Penn Vet’s New Center for Host Microbial Interactions

By current estimates, the human body contains ten times more bacterial cells than human cells. Acting in ways both beneficial and harmful, this complex ecosystem of microorganisms—collectively called the microbiome—lives on the surface of the skin and in the gut and urogenital tract where it influences digestion, allergies and a multitude of diseases. At Penn Vet, researchers are exploring the microbiome of animals in order to benefit both animal and human health.

Penn Vet’s new Center for Host Microbial Interactions (CHMI), a unique venture for any veterinary school, is designed to facilitate collaborative projects that leverage genomics to study the intersection of microbes and disease. In doing so, researchers will gain insight into how bacteria, parasites, viruses and other organisms interact with their animal and human hosts in ways that either maintain health or lead to disease.

The Penn community is invited to a symposium that CHMI is hosting on Thursday, November 7 from 4-6 p.m. at the Hill Pavilion.

The Center is currently funding five pilot projects. Each year, the Center will invite researchers to submit proposals for funding. In addition to these pilots, the Center provides ongoing support and training for Penn Vet faculty and their labs to carry out analyses of the complex datasets generated by genomic approaches.

“We strongly believe this innovative approach to health and disease will provide new insights into animal and human health and will build on the One Health concept, linking veterinary medicine, human medicine and environmental science, in a novel and impactful way,” said Joan C. Hendricks, the Gilbert S. Kahn Dean of Veterinary Medicine.

The five pilot projects, each led by Penn Vet faculty, will probe the following interactions:

• Canine atopic dermatitis as a model for human dermatology

Canine atopic dermatitis is a common allergic skin condition that is similar to human atopic dermatitis. Veterinarians at Penn Vet’s Ryan Hospital treat dogs that present with typical symptoms such as itching and then progress to scabs, hair loss and secondary bacterial infections that can often be resistant to antibacterial treatments. Penn Vet faculty Dr. Charles Bradley, Dr. Elizabeth Mauldin, Dr. Dan Morris and Dr. Shelley Rankin are collaborating with Dr. Elizabeth Grace of the Perelman School of Medicine to examine the ecosystem of bacteria on the dogs’ skin and monitor changes in the microbiome of each dog during treatment. The goal is to understand the role of resident microbial organisms in resistance to infection, the onset of infection and the development of antimicrobial resistance once infection occurs.

Very little is known about the dog microbiome. Since dogs develop spontaneous and complex diseases, much like humans, they serve as ideal models for understanding how both animals and humans can go from being healthy one day to dealing with a chronic or recurring disease the next day.

• Digestion, productivity and health in dairy cows

Dr. Dipti Pitta sees a direct connection between the gastrointestinal microbiome in cattle and the animal’s ability to process food, thrive and produce milk and meat—a critical part of the global food supply.

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Inaugural William Smilow Professor: Reed Pyeritz

Reed E. Pyeritz has been named the inaugural William Smilow Professor of Medicine and Genetics at the Perelman School of Medicine at the University of Pennsylvania. The professorship was established as part of the gift from William Smilow who, with his father Joel, made an extraordinary gift to name Penn Medicine’s Smilow Center for Translational Research.

Dr. Pyeritz is a distinguished clinician and translational research scientist who has focused his career on hereditary disorders that affect the cardiovascular system, especially the aorta. He also studies the ethical, legal and social implications of genetic research and testing. He has made breakthrough discoveries in molecular genetics and founded the National Marfan Foundation. He became one of the founders of the American College of Medical Genetics in 1991.

Dr. Pyeritz served as Chief of the Division of Medical Genetics at Penn Medicine from 2001 to 2011. He currently directs Penn CIGHT, the Center for the Integration of Genetic Healthcare Technologies, and is also the vice-chair for academic affairs, department of medicine, at HUP.

As the first graduate of the Harvard Medical Scientist Training Program, Dr. Pyeritz earned a PhD in biological chemistry in addition to his medical degree in 1975. After residencies at Peter Bent Brigham Hospital and Johns Hopkins University, he joined the faculty at Hopkins and rose to professor of medicine and pediatrics and clinical director of the Center for Medical Genetics. Dr. Pyeritz has published over 400 scientific articles, reviews and chapters in textbooks.

“The Smilow professorship is just one example of how our accomplished physicians inspire meaningful, impactful philanthropy,” said J. Larry Jameson, EVP of the University for the Health System and Dean of the Perelman School of Medicine.

“We are tremendously grateful for this gift, which will accelerate our work in cardiovascular disease,”

“It is a great privilege to be able to make an enduring impact on a cause that means so much to me and to so many across the nation,” said Mr. Smilow.

“I believe that brilliant faculty deserve the freedom to pursue new directions and new approaches—and inspire future generations of physicians.”

New College House Celebration: November 8

Penn’s Board of Trustees Chair David L. Cohen and Penn President Amy Gutmann invite the Penn community to attend the New College House Celebration on Friday, November 8. The picnic will be held rain or shine in a tent on Hill Field at 34th and Chestnut Streets, from 12:30-2 p.m.

Bring your PennCard.

Those who have not yet taken a moment to RSVP are urged to do so immediately:

opevents@pobox.upenn.edu

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The Diabetes Research Center (DRC) of the University of Pennsylvania is now accepting applications for support to perform pilot and feasibility (P&F) studies in diabetes and related endocrine and metabolic disorders. The P&F Program is particularly directed at new investigators and established investigators new to diabetes research. Established diabetes investigators pursuing high impact/high risk projects or projects that are a significant departure from their usual work are also eligible for support under the DRC P&F program. Applications are welcome from basic, clinical and translational investigators.

Please note that this year, for the first time, up to two applications will be awarded for funding of metabolomics projects to be conducted by the DRC Regional Metabolomics Core at Princeton University.

Grants will be reviewed by the DRC Pilot and Feasibility Review Committee as well as internal and external reviewers. Funding level maximum is $50,000. For the Metabolomics Pilot awards, funding level maximum is $16,000 per award, to be spent directly at the Princeton Core. Current award period: April 1, 2014–March 31, 2015.

For detailed information, including application instructions: www.med.upenn.edu/didom/drc/pilots.html

If human or animal subjects will be participating in the proposed research, IRB or IACUC approval will be required. Approval may be pending at the time of application but funds will not be disbursed without copies of the approval letters. Equipment, travel funds and investigator salary are not permitted on this award.

Investigators who are currently in the first year of support through this P&F Program may reapply for an additional year of funding. Such continuation requests need to be carefully justified, however, and will be considered as competing renewals.

Application Deadline: Wednesday, December 4, 2013. For information, contact Melissa Reilly, (215) 898-4365 or mreilly@mail.med.upenn.edu or Dr. Doris Stoffers, director, DRC Pilot & Feasibility Grants Program, (215) 573-5413 or stoffers@mail.med.upenn.edu

Abramson Cancer Center Seed Money Grants: December 9

The Abramson Cancer Center of the University of Pennsylvania announces the availability of seed money grants for faculty to conduct cancer-related research projects for junior faculty who do not currently hold a national research grant. Deadline: December 9, 2013.

Through an Institutional Research Grant from the American Cancer Society (ACS IRG), the Abramson Cancer Center will provide seed money grants to junior faculty members (i.e., assistant professor or below at the time of their appointment) to initiate promising new cancer research projects with the object to obtain preliminary data enabling them to compete successfully for national peer-reviewed research grants. Hence, investigators who have a peer-reviewed national research grant are not eligible for this award.

Investigators who have previously received support from the ACS IRG are now eligible to apply for a second year of funding. Seed money grants from $5,000 to $30,000 will be awarded for the exploration of new developments in basic, translational clinical and cancer control research. Behavioral sciences or health services research related to cancer are eligible for these awards. Covered costs include laboratory personnel costs (non-faculty), data manager or research nursing support, laboratory supplies, animals and small equipment; no travel or patient costs are allowed.

Applicants must identify a mentor at the time the application is submitted along with the mentor's NIH BiSketch and brief statement describing mentors' supervisory experience. Projects must have all necessary human subject and animal certifications to be eligible.

The award period for the ACS IRG grant is for one year: February 1, 2014 to December 31, 2014.

Application materials are available: www.pennmedicine.org/funding-opportunities/seed-money-grants

Questions concerning application submission may be directed to: Aprilre McCoy, Scientific Coordinator, Abramson Cancer Center, (215) 662-3912, admccoy@exchange.upenn.edu

Penn Vet’s New Center for Host Microbial Interactions (continued from page 1)

As a rumenant, the cow’s digestive tract offers a rich source of information pertinent to the study of microbial environments. Dairy cows are more prone to metabolic problems immediately after calving, as the animal has to adapt quickly from a non-lactating to a lactating phase. The “dry” cow’s nutritional needs are much less than those producing milk, so lactating cows are generally fed a much higher energy diet than dry cows. Dr. Pitta is studying the effect of changes in diet and metabolism that occur during the transition from dry to lactation periods on the microbial populations, as these are the mechanisms that drive the fermentation processes to release substrates required for producing milk.

• Maternal stress and its impact on neurological health of offspring

Dr. Tracy Bale is examining the relationship between early prenatal stress, the mother’s vaginal microbiome and her offspring’s brain development. Dr. Bale believes that, because a baby’s gut is first colonized by bacteria from the mother’s vagina at birth, perhaps differences are produced in the population of microbes by a mother’s stress and can lead to changes in a baby’s own gut microbiome. This altered microbial community could then lead to differences in how important nutrients are absorbed in the offspring’s body, leading to differences in how the baby brain develops.

• Pre-operative antibiotics and the equine gut microbiome

Previous research has linked high-carbohydrate feed to the development of colitis in horses. This may have to do with how a change in diet leads to alterations in the population of microbes living in the gastrointestinal tract, ultimately tipping the balance from health to disease. Likewise, administering pre-operative antibiotics could also lead to gut microbiome imbalances. Dr. Julie Engiles will take fecal and serum samples from subjects at New Bolton Center and track variations in the horses’ gut microbiome at certain times after surgery. If, unfortunately, a horse develops an infection after its procedure, Dr. Engiles and her colleagues will evaluate whether the infectious agents match up to those in the gut or whether they match other microbes.

The study will also track horses to see if they develop other post-operative complications, including two of the most troublesome maladies that strike horses: colic and laminitis.

• Stem cell transformation and colorectal cancer

Prior research conducted by Dr. Christopher Lengner has shed light on the idea that most cases of colorectal cancer may originate from a mutation in a stem cell that leads to unrelat- ed growth. Yet other research has indicated that chronic inflammation, inspired by an immune reaction, plays a role in increasing cancer risk. The goal of Dr. Lengner’s latest research project is to reconcile these two ideas.

This project will involve experimentally manipulating expression of the protein Msix, which Dr. Lengner’s lab has previously found to bind directly to RNA molecules that are involved in regulating immune responses. Dr. Lengner and his colleagues will track the response of the microbial communities as Msix levels are either knocked down or overexpressed. What they find may lead to the pursuit of other questions, such as how tumor development progresses in the presence or absence of various microbial communities.
At the October 30 University Council meeting, the main item on the agenda was the annual State of the University, in which President Amy Gutmann spoke about the Penn Compact 2020. There was also some time devoted to the Open Forum where a couple students raised issues of concern for safety of employees at factories operated by Penn licensees and another student suggested using the Penn Course Review and the Center for Teaching and Learning as a metric for teacher improvement.

**Penn Compact 2020**

President Amy Gutmann

A Snapshot of Penn Compact 2020: Inclusion, Innovation and Impact

I thought I would take this opportunity to give you a snapshot—and it’s only a snapshot—of our strategic vision for Penn for the rest of this decade. It’s fundamentally a renewal of the Penn Compact we’re calling the Penn Compact 2020, because the year 2020 will be the next time that we will need a new strategic vision. It’s also obviously a deliberate pun on 20/20 vision, indicating the way it’s supposed to be a really focused vision for the University, building on the Penn Compact. It highlights the three goals that Penn is focused on, and leads on, as a university: inclusion, innovation and impact. It’s a vision that all of the deans and the center directors can use to frame their more specific goals. So what I’m going to do today is just focus on some of my highest priority goals for the University this year and moving forward.

This is very much a living document; it’s going to change over time. But not in its highest priority goals— inclusion, innovation and impact—these are what I call evergreen goals. However I expect their specifics to change and to be informed by meetings I have with faculty, students, deans and my team. We are building on a decade of progress; the Penn Compact 2020 outlines bold next steps, some you’ll be familiar with: increasing access to Penn’s exceptional resources; integrating knowledge across academic disciplines; and engaging nationally, locally and globally to bring the benefits of Penn’s research, teaching and service to individuals and communities at home and around the world.

**Increasing Access**

So here is the first goal: access. We are committed to meeting the full financial need of undergraduates with all-grant, no-loan aid packages. We are now focusing on expanding the Penn World Scholars program, which is the need-based financial aid for our international students. Remember, we are need-blind with regard to all students from North America. We don’t have the resources to be need-blind with regard to all international students, but once an international student is admitted, we meet their full need with all-grant, no-loan policies. So this is to say, that as we have increased our capacity for financial aid for international students, we can admit more and more international students who are from low- and middle-income families.

An equally important part of financial aid is to strengthen graduate and professional financial aid. Every school has a different set of needs for its professional and graduate students, and we are fully committed to raising money to make us very competitive for the very best graduate and professional students, so we have increased our packages there as well.

A new high priority goal is to increase diversity and excellence at all levels with efforts such as the Action Plan for Faculty Diversity and Excellence. We also are committed to diversifying our staff, another important part of increasing access at Penn.

A completely new high priority initiative is to advance open learning at Penn with high quality online education initiatives that promote the most innovative teaching. We want not only to create online courses for our own students, but for the world. We now have over 1.5 million enrollees in our Coursera courses. Although there are about 100 Coursera universities, Penn accounts for roughly one quarter of all enrollments. That speaks volumes to the popularity of our faculty online as well as in the classroom.

But we also want to do research on what works best in innovative online education. There is almost no research being done on that. The Provost and I are going to be moving forward trying to recruit people from our Graduate School of Education, and perhaps recruit some people to Penn who actually do research on what parts of online education really are working the best. We have a great research base to do that. So that’s a snapshot of increasing access for the sake of inclusion.

Integrating Knowledge

Now we move on to integrating knowledge by increasing Penn Integrates Knowledge (PIK) Professorships, and other endowed Professorships to recruit and retain the most eminent and collaborative interdisciplinary faculty. This now includes a new initiative that we started just last year with the Faculty Diversity Action Plan, as well as our Presidential Portfolio for Faculty. So this in some ways corresponds to the financial aid program for students, but is aimed at faculty. It’s an evergreen priority. We need to raise more money for endowed Professorships to recognize our great faculty. That’s the first pillar of integrating knowledge.

The second is to build highly collaborative, inter-school research and teaching programs, such as Penn nanoscience. Let me see a show of hands. How many of you have seen the Singh Center for Nanotechnology on Walnut Street? Great. I’m told it was the annual State of the University, in which President Amy Gutmann spoke about the Penn Compact 2020.

That’s something we’re going to build over the next few years—and it’s just one example. There’s neuroscience, there are humanities initiatives and the online education initiative I mentioned earlier will also of course be an inter-school venture. We want Penn to be the place where faculty and students come to when they want to do inter-school, inter-disciplinary, really high-impact initiatives.

Finally, under integrating knowledge, we’re expanding Penn’s culture and practice of innovation through what we now call—we haven’t announced this publicly yet, but it has a nice ring to it, and we have a real plan behind it—the Pennovation Center, where Penn discoveries find rapid application to pressing social needs. There is a plan that former Senior Vice Provost for Research Steven Fluharty (now our dean of the School of Arts & Sciences) and Executive Vice President Craig Camaroli were charged with developing through meeting with a group of high level university people. I asked them to give me a plan for making Penn the best in technology transfer commercialization in a way that incentivizes our students and faculty to bring innovations to market. This includes everything from start-up ventures to having discoveries that then get sold to pharmaceutical and commercial ventures. Sometimes this spring we will announce the creation of the Pennovation Center at Penn South Bank. Many of you know this land parcel as the DuPont Marshall Labs, which we bought during the recession. It’s 23 acres, it’s not in our academic core; our buildings there are not like the Singh Center for Nanotechnology. They are not built for all times by famous architects. They’re inexpensive spaces, where faculty and students can do messy things and experiment. So we’ll open an incubator there, which will be great for Penn and great for Philadelphia. At the same time, we’re going to transition the Center for Technology Transfer into the Penn Center for Innovation, which will be what we call a “Hub and Spoke Model,” where there’s a university-wide hub for one-stop-innovation-shopping, and then the different schools have particular experts—they’ll be the spokes—much like we do now in Development and Alumni Relations. Stay tuned, this is a really important means of segueing innovation into impact, and we want to have that on our campus. So we’ll have plenty of opportunities and competitions—which we already have some of—but we’ll raise the visibility of those and do other things along those lines. So that’s a snapshot of integrating knowledge moving forward.

Engaging Locally, Nationally and Globally

The third pillar of Penn Compact is to engage locally, nationally and globally. Our evergreen goal here is implementing our Master Plan for the Campus, which is now in its second phase. Penn Connects 2.0. During the first phase, we built or renovated 4.8 million square-feet of space on campus, and we haven’t slowed down. We want to make Penn the most beau- (continued on page 4)
tiful, sustainable and innovative urban campus in America. We’re well on our way to doing that, and we want to have vibrant living and learning spaces for our students.

 Speaking of which, I invite you all to come to Hill Field on Friday, where we’ll break ground for the new College House, and we’ll celebrate that with food and various giveaways.

 What we’re doing with Penn Connects is creating an urban campus where you come and you see Penn Park or Weiss Pavilion or Singh Nanotechnology and in the future you’ll see a Perelman Center for Political Science and Economics, and you’ll know just by seeing these buildings, that this is where you want to be. I have talked to so many students over the last 10 years and asked them, Why did you decide to come to Penn? And those students, who hadn’t known about Penn, because they didn’t have parents who came to Penn, said: I came to this campus and I fell in love with the place. In an urban campus that’s very special: to have a green campus, which also has state-of-the-art athletic facilities and academic buildings, and we’re going to continue doing this with Penn Connects 2.0. So that’s the evergreen goal of engagement.

 A new high priority is enabling Penn faculty and students to advance knowledge-based public policy through focused, inter-school programs. At the end of last year, we created a Penn-Wharton Public Policy Initiative to bring together faculty and students from all over the University who want to focus on public policy through the lens of business, economics and finance. How can business, economics and finance inform public policy? This has become more and more important in today’s world as government and business are intricately intertwined. You all have to do is think about what’s happening with the sequester. I don’t have to tell you that it’s important for a university with a first-rate business school to use that expertise to inform public policy. We want to build on that, and we have some very generous donors who want to help us do that. We have an office now in Washington, DC, where we want to build the visibility and the strength, both with faculty and with student engagement.

 And then, third and finally for this presentation, we want to bring the world to Penn, and Penn to the world. Both for our faculty and our students and visitors, through broad-ranging University-wide programs, including the Perry World House, which will be on Locust Walk and 38th Street, and the Penn-Wharton China Center, which will be in Beijing.

 There are many other things we are going to do, but I want to leave a lot of time for your questions and comments, so I’ll just summarize the Penn Compact 2020. There are three big outcomes: access leads to inclusion, integration to innovation and engagement to impact. If we at Penn can show the world and ourselves that we are the most inclusive, innovative and impactful university, we will have done our job well. I thank you for your attention, and I think I did it in under my allotted time, to leave as much time for any comments and questions.

 Question and Answer

 Q: Thank you Dr. Gramm for explaining that vision to us: I think it was very useful to hear a little about Penn Compact 2020. Looking at the last piece you were speaking about, engaging Penn on a global stage and the Perry World House and the Perry-Wharton China Center, what plans are there to engage the undergraduate population in Penn’s global discourse?

 A: The Perry World House is designed for students and faculty. What we’re doing is designating it so there is a world forum in the middle of our campus where students and faculty can engage. It could be student-initiated, it could be faculty-initiated, but we’ll have big events in the world forum. Invited dignitaries will come. And then there are going to be smaller rooms, smaller interactive seminar rooms for faculty and students to gather to talk about global issues, and there is going to be significant programming. I’m presenting this as if we’re in work in progress. There is a plan for a set of programs for Perry World House. So it will be the international hub and an academic hub to engage students and faculty in discussion on global issues.

 Follow up Q: Is there a plan to expand this vision, and make it a hub for all international discourse, beyond academic? So just as we’d see in, for instance, the LC’s Center, we have the Lambda, which is one of the student group here, out of that center. And in the Women’s Center, we have the Penn Consortium of Undergraduate Women; to me it makes sense to house a student group on international issues to ensure we get that engagement and dialogue going.

 A: Right now, given the space constraints, there isn’t enough space to house everything that’s international. There is going to be space for faculty, a director, and visitors and lots of interactive room for students and faculty. But if you think about it, international discourse—both academic and extracurricular—is a huge part of the Penn experience and international students—and just at an undergraduate level—are now 12 to 13 percent of our undergraduate student body. It’s huge, it’s much bigger than one hub could accommodate. So we’re not going to be able to have offices for everything international there. But it will be the sort of vibrant academic space, and it’ll also be a social space. I think students could do the same thing, the same kind of stuff, socially too. It could be faculty-student work, and it could be student-student work.

 There isn’t going to be space for offices of organizations per se, there’s just not enough space in it. But we did have a meeting earlier today with a group of students, and VPUL said it could find space for the International Students Association in a space that would be online sooner than Perry World House. So we’re working on that too.

 Q: As we develop that former DuPont site, do we have plans to increase Penn transit to go there?

 A: Yes, we definitely plan to have some transit go there, and we’re working on an actual design of the site because we also want it to be easy access, we have that very much in mind. And we’re actually going to invest some time and effort in making that site even more attractive to people and we hope again there will be naming opportunities for generous donors. We want arts and culture to be there too. There are a lot of messy arts and culture activities that don’t have good space, because space on our academic core is expensive space. There’ll be opportunities for arts and culture there as well, kind of start-up things. We do need to figure out the transportation, and it’s something that we’re working on. By the way, it really is as close as you can be to Penn on the other side of the river. But we do need some transit there, and right now, there’s not enough activity there to warrant the amount of transit that we hope we’ll eventually be able to have.

 Q: It is so exciting to hear about the Pennovation Center, just a follow-up on that. I had seen a report last year; it was released on University Entrepreneurship, one of the first reports, sort of analyzing the space, and Penn was listed as one of the top six institutions that companies try to spin out of, and I wanted to ask you a little more about support services that will be available to students because one of the challenges identified in the report, is that we’re a place that many companies try to come out or spin out from, there’s been a challenge in terms of support, and most of the support has been focused on faculty spin-outs as opposed to student spin-outs.

 A: If you go back 10 years ago, when I first came in and took a careful look at Penn, we were not helping faculty do what they needed to do. So we began by hiring someone really good; Mike Cleare and we really ramped it up for the faculty. At the same time, students are really interested in doing this, so now we’re starting to ramp up for students as well. By having an all-in Center for Innovation we want to be student-friendly and faculty-friendly—and we think really well. And now that not all students, like faculty, may have particular takes and we can accommodate that. Engineering students have somewhat different needs than Wharton students, or students in biology and Arts & Sciences or Nursing students. So we have a plan to be friendly for faculty and students alike, and we want to draw students and faculty in, in ways that are still yet to be developed. But the plan is there, and now we have this year to make it happen. This is a plan for 2014 and forward, so this is the year, and if you have any suggestions contact Dawn Bonnell, our Vice Provost for Research. Just shoot her an email, and tell her what you think would really help on the student-side, because our goal is to be student- as well as faculty-friendly and helpful. By friendly I mean helpful, not just smiling; I mean we’re student-side, because our goal is to be student- as well as faculty-friendly and helpful.

 Q: My name is Urja from the Penn Political Coalition, and I just wanted to commend the emphasis on engagement with public policy with the Penn-Wharton Public Policy Initiative, and kind of the push toward engaging students in public service moving forward, and two questions I had spinning off from that (1) whether there were any plans to engage students in the DC COUNCIL State of the University

 (continued from page 3)
office of the Penn-Wharton Public Policy Initiative, I know it’s very focused on the transfer of the academic research that’s done at Penn to policy makers in Washington, D.C. using that to contribute to issues of national engagement (2) whether there would be any connection between the Penn-Wharton Public Policy Initiative and the Perelman Center for Political Science and Economics coming online in a few years.

A: The answer is yes we do, and Mark Duggan, who is directing the Penn-Wharton Public Policy Center, definitely wants to engage students as interns and is already doing that, and we want to build that up over time. And yes, we also want to build it out and work with the Provost for online education of the Perelman Center of Political Science and Economics involved in that online educational initiative.

Q: Coming from the School of Social Policy & Practice, in particular a lot of our students engage locally, with residents from Philadelphia. I was just wondering, there seems to be a strong emphasis on engaging globally, but could you speak more to the local engagement and any opportunities or plan there to kind of enhance our relationships with communities within the City of Philadelphia?

A: Right, in my longer presentation, I have two slides on two of our most incredibly important local engagement initiatives on the education front. One is the Penn Alexander School, and the other which is again pretty new and we’re ramping it up is the Lea School, where we’re going to start to kindergarden and first grade, and really make a big impact on the Lea School in partnership with the school district. In addition to that, I’m thinking of some other initiatives for local, national and global engagement for our students, and in addition to that we have the School of Social Policy & Practice, the Law School, all of our medical health schools that are doing incredible amounts of local engagement, which I want to build on. So we’re always looking. I always say that the first form of engagement is local, and if we can’t do it well locally, we shouldn’t even think of globally. But we do it really well, so we’re engaging more and more of our students, and I’m focusing on the connection between the educational experience and the local education because that’s where we have our comparative expertise. For those of you who don’t know, SP2 does hundreds of thousands of hours of local service every year and partners really well with the other schools in local engagement, so we’re going to build on that.

Q: In terms of advancing open learning, will there be any room for so-called service learning and are there active opportunities for those partnerships with Philadelphia schools and providing the students with the basic needs that quite frankly now, because of the current crisis in Philadelphia, they’re not being given: computer literacy, financial literacy, things that are courses that we offer here, many through online learning, possibly expanding our reach into Philadelphia schools and providing for what those schools can’t offer those students.

A: This is a really important part of the expertise of our Graduate School of Education. It’s not as if these skills transfer effortlessly. Take my field — political science or ethics and public policy — I’m pretty good at teaching college students, I’ve done pretty well that way. But I couldn’t just transfer it to teaching in an inner-city high school, a third grade class, for example. So what we have to do is to what extent will our online learning transfer into helping local Philadelphia schools. It does help at the highest level, to have someone like Rob Ghrist, whose course on single variable Calculus is already being used now by some local high schools. But it really takes the Graduate School of Education and experts in K-12 education to figure out how what we’re doing online can help in the kind of things that Khan Academy is doing. The things that we do have to be the things that our faculty has expertise in, and also things that we can partner at. This year, for the first year, we have a new partnership with the KIPP Academies, and this year we admitted 18 KIPPsters. There may be some KIPPsters in this room. The KIPP Academy is really expert at K-12 education for students as I was—the first generation in my family to go to college. We’re really good at identifying the talent, bringing them here and supporting them while they’re here and launching them. What we’re not generally good at is K-12 education, but our Graduate School of Education is, and what the Provost and I want to do is to create a teaching and learning center for online education of the Penn-Wharton Public Policy Initiative. And they could actually see what works well online, and what could work well with our local public schools. It would have to be in partnership with the Philadelphia School System but we have very good relations with them and the new Superintendent Hite, is terrific so it’s something aspirational for us to do. And that is why I mentioned the Lea School. We are working with the Lea School now, and there is a graduate of the Graduate School of Education who is the principal of the Lea School. We’re creating a curriculum now. I think online is really the frontier, but we don’t know for certain, and we’re going to do some more research on it.

Q: This is all very exciting; I am wondering though, if when we talk about global engagement, are we really talking about the English language only? If global studies means that everything is conducted in English and here I am concerned, because of the federal government, the uncertainty about funding for our language centers, and that’s not just European languages, but also less commonly taught languages. What is Penn’s plan to keep the diversity of language learning alive and well supported at Penn?

A: We have, as you know, one of the most vibrant and diverse language studies programs among any of the major universities, and we’re absolutely committed to that. Unfortunately, there is a threat in Washington of defunding so much because of the sequester. And in my role on the AAU, where I am now vice-chair, we are speaking out on how important it is to have language education. You can’t predict which language it will be. As you know, when 9/11 happened, our government didn’t have enough Arabic-speaking people to call upon. So this is really important, and it’s really important that the social sciences and humanities not be defunded because everything that we do, public policy wise, requires you to understand foreign cultures, and requires foreign language training. Online is wonderful for foreign languages. Now some of the Coursera courses are being translated into Russian, Chinese, and other languages. But you’re absolutely right, the actual federal funding for these programs is under threat. And so, it is my role, and the role of other University Presidents, to speak out for the importance of that for our country, and not just for intellectual life, although I do think it is important for intellectual life. I think it is a very wonderful way of getting insights into other cultures is to get an understanding through their languages.

Q: Dr. Gutmann, can you represent a little bit more about the trends in graduate and professional student financial aid, and how this has been in the past and what we can expect to see in the future?

A: When I first became president the trustees asked me what my highest priorities for fundraising were. I said first, second and third: financial aid. Graduate financial aid is the hardest thing to raise money for because for a lot of alumni loyalty tends to be towards your undergraduate institution. Now this is changing, but often in the past, loyalty tended to stay with the undergraduate experience. I said graduate and professional aid is the hardest to raise, and so if you have any spare, you know, hundreds of thousands, or millions of dollars, please give it to graduate and professional financial aid. We have really increased the stipends for graduate and professional students, over the course of the campaign we doubled the amount of financial aid that we raised for undergraduate and graduate and professional students. One thing that continues to be an evergreen priority is to continue to have competitive stipends for our graduate and professional students. When Raymond Perelman so generously gave 225 million dollars, the record gift for naming a school of medicine, we immediately said that we would use part of that money to increase the financial aid for our medical school students. Every single school in this university, every division, has two big priorities. One is to increase financial aid for their students: graduate and professional for eight of the schools, and for four of the schools, graduate aid plus undergraduate aid, and to increase endowed Professorships for faculty because it becomes a virtuous circle. The best faculty get the best students and the best students attract the best faculty. So that remains a very, very high priority.
Penn Alumni Artists Exhibit at the Burrison Gallery

The Burrison Gallery in the University Club at Penn is pleased to announce its first Alumni Artists Exhibit, which will open with a reception this Friday, November 8 from 4-7 p.m. and run through December 20. The show will highlight the creativity of 17 Penn alumni and provide them with an opportunity to share their work not only with alumni during the upcoming Homecoming Weekend, but with the broader University community. Works include paintings, photography, mixed media and etching. All works on display will be for sale. The Gallery is located in the University Club at Penn on the 2nd floor of The Inn at Penn at 3611 Walnut Street.

Maurice Burrison, W’32, had a vision “to raise the consciousness of people on the Penn campus to the art around them.” The Burrison Gallery is Mr. Burrison’s legacy to Penn—a place to foster a visual dialogue among artists and those interested in art in the University and West Philadelphia communities. Over the last three decades, the Gallery has provided an intimate exhibition space where dozens of new and established artists have displayed their work.

![Clockwise from upper left: six of the many alumni works that will be on view at the Burrison Gallery. Sneakers, pastel by Charles F. Malloy, G’95; The Mask 2, oil on canvas by Charles E. Dagut, Jr., C’65, GA’68; The Boat, digital photograph by Leah Pinto, L’10; Ulla X 8, oil painting by Eleanor Hubbard, CW’67, GFA’71; Image 100, acrylic on paper by Jackson Dembar, W’53; and Vermont Autumn, watercolor by Suma CM, C’96, WG’00.](Image)

Penn Libraries’ Unique Collection of Moroccan Lithographic Books

Penn Libraries recently acquired a collection of lithographic books printed in Fez, Morocco, during the latter half of the 19th and the beginning of the 20th centuries. It includes some 108 titles in 136 volumes and represents one of the largest private assemblages of Fez lithographs outside of Morocco. This collection, built by Dr. Fawzi Abdulrazak, the leading scholar of the history of printing in Morocco and author of the authoritative bibliography of Fez lithographs, gives Penn Libraries the distinction of owning an exceedingly rare and invaluable resource, and one that few other libraries can match.

“I am very glad to have my collection at Penn Libraries. It is in great hands. I know that it will be carefully preserved, and will be freely available for use by scholars. This is very important to me,” said Dr. Abdulrazak, the former long-time Arabic librarian at Harvard Libraries.

The bulk of the collection dates from 1865 to 1936, covering most of the span of Moroccan lithographic printing from its beginning in the city of Fez to its end during the French Protectorate. It is important to note that five of the works included in the collection are the very first lithographic books produced in Fez. In initiating their printing industry, the Moroccans chose the lithographic method over moveable type, because they felt it preserved a link to their country’s rich heritage of manuscript production. As is common in Moroccan manuscripts, five different types of Arabic script were used in making the lithographs, and Penn Libraries’ newly acquired collection reflects this.

Initially, the royal court was the driving force in the printing of the new lithographic books, but soon private firms appeared. The collection includes works made by all of the various printers in Fez. In general, the Moroccan intelligentsia felt that printing would preserve and invigorate their scholarship in the face of French and Spanish challenges by making books, and the knowledge they contained more widely available. The Penn Libraries’ collection includes works by over 101 scholars and editors whose work represents the pinnacle of Muslim scholarship in North Africa during the 19th and the beginning of the 20th centuries. Islamic law and mysticism are the most common subjects; other subjects include Islamic doctrine, religious life, philosophy, Arabic grammar and rhetoric.

The lithographs were much sought after at the time of their issue due to their first rate materials and printing, their exceptional scholarly worth, and the meticulous editing done to the texts. Their value has increased immeasurably today. They are superb examples of the printer’s art in the Islamic lands, and of the intellectual achievements of Moroccan scholars of the time.

“The Fez Lithograph Collection will offer Penn scholars unparalleled opportunities for study in the fields of the material history of printing in Morocco and the Islamic world as a whole, and of the intellectual history of Morocco during a crucial period in its history,” said David Giovacchini, Middle East Studies Librarian at Penn Libraries.

In addition to the lithographs, the collection includes a number of Arabic manuscripts from Morocco. There are 41 titles in 23 separate items on diverse subjects, ranging in date from the 17th century to the early 20th. In addition, there are also a number of moveable type style books, printed in Morocco under the French Protectorate.

The Collection is being processed in the Middle East section of the Library; after cataloging, the collection will be permanently housed in the Rare Book and Manuscript Library at Van Pelt.

Dr. Abdulrazak will present this material and explain its history and significance in a talk, Leaves from The Kingdom of the Book: Thoughts on the History of Printing in Morocco (1865-1935) and Penn’s Fez Lithograph Collection, on Tuesday, December 3, at 5:30 p.m. in the Lea Library, on the sixth floor of Van Pelt-Dietrich Library Center. Registration for this talk is appreciated, but not required. To RSVP, contact: rbml@pobox.upenn.edu or (215) 898-7088.

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

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the University of Pennsylvania values diversity and seeks talented students, faculty and staff from diverse backgrounds. The University of Pennsylvania does not discriminate on the basis of race, color, sex, sexual orientation, gender identity, religion, creed, national or ethnic origin, citizenship status, age, disability, veteran status or any other legally protected class status in the administration of its admissions, financial aid, educational or athletic programs, or other University-administered programs or in its employment practices. Questions or complaints regarding this policy should be directed to Sam Starks, Executive Director of the Office of Affirmative Action and Equal Opportunity Programs, Sansom Place East, 3600 Chestnut Street, Suite 229, Philadelphia, PA 19104-6106; or (215) 898-6993 (Voice) or (215) 898-7603 (TDD).
The Science Center—incorporated in 1963—is celebrating its 50th anniversary in 2013. The University City Science Center is a dynamic hub for innovation and entrepreneurship and technology development in the Greater Philadelphia region. It provides business incubation, programming, lab and office facilities and support services for entrepreneurs, start-ups and growing and established companies. The Science Center was the first, and remains the largest, urban research park in the United States. Since it was founded by local institutions including Penn and Drexel (Almanac November 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 University City Science Center announced the inaugural class of its new Innovators Walk of Fame during its 50th Anniversary Celebration event last month at the Hotel Monaco in Philadelphia.

The inaugural class of the Innovators Walk of Fame recognizes innovators in the STEAM categories of Science, Technology, Engineering, Art and Math—as well as a Corporate STEAM Champion. “The future of innovation will rely on a talented workforce that is well versed in the STEAM subjects,” said Science Center President and CEO Stephen S. Tang. “Recognizing an innovator in each of the STEAM categories highlights the diverse sectors that make up our region’s larger innovation community and helps tell our innovation story.”

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

“Despite a storied history of discovery and invention which began with Ben Franklin and the founding fathers, Greater Philadelphia is often overlooked as an innovation hub. The Innovators Walk of Fame will shine a spotlight on the visionaries who invented Greater Philadelphia’s future,” Dr. Tang noted.

The Innovators Walk of Fame, which is presented by Wexford Science & Technology, LLC, a BioMed Realty Company, will be installed on the Science Center’s campus in 2014. Future classes of the Innovators Walk of Fame will honor innovators in different categories.

For more information about the Science Center, go to www.sciencecenter.org

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University City Science Center’s 50th Anniversary—Inventing the Future

Innovators Walk of Fame Inaugural Class:

Science: Britton Chance, was a leader in biochemistry and biophysics, focusing on the fundamental processes of electrons, radiation and developing noninvasive optical devices used in medicine. Long associated with the University of Pennsylvania, Dr. Chance’s innovative and impactful research was world-renowned in transforming theoretical science into useful biomedical and clinical applications (Almanac November 23, 2010).

Technology: The explosion of digital technology that defines our lives today began with the invention of the Electronic Numerical Integrator and Computer or ENIAC as it was known, the first general-purpose electronic digital computer created by John W. Mauchly and J. Presper Eckert, Jr. at the University of Pennsylvania’s Moore School of Electrical Engineering (Almanac January 30, 1996).

Engineering: The US helicopter industry took flight thanks to Frank Piasecki. Born in Philadelphia, Mr. Piasecki was an aeronautical/mechanical engineer, pilot and pioneer in the development of transport helicopters and vertical lift aircrafts. His tandem rotor helicopter, known as the “Flying Banana,” was a significant advancement at the time and was critical in transporting troops and supplies during wartime.

Art: Buckminster Fuller, the inventor of the geodesic dome, exemplifies the innovation and discovery that takes place at the intersection of art with science, technology, engineering and math. Mr. Fuller was World Fellow in Residence at the Science Center in the late 1970s and early 1980s (Almanac September 26, 1972).

Math: When John Backus began his career in the early 1950s the computer science field did not yet exist. Inspired by a desire to simplify computer programming, Mr. Backus assembled and led the IBM team that developed Fortran, for years one of the best known and most used programming systems in the world. Mr. Backus was born in Philadelphia and raised in Wilmington, Delaware.

Corporate STEAM Champion: With 4,800 employees in New Jersey and Pennsylvania, Lockheed Martin gives employees and educators the opportunity to interact with the next generation of engineers and technologists by serving as local school advisors, extracurricular activity mentors and career role models for students.

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World-renowned artist Ryan McGinness’ monumental mural at the University City Science Center features layers of “event horizons,” creating a feeling of portals into an infinite inner space and a strong gravitational pull on the senses. The dimensions of the mural are: 50'6" x 18'9"; it is at 3701 Market Street, on the north side of the street, visible when looking up above the parking garage, heading westward. McGinness’ Black Holes series is an exploration of how ideas of outer space and mind space can intertwine. His new mural combines the worlds of pop art, science, skateboarding, graphic design and public art in one piece of vinyl.

This mural was dedicated last month during Mural Arts Month; it was organized by the City of Philadelphia Mural Arts Program—which is celebrating its 30th anniversary this year. The mural is sponsored by the University City Science Center, Bridgette Mayer Gallery, the City of Philadelphia Mural Arts Program and Wexford Science & Technology.

“We were intrigued by the idea of partnering with the Mural Arts Program because of their demonstrated expertise in using art as a place-making tool,” said Dr. Stephen S. Tang. “Ryan McGinness’ Black Holes series is an interesting blend of art and science that aligns with our vision of the Science Center campus as a place to explore the intersection of art, science and technology.”