

Is there a better way to grade your students? See pages 3 & 4.



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UNIVERSITY TIMES



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UNIVERSITY OF PITTSBURGH

Staff, faculty honor chancellor



The University Senate and the Staff Association Council hosted a faculty and staff reception May 12 to honor Chancellor Mark A. Nordenberg, who is stepping down as chancellor this summer.

Two benches (artist's rendering, at right) will be erected in honor of the chancellor and his wife, Nikki Pirillo Nordenberg, at left.



Photos by Barbara DelRaso & Mike Drazdzinski/CIDDE

Pitt opens new testing center

The University opened a new professional testing center this week in G-33 Cathedral of Learning.

Moving from Alumni Hall into the space previously occupied by the Office of Measurement and Evaluation of Teaching, the testing center will serve both Pitt faculty and students as well as Pittsburgh area residents.

Among students who will use the new facility will be those registered with the Office of Disability Resources and Services, those taking online courses through the College of General Studies, those taking entrance exams for graduate school and community

members taking licensure exams.

The testing center will offer numerous amenities including 20 more testing stations (for a total of 52), two private testing rooms, privacy filters on computer monitors to promote academic integrity, ceiling cameras for test security and adjustable tables for persons using wheelchairs, making the center compliant with Americans with Disabilities Act design standards.

The testing center will provide new and updated features for Pitt faculty, such as scanning and scoring of exams and a box to drop off classroom exams that will save instructors time.

"I think we simplified the whole scanning system," said Erik Arroyo, Pitt's online programs manager. "We want faculty to be able to be in and out of here in about a minute. When they arrive, if they have all of their materials organized before they arrive, they drop it off, they're on their way."

A project two years in the making, the state-of-the-art center will catalogue everything electronically. Prior to this, projects were catalogued in a ledger that created more steps for faculty who wanted to submit exams.

"We know faculty are busy and the last thing we want to do is make them wait a couple extra

minutes so we can catalog who they are and what they're doing," Arroyo said.

In addition to computer tests, paper and pencil exams will be scanned on-site and results will be emailed to faculty within hours. The testing center also will continue to provide make-up exam service, which was initiated during this academic year. "One of the services that we're providing now is make-up exams to faculty," Arroyo said. "From all accounts this is a tremendous benefit for faculty and we can see that, even in the number from semester to semester."

—Alex Oltmanns



Barbara DelRaso



Chancellor honored for service to Senate

Chancellor Mark A. Nordenberg was honored May 7 as the winner of this year's award for service to the University Senate.

Pictured from left: Former Senate president and current vice president Irene Frieze; former president and current immediate past president Tom Smitherman; Senate secretary Linda Frank; Nordenberg; former president Keith McDuffie, and former president Jim Cassing.

Nordenberg was honored for 19 years of continued commitment to the Senate during his tenure as chancellor.

Mike Drazdzinski/CIDDE

Members elected to Senate committees

Election results for the 15 University Senate standing committees have been announced.

Elected members serve three-year terms beginning June 1, 2014.

Admissions and student aid
Julius Kitutu, nursing; Steven Levine, dental medicine; Juan Taboas, dental medicine.

Athletics
Mike-Frank Epitropoulos, arts and sciences; Susanne Gollin, public health; Kevin McLaughlin, education.

Benefits and welfare
Colleen Culley, pharmacy; Angie Riccelli, dental medicine; Sachin Velankar, engineering.

Budget policies
Beverly Gaddy, Greensburg campus; Emily Murphy, health and rehabilitation sciences; Elia Beniash, dental medicine.

Bylaws and procedures
Laura Fonzi, education; Mal-

gorzata Fort, Health Sciences Library System; Ketki Raina, health and rehabilitation sciences.

Commonwealth relations
Linda Frank, public health; Ann Mitchell, nursing; Debora Rougeux, University Library System.

Community relations
Heidi Donovan, nursing; M. Maggie Folan, pharmacy; Michael Lovorn, education.

Computer usage
Alex Jones, engineering; Marian Hampton, University Library System; Arif Jamal, University Library System.

Educational policies
Amy Aggelou, health and rehabilitation sciences; David Beck, health and rehabilitation sciences; A. Murat Kaynar, medicine.

Equity, inclusion and anti-discrimination advocacy
Cynthia Danford, nursing; Adriana Modesto Vieira, dental medicine; Luis Vallejo, engineering.

Library
Eileen Chasens, nursing; Tin-Kan Hung, engineering; B. Guy Peters, arts and sciences.

Plant utilization and planning
Tracey Olanyk, University Library System; Joseph Newsome, medicine; Maureen Reynolds, pharmacy.

Student affairs
Lance Davidson, engineering; Chyongchiou Jeng Lin, medicine; Mark Scott, University Library System.

Tenure and academic freedom
Chris Bonneau, arts and sciences; Rose Constantino, nursing; William Federspiel, engineering.

University Press
Charles Atwood, medicine; Kathleen Musante (DeWalt), arts and sciences; Peter Friedman, medicine.

—Alex Oltmanns

Technology Corner

Technology topics and trends from Computing Services and Systems Development (CSSD)

Strength & numbers

CSSD knows that faculty and staff at the University count on strong and secure technology services for research and scholarship, teaching and learning, administrative operations and other professional activities.

We thought we would do some “counting,” too — of the ways our services have been used this year.

Technology Services

COMPUTING SERVICES AND SYSTEMS DEVELOPMENT

740 scholars

from

30 countries

using eduroam for instant wireless access at Pitt



Faculty Information System

a secure, Web-based resource for creating CVs, annual reviews, online profiles, and other documents important to academic careers

> 4,000 users



178,804 entries

Education
Teaching
Publications
Mentoring
NIH Biosketches
Grants
Awards
Presentations
Appointments

1,500,000

sheets of paper saved each year through student use of self-service printing



My Pitt

2,444,036

average number of logins to My Pitt each month



9,487,854

“clean” email messages delivered to Pitt accounts in one month (March 2014)

44,807,983

spam & virus messages blocked from Pitt accounts in one month (March 2014)



UNIVERSITY TIMES

EDITOR

N. J. Brown 412/624-1373
njbrown@pitt.edu

WRITERS

Kimberly K. Barlow 412/624-1379
kbarlow@pitt.edu
Marty Levine 412/624-1374
martyl@pitt.edu

BUSINESS MANAGER

Barbara DelRaso 412/624-4644
delraso@pitt.edu

Events Calendar: utcal@pitt.edu

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Send correspondence to University Times, 308 Bellefield Hall, University of Pittsburgh, Pittsburgh, PA 15260; fax to 412/624-4579 or email: njbrown@pitt.edu.

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ADVOCATING a new way of grading

When Linda B. Nilson presented her new grading system to Pitt faculty on May 1 — it uses mostly pass/fail exams and assignments, tokens that students can trade for missed homework or classes, and classwork grouped into bundles so that students can choose to shoot for an A (or a D) — she had to assure the group they wouldn't be fired if they used it.

"People have implemented this system and they're leading rich, full, employed lives," Nilson told about 75 attendees at his year's first Summer Instructional Development Institute at the O'Hara Student Center. "This will not get you in trouble with anyone."

The institutes are offered by the Center for Instructional Development and Distance Education (CIDDE). Carol Washburn, CIDDE's senior instructional designer and manager of teaching and learning, introduced Nilson as "one of the best presenters [with] one of the most provocative presentations" she had seen recently.

Nilson is the founding director of the Office of Teaching Effectiveness and Innovation at Clemson University and author of "Teaching at Its Best: A Research-Based Resource for College Instructors."

Nilson, Washburn said, "presents some ideas that make us question our assumptions."

Attendees certainly questioned Nilson's assumptions. She could hardly complete three sentences without addressing a new faculty concern.

She began her presentation by announcing that the current method of grading students using points fails to foster rigorous student work. "By rigor, I mean having standards that actually distinguish levels of quality, that actually distinguish levels of attainment, that actually distinguish levels of competency," Nilson said, "so our grades mean something to parties out there," including deans, employers and graduate school admissions officers. Under her grading system, she said, "An A is going to mean, 'Hey, the student actually achieved all the outcomes.'"

Instead, today a C often denotes the poorest student work. "It's rare for a student to fall below to a D," she said. "How does this happen that we are grading them and they don't come out with the competency" the class is supposed to impart — let alone the capacity for deeper reasoning?

At Clemson, she reported, "you can take a course and get a D or an F and you can take it over again and the D or F disappears from your transcript. Aren't we sweet? Is our grading system motivating to students? Does it motivate them to learn and excel? A's aren't motivating anymore."

Institute participants acknowledged that not only is their grading subjective, varying among professors, it also may vary across one evening's grading session, with a paper at the top of the pile assessed more generously than one at the bottom, with its 25th iteration of the same error.

The "specs" grading system

Instead of awarding points for how well or poorly test questions are answered or assignments completed, Nilson proposed a "specs"

grading system that asks faculty to devise specifications and note them in detail on the syllabus. These specs will tell students exactly what they must accomplish to earn a D, C, B or A.

Begun at Clemson in 2005, specs grading today also is being used at the universities of Oklahoma and North Carolina-Greensboro, as well as Duke, Western Illinois, Lee and West Liberty universities, along with Pima Community College in Tucson.

In its simplest form, specs grading might mean offering a D if a student gets an average of 60-69 percent on exams and does nothing else; a C to students who average 70 percent or higher on exams without completing other assignments; a B to those who achieve C-level test scores and finish a group project according to its specs, and an A to those who fulfill the B requirements and also meet the specifications for an individual paper.

Alternatively, students may be asked to complete the least demanding assignments to earn a C, mid-level assignments to earn a B, and the most demanding assignments to earn an A.

The results, she said, will be more motivated students, since they know exactly how to reach a self-selected grade level. It also will mean more time for faculty to concentrate on the students aiming for higher grades. It's possible — perhaps even desirable — to write the specs for each grade requirement so that D-level and C-level students complete all their assignments earlier in the semester, "and then, maybe,

its 'I'll see you at the final,'" she suggested. "That's radical — but just try it on for size."

Specs for an assignment may be as simple as asking students to follow basic directions, hit the required length and turn it in on time. Or the specs may be more complicated, with section-by-section or even paragraph-by-paragraph instructions for a paper, including specific questions the students must address. Care must be taken in writing detailed specs, she cautioned; they must "describe the features you're looking for and only those features."

If students are asked to complete a literature review, for instance, faculty should specify how many references must be cited, how recent they must be and how the material must be organized and presented.

Students "are not doing what they're capable of doing," she said. "Why should they, when they can do partial work and slip by?" In contrast, the specs should be clear and firm. This will prompt higher quality work, she maintained, and work that is easier to grade.

For every assignment assessed using specs grading, she said, each faculty member may decide whether students would receive full credit for trying to answer a question or solve a problem in the proper manner, or whether they would receive full credit only for getting an answer correct — or for both. But faculty should gear their specs to desired learning outcomes, Nilson said. They should also keep in mind that the specs for the lowest passing grade must ensure that students demonstrate they have learned the course's

fundamentals. This is particularly crucial when a course is not an elective and is part of a sequence of courses, each dependent on the student attaining a certain level of knowledge successfully, she said.

On the other hand, specs for an A in any course should make certain that students show they can undertake higher level thinking about the course's subject, Nilson said.

"If we get kids who come in with high qualifications, I expect them to get A's," said one faculty member. "Am I soft?"

"If they work for it and they meet your expectations ... everyone can get an A," Nilson said.

Bundling assignments

Nilson also proposed basing student grades on specific "bundles" of assignments completed. The specs should require students seeking higher grades to jump more and higher hurdles. "Each bundle is associated with one or more of your student outcomes," she noted, which makes clear what each student actually is learning.

Some specs-graded courses could allow students to create their own bundles from a menu: To get a B, the student must complete four of 10 bundles, while an A requires six of 10 to be finished. In this setup, each student will achieve his or her own mix of outcomes, "but students like the choice," she said.

History faculty member Laurence Glasco expressed uncertainty about how to handle spec grading using bundles, particularly a bundle menu: "My students read the syllabus like lawyers ... they can spot any loopholes," he said. "Some of these mix-and-match

things ... I'm afraid my students would really get me over a barrel on how to mix this."

But after a break in the presentation, when faculty used their own syllabi to construct assignment bundles, one faculty member concluded: "It gave me the ability to break away from grading students relative to each other. It gave each student their own path" to mastering course materials.

"It's freeing" for students, Nilson said. "They say students are adults and we've got to treat them like adults. Well, not all students are adults. This is edging them in this direction without putting too much responsibility on them."

Aiming high enough and accepting failure

Carol DeArment, CIDDE senior instructional designer, pointed out that students taking classes in their major need to aim for better grades — and that this needs to be specified in a course's syllabus.

Under this proposed new grading system, students will fully understand faculty expectations, Nilson said. "Our jobs, instead of becoming graders, we are explainers: Here's what we're looking for..."

"And there's research on this," she added. "When students know what we're looking for, they're more likely to go for it, because it will be feasible."

However, she said, "they still might decide they have better things to do this semester. What grade they wind up with says nothing about their capabilities, to me. It might say something about their time schedule."

What happens when a student aims to complete A-level assignments and fails? asked Glasco. Does the student get a B or an F? "I can see a student changing their mind, doing four difficult assignments, then they run out of time, and they do an intermediate assignment and one easy assignment and they want to negotiate" their grade, he said.

CONTINUED ON PAGE 4



Linda Nilson, founding director of the Office of Teaching Effectiveness and Innovation at Clemson University, says the current method of grading students using points fails to foster rigorous student work.

A new way of grading

CONTINUED FROM PAGE 3

“You have to specify what happens” in that situation via the specs, Nilson said. “You have to set terms. Don’t let students think that doing an easy assignment is going to make up for anything.”

“You need a lawyer...,” Glasco began.

“It’s not that hard,” Nilson reassured the group. “It’s not like there’s this contract where you can only go for an A, if you declare it. You go for the sky, but you see what you can reach.”

Grading according to specs may require faculty to accept that students earning lower grades will never achieve their course’s highest outcomes.

“You let the students who want to earn a low grade earn a low grade and learn less. But they have to learn enough,” she said.

Both students and faculty also must accept that failure is possible.

“Most students (today) have never failed at anything,” Nilson noted, since their generation grew up receiving inflated grades and trophies for mere participation in sports. “If they don’t fail now, they’re going to have a really hard life.”

“The most controversial part”

In fact, in what she called “the most provocative and controversial part” of her grading system, she recommended that most assignments and tests be graded on a pass/fail basis, assessed strictly on whether students have fulfilled the specs or reached a certain threshold of correct answers.

Together, detailed specs and pass/fail grading actually raise the stakes for students, she said. Students no longer will do half an assignment at the last minute, hoping for partial credit under a points system. And faculty no

longer will be stuck figuring out how to grade such poor work. However, she cautioned, “We shouldn’t let students off the hook so easily. Especially on disadvantaged students, we want to really positively encourage them to go for that higher grade.”

Lauren Russell, a Pitt MFA graduate who teaches poetry here, wondered how to apply specs to her students, some of whom use specific writing techniques, such as metaphors, better than others.

“There’s the person who knows how to use a simile, and there’s a simile that gives me chills,” Russell said. “Everyone understands what a simile is, but some are using them effectively... that’s what matters.”

“You’re going to have to set a standard for what ‘effective’ is,” Nilson said. “Issues like depth and quality — that’s the time to start bringing out models” for students to emulate.

In fact, she added, don’t even use words such as “synthesis” or “depth” in your specs unless you provide models. “Why are these shallow and why are these deep? They don’t know what we mean. They weren’t born into our world. They come to us as feral children... Analyze? They don’t know what that means. Synopsis? Are you kidding? They’ve never seen that.”

Russell also was concerned about how to include class participation in the grading mix.

“Be careful on grading on participation,” Nilson answered. “Everything gets real squishy,” since there is no proof of each student’s participation level. “I’ve never heard of anybody taking anybody to court on this, but I’m just letting you know.” She suggested setting a minimum number of student contributions each term as part of a class’s specs. “And you

get to define what a contribution is. And if you define how many, you’ve got to keep track. And it’s a drag to keep track.” As a solution, she suggested writing each student’s name on a card and calling on them by choosing cards randomly. Each student’s response would be assessed on the card: whether the student answered and whether it was correct or worthwhile. “Otherwise you’re stuck with attendance, but that doesn’t tell you much,” she said.

“I hear from so many professors that students can’t write,” offered another faculty member. “I don’t see where that fits in with this” spec grading system.

“There’s no incentive” for students to fix their writing errors today, Nilson said. “They don’t look at your edits.” Instead, she suggested that faculty not correct the errors on the paper or even label them with the error type. Rather, faculty who allow revisions as part of their specs should place a mark after each sentence containing an error, then let the student figure what was wrong and how to correct it.

“You don’t care how they find out that there is an error and you don’t care how they correct it,” Nilson said. “You don’t care if they call their mother. They’re going to learn what they did wrong and fix it. They’re not going to make that mistake again. Why? Because it was a real hassle” to find it and correct it.

As one faculty member in attendance said in agreement: “Students who get the A should be helping the students who didn’t get the A.”

“The one thing we don’t do enough of is using student mistakes as a method of learning,” Nilson said.

How much feedback should students be given on assignments, another faculty member asked — especially students who are just shooting for a C?

“If they fail, do they still get feedback?” Washburn added.

“Yes — just say which specs were not met,” Nilson said. “If you’re allowing a revision, you might write more.” Under the current grading system, she added, students see teacher feedback only as their opportunity to argue the professor into upping their grade.

“How would you determine if a group project passes or fails?” came another faculty query. “My concern is that you’d have that one over-bearing student who would become even more over-bearing” when the entire group passes or fails together.

“You have specs for it,” Nilson said. And the group also may be allowed to vote someone out, after a warning, Nilson suggested. In a large class, the teacher can group all the fired classmates into their own project group.

Grabbing tokens along the way: videogame principles in class

Nilson also suggested faculty give tokens to students, starting them in class with three or four tokens to exchange for an extension of a deadline, a revision or a make-up assignment. Class specs also may spell out how a student can earn tokens during the class, perhaps for early or outstanding work, and what they get at the end for unused tokens — up to and including a free pass on the final. All of this will buffer the risks of the pass/fail system, she said.

One faculty member suggested that tokens might help students take greater responsibility for their work. Susan Albrecht, nursing faculty member and associate dean for external relations, praised the token idea but added, “I can see myself working twice as hard with everybody clamoring to earn tokens.”

“Don’t let them earn them,” Nilson said. “The concept is for you to adapt to your needs.”

“In my experience,” she added, “students suddenly become very protective of their tokens.” They won’t earn tokens just to cut a class. “Most of them will end up keeping them just in case they need to revise something. You don’t need to listen to excuses” for missed or late work or classes anymore, she added; a student either will be able to pay for the gaffe with a token or not.

“It’s like a little economy you’re setting up,” she added. “But don’t get too fancy with it. It will take up too much of your time.”

Possibly “revolutionary”

Donna Nativio, director of nursing’s Doctorate of Nursing Practice program, asked Nilson how individual faculty fared when instituting this grading system amid colleagues using more traditional methods.

“Nobody had any trouble” with department chairs, colleagues or students, Nilson said, apart from one instructor at a for-profit online college who didn’t pass enough people to satisfy his dean.

Not that the average student ends up with a lower grade under the specs system, Nilson claimed: “Some people have found the same distribution and some people have found higher grades. Nobody has found lower grades.” In fact, in more advanced classes, and in classes for students’ majors, more As were awarded, she said.

“I would think the grades would drop if this were applied properly,” said Laurence Glasco. “So these reflect that students are producing...?”

“They’re not afraid anymore, so they are producing,” Nilson said.

“I thought this was a technique to get the grades down,” Glasco said. “If it really does improve the quality of student work... this is revolutionary.”

“I can see that some of you are finding at least pieces of it useful,” Nilson concluded. “That’s fine. Whatever makes your job more rewarding.”

—*Marty Levine* ■

Senate committee continues efforts to publicize benefits

The University Senate benefits and welfare committee spent its last meeting of the academic year on May 8 discussing fresh ways to communicate the full range of Pitt benefits to fellow faculty members.

“Communication... was really our goal this year,” said chair Angelina Riccelli, dental medicine faculty, who was re-elected as committee head during the meeting.

The committee is planning to look into publicizing more benefits and benefits changes through periodic small brochures. Committee member Linda Tashbook, of the law school, suggested that addiction resources be the focus of one such brochure, since “addiction is so prevalent,” she said.

Tashbook also pressed the group to find ways to publicize Pitt wellness programs, while other committee members questioned John Kozar, assistant vice chancellor for Human Resources, about changes in the University’s wellness benefits for retirees.

Kozar explained changes in, and conflicts between, Silver Sneakers, offered by Highmark for

those with Medicare Advantage health benefits, and Silver and Fit, formerly offered by UPMC. Those taking advantage of one “silver” plan could not use a health facility that had an exclusive deal with the other plan. That conflict now is moot, as UPMC dropped Silver and Fit on Jan. 1, 2014, instead giving a \$250 allowance per year toward membership in a fitness facility. “It’s a nice offset,” Kozar said.

He reported that roughly 500 employees had attended three benefits fairs on the Pittsburgh campus during the open enrollment period.

“It’s been a quiet year,” he said, with fewer employee concerns about benefits changes than in previous years. Chief among the changes was a 3.5 percent increase in the cost of medical insurance premiums this year.

“The thing we’ve received the most comment on was, ‘Where’s my letter from Unum?’” Unum, which offers long-term care insurance to Pitt employees, sent letters to policy holders beginning March 28, detailing a 25 percent

rise in premiums on July 1, 2014, followed by increases of 25 percent on July 1, 2015, and 20 percent on July 1, 2016, for a cumulative 88 percent increase. The letters also explained how participants may keep, reduce or eliminate their coverage, in the latter case retaining their premiums in an account for eventual payout, should they require long-term care.

“Most, I think, are going to keep the benefit as it is,” said Kozar, who reported only one policy withdrawal so far. Employees have until October to make a decision.

Riccelli asked Kozar to compare Unum’s offering to other carriers’ coverage.

He said that, over the years, he has discussed with other insurance companies the possibility of covering Pitt employees’ long-term care insurance needs.

“They thought that Unum was underpriced,” he said, and those other companies have since gotten out of the market.

He also pointed out that TIAA-CREF once had offered long-term care insurance but was out of

the market, and that the federal government also had studied the possibility of offering such policies but declined to do so.

He also cautioned that, should an employee decide to drop Unum and seek new coverage elsewhere — or even re-sign with Unum — the employee would pay a rate based on his/her current age.

This inevitably would be higher than the rate the employee received when signing up for Unum coverage earlier, at a younger age.

Said committee member Alan Meisel, a law faculty member: “I’ve decided to drop it, because I’ve decided that the future of the long-term care industry is precarious.”

After Kozar outlined the major retirement benefits for Pitt employees — a presentation he had given in November for a Staff Association Council brown bag seminar (www.utimes.pitt.edu/?p=28509) — Meisel asked how retirees could retain medical insurance coverage if they lived out of state for part of each year. He asked whether retirees could use Defined Dollar Benefit cred-

its, which accumulate monthly for retirees and their spouses, to purchase a Medicare supplemental policy other than those offered through Pitt by UPMC and Highmark. Those plans may only pay for coverage by local physicians and facilities.

Such a move is allowed, said Kozar, and may be needed by those with an HMO policy, which covers services only in western Pennsylvania, except in emergencies. But he pointed out that Highmark PPOs offer out-of-network coverage, with Highmark Freedom Blue allowing participants to receive in-network coverage in many other states.

Asked to detail changes in medical insurance for mental health treatment, Kozar explained that, under the Affordable Care Act, caps on the number of treatment sessions have been removed. Also, recent rule changes have set copayments for mental health treatments no higher than the cost of the most common medical copayment, which for Pitt is the primary care physician visit.

—*Marty Levine* ■

RESEARCH NOTES

\$10 million NIMH grant funds center

The National Institute of Mental Health (NIMH) has awarded a \$10 million, five-year grant to establish the Silvio O. Conte Center for Translational Mental Health Research in the School of Medicine's Department of Psychiatry. The center will focus on cortical cells, brain circuits, neuronal connectivity and cognition in schizophrenia.

Schizophrenia is a major public health problem and devastating illness, affecting 0.5-1 percent of the world's population. Symptoms can include hallucinations, delusions, disorganized thinking and mood disturbances. Current treatments for schizophrenia have limited effectiveness, and all medications currently used to treat schizophrenia and related disorders were discovered by serendipity rather than goal-oriented, rigorous science.

"There is an urgent need for a new approach to treatment development to address these problems," said **David A. Lewis**, chair of Pitt's Department of Psychiatry, and director of the center. "This innovative center will initiate drug development methodically by first identifying molecular targets that could influence the course of the illness, a strategy that has been successful in other areas of medicine."

The center's research activities will test the hypothesis that molecular disturbances in certain triangular-shaped "pyramidal" cells, which are found in the outer layers of the brain's cerebrum known as the neocortex, alter cortical circuitry within and between brain regions, impair functional connectivity and neural signaling and disturb the processes of working memory and attention in individuals with schizophrenia.

Five research projects and clinical and diagnostic cores will take convergent approaches to examine these molecular changes with the aim of making laboratory findings readily relevant to clinical treatment of schizophrenia. The center's work is directed at identifying pathophysiology-based molecular targets for new treatments and at developing biomarkers that can be used to monitor their impact.

Regenerative medicine helps muscle strength, function in leg injuries

Damaged leg muscles grew stronger and showed signs of regeneration in three out of five men whose old injuries were surgically implanted with extracellular matrix (ECM) derived from pig bladder, according to a new study conducted by researchers at Pitt's School of Medicine and the McGowan Institute for Regenerative Medicine. Early findings from a human trial of the process and from animal studies were published in *Science Translational Medicine*.

When a large volume of muscle is lost, typically due to trauma, the body cannot respond sufficiently to replace it, explained senior investigator **Stephen F. Badylak**, a faculty member in surgery and

deputy director of the McGowan Institute, a joint effort of Pitt and UPMC. Instead, scar tissue can form that significantly impairs strength and function.

Pig bladder ECM has been used for many years as the basis for medical products for hernia repair and treatment of skin ulcers. It is the biologic scaffold that remains behind after cells have been removed. Previous research conducted by Badylak's team suggested that ECM also could be used to regenerate lost muscle by placing the material at the injury site, where it signals the body to recruit stem and other progenitor cells to rebuild healthy tissue.

"This new study is the first to show replacement of new functional muscle tissue in humans, and we're very excited by its potential," Badylak said. "These are patients who can't walk anymore, can't get out of a car, can't get up and down from a chair, can't take steps without falling. Now we might have a way of helping them get better."

For the study, which is sponsored by the U.S. Department of Defense and is continuing to enroll participants, five men who had at least six months earlier lost at least 25 percent of leg muscle volume and function compared to the uninjured limb underwent a customized regimen of physical therapy for 12-26 weeks until their function and strength plateaued for a minimum of two weeks.

Then, study lead surgeon J. Peter Rubin, chair of plastic surgery in the School of Medicine, surgically implanted a "quilt" of compressed ECM sheets designed to fill into their injury sites. Within 48 hours of the operation, the participants resumed physical therapy for up to 26 additional weeks.

The researchers found that three of the participants, two of whom had thigh injuries and one a calf injury, were stronger by 20 percent or more, six months after the surgery. One thigh-injured patient improved on the "single hop test" by 1,820 percent, and the other had a 352 percent improvement in a chair lift test and a 417 percent improvement in the single-leg squat test. Biopsies

and scans all indicated that muscle growth had occurred. Two other participants with calf injuries did not have such dramatic results, but both improved on at least one functional measure and said they felt better.

"This work represents an important step forward in our ability to repair tissues and improve function with materials derived from natural proteins," Rubin said. "There will be more options to help our patients."

He added: "We think it's remarkable that this approach was able to improve function among patients who were all well past the acute injury response phase and were not helped by the standard surgical procedures they had already had."

The study also showed six months after an injury, mice treated with ECM showed signs of new muscle growth while untreated mice appeared to form typical scars.

Prophylactic antibiotics prevent UTI recurrences in kids with vesicoureteral reflux

A study led by researchers at Children's Hospital demonstrated that children diagnosed with an abnormal flow of urine from the bladder to the upper urinary tract, called vesicoureteral reflux (VUR), can avoid recurrent urinary tract infections (UTI) by taking daily low-dose antibiotics, although the treatment didn't reduce their risk for UTI-induced kidney scarring. The results of the multicenter study were presented at the Pediatric Academic Societies annual meeting in Vancouver. The study was published in the *New England Journal of Medicine*.

Alejandro Hoberman, a faculty member in pediatrics and chief, Division of General Academic Pediatrics at Children's, said: "Our study provides a clear message that recurrences of UTI in children with vesicoureteral reflux can be prevented; some of these children appear pretty sick

The University Times Research Notes column reports on funding awarded to Pitt researchers and on findings arising from University research.

We welcome submissions from all areas of the University. Submit information via email to: utimes@pitt.edu, by fax to 412/624-4579 or by campus mail to 308 Bellefield Hall.

For submission guidelines, visit www.utimes.pitt.edu/?page_id=6807.

when they have a UTI with fever. VUR is present in one-third of children presenting with UTI accompanied by a fever and has been associated with a heightened risk of kidney scarring. One way to decrease infection risk is to give children antibiotics when they are well, called antimicrobial prophylaxis."

Earlier randomized, controlled trials that compared antireflux surgery with antimicrobial prophylaxis showed no differences in rates of recurrent UTIs and renal scarring; however, the actual efficacy of either treatment could not be determined because the studies lacked a placebo or observation comparison groups. Recently conducted randomized trials have reported conflicting results about the effectiveness of antimicrobial prophylaxis in reducing recurrences.

"This study showed unequivocal evidence that antimicrobial prophylaxis reduced at least in half the likelihood of children having recurrent UTIs," said Hoberman. "Some subgroups of children derived the most benefit, particularly those with bladder and

bowel dysfunction at baseline, and those in whom the UTI occurred with fever."

The goal of the two-year study was to determine if giving children low-dose trimethoprim-sulfamethoxazole would prevent recurrent UTIs, decrease kidney scarring and contribute to the emergence of bacterial resistance.

The study enrolled 607 children ages 2 to 71 months who were diagnosed with VUR following a first or second episode of UTI. Participants were recruited from 19 clinical trial centers in the United States and underwent kidney scans to determine if scarring was present. They then were randomized to receive trimethoprim-sulfamethoxazole or a placebo. Kidney scans were repeated at one and two years after study entry.

Results showed that 39 of 302 children (13 percent) receiving antimicrobial prophylaxis developed UTIs compared to 72 of 305 (24 percent) receiving placebo. Antimicrobial prophylaxis reduced the risk of infections by 50 percent compared with placebo.

"Rates of renal scarring at the outcome visit were low and not reduced by prophylaxis, perhaps because most children were enrolled after their first infection and because parents, instructed to be vigilant, sought early medical attention," said Hoberman. "Not unexpectedly, recurrences that did occur in children who received prophylaxis were more likely to have been caused by a resistant pathogen."

—Compiled by Alex Oltmanns ■

Some student fee hikes proposed

The Board of Trustees students affairs committee is recommending increases in some student fees.

At a May 12 meeting held via conference call, the committee recommended that the board approve:

- A \$20 increase in the student wellness fee for full-time students to \$105 per semester.
- An increase of \$10 in the graduate and professional student activities fee for full-time students to \$30 per semester and a \$5 hike for part-time students to \$15 per semester.

- A \$15 increase in the Titusville campus student activities fee for full-time students in the fall and spring semesters to \$90 and a \$5 increase for part-time students to \$15 per semester.

- A \$20 increase in the Titusville campus student recreation fee for full-time students to \$100 for fall and spring semesters with a \$5 increase for part-time students to \$20 per semester.

If the Board of Trustees approves the recommended fee increases, they will go into effect for the fall semester. ■

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Allen Kent



Allen Kent, Distinguished Service Professor in the School of Information Sciences, died May 1, 2014. He was 92.

Born in New York City, Kent earned a Bachelor of Science in chemistry from the City College of New York and a certificate in metallurgical testing at New York University.

He served the United States military in the Air Force and the Air Documents Research Office during World War II.

Kent advised the Kennedy administration on the creation of a National Information Storage and Retrieval Network. He also worked as a research associate at MIT and taught library science at Case Western Reserve University.

He joined the Pitt faculty in 1963. He was the founding director of the Knowledge Availability Systems Center and established Pitt's Department of Information Science in 1970.

A pioneer in information science, Kent also served as the director of the Office of Communication Programs before working as associate dean of the School

of Library and Information Science, 1982-85, and interim dean, 1985-86.

"He, as always, was most gracious, most patient and most informative," said Michael Spring, a faculty member in the Department of Information Science and Telecommunications. "The story of his exploits and accomplishments has been well documented by others; what I will remember most was the gracious gentleman who was always thinking about what might be and then working with his colleagues to make that vision reality."

A noted writer, Kent authored "The Encyclopedia of Library and Information Science," "The Encyclopedia of Computer Science and Technology" and "The Encyclopedia of Microcomputers."

"He was an incredibly good teacher," said James Williams, faculty member emeritus. "He was a visionary but pragmatic. You don't find many people that have those two aspects together and integrated."

Williams, a former student

and also a colleague of Kent's at Pitt, credits him with kickstarting his career. Williams twice left Pittsburgh for various job opportunities before returning at Kent's urging.

"My career without him, I don't know," Williams said. "It would've gone nowhere. He was just so influential on not just me, but other people's lives. He really cared about students and he wanted to see them do well."

As part of the graduate infor-

mation science and technology program, the Allen Kent Scholarship is awarded each year to a graduate student who makes an outstanding contribution to the program. For information on how to donate to the Allen Kent Scholarship Fund, contact Marci Carothers at mbc20@pitt.edu.

Kent retired from the Univer-

sity in 1992, moving to St. Pete Beach, Fla., before returning to Pittsburgh in 2010.

He is survived by his wife, Rosalind; his four daughters, Merryl Samuels, Jacqueline Maryak, Emily Yeager and Carolyn Newcott; seven grandchildren, and four great-grandchildren.

—Alex Oltmanns

Katz memorial set for May 21

A memorial service will be held May 21 at 2 p.m. in Heinz Chapel for Arnold Katz, professor emeritus in economics. He died Feb. 18, 2014.

Katz joined the Pitt faculty in 1967 and served here until his retirement in 1998.

He taught labor economics, microeconomics, sociological economics, statistics and econometrics.

His research interests included job searches, economics of unemployment insurance, dislocated workers, economics of working conditions, worker participation and instructional software.

Prior to joining the Pitt faculty, Katz taught at Columbia University. He also worked as an economist for the board of governors of the Federal Reserve System and was a labor force analyst with the U.S. Census Bureau and the Bureau of Labor Statistics.

Katz earned his B.A. at Hamilton College and his master's degree and Ph.D. at Yale.

PEOPLE OF THE TIMES

The Academic Pediatric Association has awarded its 2014 APA Research Award to **Alejandro Hoberman**, a faculty member in pediatrics and chief of the Division of General Academic Pediatrics at Children's Hospital. The award was presented at the Pediatric Academic Societies annual meeting in Vancouver.



The award acknowledges Hoberman's excellence in research, originality, creativity and methodological soundness. He is known for his research on acute otitis media and urinary tract infections.

Hoberman's research has been published in the New England Journal of Medicine, the Journal of the American Medical Association, JAMA Pediatrics and Pediatrics.

He has served on the National Institutes of Health (NIH) special emphasis panels, NIH strategic planning workgroups, American Academy of Pediatrics guideline committees and as a member of the Clinical and Translational Science Award child health oversight committee.

Julie Donohue, a faculty member in the Graduate School



of Public Health's Department of Health Policy and Management, was awarded the James L. Craig Excellence in Teaching Award. The award, voted

on by a committee of public health students and past awardees, is bestowed upon a faculty member who has excelled in the teaching and mentoring of students.

Donohue's research evaluating the impact of the Medicare Part D drug benefit has been published

in publications such as the New England Journal of Medicine and Health Affairs. She conducts research on insurance coverage, financing and delivery of health care, while focusing on use of prescription drugs and mental health care.

She has been the principal investigator on grants from the Agency for Healthcare Research and Quality, the National Institute of Mental Health, the National Heart Lung and Blood Institute and the Fine Foundation.

Michael Neilan, a faculty member in the Department of Mathematics, has received a 2014 Sloan Research Fellowship in Mathematics.

The fellowships are awarded in eight scientific and technical fields: chemistry, computer science, economics, mathematics, computational and evolutionary molecular biology, neuroscience, ocean sciences and physics. Candidates must be nominated by their fellow scientists, and winning fellows are selected by an independent panel of senior scholars on the basis of the candidate's independent research accomplishments, creativity and potential to become a leader in his/her field.

Fellows receive \$50,000 to further their research.

Elizabeth Skidmore, a faculty

member in the Department of Occupational Therapy, has been elected a member of the American Occupational Therapy Foundation Academy of Research, which recognizes individuals who have made exemplary and distinguished contributions to the science of occupational therapy.



Skidmore also has been rec-

ognized as a promising young researcher by the American Congress of Rehabilitation Medicine. Her NIH-funded research program examines the influences of cognitive impairments and mood symptoms on activities of daily living outcomes, focusing on two areas: interventions designed to improve rehabilitation outcomes for individuals with cognitive impairments after acquired brain injury and activities of daily living disability among community-dwelling older adults with mild cognitive impairment and major depression disorder.

Sean Kelly, a faculty member in the School of Education's Department of Administrative and Policy Studies, is one of the 2014 recipients of the American Educational Research Association (AERA) Division K Award for Exemplary Research in Teaching and Teacher Education.



AERA recognized Kelly for his paper, "English Teacher Candidates Developing Dialogically Organized Instructional Practices," published in Research in the Teaching of English. The award committee noted the "unique and rigorous research design employed in this study of pre-service teachers' field experiences."

The paper is part of Kelly's ongoing research on engaging instructional practices in English and language arts. The award was presented at the Division K Business Meeting at the AERA annual meeting in Philadelphia last month.

M. Najeeb Shafiq, a faculty member in the Department of Administrative and Policy Studies, was honored by the Journal of Education Finance with an out-

standing article award.

His article, "Accounting for Risk of Non-Completion in Private and Social Rates of Return to Higher Education," is the 2014 recipient of the Outstanding Journal of Education Finance Award of the National Education Finance Conference. This award is given annually to authors whose Journal of Education Finance article embodies extraordinary rigor and relevance to the field of education finance. Recipients are selected by a committee of senior scholars.

Susan Sherlock, a staff member in the School of Education's Office of the Dean, and **Jennifer Russell**, a faculty member in the education school, were given the Extra Mile Award by the Council of Graduate Students in Education (CGSE). The award "honors faculty, administrators or staff members who exemplify the CGSE mission statement and take it the extra mile."

The Viscardi Center has announced that **Rory Cooper**, a faculty member in the School of Health and Rehabilitation Sciences, is one of the winners of the international 2014 Henry Viscardi Achievement Awards, which pay tribute to leaders in the disability community who have had a profound



impact on shaping attitudes, raising awareness and improving the quality of life of people with disabilities. Nominees came from 11 countries; this year's slate of winners hails from the United States, Australia and Kazakhstan.

Cooper also is a senior research career scientist and director at the U.S. Department of Veterans' Affairs' Human Engineering Research Laboratories. Since his spinal cord injury over 30 years ago, he has dedicated his life to improving the lives of people with disabilities. His research initiatives and innovations have spawned companies, additional research and development projects, and served as models for initiatives across the world to further the education, employment and recreational opportunities for people with disabilities.

Cooper has integrated research through clinical practice guidelines and innovative technologies aimed at delivering quality medical rehabilitative care and improving levels of function and independence of persons, especially veterans, with disabilities. His devices (e.g., Natural Fit Handrim, GameCycle) are used by over one-quarter million people with disabilities, and research equipment he designed (e.g., SMARTWheel, Wheelchair Data-Logger) is being used in nearly 100 laboratories and training facilities around the world.

The awards are named for Henry Viscardi Jr., who was one of the world's leading advocates for people with disabilities. He served as a disability adviser to eight presidents.

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CALENDAR

CONTINUED FROM PAGE 8

Law/Juridical Sciences

“Law on Subsidies in the WTO & the EU (Comparative Analysis),” Zvenaslava Opeida; May 16, Barco 2nd fl. conf. rm., 11 am

A&S/English

“Invention Through Textual Reuse: Toward Pedagogies of Critical-Creative Tinkering,” Danielle Koupf; May 16, 501 CL, 1 pm

Health & Rehabilitation Sciences/Physical Therapy

“Balance & Vestibular Rehabilitation Quality Improvement,” Mohammad ALMohiza; May 19, 4014 Forbes Twr., 8 am

A&S/English

“Working in the Belly of the Beast: The Productive Intellectual Labor of U.S. Prison Writers, 1929-2007,” Nathaniel Heggins Bryant; May 19, 501 CL, 11 am

A&S/Economics

“Essays on Public Economics,” Michael LeGower; May 20, 4900 Posvar, 10 am

Public Health/Epidemiology

“An Epidemiological Investigation to Assess Environmental Contributions to Childhood Blood Lead Levels,” Stacey M. Benson; May 20, 109 Parran, 11 am

Education/Administrative & Policy Studies

“Global Education, Innovation & Accountability: The Case of a Small Suburban High School,” Marzia Cuzzolino; May 21, 4321 Posvar, 1 pm

A&S/Mathematics

“Bounds on Packing Density,” Wöden Kusner; May 22, 325 Thackeray, 3 pm

A&S/Chemistry

“Chemistry & Applications of N-heterocyclic Carbene

Boranes,” Xiangcheng Pan; May 27, 307 Eberly, 10 am

A&S/Economics

“Experiments on the Non-material Incentives That Affect Collective Action,” Maria Patricia Recalde; May 27, 4716 Posvar, 3 pm

Pharmacy/Pharmaceutical Sciences

“Targeted Therapy for Liver Fibrosis & Cancer,” Yifei Zhang; May 28, 458 Salk, 9 am

Public Health/Biostatistics

“Bayesian Hierarchical Joint Modeling of Repeatedly Measured Mixed Biomarkers of Disease Severity & Time-to-Event,” Olive D. Buhule; May 28, A215 Crabtree, 11 am

A&S/Economics

“Essays on Asset Markets & Self-Assessed Health Status,” Tekin Köse; May 28, 4716 Posvar, 3 pm

A&S/French & Italian Languages & Literatures

“Performing Home: Affective Intervals in 20th- & 21st-Century French Theatre & Slam Poetry,” Andrea Jonsson; May 29, 244B CL, 11 am

Health & Rehabilitation Sciences/Communication Science & Disorders

“Effects of Vocal Intensity & Physical Activity Levels on Phonatory & Respiratory Function,” Aaron Ziegler; May 29, 4060 Forbes Twr., 1 pm

Health & Rehabilitation Sciences/Physical Therapy

“Risk Factors for Musculoskeletal Injuries in Deployed Female Soldiers,” Tanja Roy; May 29, 5047 Forbes Twr., 2 pm

Public Health/Epidemiology

“Incidence, Outcomes & Characteristics of Rearrest After Out-of-Hospital Cardiac Arrest,” David D. Salcido; May 29, 405.42 Iroquois, 4 pm

Theatre

PICT Production

“Blithe Spirit”; Randall Theatre, through May 17 (various times; <http://picttheatre.org/plays-events/2014-season/blithe-spirit/>)

Exhibits

Barco Law Library

“Gardens of Repose” by Larry Hankowitz; through May 16, Th 7:30 am-10 pm, F 7:30 am-6 pm

Hillman Library

“Oakland: A Look Back Over the 20th Century”; Hillman gr. fl., through Aug. 8, Sun 10 am-F 10 pm & Sat 9 am-10 pm

HA&A Exhibit

“Encounters: Art in the City”; U Art Gallery, FFA, through May 23, W & F 10 am-3 pm, Th 3-7 pm

Deadlines

AMERSA Call for Abstracts

Submission deadline May 31. (www.amersa.org)

Burroughs Wellcome Fund 2015 Career Awards for Medical Scientists

Prelim applications due by June 16. (www.oorhs.pitt.edu/search-funding/ShowNomination.aspx?nominationId=10775) ■

PEOPLE OF THE TIMES

CONTINUED FROM PAGE 6

Katherine Seelman, a faculty member in the Department of Rehabilitation Science and Technology in the School of Health and Rehabilitation Sciences, received an appointment from President Barack Obama to the National Council on Disability.

Seelman joins three other newly appointed members on the council.

Thomas Starzl, a faculty member in the Department of Surgery and a pioneer of transplantation, has been elected to the National Academy of Sciences.

The National Academy of Sciences elected 84 new members and 21 foreign associates from 15 countries in recognition of their distinguished and continued accomplishments in original research.

Five Pitt faculty members have been elected to membership in the Association of American Physicians. AAP recognizes researchers who have made significant contributions to the advancement of medical science over the course of their careers. Pitt faculty made up 12 percent of the 60 persons elected this year.

Elected from Pitt were **Yuan Chang**, a faculty member in pathology; **Patrick Moore**, a faculty member in microbiology and molecular genetics; **David Hackam**, a faculty member in surgery; **David Lewis**, a faculty member in psychiatry, and **Sally Wenzel**, director of the University of Pittsburgh Asthma Center.

The American Society for Clinical Investigation (Young Turks) elected 75 new members in 2014, eight of whom are Pitt faculty members.

Founded in 1908, the society recognizes physician-scientists under the age of 50 who have conducted meritorious, original, creative and independent investigations in medicine.

The elected Pitt faculty members are: **Christian Apetrei**, microbiology and molecular genetics; **Carlton Bates**, pediatrics; **Hulya Bayir**, critical care medicine; **Peter Lucas**, pathology; **Linda McAllister-Lucas**,

pediatrics; **Mary Louise Phillips**, psychiatry; **Aleksandar Rajkovic**, obstetrics, gynecology and reproductive science, and **Yutong Zhao**, medicine.

“We follow the Young Turks every year because it is in some ways the best form or one of the best forms, within biomedical research at least, to determine whether people on the outside think your pipeline of talent continues to be full,” said Chancellor Mark A. Nordenberg.

Four Pitt faculty recently received Provost’s Awards for Mentoring Excellence. The four awardees are **Marcia Landy**, English; **Stephen Manuck**, psy-

chiatry; **Allan Sampson**, statistics, and **Trevor Orchard** of the Department of Epidemiology in the Graduate School of Public Health.

Orchard has served for more than 25 years as principal investigator (PI) of the Pittsburgh Epidemiology of Diabetes Study and has received continued NIH research funding as a PI since 1980.

Landy, Manuck and Sampson’s awards were announced in the April 3 University Times.

James Guggenheimer was among the honorees at the School of Dental Medicine Dean’s Scholarship Ball May 10.

Guggenheimer received the

school’s Award of Appreciation.

He earned his B.S. from The City College of New York and did graduate work at the Columbia University College of Dental Medicine.

In 1966 he was recruited by the School of Dental Medicine as an assistant professor and was promoted to professor in the Department of Diagnostic Sciences in 1976. In 2000 he received a joint appointment to the School of Medicine as a professor in the Department of Otolaryngology.

Guggenheimer is known for research in the areas of diabetes complications, acetaminophen toxicity and opioid drug use.

—Compiled by Alex Oltmanns■



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