# UNIVERSITY OF PENNSYLVANIA Almanac

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### Jennifer Phillips-Cremins: NIH New Innovator Award for Study of '3-D Epigenome'

The National Institutes of Health have named Jennifer Phillips-Cremins as a member of its 2015 class of New Innovator awardees. She is an assistant professor in the University of Pennsylvania School of Engineering and Applied Science's department of bioengineering,

As part of the NIH's "High-Risk, High-Reward Research" program,



**Jennifer** Phillips-Cremins

the New Innovator Award provides Dr. Phillips-Cremins with \$2.4 million for the next five years to advance her work on the dynamics of the "3-D Epigenome," or how DNA, and consequently the epigenetic modifications on top of the DNA sequence, is folded and coiled in the nucleus of neurons during brain development.

Every cell in the body has essentially the same genetic sequence, so the differences in tissue appearance and function can be traced to the timing and level that genes are transcribed in development. Epigenetic marks are a wide range of chemical modifications on top of the genome's base pairs that give rise to differences in gene expression. Changes in epigenetic modifications have been implicated in normal brain development as well as in neurological disease.

"We're interested in the link between epigenetic modifications and the diversity of cell types in the developing and diseased brain," Dr. Phillips-Cremins said. "We now have a wealth of insight into the mechanisms regulating epigenetic marks on the linear genome, but what hasn't been addressed is how epigenetic modifications work through long-range, 3-D mechanisms and how genome architecture fluctuates over short and long time-scales."

Classic epigenetic marks are chemical modifications physically attached to the genes they influence. When visualized as a linear gene sequence, these epigenetic marks represent an additional layer of information on top of the long sequence of base-pair letters. Looking at these marks in a linear fashion does not reveal the whole picture, however.

"Often times one might think that epigenetic marks are unrelated if they are separated by vast distances on the linear genome," Dr. Phillips-Cremins said, "but, if you consider the epigenome in the context of the three-dimensional nucleus, many key regions in the genome are spatially adjacent and thereby functionally linked.'

Studying the three-dimensional shape of a genome is daunting, as existing tools can only analyze large populations of cells. The millions of cells studied at a given snapshot in time might each have a slightly different three-dimensional configuration, but scientists are thus far only able to capture what amounts to an averaged signal. This erases whatever signal might be coming from one particular 3-D pattern and how this changes over time.

"If we could develop tools to very rapidly synchronize the 3-D epigenome across the population of cells and control the folding over very short time scales, we can start to understand how architecture dynamics are linked to brain cell function," Dr. Phillips-Cremins said.

Her New Innovator Award will fund research on "3-D opto-epigenetic" techniques for achieving architecture synchronization and pulsing. Certain proteins are known to aggregate in response to specific frequencies of light. By genetically engineering cells to express these proteins in their nuclei, entire populations of cells could be coaxed into the same 3-D genome configuration upon light pulsing with a laser.

"Imagine a ball of string that can be coaxed into new 3-D configurations upon flashes of light; the power in this approach is that one could specifically dictate what pieces of string are touching," Dr. Phillips-Cremins said.

The same tools that force a population of cells to exhibit the same three-dimensional state in their nuclei could subsequently be used to better understand epigenetic dynamics. Better understanding of the dynamics of epigenetic regulation could eventually lead to targeted treatments for neurological diseases, such as Alzheimer's.

"If one could control the dynamics of 3-D genome folding on demand, it could have important clinical applications," Dr. Phillips-Cremins said. "It could bring to light the possibility of noninvasively shining light on specific sections of the brain, precisely controlling the gene expression of only specific cell types across time."

#### \$1 Million Gift to Establish the Lauren and Bobby Turner Social Impact Society Fund

The Wharton School of the University of Pennsylvania is pleased to announce a \$1 million gift from K. Robert Turner, W'84 and Lauren Golub Turner, W'85 to establish the Lauren and Bobby Turner Social Impact Society Fund. The Fund will provide instrumental support to the Wharton Social Impact Initia-



Bobby Turner

tive, including stipends for summer internships for Turner Social Impact Society Members and Fellows, as well as funding for trips and other illuminating and formative activities for students in the social impact sphere.

"I'm inspired by Bobby's strategic thinking on impact investing and his deep commitment to unifying the Penn and Wharton social impact communities," said Wharton Dean Geoff Garrett. "I'm deeply grateful to both Bobby and Lauren for their generous gift to support students who want to make change happen locally, nationally and globally."

This gift builds upon Mr. and Mrs. Turner's history of philanthropy to Wharton. Established in 2009, the Lauren and Bobby Turner

Social Impact Curriculum Development Fund has made social impact-themed curriculum and Wharton International Program trips possible. Additionally, the funding created the Turner Social Impact Society (TSIS) in 2013-2014. TSIS is a select community of Penn undergraduate students sharing a commitment to making a difference and benefitting from fellowship, mentorship, training, workshop and internship opportunities. The society is composed of two student groups: Members, who are newly exploring social impact, and Fellows, who have shown their dedication to social impact and wish to deepen their expertise. In addition to TSIS, Mr. and Mrs. Turner have funded the Bobby and Lauren Turner Endowed Scholarship Fund for minority students and established the Lauren and Bobby Turner Social Impact Executive Speaker Series in 2009, which has since brought Eva Longoria, Andre Agassi, Ashton Kutcher and other highprofile speakers to Wharton's Philadelphia campus for conversations about making positive change in the world.

Lauren and I see this gift as an opportunity to bring together Penn students with a shared goal of achieving meaningful, scalable change," said Mr. Turner. "Their collaboration with one another will enable powerful, sustainable solutions to today's societal challenges. We look forward to encouraging students to lead and connect with one another to build a better world. We're thrilled to be able to make these opportunities happen through this fund.

Mr. Turner is the principal and CEO of Turner Impact Capital, LLC, a mission-driven investment management firm based in Los Angeles that is focused on creating sustainable solutions for today's societal problems through impactful infrastructure. He earned his undergraduate degree from the Wharton School in 1984 and serves on the Undergraduate Executive Board. Mrs. Turner graduated from Wharton's undergraduate program in 1985.

#### IN THIS ISSUE

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- Human Resources: Upcoming Programs; Knowledge@Wharton and K@W Radio on XM 111
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#### **SENATE** From the Senate Office

The following is published in accordance with the Faculty Senate Rules. Among other purposes, the publication of SEC actions is intended to stimulate discussion among the constituencies and their representatives. Please communicate your comments to Patrick Walsh, executive assistant to the Senate Office, either by telephone at (215) 898-6943 or by email at senate@pobox.upenn.edu

# Faculty Senate Executive Committee Actions Wednesday, October 21, 2015

**Chair's Report.** Faculty Senate Chair Reed Pyeritz noted that the Senate Committee on the Economic Status of the Faculty (SCESF) is in the drafting stage of its report, which will be published in early 2016. Due to time constraints, he announced that a more detailed report of the activities of the Senate committees will be deferred to the next meeting.

**Past-Chair's Report.** Faculty Senate Past Chair Claire Finkelstein reported that the Academic Planning and Budget Committee and the Capital Council have both held their second meetings of the year. She gave an update on the Campaign for Community, informing SEC members that applications for branding and funding of up to \$1,500 are currently being accepted. She reminded the SEC of the "Academic Freedom Now" symposium, co-sponsored by the Faculty Senate and the Campaign for Community, which will take place on *October 27* from 3-6 p.m. in the Kislak Center (6th Floor, Van Pelt-Dietrich Library).

Athletics and Recreation at Penn. M. Grace Calhoun, director of recreation and intercollegiate athletics, gave SEC an overview of athletics and recreation at Penn. She reported that Penn Athletics is a broad-based division covering wellness programming for all students, ranging from intercollegiate teams to club teams, intramural teams, scheduled classes and programs, and dropins. She reported that a divisional task force was convened last fall that established standards for team discipline, including the use of alcohol and drugs. An updated anti-hazing policy was endorsed in September 2015, which has included coach and student-athlete education programs and written annual commitments to the policy by each student-athlete. An ongoing sexual misconduct prevention program is also in place. She reported that all Ivy League schools use an "academic index" in their admissions processes, which takes into account the student's secondary GPA and standardized test scores to ensure that the prospective student has the potential for academic success at the institution. This policy is managed collectively by the eight Ivy League presidents.

Imminent Threats of Campus Violence. Maureen Rush, vice president for public safety, reported on the campus-wide alert of potential violence on October 5, 2015. She reported that a notice was sent to the Penn community with information regarding the alleged threat, which was based on a post to a popular website, and that significant additional security measures were taken to ensure the safety of the community. She added that the posting was later determined to be a hoax. Vice President Rush discussed the effectiveness of the University's new HELP Line, and encouraged SEC members to remind their constituencies of its 24/7 availability at (215) 898-HELP.

**2015 Senate Nominating Committee.** Pursuant to the Faculty Senate Rules, the members of SEC were asked to submit a nomination of a member of the Standing Faculty to the Nominating Committee.

**Update from the Office of Investments.** Peter Ammon, chief investment officer, discussed the work of the Office of Investments and described the process his office uses to manage the Associated Investments Fund (AIF), a pooled investment vehicle in which the vast majority of Penn's endowment is invested. Individual endowments and trusts at Penn hold shares or units of the AIF, whose purpose is to provide stability and perpetual support for Penn's mission and programs.

# Penn Panel on 10-year Anniversary of Grand Jury Report on Child Sex Abuse in the Philadelphia Archdiocese: October 28

On Wednesday, October 28 from 6:30-8 p.m., the University of Pennsylvania's Program for Research on Religion and Urban Civil Society (PRRUCS) will host a panel discussion on The Ramifications of the Philadelphia Grand Jury Report on Child Sex Abuse in the Archdiocese of Philadelphia on its 10th Anniversary: Lessons Learned and Spurned. It will feature: Lynne Abraham, former district attorney of Philadelphia; the Rev. William Byron, professor of business and society, Saint Joseph's University; Marci Hamilton, Paul R. Verkuil Chair in Public Law, Benjamin N. Cardozo School of Law, Yeshiva University; Maureen S. Rush, vice president for public safety and superintendent, Penn Police Department and John DiIulio, faculty director of PRRUCS, moderator.

It will be in Claudia Cohen Hall's Terrace Room. Attendees must RSVP to wendyjen@sas.upenn.edu

#### James Brister Society Faculty of Color Luncheon: November 6

The James Brister Society invites Penn Faculty of Color to a luncheon on *Friday, November* 6. The James Brister Society (JBS) was named after the first African-American to graduate from the University of Pennsylvania in 1881. JBS seeks to improve the quality of the campus experience for students, faculty and administrators of color. JBS is comprised of alumni members from all backgrounds. The networking reception will take place from 11:15 a.m.-12:15 p.m., followed by lunch from 12:15-1:30 p.m. JBS also invites Faculty of Color to stay for a panel on *Race in the Corporate World*, immediately following from 1:30-2:30 p.m. Register for the Luncheon at <a href="http://tinyurl.com/pmzg63f">http://tinyurl.com/pmzg63f</a>

#### Trustees Fall Meetings November 5-6, 2015

The following committee meetings will be held at the Inn at Penn. Call (215) 898-7005.

Thursday, November 5

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; 3:45-5:15 p.m.: Budget & Finance Committee

Friday, November 6 11:30 a.m-12:30 p.m.: Stated Meeting

### Death

#### F. Stanton Moyer, Former Trustee



Stanton Moyer

F. Stanton Moyer, W'51, a noted venture capitalist and former Penn Trustee, died on October 7 in Haverford, PA. He was 86 years old.

Mr. Moyer studied corporate finance at Penn's Wharton School. Throughout his time as an undergraduate, he was a dedicated volunteer, active with organizations such as the

Houston Hall Board, the Friars Senior Society, the Mask and Wig Club and the Delta Psi fraternity.

During his career, Mr. Moyer held leadership roles at firms such as Main Line Capital, Mercer Capital Management, Edward Rorer & Co., Eastman Dillon Union Securities and Company, Pennsylvania Merchant Group and Kidder Peabody & Co., where he was recognized as one of the top-producing brokers nationwide. He was a member of the Bond Club of Philadelphia, Financial Analysts of Philadelphia and the Philadelphia Securities Association.

At Penn, Mr. Moyer was an Alumni Trustee from 1978-1983, serving on the Budget & Finance and Executive Committees, the Investment Board and the Board of Trustees of the Hospital of the University of Pennsylvania.

As his citation as a 1984 recipient of the Alumni Award of Merit proclaimed, Mr. Moyer was a stalwart of the University's fundraising efforts. He served as a Penn Fund phonathon volunteer; as a member of the Development Steering Committee, the Class of 1951 Gift Committee, the Philadelphia Steering Committee for the Program for the Eighties fundraising campaign and the Alumni Annual Giving Steering Committee; as chairman of Corporate Annual Giving; and as regional chairman of the Alumni Annual Giving program, for which he provided national leadership for 154 annual giving committees working at the local level. Mr. Moyer also served on his class' reunion committee and the Penn Alumni Board of Directors and was the University's representative on the board of the Atwater Kent Museum. As a benefactor, he provided support to Athletics, the Penn Fund and the Class of 1951 50th Reunion Project.

Mr. Moyer is survived by his wife, Ann Stovell Moyer; his daughter, Lisa Stewardson, Par'10 (Dana Stewardson); his grandchildren, Ashley, C'10, and Robert Stewardson; and his sister, Dorothy Henchey, and her family.

In lieu of flowers, contributions may be made to the St. Anthony Foundation (Delta Psi), PO Box 454, Villanova, PA 19085.

### Faculty Senate Committees, 2015-2016

#### **Senate Executive Committee**

Officers

Reed Pyeritz (PSOM/ Chair:

Medicine & Genetics)

Chair-Elect: Laura Perna (GSE/Higher

Education)

Claire Finkelstein (Law) Past Chair: Lydie Moudileno (SAS/ Secretary:

Romance Languages)

Secretary-Elect: Marcella Devoto (PSOM/ Pediatrics & Epidemiology)

Past Secretary: Susan Yoon (GSE)

At-Large Representatives Delphine Dahan (SAS/Psychology) Karen Detlefsen (SAS/Philosophy)

Julie Fairman (Nursing)

Martha Farah (SAS/Psychology)

Karen Glanz (PSOM/Biostatistics &

Epidemiology)

David Grazian (SAS/Sociology)

Kelly Jordan-Sciutto (Dental Medicine/Pathology) James Lok (Veterinary Medicine/Pathobiology) Angela Mills (PSOM/Emergency Medicine) Brendan O'Leary (SAS/Political Science)

Philip Rea (SAS/Biology)

Florian Schwarz (SAS/Linguistics)

Assistant Professor Representatives Erol Akçay (ŠAS/Biology) Alison Buttenheim (Nursing) Daniel J. Singer (SAS/Philosophy)

Penn Association of Senior and Emeritus Faculty

(PASEF) Representative

Martin Pring (PSOM/Physiology)

#### Members Elected by Constituency

1. Annenberg: Kathleen Hall Jamieson

2. SAS: History: Firoozeh Kashani-Sabet

3. SAS: Anthropology, History of Art, Music: Carol Muller (Music)

4. SAS: Mathematics: Ron Donagi 5. SAS: Biology: Brent Helliker

6. SAS: Chemistry, Earth & Environmental Science, History & Sociology of Science: Joseph Subotnik (Chemistry)

7. SAS: Classical Studies, Germanic Languages & Literatures, Romance Languages, Slavic Languages & Literatures: Fabio Finotti

(Romance Languages)

8. SAS: Economics: Holger Sieg 9. SAS: English: Rita Barnard

10. SAS: Linguistics, Philosophy: Jianjing

Kuang (Linguistics)

11. SAS: East Asian Languages & Civilizations, Near Eastern Languages & Civilizations, Religious Studies, South Asia Studies: Steve Tinney (NELC)

12. SAS: Physics & Astronomy: Masao Sako

13. SAS: Political Science: Nancy J. Hirschmann 14. SAS: Psychology: Loretta Flanagan-Cato

15. SAS: Sociology, Criminology: Melissa Wilde (Sociology)

16. Dental Medicine: Eric T. Stoopler

17. GSE: Richard Ingersoll

18. Engineering: Bioengineering, Chemical & Biomolecular Engineering, Materials Science & Engineering, Mechanical Engineering & Applied Mechanics: David Pope (MSE) 19. Engineering: Computer & Information Science, Electrical & Systems Engineering:

Robert Ghrist (ESE) 20. Design: Jackie Tileston

21. Law: Mitch Berman

22. *PSOM:* Biochemistry & Biophysics, Biostatistics & Epidemiology, Cancer Biology, Cell & Developmental Biology, Pathology & Laboratory Medicine: Douglas Wiebe (Biostatistics & Epidemiology)

Senate Committee on Faculty and the

Mindy Schuster, PSOM/Infectious Diseases, Chair

Justin McDaniel, SAS/Religious Studies

23. *PSOM:* Anesthesiology & Critical Care, Obstetrics & Gynecology, Radiation Oncology: David Smith (Anesthesiology & Critical Care) 24. *PSOM*: Dermatology, Emergency Medicine, Family Medicine & Community Health, Ophthalmology, Orthopaedic Surgery, Otorhinolaryngology, Psychiatry: James Palmer (Otorhinolaryngology) 25. *PSOM:* Genetics, Medical Ethics & Health

Policy, Microbiology, Neurology, Neuroscience, Neurosurgery, Physical Medicine & Rehabilitation, Physiology, Systems Pharmacology & Translational Therapeutics: Michael

McGarvey (Neurology)
26. *PSOM–Medicine*: Cardiovascular Medicine, Endocrinology, Diabetes & Metabolism, Gastroenterology, Infectious Diseases, Pulmonary & Critical Care Medicine, Renal-

Electrolyte & Hypertension, Sleep Medicine: Paul Lanken (Medicine)

27. PSOM-Medicine: General Internal Medicine, Geriatrics, Hematology/Oncology, Rheumatology, Translational Medicine & Human Genetics: Bruce Giantonio (Hematology/Oncology) 28. *PSOM:* Pediatrics: Maully Shah

29. PSOM: Radiology, Surgery: Jose Pascual (Surgery)

30. Nursing: Eileen Lake 31. Social Policy & Practice: Toorjo Ghose 32. Veterinary Medicine: Animal Biology, Patho-

biology: Narayan Avadhani (Animal Biology)
33. Veterinary Medicine: Clinical Studies-New
Bolton Center, Clinical Studies-Philadelphia: Erika Krick (Clinical Studies-Philadelphia) 34. Wharton: Accounting, Health Care, Insurance & Risk, Operations & Information Management, Statistics: Robert Stine (Statistics) 35. Wharton: Finance, Legal Studies & Business Ethics, Business & Public Policy: Karen

Lewis (Finance) 36. *Wharton:* Management, Marketing, Real Estate: Christophe Van den Bulte (Marketing)

#### Senate Committee on Students and **Educational Policy (SCSEP)**

Paulo Arratia, SEAS Laura Desimone, GSE Sharon Irving, Nursing Jorge Santiago-Aviles, SEAS Dominic Sisti, PSOM/Medical Ethics Michael Weisberg, SAS/Philosophy, Chair

Senate Chair, Reed Pyeritz, PSOM Senate Chair-Elect, Laura Perna, GSE

#### Senate Committee on Faculty and the Administration (SCOA)

Ken Drobatz, Veterinary Medicine Irina Marinov, SAS/Earth & Environmental

Science

Emma Meagher, PSOM/Medicine Pamela Sankar, PSOM/Medical Ethics

Talid Sinno, SEAS Santosh Venkatesh, SEAS R. Polk Wagner, Law, *Chair* 

Senate Chair, Reed Pyeritz, PSOM Senate Chair-Elect, Laura Perna, GSE

#### Senate Committee on Faculty Development, Diversity and Equity (SCFDDE)

Regina Austin, Law, Chair Rita Barnard, SAS/English Kristen Feemster, PSOM/Pediatrics Carmen Guerra, PSOM/Medicine Lisa Lewis, Nursing Mitch Marcus, SEAS

Ex officio

Senate Chair, Reed Pyeritz, PSOM Senate Chair-Elect, Laura Perna, GSE

#### **Senate Committee on Publication Policy** for Almanac

Sunday Akintoye, Dental Medicine Christine Bradway, Nursing Al Filreis, SAS/English Cary Mazer, SAS/English Carolyn Marvin, Annenberg Martin Pring, PSOM/Physiology, Chair Ex officio Senate Chair, Reed Pyeritz, PSOM Senate Chair-Elect, Laura Perna, GSE

#### **Senate Committee on Academic** Freedom and Responsibility (SCAFR)

Shyam Balganesh, Law, Chair Sue Ann Bidstrup-Allen, SEAS Peter Dodson, Veterinary Medicine Nader Engheta, SEAS Vivian Gadsden, GSE Carolyn Marvin, Annenberg Jon Merz, PSOM/Medical Ethics Carol Muller, SAS/Music Diana Robertson, Wharton Michael Weisberg, SAS/Philosophy Senate Chair-Elect, Laura Perna, GSE

#### **Senate Committee on Economic Status** of the Faculty (SCESF)

Robert Hollebeek, SAS/Physics & Astronomy Jerry Jacobs, SAS/Sociology Mark Kahn, PSOM/Cardiovascular Medicine Susan Margulies, PSOM/Bioengineering, Co-Chair Andrew Postlewaite, SAS/Economics Robert Stine, Wharton/Statistics Andrea Troxel, PSOM/Biostatistics & Epidemiology, Co-Chair

Ex officio

Senate Past Chair, Claire Finkelstein, Law Senate Chair, Reed Pyeritz, PSOM Senate Chair-Elect, Laura Perna, GSE

#### **Faculty Grievance Commission**

Parvati Ramchandani, PSOM/Radiology, Chair Steven Sondheimer, PSOM/Obstetrics & Gynecology, Past-Chair Mitch Marcus, SEAS, Chair-Elect

Academic Mission (SCOF)

Amy Sepinwall, Wharton Tom Sollecito, Dental Medicine

Senate Chair, Reed Pyeritz, PSOM

Senate Chair-Elect, Laura Perna, GSE

Lea Ann Matura, Nursing

Lyle Ungar, SEAS

Ex officio

### Membership of University Council, 2015-2016

**Steering Committee** 

The Steering Committee shall consist of the president of the University, the provost, the chair, the chair-elect and the past chair of the Faculty Senate, the chair of the Undergraduate Assembly, the chair of the Graduate and Professional Student Assembly, the chair of the Penn Professional Staff Assembly and the chair of the Weekly-Paid Penn Professional Staff Assembly. Drawn from the Council membership there shall be in addition four faculty members, one graduate/ professional student and one undergraduate student elected by the respective governing bodies, as well as one additional member of the Penn Professional Staff Assembly and one additional member of the Weekly-Paid Penn Professional Staff Assembly, each elected by their representative assemblies. The chair of the Faculty Senate shall be the chair of the Steering Committee. In the absence of the chair, or at the request of the chair, the chair-elect shall serve as chair of the Steering Committee. The Council moderator will be an official observer at meetings of the Steering Committee. The secretary of the Council shall serve as secretary of the Steering Committee. Members of the Steering Committee may attend the meetings of Council committees.

-Council Bylaws

#### Members of Steering Committee

Laura Bryant Christophe Van den Bulte Ray Clark Lucia DiNapoli Kuan Evans Claire Finkelstein, Past-Chair Karen Glanz Amy Gutmann Firoozeh Kashani-Sabet Jane Meyer Samantha Miller Laura Perna, Chair-Elect Vincent Price Reed Pyeritz, Chair Florian Schwarz Irene Tan Rosa Vargas

For more information regarding University Council, including Status Reports and Resolutions, see the Council website: http://www.upenn.edu/secretary/council/index.html

#### **Members of Council**

Faculty: Forty-five members of the Executive Committee of the Faculty Senate. The Faculty Senate shall insure that each faculty is represented and that at least three assistant professors serve on the Council. The members of the Faculty Senate Executive Committee who are members of the Council shall otherwise be chosen in accordance with the rules of the Faculty Senate.

One full-time lecturer and one full-time member of the research faculty to be selected to serve twoyear terms by vote facilitated by the Office of the Secretary in consultation with the Steering Committee of the full-time lecturers and research faculty, respectively, from a slate consisting of the five lecturers and the five members of the research faculty receiving the largest number of nominations by lecturers and members of the research faculty. If the Steering Committee receives fewer than five nominations for either group, additional nominations shall be solicited from the constituency representatives of the Senate Executive Committee.

Administrative and Staff: Eleven administrative officers, including the president, the provost and nine members of the administration to be appointed annually by the president, at least five of whom shall be deans of faculties.

Two elected representatives of the Penn Professional Staff Assembly. One elected representative of the Librarians Assembly. Two elected representatives of the Weekly-Paid Penn Professional Staff Assembly.

Students: Fifteen graduate and professional students elected as members of the Graduate and Professional Student Assembly. The Graduate and Professional Student Assembly shall insure that, to the extent possible, each school is represented. The members of the Graduate and Professional Student Assembly who are members of the Council shall otherwise be chosen in accordance with the rules of the Graduate and Professional Student Assembly.

Fifteen undergraduate students elected as members of the Undergraduate Assembly. The Undergraduate Assembly shall insure that, to the extent possible, each undergraduate school is represented. The members of the Undergraduate Assembly who are members of the Council shall otherwise be chosen in accordance with the rules of the Undergraduate Assembly.

One elected representative of the United Minorities Council.

-Council Bylaws

#### Members of the Administration Michael Delli Carpini

Steve Fluharty
Amy Gutmann
William Gipson
John Jackson
Anita Mastroieni
Vincent Price
Maureen Rush
Valarie Swain-Cade McCoullum
Marilyn Jordan Taylor
Toni Villarruel

#### **Elected by Faculty At Large**

Reed Pyeritz, Chair Lydie Moudileno, Secretary Laura Perna, Chair-Elect Marcella Devoto, Secretary-Elect Claire Finkelstein, Past Chair Karen Glanz Florian Schwarz

# Penn Association for Senior & Emeritus Faculty

Martin Pring, PASEF Representative

# Elected by Faculty Constituency

- 1. Kathleen Hall Jamieson 2. Firoozeh Kashani-Sabet
- 3. Carol Muller
- 4. Ron Donagi
- 5. Brent Helliker
- 6. Joseph Subotnik
- 7. Fabio Finotti
- 8. Holger Sieg
- 9. Rita Barnard
- 10. Jianjing Kuang
- 11. Steve Tinney
- 12. Masao Sako
- 13. Nancy J. Hirschmann
- 14. Loretta Flanagan-Cato
- 15. Melissa Wilde
- 16. Eric T. Stoopler
- 17. Richard Ingersoll
- 18. David Pope
- 19. Robert Ghrist
- 20. Jackie Tileston
- 21. Mitch Berman
- 22. Douglas Wiebe
- 23. David Smith
- 24. James Palmer
- 25. Michael McGarvey26. Paul Lanken
- 27. Bruce Giantonio
- 28. Maully Shah
- 29. Jose Pascual
- 30. Eileen Lake
- 31. Toorjo Ghose
- 32. Narayan Avadhani33. Erika Krick
- 34. Robert A. Stine
- 35. Karen Lewis
- 36. Christophe Van den Bulte

#### **Assistant Professors**

Erol Akçay Alison Buttenheim Daniel J. Singer

Faculty Senate officers are italicized. Asterisk [\*] indicates observer status.

# Lecturers and Research Faculty Members

Christina Frei Itzhak Nissim

# Graduate/Professional Students

Miriam Archibong Cherag Bhagwagar Laura Bryant Taylor-Rae Collins-Headley Abimbola Dairo Katherine France Jin Soo Han Allison Hill Taylor Knoche Samantha Miller, GAPSA Chair Justine Sefcik Tara Stonex Erica Sucher Kelsey Van Gelder Paul Welfer

#### **Undergraduate Students**

Albert Čai, APSC
Victoria Chen, Lambda Alliance
Ray Clark, UA Vice-President
Tunmise Fawole, UMOJA
Nicolas Garcia, LC
Jacob Henner, UA
Michael Karam, UA

Nayab Khan, MSA
Jennifer Knesbach, College

Republicans Jane Meyer, UA President Elise Pi, AIS

Jack Pilutti, SSAP Eric Tepper, PRISM Leah Quinn, UA Megan Yan, PAGE

#### **United Minorities Council**

Rashad Nimr

# Penn Professional Staff Assembly

Lucia DiNapoli, *Chair* Kuan Evans, *Chair-Elect* 

#### Weekly-Paid Penn Professional Staff Assembly

Rosa Vargas, Chair Irene Tan, Co-Chair

### Librarians Assembly

Rachelle Nelson

### Parliamentarian

Lauren Steinfeld\*

#### **ROTC Representative** Colonel Kenneth DeTreux\*

### Vice President and Secretary

### Leslie Laird Kruhly\*

#### Moderator

Therese Richmond\*

University Council Committees, 2015-2016, are on the next page, along with the schedule of Council Meetings and discussion topics for the remainder of the 2015-2016 academic year.

### **University Council Committees, 2015-2016**

#### Standing Committees

**Academic & Related Affairs:** 

Chair: Ani Nenkova, SEAS Liaison: Leo Charnev Staff: Nicole Tillman

Faculty:

Frederick Dickinson, SAS Eric Feldman, Law Vera Krymskaya, PSOM

Nicola Mason, Veterinary Medicine

Rahim Rizi, PSOM **Graduate Students:** Thomas Brinkerhoff Qianying Zhang

**Undergraduate Students:** 

Nathaniel Rome Jvothi Vallurupalli

PPSA:

Laurie-Ellen Shumaker

Chris Pastore WPPSA: Suzanne Oh Peter Rockett

Campus & Community Life:

Chair: Rebecca Maynard, GSE Liaison: Karu Kozuma Staff: Cydnee Bryant

Faculty:

Angela Bradbury, PSOM Monica Calkins, PSOM Jonah Gelbach, Law Campbell Grey, SAS Emily Hannum, SAS **Graduate Students:** 

Lirui Li Jia Xue

**Undergraduate Students:** 

Emily Hoeven Adam Mansell PPSA:

Peter Gemmellaro Namrata Narain WPPSA:

Simcha Katsnelson Joyce Woodward-Jones **Diversity and Equity:** 

Chair: Ezekiel Dixon-Roman, SP2

Liaison: Sam Starks Staff: Kuan Evans

Faculty:

Regina Austin, Law Herman Beavers, SAS Chenoa Flippen, SAS Nancy Hirschmann, SAS Joe Libonati, Nursing Jonni Moore, PSOM Sharrona Pearl, Annenberg

**Graduate Students:** Justine Sefcik

Lloyd Talley

**Undergraduate Students:** 

Ann Okhupe Cheyenne Rogers

PPSA:

Kristin Field Shaina Adams-El Gulabi

WPPSA: Lauren Kemp Irene Tan

Facilities:

Chair: Ann Moyer, SAS Liaison: David Hollenberg **Staff:** Taylor Berkowitz

Faculty:

Tom Daniels, Design Jerry Jacobs, SAS Tanja Kral, Nursing

Kathryn Michel, Veterinary Medicine

John Puckett, GSE Masao Sako, SAS **Graduate Students:** Salomon Moreno-Rosa Matthew Rappaport

Undergraduate Students: David Cahn

Elena Rohner PPSA:

Elizabeth Hartzell Kristen McMullen

WPPSA: Leon Malloy Irene Tan

**Personnel Benefits:** 

Chair: Reed Shuldiner, Law

I jaisons: Jack Heuer Susan Sproat Staff: Sheila Hall

Faculty:

David Balamuth, SAS Carolyn Cannuscio, PSOM Erika Holzbaur, PSOM Russell Localio, PSOM Jonathan Smith, SEAS Petra Todd, SAS

Rakesh Vohra, SEAS/SAS

PPSA:

Heather Frattone Amy Nothelfer Susan Russoniello

WPPSA. Joe Mellon, Jr. Peter Rockett

Joyce Woodward-Jones

**Committee on Committees:** 

Chair: Laura Perna, GSE

Staff:

Joe Gasiewski Patrick Walsh Faculty:

Christophe Van den Bulte, Wharton

Claire Finkelstein, Law Firoozeh Kashani-Sabet, SAS Karen Glanz, PSOM/Nursing Reed Pyeritz, PSOM

Florian Schwarz, SAS **Graduate Student:** Sangya Agarwal

**Undergraduate Student:** 

1 TBD PPSA: Kuan Evans WPPSA: Loretta Hauber

### 2015-2016 Meetings and Discussion Topics for University Council

The following are the dates for meetings of the University Council, which are open to observers who register their intention to attend by calling the Office of the University Secretary in advance at (215) 898-7005.

October 28, 2015

• State of the University

• The history and current status of open expression at Penn

December 2, 2015

• Penn Connects 2.0

• Open Forum

January 27, 2016

• Discussion of Penn's protocol(s) for bringing and responding to complaints about sexual assault or misconduct and other Title IX issues

February 17, 2016

 Cross-disciplinary and cross-school programs involving staff, students and faculty

Open Forum

March 23, 2016

• Reports on Budgets and Plans for the Next Academic Year

April 20, 2016

• Presentation of Final Committee Reports

 Discussion of Potential Focus Issues for the 2016-2017 Academic Year

• Discussion of Potential Committee Charges for the 2016-2017 Academic Year

All meetings are held on Wednesdays at 4 p.m. in Bodek Lounge, Houston Hall. The agenda will be announced in *Almanac* prior to each meeting. Council meeting coverage is also published in Almanac in the issue following the meeting.

# **Honors** & Other Things

#### Abramson Cancer Center: "Exceptional" Rating, NCI

The University of Pennsylvania's *Abramson Cancer Center* (ACC) has received an "exceptional" rating from the National Cancer Institute (NCI) during an extensive peer-review process for its five-year competitive research support grant. The rating is the highest possible for an NCI cancer center. It also signifies the renewal of the ACC's status as a "comprehensive" center. The ACC is one of only 45 NCI-designated comprehensive centers in the U.S. and three in Pennsylvania.

Since the last competitive renewal process in 2010, faculty physicians and researchers have authored more than 5,000 cancer-related publications. In addition, the ACC's research initiatives have been buoyed by an increase in NCI peer-reviewed funding. Today, ACC scientists are making unprecedented advances in cancer research with more than 1,000 active research projects and the largest portfolio of cancer clinical trials (over 550) in the Philadelphia region.

# Lisa Levine: Kynett-FOCUS Junior Faculty Investigator Award

Lisa D. Levine, assistant professor in the department of obstetrics & gynecology, division of maternal fetal medicine at the Perelman School of Medicine, received the 2015-2016 Kynett-FOCUS Junior Faculty Investigator Award for Research in Women's Cardiovascular Health. This award, funded through a grant



Lisa Levine

from the Edna G. Kynett Memorial Foundation, will provide \$15,000 to support a project related to women's cardiovascular health for one year.

Dr. Levine's funded project is titled "Angiogenic factors to predict cardiac dysfunction during and after preeclampsia." Her preliminary data suggest that cardiac dysfunction in preeclampsia is caused by an angiogenic imbalance in the heart, triggered by the late gestational secretion from the placenta of sFlt1, an endogenous soluble inhibitor of VEGF. She plans to rigorously test the hypothesis that sFlt1 is associated with cardiac dysfunction in a particularly high-risk group of women: African American women with severe preterm preeclampsia.

#### Patricia D'Antonia, Julie Fairman: Nursing Outlook Media Award

Nursing Outlook, the official journal of the American Academy of Nursing (AAN), has awarded Julie Fairman, Nightingale Professor of Nursing and chair of the department of biobehavioral health sciences at Penn, and Patricia D'Antonio, Killebrew-Censits Term Professor in Undergraduate Education and chair of the department of family & community health at Penn, the 2015 Excellence in Media Award for their article, "History counts: How history can shape our understanding of health policy."

This award recognizes exemplary journalism that reports on health or health care with accurate and appropriate inclusion of nurses' contributions or perspectives. The honor was presented earlier this month at the 2015 American Academy of Nursing Annual Meeting in Washington, DC.

6 www.upenn.edu/almanac

#### National Academy of Medicine: Three New Members from Penn

Three University of Pennsylvania professors have been elected members of the National Academy of Medicine (NAM), one of the nation's highest honors in biomedicine. NAM was originally the Institute of Medicine, which was established in 1970 under the charter of the National Academy of Sciences to advise the nation on medical and health issues. Members are elected by their peers for distinguished contributions to medicine and health.

The new NAM members bring Penn Medicine's total membership in the prestigious group to 66. The newly elected members raise NAM's total active membership to 1,826 and the number of international members to 137. NAM has become recognized as a national resource for independent, scientifically informed analysis and recommendations on health issues. With their election, members make a commitment to volunteer their service on NAM committees, boards and other activities.

The three new Penn NAM members are:

Dennis E. Discher is the Robert D. Bent Professor of Chemical and Biomolecular Engineering in the School of Engineering & Applied Science (SEAS). He joined Penn in 1996 following postdoctoral work in computational biophysics as a U.S. National Science Foundation International Fellow at the



Dennis Discher

University of British Columbia and Simon Fraser University. He received his PhD jointly from the University of California, Berkeley and San Francisco for studies of cell membrane physics and spliceform biochemistry. He holds secondary appointments in bioengineering and in mechanical engineering & applied mechanics and is a member of Graduate Groups in Cell & Molecular Biology, Pharmacology and Physics. His research has focused on stem cell differentiation in relation to mechanics of microenvironments that differ between tissues and in disease. His group uses engineered polymer systems in studies that have extended to questions on drug carriers, particularly the roles of nanoscale physical properties and immune system interactions. Dr. Discher was awarded a Presidential Early Career Award for Scientists and Engineers (PECASE) by the National Science Foundation in 1999, and was elected in 2012 to the National Academy of Engineering (NAE). He is the principal investigator at Penn of a National Cancer Institute-funded Physical Sciences Oncology Center, which fosters research into new physical principles in cancer development and straddles the SEAS, the Perelman School of Medicine and SAS. He has authored more than 200 widely cited publications in journals ranging from Science and Cell to Physical Review Letters, Nature Materials and Journal of the American Chemical Society.

Sean Hennessy is a professor of epidemiology in the department of biostatistics & epidemiology at the Perelman School of Medicine. He received his PharmD in clinical pharmacy from the Philadelphia College of Pharmacy and Science and his PhD in epidemiology from Penn. Dr. Hennessy's primary field of interest is pharmacoepidemiology, the study of the health effects of drugs and other medical products in populations. He is a past scientific chair and past president of

the International Society for Pharmacoepidemiology and has served on the FDA's Drug Safety and Risk Management Advisory Committee. In 2015 he began a threeyear term on the board of directors of the American Society for Clinical Pharmacology and Therapeutics. He is also a coeditor of the books *Pharmacoepidemiology* (5th



Sean Hennessy

edition) and Textbook of Pharmacoepidemiology (2nd edition) and is editor for the Americas of the journal Pharmacoepidemiology and Drug Safety. He has received the 2005 Young Alumnus Award from the University of the Sciences in Philadelphia, the 2007 Leon I. Goldberg Young Investigator Award from the American Society for Clinical Pharmacology and Therapeutics and the 2013 Samuel Martin Health Evaluation Sciences Research Award from the Perelman School of Medicine. Dr. Hennessy also directs Penn's Center for Pharmacoepidemiology Research and Training and pharmacoepidemiology training programs associated with the center. He teaches clinical epidemiology to medical and graduate students and is active in promoting evidence-based practice at Penn Medicine, co-chairing its Drug Use and Effects Committee and serving on its Pharmacy and Therapeutics Committee. Dr. Hennessy's clinical program has received two Quality and Safety

Awards from UPHS.
Frances E. Jensen is a professor of neurology, chair of the department of neurology and co-director of the Penn Medicine Translational Neuroscience Center at the Perelman School of Medicine. Prior to coming Penn, she was a professor of neurology at Harvard Medical School and a senior neurologist at both Brigham



Frances Jensen

and Women's Hospital and Children's Hospital, Boston. Dr. Jensen received her medical degree from Cornell University Medical College and completed her residency in internal medicine at Brigham and Women's Hospital. She was chief resident in neurology at the Harvard Longwood Neurology Training Program, followed by a fellowship at Harvard Medical School. Her research has focused on investigating mechanisms of epilepsy as well as their age-dependent differences, with special attention to the interactions between brain development, brain injury, epilepsy and cognition. In addition to receiving the NIH Director's Pioneer Award and the American Epilepsy Research Recognition Award, she has been continuously funded by NIH since 1987 and has trained over 30 research fellows. Dr. Jensen has been a council member of the Society for Neuroscience and was president of the American Epilepsy Society in 2012. She serves on a number of patient and research advocacy boards and is a fellow of the American College of Physicians, a member of the editorial board of Annals of Neurology and a reviewing editor for the Journal of Neuroscience. Dr. Jensen is the author of more than 150 manuscripts and the author of the widely acclaimed book, The Teenage Brain.

#### Science Center: Celebrating Women Innovators in 2015 Class of the Innovators Walk of Fame

The University City Science Center announced the second class of its Innovators Walk of Fame at the recent event, *Nucleus 2015: Celebrating Women Innovators*.

Launched in 2013, the Innovators Walk of Fame (*Almanac* November 5, 2013) shines a light on the diverse tradition of discovery and innovation in the Greater Philadelphia region and the groundbreaking contributions made to the scientific and entrepreneurial communities that have revolutionized the local, regional and global landscape.

The 2015 class of the Innovators Walk of Fame honors and celebrates the female innovators who transformed the world with their ideas, inventions and creativity. The event included a presentation inducting into the Innovators Walk of Fame a group of influential women whose grit, determination and vision have left a legacy for future generations.

"We wanted to ensure that the Innovators Walk of Fame reflects the diversity of the local, regional and global communities in which the Science Center operates. This celebration of innovation, diversity and impact are at the core of each class of honorees," said Science Center President & CEO Stephen S. Tang. "Because of this group of extraordinary women, the world is surely a better place."

A selection committee reviewed nominations from the innovation community and made recommendations to the Science Center's senior management team.

#### 2015 Innovators Walk of Fame Honorees

#### Medicine: Rebecca J. Cole

Rebecca J. Cole, a Philadelphia native, overcame gender and racial obstacles to become the second African American woman to receive a medical degree in the United States. Dr. Cole graduated from the Woman's Medical College of Pennsylvania in 1867—just two years after the Civil War ended. She went on to practice medicine in South Carolina before returning to Philadelphia, where she pioneered access to medical care and legal services for impoverished women and children by opening a Women's Directory Center. Sponsored by Drexel University.

#### Science: Stephanie Kwolek

Stephanie Kwolek invented the technology behind Kevlar, a virtually bulletproof fiber that has saved the lives of countless first responders and military personnel. Five times stronger than steel, Kevlar is a groundbreaking material best known for its use in bullet-proof vests. Today, it can also be found in products ranging from space suits to storm shelters. An industrial chemist at DuPont in Wilmington, Dela-

ware, during the 1960's, Ms. Kwolek was one of the few women in her field at the time.

#### Community Engagement: Judith Rodin

A pioneer and innovator throughout her career, Judith Rodin was the first woman named to lead an Ivy League institution and is the first woman to serve as the Rockefeller Foundation's president. While president of the University of Pennsylvania, Dr. Rodin spearheaded groundbreaking programs that engaged the campus with the surrounding community and provided a model that is replicated by other universities nationally and internationally. Sponsored by the University of Pennsylvania.



Judith Rodin

#### **Social Impact: Judy Wicks**

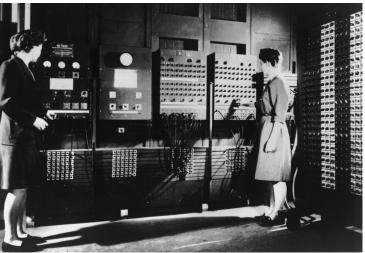
When *Inc.* magazine named Judy Wicks one of America's 25 Most Fascinating Entrepreneurs, they said "she put in place more progressive business practices per square foot than any other entrepreneur." Her West Philadelphia restaurant, White Dog Café, became a leader in the local food movement and grew a national reputation for community engagement, environmental stewardship and responsible business practices. A founder of the Sustainable Business Network of Greater Philadelphia and co-founder of the International Business Alliance for Local Living Economies, Ms. Wicks is an activist and a pioneer who is dedicated to building a more compassionate, environmentally sustainable and locally based economy. "Business is beautiful," Ms. Wicks said, "when it's a vehicle for serving the common good."

Technology: Women of ENIAC-

Kathleen McNulty Mauchly Antonelli, Jean Jennings Bartik, Frances Elizabeth Holberton, Marlyn Wescoff Meltzer,

Frances Bilas Spence and Ruth Lichterman Teitelbaum

In 1946, six brilliant young female mathematicians, working secretly for the U.S. Army's World War II efforts at the University of Pennsylvania, programmed the first all-electronic, programmable, general-purpose computer, the ENIAC. No programming tools or language existed at the time. Yet, Kathleen McNulty Mauchly Antonelli, Jean Jennings Bartik, Frances Elizabeth Holberton, Marlyn Wescoff Meltzer, Frances Bilas Spence and Ruth Lichterman Teitelbaum learned to program without manuals or courses, using only logical diagrams. When ENIAC debuted in 1947, it ran the ballistics trajectory programmed by the six women in mere seconds and changed the world. Sponsored by the University of Pennsylvania.



Operating ENIAC's main control panel when it was located at the Moore School, Jean Jennings, who led the programmers, and Frances Bilas.

The physical installation of the Innovators Walk of Fame, presented by Wexford Science & Technology, LLC, a BioMed Realty Company, will open this fall in Innovation Plaza, a new pocket park located within uCity Square along 37th Street between Market and Chestnut Streets.

Innovators Walk of Fame promotional partners for 2015 include the African American Chamber of Commerce; American Heart Association; Arts + Business Council of Greater Philadelphia; Association for Women in Science, Philadelphia Chapter; Association of Women in Forensic Science; Delaware Bio-Science Association; Charles D. Close School of Entrepreneurship, Drexel University; Delaware State Chamber of Commerce; Drexel University; Economy League; Flying Kite; Fox Rothschild LLP; GlobalPhilly; Greater Philadelphia Chamber of Commerce; Inspiring Women in STEM; Network of Women with Careers in Technology; Pennsylvania Bio; Philadelphia Science Festival; Promos Delaware; Temple University Fox School of Business and Management's Innovation and Entrepreneurship Institute (IEI); UD Horn Program in Entrepreneurship; Wharton Entrepreneurship; WHYY (NewsWorks); The Wistar Institute and Women's Way.

The University City Science Center is a dynamic hub for innovation, entrepreneurship and technology development in the Greater Philadelphia region. Since it was founded in 1963, graduate organizations and current residents of the University City Science Center's Port business incubators have created more than 15,000 jobs that remain in the Greater Philadelphia region today and contribute more than \$9 billion to the regional economy annually. The Science Center has a history as the oldest and largest urban research park in the United States. Today, after 50+ years of operations, they are in the midst of a dramatic change that will further impact Greater Philadelphia's role in the innovation ecosystem, as they join forces with Wexford Science + Technology, a BioMed Realty company, to expand their footprint. In September 2015, the Science Center announced a new brand for their campus: uCity Square-a true mixed-use community comprised of office and lab space for companies of all sizes as well as residential and retail locations. Together with Wexford, they are creating a community of ingenuity where bright minds will flourish and thrive. To learn more about the University City Center Science, visit http://www.ucscreview.org

# Penn Medicine Innovation Accelerator Program Kick-starts Eight Projects Aimed at Improving Health Care Delivery and Patient Outcomes

Penn Medicine's Innovation Accelerator Program, now in its third year, has announced funding for eight new projects aimed at improving health care delivery and patient outcomes. The program, run by leaders in the Center for Health Care Innovation, has been redesigned to support a larger group of thought leaders from across departments and in roles across the University of Pennsylvania Health System in their efforts to develop, test and implement new approaches to health care.

"The Accelerator Program offers Penn Medicine staff members a terrific opportunity to put their ideas into action," said David A. Asch, executive director of the Center for Health Care Innovation. "It supports a culture of experimentation, where insights can promptly be turned into data. Quick, rapid learning about what is working, paired with ongoing adjustments and tweaking, ensure that the entrepreneurial mindset remains at the heart of our activities."

Formerly the Innovation Grant Program, in its first two years, the Center provided more than \$500,000 in funding for projects ranging from improved antibiotic stewardship to IMPaCT, a leading, evidence-based community health worker program for vulnerable populations. The program has now been reimagined to move away from a smaller number of projects receiving larger initial grants to enable more novel interventions with seed funding to kick-start their idea.

Teams will work with mentors from the Center for Health Care Innovation over four months, applying high-impact methods for refining and validating solutions to test and develop their concepts. In March 2016, the program will culminate with a pitch session where teams will present their learnings for the opportunity to receive additional funding to take their ideas to scale.

The eight newly funded teams were selected from a record pool of more than 85 proposals.

 Automated lab monitoring for patients on high risk medications

*Project lead:* Carmela Vittorio, vice chair of operations, dermatology

Goal: Develop and test an automated lab moni-

toring system for patients on high-risk medications to streamline care coordination, increase the number of labs completed on time to avoid patient safety events and improve patient outcomes.

• Our Directives, increasing completion of

 Our Directives, increasing completion and compliance with advance directives

*Project lead:* David Casarett, director of hospice and palliative care

Goal: Dramatically increase the number of Penn Medicine patients with care preferences that are known and followed with an online platform optimized for rapid testing of novel strategies to enable completion and sharing of an advance directive.

• Implementing a teleretinal imaging program to increase screening of diabetic patients

*Project lead:* Thomasine Gorry, associate professor of ophthalmology, co-chair of CPUP Clinical Operations: Quality Domain

Goal: Increase the rate of diabetic patients receiving necessary preventative eye services by offering an alternative to "in person" examinations. Screenings can be accomplished without dilation and with minimal impact on specialists' time while identifying individuals who need specialist care.

Increasing compliance with perioperative instructions to decrease complications and improve outcomes

Project lead: Stephanie Diem, clinical data analyst

Goal: Develop and test a platform to enable both patients and providers to follow the Enhanced Recovery After Surgery (ERAS) protocol to decrease perioperative complications, readmission rates and length of stay while improving the patient experience.

 Reimagining preoperative evaluation processes to reduce cancellations and improve outcomes

Project lead: Marc Royo, clinical instructor, department of anesthesiology and critical care Goal: Reduce surgical delays, cancellations, com-

Goal: Reduce surgical delays, cancellations, complications and length of stay by getting the patient and the right interdisciplinary members of the care team engaged and informed earlier in the process.

Redesigning follow-up scheduling to reduce cancellations and improve patient experience

Project lead: Rahul Banerjee, resident physician, department of internal medicine

Pennant Accounts Inaugurates a New Era for Student Systems at Penn

On October 15, Penn's Next Generation Student Systems (NGSS) project reached an important milestone with the launch of the first full release in its Pennant suite of systems: Pennant Accounts.

Pennant Accounts comprises the core student-profile and accounts-receivable application based on Ellucian's Banner software, along with the Pennant Accounts Feeder Application, Pennant Graduate Funding and Pennant Plus utilities (including the Pennant Student Account Summary), as well as a new Data Warehouse collection. Pennant Accounts replaces the legacy Billing and Receivables System (BRS), the related billing functions in Student Financial Services Enhanced Access to Student Information (SFS EASI) and the BRS Data Warehouse collection.

Hundreds of members of the Penn community have worked to make possible this first of three transformational advancements in Penn's student-related electronic infrastructure. From identification of the University's unique and varied requirements to the reconceiving of business processes; the evaluation of vendor products; the design, development and testing of supporting applications; and readiness activities including extensive outreach and training; the team has drawn on the energy and expertise of colleagues in Schools and Centers throughout the University. After a multiyear effort, the successful launch of Pennant Accounts—on time and on budget—testifies to the creativity and commitment of collaborators across campus and beyond.

Pennant Accounts will help staff provide better service, help Schools and Centers make better decisions and help Penn make a greater impact. It will also establish important foundations for future Pennant releases: Pennant Records, which will modernize student academic records and registration processes, and Pennant Aid, which will support Penn's leadership in making an unsurpassed education accessible regardless of need.

The NGSS project team thanks everyone who played a part in bringing Pennant Accounts to fruition and looks forward to further collaboration on future Pennant releases.

For more information about Pennant, see: http://www.sfs.upenn.edu/ngss/index.html

Michelle H. Brown-Nevers, Associate Vice President, Student Registration & Financial Services—Thomas H. Murphy, Vice President, Information Systems & Computing and University CIO—Beth Winkelstein, Vice Provost for Education

Goal: Test new patient scheduling, engagement strategies and care coordination approaches to reduce no-shows and cancellations after patients are discharged from the hospital, improving both the patient experience and their health outcomes.

 PEACE—optimizing care models for women with signs of miscarriage

Project lead: Courtney Schreiber, program director for the Penn Family Planning and Pregnancy Loss Center, obstetrics & gynecology

Goal: Test a full-service, urgent-care care model for women with signs of miscarriage to reduce cost, free up operating room capacity, reduce blood transfusions and improve patient experience. While there is evidence of measurable impact from similar models internationally, this novel approach would establish national leadership.

Managing superutilizers

Project lead: Anna Doubeni, associate professor of clinical family medicine and community health

*Goal*: Develop and test methods to proactively identify superutilizer patients for new interventions to lower cost by reducing low value care and improving patient outcomes.

"These proposals demonstrate an inspiring range of new care models, practices and services with the potential to make a dramatic impact on value, outcomes and patients' experience," said Roy Rosin, chief innovation offer at the University of Pennsylvania Health System. "All of us at the Center wish we could formally support many more projects, as submissions from so many of our colleagues have tremendous merit, but we do our best to help even when a project hasn't been officially selected. For those that have been selected, we believe that the seed money, mentorship and support from our internal partners such as Penn Medicine's information services team will accelerate testing and validation so we can then continue investment in those models that show the most promise.'

#### Volunteering on Campus for Election Day

In order to promote voter engagement and turnout across the campus community, Penn OGCA leads voter registration and awareness campaigns before every election. The Penn Voter Education Task Force, a nonpartisan coalition of Penn students, faculty and staff, strives to build a stronger community of civically aware, practicing voters. OGCA and the Task Force have been deeply engaged this semester in promoting utilization of Pennsylvania's new online voter registration portal, encouraging voters to make a plan for Election Day and demonstrating usage of the Philadelphia voting machine.

With little more than a week until Election Day on *Tuesday, November 3*, intensive recruitment of student, staff and faculty volunteers is underway to operate the campus polling places. This is a nonpartisan opportunity to engage in the democratic process at the local level. Volunteers must be available for all-day or half-day shifts on Election Day between 6:30 a.m. and 8:15 p.m. Here are three things Penn people can do to assist in this effort:

- Volunteer at ogca@exchange.upenn.edu
- Help the Task Force expand its reach by following on Facebook, Instagram and Twitter.
- Talk about your voting experiences, especially with young and first-time voters.

#### **Human Resources: Upcoming November Programs**

#### **Professional and Personal Development**

Improve your skills and get ahead in your career by taking advantage of the many development opportunities provided by Human Resources. You can register for programs by visiting knowledgelink.upenn.edu or by contacting Learning and Education at (215) 898-3400.

Writing Emails that Get to the Point; 11/3; 1-2 p.m. Because so many of your communications are via email, this is a great chance for you to spend a short time learning how to do it better. Email demands clear and efficient writing, but we've all seen how easily misunderstandings in email messages can compromise clear communication. Attend this helpful brown bag to get a fast-paced, hands-on lesson to strengthen your email writing skills. Through examples and exercises, you will learn how to target your audience, get to the point and develop and maintain a professional email style.

AMA's Developing Emotional Intelligence; 11/10 & 11/11; 9 a.m.-5 p.m.; \$75. Emotional intelligence (EI) in the workplace is vital to being an effective and high-performing member of any team. Business professionals who understand the connection between emotions and actions and can apply EI skills to maximize effectiveness have a stand-out advantage in any organization.

Cover Letters That Get Results; 11/18; 9 a.m.-2 p.m. We all know that employers get so many resumes in response to just one job opening. It becomes more important than ever to find ways to make your information stand out from the crowd. A well written cover letter gives you that great opportunity to communicate your 'match' to the position and your 'fit' to the organization. Come to this session to learn the steps to creating a powerful cover letter.

#### **Quality of Worklife Workshops**

Dealing with the demands of work and your personal life can be challenging. These free workshops, sponsored by Human Resources and led by experts from Penn's Employee Assistance Program and Quality of Worklife Department, offer information and support for your personal and professional life challenges. For complete details and to register, visit www. hr.upenn.edu/myhr/registration or contact Human Resources at (215) 573-2471 or qowl@ hr.upenn.edu

Breastfeeding Support Group; 11/2; noon-1:30 p.m. Come meet other new moms on campus, get help with breastfeeding challenges or share what's worked for you. If you are breastfeeding, pumping and bottle-feeding, pregnant and thinking about breastfeeding or formula-feeding and curious about breastfeeding, this group is for you. This group is open to Penn faculty, staff, students, post docs and their partners. The group will also meet on *December 7*. Funding for this group is provided by the Division of Human Resources, the Family Resource Center and the Penn Women's Center.

Putting Together a Flexible Work Option; 11/4; 1-2 p.m. Flexible work options offer creative ways to work while managing complex work and life goals. They involve non-traditional work schedules, locations and/or job structures. No matter what you'd like to arrange, you have to make sure that your plan prioritizes the needs of the organization. Come to this workshop and we'll review what you need to consider, typical ways of working flexibly at Penn and how to make sure you have a successful arrangement proposal.

What is Mindfulness Anyway? And How Can it Help Me?; 11/6; noon-1 p.m. From Psychology Today to the Harvard Business Review, mindfulness has been in the news a lot lately, but what exactly does it mean? Mindfulness practice develops awareness of your present thoughts and feelings to help you manage different situations. In this work-

shop, we'll explore the science and philosophy behind mindfulness and learn its potential benefits. You'll see how mindfulness can help you become more engaged and effective both at home and in the workplace.

Education in Philadelphia: School Information Session; 11/9; noon-1:30 p.m. The Family Center encourages all parents and families to attend our annual school information session. This event is a vital opportunity to hear firsthand details about charter schools, the Head Start preschool program, private preschools and kindergarten transition into the School District of Philadelphia. Representatives from local schools will be available to answer your questions. This event is sponsored by Parents at Penn and the Family Center. Lunch will be provided. Please register in advance as space is limited.

Self-Care for the Caregiver; 11/13; noon-1 p.m. This workshop is designed to assist caregivers with developing skills to better help their loved ones—and themselves—cope with the many stages of caregiving. Participants will learn some specific techniques to better care for loved ones and emphasize ways of coping with the personal and emotional challenges caregivers face.

#### **Healthy Living Workshops**

Get the tools you need to live well yearround. From expert nutrition and weight loss advice to exercise and disease prevention strategies, we can help you kick-start your body and embrace a healthy lifestyle. These free workshops are sponsored by Human Resources. For complete details and to register, visit www. hr.upenn.edu/myhr/registration or contact Human Resources at (215) 573-2471 or qowl@ hr.upenn.edu.

Flu Vaccine Clinic; 11/2; 10:30 a.m.-6 p.m. Penn faculty and staff (full- and part-time) are encouraged to get their flu vaccine this season! Health Advocate will be on campus to offer Penn employees a flu shot, with registration required.

Please note:

- Bring your PennCard.
- Bring the printed 'Confirmation Statement' for this event.
  - · Wear clothes with access to your upper arm.
  - No payment is required.

Consistent with the Affordable Care Act, Penn employees no longer need to pay for flu shots and seek reimbursement from their insurance companies. As such, there will be no charge for flu shots given on campus this year.

Be in the Know Biometric Screenings; 11/3 -11/20; 9 a.m.-3 p.m. Start this year's Be in the Know campaign and sign up for a free and confidential biometric screening, which measures your:

- · Blood pressure
- Blood sugar (glucose)
- Non-fasting cholesterol (total and high density lipoproteins)

Biometric screenings are conducted by AREUFIT Health Services, an experienced worksite health promotion company. These screenings should only take 20 minutes. On the spot, you'll receive your results and learn what they mean from an AREUFIT health educator.

Visit our Be in the Know webpages at www. hr.upenn.edu/beintheknow to learn about the full campaign, including complete details regarding this year's Core Activities (biometric screening and online health assessment) and Bonus Actions. Get started today and earn up to \$180\* and be entered into various drawings for exciting prizes

\*Note: All Be in the Know incentives are less applicable payroll taxes.

Gentle Yoga; 11/6; 11/20; 10:30-11:30 a.m. Let your body reward itself with movement. Join us for this Gentle Yoga session and explore the natural movements of the spine with slow and fluid moving bends and soft twists. During this session, you

will flow into modified sun salutations that loosen those tightened muscles and joints of the lower back, neck, shoulders and wrists. As an added bonus, you'll get a workout in the process. Mats and props will be provided.

Guided Meditation – Take a Breath and Relax; 11/17; 11/24; noon-1 p.m. Practice mindful breathing that focuses your attention on the present moment with kindness, compassion and awareness. Self-massage and gentle mindful movements that promote relaxation and reduce stress may also be included in the workshop. No experience necessary. Sandra Herman, the instructor for the course, has 30 years of experience in the fields of social work and health education. She has a special interest and expertise in holistic approaches to stress reduction. Since 2007, she has conducted individual wellness sessions and workshops in stress reduction and smoking cessation for Penn students. These sessions incorporate not only educational and behavioral counseling techniques, but also mind/body awareness practices, including meditation, reiki, guided imagery, self-massage and qigong. Ms. Herman also maintains a private consulting practice with individuals and organizations, where she shares these varied methods for increasing calm and balance in facing life's many chal-

-Division of Human Resources

#### Knowledge@Wharton: Free ebook

Wharton Digital Press is publishing a new ebook series that collects the best of Knowledge@Wharton's interviews that are called Knowledge@Wharton Conversations. The first two ebooks in the series are Conversations on Success: 6 Thought Leaders Redefine What It Means to Succeed and Conversations on Leadership: 6 Leaders on What Drives Excellence.

To help launch the new series, Wharton Digital Press is offering Conversations on Success as a free download through October 29 in partnership with Amazon, Apple, Barnes & Noble and other ebook retailers.

This free offer includes a foreword by Wharton professor Michael Useem and interviews with Wharton faculty, including Stewart Friedman, Adam Grant and G. Richard Shell, and bestselling author Malcolm Gladwell, NY Times Corner Office reporter Adam Bryant and Barnard College President Debora Spar.

#### K@W Radio on XM 111

The Wharton School powers business

radio on Sirius XM 111, broadcasting business and management



knowledge for career success. It includes Knowledge@Wharton, along with Career Talk and Measured Thoughts; see https:// businessradio.wharton.upenn.edu/

One show, Knowledge@Wharton, is a daily call-in business interview program on Sirius XM channel 111 broadcasting live from 10 a.m. to noon Monday-Friday. It goes behind the headlines with Wharton faculty and expert guests.

### Some Tricks for Traveling More Safely

Remember: Fall back, Spring forward! On Sunday, November 1 at 2 a.m., Daylight Saving Time comes to an end. This means we can all sleep an extra hour Sunday morning and still have breakfast at the usual time.

It also means we lose an hour of daylight just around the time most of us are heading home from work or school.

It also means we lose an hour of daylight just around the time most of us are heading home from work or school. Penn's Division of Public Safety (DPS) wants to remind you of the following tips on how to stay safe during your commute:



#### **Public Transportation Safety Tips**

Become familiar with the different bus and trolley routes and their schedules. SEPTA schedules and general information are available by visiting *www.septa.org* or calling (215) 580-7800.

If you travel underground, be aware of the emergency call boxes on the platform. These phones contact SEPTA Police. The phones operate much like the University's Blue Light Phones. To operate the SEPTA Phone, push the button. A SEPTA operator will identify your transit stop and assist you immediately.

- Whenever possible, try to sit near the driver.
- In the subway station, stand back from the platform edge.
- · Pay attention to your surroundings.
- Don't become complacent while using your cell phone or other devices.
- Don't fall asleep. Stay alert.
- Never display your money in a crowd.
- Keep your bag or purse close to you and in view.

#### Off-Peak Travel Tips

- When using subways, especially during off-peak hours, stand near the SEPTA call box.
- In case of an emergency, there is a cashier's booth staffed during hours of operation.
- If possible, travel with a companion(s).
- Request a Penn Walking Escort by calling (215) 573-WALK (9255). The security officer will wait with you until you board the train, bus or trolley.

#### **Blue Light Phones**

• If you observe a potential safety hazard, would like a walking escort or require the Division of Public Safety's assistance, you can use one of more than 500 Blue Light emergency phones on campus and in the surrounding community. Just pick up the receiver or press the button. For a map of emergency phone locations see: <a href="https://www.publicsafety.upenn.edu/about/security-technology/blue-light-ephones/">https://www.publicsafety.upenn.edu/about/security-technology/blue-light-ephones/</a>

#### Safety Tips on the Street

- Do not display your smartphone when walking about. Keep it in your bag or pocket.
- Avoid using earphones when walking to ensure that you stay alert and aware of your surroundings.
- Stay in well-lit areas. Walk mid-point between curbs and buildings, away from alleys, entries and bushes. Stay near people.
- Avoid shortcuts through parks, vacant lots and other low-occupancy places.
- Carry only necessary credit cards and money. Avoid using outdoor ATMs (automated teller machines). Instead, look for banks that require entry into a lobby to use their ATM.
- If you must carry a purse or handbag, keep it close to your body. This will minimize the chances of theft. If your purse is taken, don't fight. Turn it over and immediately call 911.
- Walk with someone whenever possible. Participate in buddy systems.
- Do not stop to give directions or other information to strangers. Never hitchhike.
- If you believe you are being followed, call 911. Be alert & confident—making good eye contact may discourage the follower. Cross the street, change directions or vary your pace. If someone follows you in a car, record the license plate number and call 911 immediately.
- Have your key out and ready before you reach your car or door.
- Trust your instincts and use common sense.

# Additional Services Available to you on Penn's Campus LUCY (Loop through University City)

LUCY is a shuttle operating Monday through Friday, from 6:10 a.m. until 7 p.m., between 30th Street Station and University City. Managed by the University City District (UCD) and operated by SEPTA, LUCY is a great way to ease your commute. Rides are free for holders of a valid PennCard. Schedule and route information is maintained by the UCD. For more information visit: <a href="https://www.universitycity.org/getting\_around/lucy">www.universitycity.org/getting\_around/lucy</a>

**Walking Escort** (215) 898-WALK (9255)

Available 24 hours a day, 365 days a year, from 30th to 43rd Streets and Market Street to Baltimore Avenue.

Escorts are also available from 10 a.m. until 3 a.m. from 30th to 50th Streets and Spring Garden Street to Woodland Avenue via the University's partnership with the University City District Ambassador Program.

Riding Escort (215) 898-RIDE (7433)
Penn Transit Services: (215) 898-RIDE (7433), Monday-Sunday, 6
p.m.-3 a.m.; limited on-call service, 3 a.m.-7 a.m. Business Services' Penn
Transit offers various transportation services that you can use for getting
around University City or simply getting to your car. For more information, visit www.upenn.edu/transportation

#### Penn Guardian

Penn Guardian is a free app that is available to all Penn community members. It was developed by the University's safety partner, Rave Guardian, a service utilized on college campuses across the country.

Registering is easy—search "Rave Guardian" in the App Store for iOS devices or Google Play for Android devices. You will be prompted to enter your name, phone number and Penn email address, which provides access to the University's customized interface. Calls from a registered phone will allow Penn Police to determine your cell phone's GPS location, which can decrease response time. This information will only be available to Penn Police if you call the PennComm Operations Center (PennComm) directly, either through the app or at (215) 573-3333.

The app also allows users to create a Smart911 profile, in which medical conditions, medications, allergies and disabilities can be included. This information can also be viewed at other Smart911-enabled emergency response centers across the country should you need to call them.

If a call is made to PennComm, and you are unable to speak—perhaps because of an allergic reaction—a call taker will send a text message to your phone. You can then communicate directly via text.

The app includes other features, such as a safety timer, and provides a confidential way to submit a tip to Penn Police—with a photo, if necessary—through a text message.

For more information, please visit the Penn Guardian website at www.publicsafety.upenn.edu/pennguardian

#### **Important Numbers**

Penn Help Line: (215) 898-HELP (4357)

University of Pennsylvania Police: (215) 573-3333 or 511 from campus phone

Philadelphia Police: 911 SEPTA Police Hotline:

Emergency: (215) 580-8111 Non-Emergency: (215) 580-4487

Children's Hospital of Philadelphia Security: (215) 590-5500

Philadelphia Poison Control Center: (215) 386-2100 National Poison Control Center: (800) 222-1222

Special Services: (215) 898-4481

Victim Support & Sensitive Crime Reporting (24/7): (215) 898-6600 Public Safety Headquarters is located at 4040 Chestnut Street

#### **Halloween Safety**

This is also a good time for Halloween safety tips for the children in your life:

- Encourage them to trick-or-treat in familiar neighborhoods.
- Don't let children trick-or-treat alone; go with friends and/or family.
- Make sure they stay in well-lighted areas.
- Costumes should be highly visible; include white or reflective clothing.
  - Have them carry a flashlight, glowstick or reflective bag.
  - Make sure they watch out for cars.
  - Be sure to inspect all treats before they are consumed.

#### Tips from Penn Vet to Keep Pets Safe on Halloween

Tips to keep pets healthy and out of the emergency room this Halloween:

- Keep Halloween candy out of your pet's reach. Chocolate and other treats can be potentially harmful to animals. Tinfoil and cellophane candy wrappers can also be hazardous if swallowed.
- Don't put costumes on your pets unless you know they enjoy it. If they do, make sure the costume doesn't restrict your pet's movement, vision, hearing or ability to breathe or bark. Adults should supervise pets in costume at all times.
- Keep pets away from lit pumpkins. Curious pets could be burned or start a fire if they knock the pumpkin over.
- Keep pets inside on Halloween to avoid pranksters who may harm them. This is especially important for cats, which should be kept inside for several days before and after Halloween. Black cats, in particular, may be at risk.
- Children in costumes may frighten your dog or cat. Pets should be kept in a separate room during peak trick-or-treating hours.
- If your pet is very social and you choose not to put him/her in a separate room, be sure your pet doesn't dart out when you open the door. Just in case, make sure your pets are wearing current identification.

   Penn Vet's Emergency Service is open 24 hours a day, seven days
- Penn Vet's Emergency Service is open 24 hours a day, seven days a week, 365 days a year. Call (215) 746-8911.

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# **Update**

**October AT PENN** 

#### **TALKS**

Publishing for Early Career Faculty & Graduate Students; Brigitte Schull, Palgrave Macmillan; noon; Meyerson Conference Room, Van Pelt-Dietrich Library; register: www.phf.upenn.edu/ events/publishing-oct29 (Open Dialogs on Open

Child-beating and Trauma in Late Antiquity; Jonathan Conant, Brown University; 4:30 p.m.; rm. 402, Claudia Cohen Hall (Classical Studies).

#### **AT PENN Deadlines**

The November AT PENN calendar is online at http://www.upenn.edu/almanac The deadline for the December AT PENN calendar is November 10.

Info. is on the sponsoring department's website; sponsors are in parentheses. For locations, call (215) 898-5000 or see www.facilities.upenn.edu

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Twyla Tharp at the Annenberg Center: October 30-November 1

Legendary choreographer Twyla Tharp celebrates 50 years of dance with this special engagement of new works opening with the vibrant Fanfare followed by Preludes and Fugues, a spirited piece set to Bach, and Yowzie, a humorous work set to a raucous and jazzy score. Known for her beloved works for film, television and the Broadway stage, Ms. Tharp leads a meticulously rehearsed ensemble to bring her lively choreography to life with immaculate technique and pure joy. Performances will be October 30-November 1 at the Annenberg Center. For tickets, visit www.annenbergcenter.org/

#### The University of Pennsylvania Police Department Community Crime Report

About the Crime Report: No Crimes Against Persons or Crimes Against Society were reported for October 12-18, 2015, although 11 Crimes Against Property (6 thefts, 2 frauds, 2 other offenses and 1 DUI) were reported. Full reports are available at: <a href="https://www.upenn.edu/almanac/volumes/v62/n11/creport.html">www.upenn.edu/almanac/volumes/v62/n11/creport.html</a> — Eds. This summary is prepared by the Division of Public Safety and includes all criminal incidents reported

and made known to the University Police Department between the dates of **October 12-18, 2015**. 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.

#### **18th District Report**

Below are the Crimes Against Persons from the 18th District: 13 incidents with 9 arrests (1 aggravated assault, 5 assaults and 7 robberies) were reported between **October 12-18**, **2015** by the 18th District covering the Schuylkill River to 49th Street & Market Street to Woodland Avenue.

10/12/15 10:26 PM 10/12/15 10:26 PM 10/12/15 10:26 PM 10/12/15 10:26 PM 10/13/15 10:26 PM 10/13/15 12:40 PM 10/13/15 4:26 PM 10/15/15 8:48 AM 10/15/15 12:10 PM	42nd & Market Sts 4726 Larchwood Ave 4000 Market St 200 S 47th St 4901 Chestnut St 3401 Civic Center Blvd 4806 Market St 4800 Chestnut St 4800 Chestnut St 4700 Pine St	Robbery Robbery/Arrest Robbery/Arrest Robbery/Arrest Robbery/Arrest Assault Aggravated Assault/Arrest Assault Assault/Arrest Robbery/Arrest Assault/Arrest Assault/Arrest Assault/Arrest Robbery Robbery Robbery
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Center for Responsible Funding . Penn Medicine . United Way

#### OCTOBER 5 - NOVEMBER 20

#### **Week Two Winners**

Adventure Aquarium/The Rose Group: Two one-day passes to Adventure Aquarium and \$25 gift certificate to the Corner Bakery-Patrick Moeller, UPHS

PearlsRock: Pearl necklace-Holly Greenberg, HUP

Sabrina's Café: \$40 gift card—Maura Balogh, Clinical Practices (CPUP)

William Street Common: \$50 gift certificate Christina Wilson, HUP

Zavino: \$75 gift certificate—Penny Creedon, Graduate School of Education

Picnic: \$30 gift certificate—Jaclyn Pilgermayer, HUP

Philip Rosenau Company: \$50 Barnes & Noble gift card—David Rudovsky, Law School

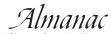
#### Penn's Way 2016 Raffle Prizes Week 4 (11/3 drawing) **Mid-Point Grand Prize Drawing**

World Travel: Two round-trip tickets for anywhere in the 48 contiguous states (valued

Q: What contribution methods are available using the online pledge form?

A: Employees may contribute via payroll deduction, cash, check or credit card using the online pledge form. Please follow the instructions on the online confirmation page to ensure all contributions are properly processed.

Visit the Penn's Way website for more information about what a gift can provide, pledge forms, a payroll deduction guide, an agency list and more frequently asked questions & answers: http://www.upenn.edu/pennsway/



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### **Motivating Students with "Real Projects for Real Customers"**

Christian Murphy

A colleague once asked me, "How do you motivate your students? How do you inspire them?" and I was disappointed with myself that I couldn't come up with anything more insightful than "I have them do stuff that I think is cool and hope that it works out okay."

Every so often, though, things do work out okay, and I come across something that really motivates my students to take their work seriously, put in a tremendous amount of effort and achieve more than they thought they could.

In my two Software Engineering courses—CIS 350 for undergraduates, and CIS 573 for graduates—students have the option of doing "real projects for real customers," in which they engage in group projects to develop mobile apps for customers from outside the course. The customers—who are almost always part of the Penn community—provide the requirements and direction for the project, and then receive the code and supporting documentation at the end of the semester. In some cases, projects span across semesters, so that different groups of students work on them at different times.

Despite the organizational challenges of running these sorts of projects at scale, there are a number of benefits that make them worthwhile, and I have found that they go a long way in motivating the students to do great work.

First, even when a project is positioned as "solving a real-world problem," students may feel that the output of their project (whether it's a paper, a design, a model, a device, a piece of software, etc.) is simply going to be discarded at the end of the semester, and that no one really cares about its quality except for possibly the TA who will grade it. It is important that the students get the feeling that someone else *does* care about the quality of what they produce, and that it will potentially live on even after the term is over. By having the students work directly with a customer, the project ceases to be considered "a big homework assignment" and purely an academic exercise, but rather is seen as a professional engagement in which the students are delivering a product that needs to be of high quality. Accordingly, the students put in more effort because they know that what they produce is ultimately worth more than just a grade.

Second, students realize that what they produce may be distributed beyond the University setting to a potentially large number of users. Part of the appeal of working at companies like Microsoft, Facebook or Google is the thrill of knowing that potentially millions of people are using your software, but that sensation is hard to reproduce in a classroom setting. Although the apps that the students build in our courses are unlikely to be used by "millions" of users, of course, they are almost always intended for a larger audience than just the customer with whom the students interact. Thus, the students know that it is not only their customer who cares about the quality of what they produce, but that other people whom the students will not meet care about it, too. Given that the projects tend to be in domains like healthcare and education, the students know that their apps will be used to help medical patients, elementary school children, families, the homeless, other students, etc. and are motivated to put in extra effort in order to benefit people other than themselves.

Third, students feel the passion that the customer has for the subject matter, and that motivates them to help their customer be successful. In our group projects, we very specifically avoid the situation in which the customer hands the students a list of requirements and says, "build this,"

and then the students say, "Okay, see you in 10 weeks!" Rather, the customer is engaged throughout the semester and is actively involved in weekly update meetings that are organized and run by members of the teaching staff.

This process methodology not only keeps the customer more involved so that they are more likely to get what they wanted—but also has the side effect of further motivating the students: through these weekly faceto-face meetings, students feel the customer's passion and are energized to help them reach their goals. Almost all of the customers are Penn faculty, staff and graduate students, from places as various as Penn Medicine, the School of Nursing, PennVet Working Dog Center, Student Health Services and the Netter Center for Community Partnerships. Because the customers are people who would not have reached this stage of their career if they were not passionate about what they do, the students are surely affected by hearing them talk about their work. Often the customers say things like, "I have this great idea for an app that will really help people, it's just that I don't know how to build it." The students—even undergraduates who have only recently learned how to program—realize that they have the ability to help these domain experts see their apps come to life, and that is a very thrilling and rewarding experience that motivates them further.

Admittedly, when I first set out to have the students do these projects for real-world customers, I wasn't necessarily thinking about how to motivate them: I just thought it would be something different from usual group projects and would give them something approximating a real-world experience. However, I must admit that there was one insight that I had at the time regarding motivation, and I have mostly observed it to be true: students are more afraid of disappointing their customer than they are of disappointing their own instructor. This is perhaps speculative, but I might summarize the students' mindset as such: "If I tell my instructor that I didn't do my work or do a bad job of it, then I just get a bad grade; I can live with that. But if I tell my customer—someone who's essentially a stranger—that I didn't do something, or if I let them down, then I might be embarrassed and this person may think less of me; I wouldn't like that."

This may also be related to the manner in which students interact with the customer and with the instructor. With the instructor, it is very easy to simply send an email saying, "I didn't have time to do it," or just not do the work and let the instructor figure it out. After all, in these courses there may be over 100 students, and students may feel safer in their anonymity.

But because students meet with the customer in person (students usually work in groups of four on these projects), there is social cost to showing up for the meeting with nothing to say or admitting that the work they did is not very good. I wouldn't say that avoiding embarrassment is the students' primary motivation, of course, and the above-mentioned reasons certainly provide enough "carrot" so that "stick" may not be necessary, but it is something that combined with the other reasons has led the students to achieve truly remarkable work.

I am certainly not the only one at Penn who does "real projects for real customers," and I suspect that such an approach would be effective not just in engineering or the professional schools, but in any course in which students engage in group projects. I encourage you to try having your students collaborate with a "customer" within the University. You will find that the students are motivated to work harder, act more professionally and accomplish something great.

Christian Murphy is an associate professor of practice in the department of computer & information science in the School of Engineering and Applied Science and is director of the Master of Computer & Information Technology program.

This essay continues the series that began in the fall of 1994 as the joint creation of the College of Arts and Sciences and the Lindback Society for Distinguished Teaching.

See www.upenn.edu/almanac/teach/teachall.html for the previous essays.

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