could on their own, but still demanding that the ideas come from the students.

The best questions I found, however, came when I looked again at the topics that don't get enough attention in lectures. These were better questions precisely because they can't be packaged neatly into homework problems. There are times when what I really want to do is to tell my students is “go home and spend 30 minutes meditating about this definition”—to go off on their own to ask and then answer for themselves lots of easy questions about it. Trying to distill that into homework misses the point—answering some list of questions I give them won't teach the habit of asking questions on their own. Facilitating a class discussion was a more structured way to get students to do this: it gave them a space to ask those questions and answer them for each other. The discussion had to start with something a bit more directed than just a topic; I usually came in with a list of two or three questions I wanted to be sure were asked, and opened by asking the first one. My students took it from there, addressing that and then moving on with their own ideas and responses. More often

than not, the questions on my list, and many more, got asked without further prompting.

A second issue was how to organize the discussions. In large classes, having a single, instructor-led discussion for the whole class isn't always going to work well: 120 students can't all have a say on a given topic, let alone have a chance to respond to each other. Instead, the natural thing to do was to have students first discuss things in small groups, and then have some of those groups summarize their conclusions for the whole class.

The variation among groups was noticeable—the students in the back of the classroom weren't having the same quality of discussion as the students in the front, and students tended to work with friends (and get distracted) and to self-segregate by gender and race. When the discussions were a small part of the class, that was imperfect but acceptable: it wasn't worth the disruption of trying to assign seating or move people around to make better groups.

However if I wanted to make the discussions a bigger portion of the class, I'd incorporate the lessons I learned making groups when I taught a Structured, Active, In-class Learning class (SAIL) that is, a partially flipped course. Random assignment worked fairly well, but I found I could get a big improvement with just a small amount of fiddling. Most groups I created randomly worked well on their own, and the ones that didn't tended to stem from a small number of students who did much better when put in the right groups—shyer students who benefitted from being matched with people who wouldn't talk over them, or less focused students who did better in a group that was determined enough to keep them on track.

One surprise was how well it worked to group students loosely by how well they were doing in the course. Over a series of group assignments over two semesters, I went from assigning groups where students had a wide range of test scores (the approach sometimes summarized as “one A student, one B student, one C student”), to having groups where the spread was much narrower. It was heartening to see several “C students” go from sitting quietly hoping no one would notice they weren't keeping up with their group, to having plenty to say when I put them in a group together. The group of “C students” might go a bit more slowly, but it gave everyone in the group a chance to contribute, and they all did have plenty to contribute when other students weren't getting to everything before them.

The biggest mistake I made was thinking that discussions could stand by themselves as an activity—that I could let students hold most of the discussion in their groups, make sure that the most important points got said in the whole-class part of the discussion, and move on immediately to the next topic. My students were much happier when I wrapped things up with some sort of conclusion, helping them sort out how they should think about the activity and what they should take away from it. Even when all I did was highlight a few things students had already said, getting the professor's imprimatur made a big difference in their confidence about what the main points were.

For those of us taught and trained in lecture courses, interactive content in our courses means a lot of new issues to be considered, and it inevitably takes some trial and error to find the right approach. The reward, however, is a new tool for getting at the parts of our subject which can't just be marked right or wrong: for putting back the more interesting, less objective, questions about “why” and “how” back even in introductory courses.

Henry Towsner is an assistant professor of mathematics in the School of Arts and Sciences.

This essay continues the series that began in the fall of 1994 as the joint creation of the College of Arts and Sciences, the Center for Teaching and Learning and the Lindback Society for Distinguished Teaching. See www.upenn.edu/almanac/teach/teachall.html for the previous essays.