integration

globalization

leadership

Prepared for Eugene Mercy, Jr. ’59

The Sue and Eugene Mercy, Jr. ’59 President and Provost Faculty Development Fund

The Sue and Eugene Mercy, Jr. ’59 Professorship

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Thank You

Like the great philanthropists of our time including John D. Rockefeller, Andrew Carnegie, and more recently, Bill and Melinda Gates, you have long understood the link between philanthropic giving and stellar academic institutions. Through your contributions to support multiple initiatives at Lehigh University including scholarships, faculty development, programs, athletics, and facilities, our university remains forever elevated and you have left a lasting legacy.

This report highlights the impact of your giving to support faculty. As you know, one of the most valued facets of Lehigh is our talented professors. Your foresight long ago to establish the Sue and Eugene Mercy, Jr. ’59 President and Provost Fund for Faculty Development and the Sue and Eugene Mercy, Jr. ’59 Professorship Fund has supported our treasured talent through continued scholarly growth. As a result, Lehigh professors are able to realize greater opportunities for scholarship, research, and professional presentations.

Thank you for all that you have done to elevate Lehigh. Your incredible leadership and generosity has been a source of inspiration. The dedication that you have shown extends decades and has touched many.

LEHIGH UNIVERSITY

The Sue and Eugene Mercy, Jr. '59 President and Provost Faculty Development Fund

Taipei, Taiwan, Yogyakarta, Indonesia, and Limassol, Cyrus are just some of the international destinations that 48 Lehigh University faculty visited this year to present their research through funding from the Sue and Eugene Mercy, Jr. '59 President and Provost Faculty Development Fund. Since 1998, hundreds of faculty members have taken advantage of travel grants offered through this fund. These resources meet the critical need of supporting professors' professional growth as well as the university's need to retain the best and brightest faculty. The four faculty members included in this report (one from each Lehigh college) represent the talent, energy, and enthusiasm of all of our educators. We hope you enjoy reading about their research, teaching, and the impact that the Sue and Eugene Mercy, Jr. '59 President and Provost Faculty Development Fund has had on their work at Lehigh.

YEAR CREATED

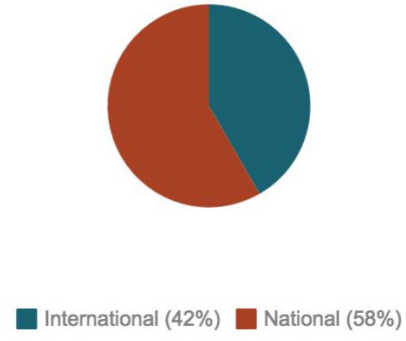
1998

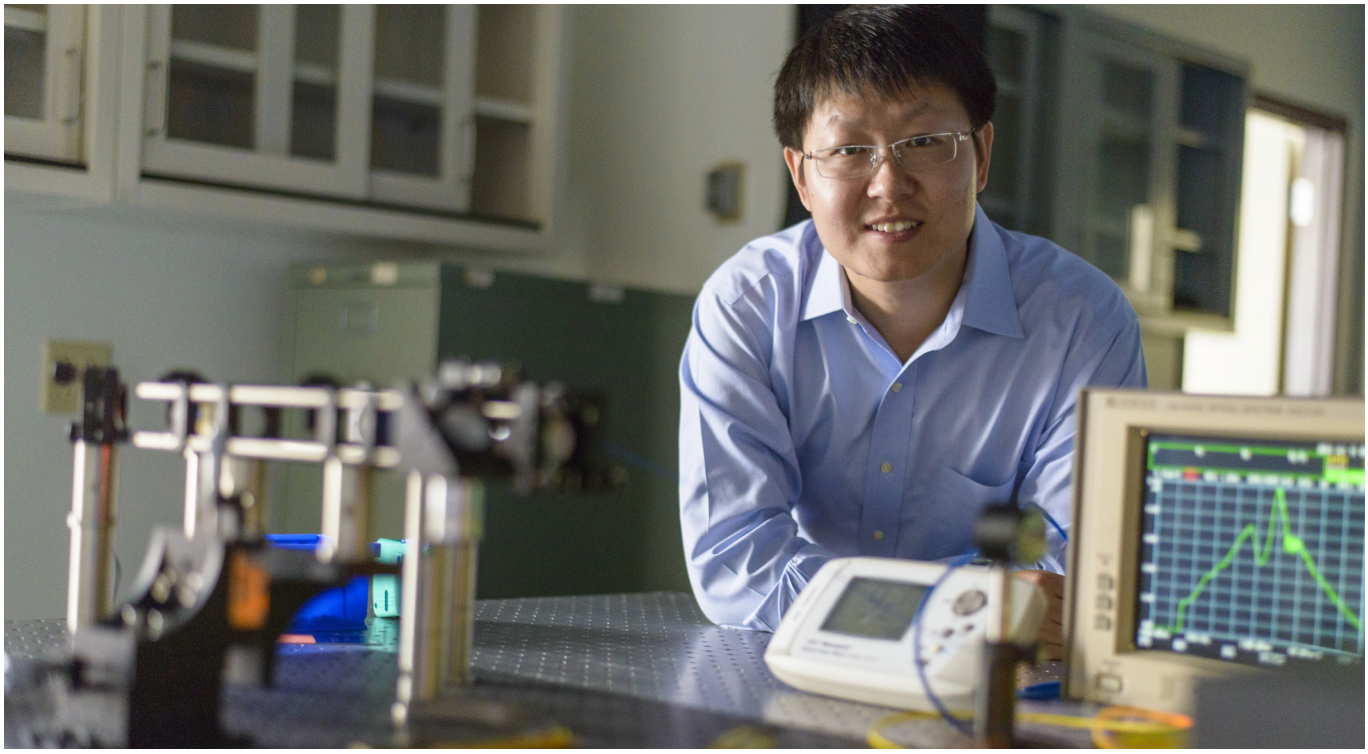
Book Value as of June 30, 2015
$1,027,998

Market Value as of June 30, 2015
$1,201,746

2014-2015 FACULTY PRESENTATIONS

A total of 48 Lehigh University faculty members traveled both nationally and internationally to present their research as a result of your generosity.





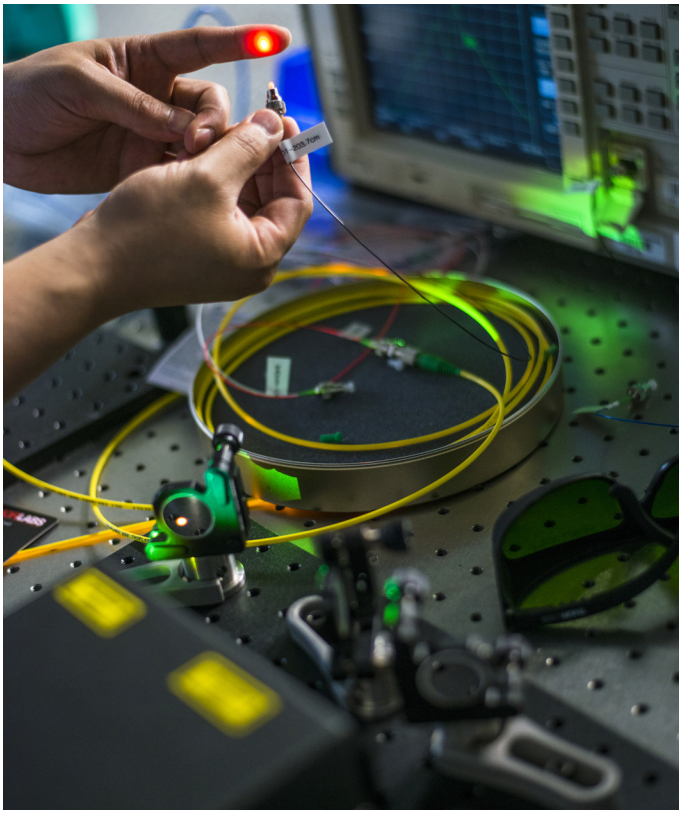
Lighting Up the Biomedical World: Chao Zhou

"Yes, the fruit fly has a heart," says Chao Zhou. "And I can make it beat to a regular rhythm with a pulse of light using a tool that potentially will eliminate the need for human heart pacemakers." Finding cancer margins with no need for histology? Yes. Mapping deep brain functions, in three-dimensions (3D), including cerebral blood flow, easily and affordably? Yes.

Spend only a few minutes with Zhou, an assistant professor working at the exciting intersection of biomedical and electrical engineering in photonics and you can't help but catch his enthusiasm about the power of novel optical imaging technologies. Zhou is a faculty member in the Department of Electrical and Computer Engineering and the Bioengineering Program at the P.C. Rossin School of Engineering. He explains, "We are using optical coherence tomography (OCT) and microscopy (OCM) to generate 3D images of tissue, function, and pathological status in real time" and non-invasively. "These technologies can be applied in a variety of ways for cancer research, neuroscience, developmental biology and tissue engineering."

Photonics is actually a word that comes from the Greek term for "photos" meaning light. In the 60s, the term was used to describe a research field where light was used to perform functions that were once reserved for electronics. Nowadays, we can thank photonics for a wide variety of everyday wonders in science, medicine, technology, telecommunications, information

processing, and transmitting. If it weren't for photonics, there would be no Internet.



Chao Zhou, displaying a light in his lab, which can be used for generating high resolution images, as well as pacing the heart non-invasively.

At the Photonics West Conference held in San Francisco in February 2015, a trip that was supported by the **Eugene Mercy, Jr. '59 President and Provost's Fund for Faculty Development**, Zhou presented work on "optogenetic pacing, which is very exciting," he explains. Funded by a grant from the National Institutes of Health (NIH), this tool "may replace electrical pacemakers in 20 years. It is a non-invasive device that can stimulate, control and monitor heart rate in fruit flies. Of course, there are many obstacles to overcome before we are able to do this in humans," Zhou, the principal investigator, since 2012, cautions. But eventually, there would be no surgical implantation into a patient's chest wall, no need to replace pacemaker batteries, and no uncomfortable side effects from electricity stimulating the diaphragm muscle as well as the heart. In the fruit fly, a protein is delivered into the heart and then using that target, "We shine a light from outside through the fly's exterior to stimulate the beating and monitor the heart rate," he says.

Presenting research like this at conferences is critical, according to Zhou. While it's easy to download research papers from the Internet, "to understand key points and gain more detailed insight, you really need to have face to face interactions and constructive discussions with other researchers," he explains. Finding new collaborators is also easier at conferences. "In a short time, you meet people from all different places in the world and it's an efficient way to get your own work noticed." Senior faculty members also encouraged him to get out of the lab, to meet people, and to present work at conferences because "the people reviewing your grant proposals could be out there in the audience. When they see positive feedback, they also see the value of your research and are more positive about funding."

Presenting research like this at conferences is critical, according to Zhou. While it's easy to download research papers from the Internet, "to understand key points and gain more detailed insight, you really need to have face to face interactions and constructive discussions with other researchers."

Last year at the same conference funded by the same travel grant, Zhou presented breakthrough work on using a parallel technology with OCT in the ophthalmological world to speed and enhance 3D images of the retina. "Annually, 30 million people worldwide rely upon OCT for a diagnosis but the current commercial system is slow and can be inaccurate because it depends on patients keeping their eyes wide open and unmoving for 10 seconds. This will make more accurate diagnosis of the eye possible." Using this technology Zhou calls Space-Division Multiplexing (SDM) with OCT (SDM-OCT), "We improve the speed by more than 10 times." He received another grant from the University City Science Center in Philadelphia, making it possible to transfer SDM-OCT from the lab to the industrial world. Just as these grants are important to the advancement of Zhou's research, the travel grants are vital to the communication of his work worldwide.

Biologist Extraordinaire: Amber Rice

Let's talk about chickadees, spadefoot toads, antibiotic resistance, climate change, and pesticide failures, along with the question Charles Darwin asked so long ago, "Where did all these species come from?"

Making evolutionary biology exciting and relevant is never difficult for Amber Rice. No matter where she is…in front of a class at Lehigh, out in the woods taking bird blood samples, at a state park speaking to visitors, or addressing an international audience at a conference like the one she just attended in June in Guaruja, Brazil, this assistant professor in the Lehigh University College of Arts and Science's Department of Biological Sciences brings her science into the kind of focus that makes listeners stop and say, "I never thought of that."

"People think that evolution research is not important to their daily lives. What I like to communicate is just how important an understanding of basic evolutionary biological processes can be," Rice explains. "A lot of the issues we are facing, like antibiotic drug resistance or how climate change is affecting plants and animals, are informed by evolutionary biology. Take the treatments for AIDS, for example, and those drug cocktails prescribed. These rely upon evolutionary biology. Look at pesticide use on farm fields. If we don't take evolution into account, agricultural crops will be overrun by resistant pests."

Amber Rice, assistant professor, biological sciences,

Rice studies speciation or how new species form over time. She is especially interested in how this process is influenced by species interactions like competition and hybridization, when individuals from two species mate. Everything from wild radishes to wolf spiders, red snappers, spadefoot toads, flycatchers and the little chickadees local to the Lehigh Valley area that her undergraduate and graduate students are studying right now, have been on her to-do list. She took a course in evolution as an undergraduate biology major at The College of Wooster in Ohio and "everything suddenly made perfect sense." Later as a PhD student at the University of North Carolina, she worked in a lab where one big interest was: how did we get all these different species? "This is what Darwin wanted to know of course, and it's the question that has been driving evolutionary biology for a long time." It's also been the "meandering pathway through my own career," she explains. "Yes, we know about adaptation and mutation and other things that cause evolution within a species – but how do those processes lead to new species?"

After completing her doctorate in 2008, Rice spent two and a half years as a researcher in Sweden at Uppsala University. That gave her a chance to delve more deeply into speciation. Recently, using a combination of ecological field studies and genetic analysis, she has been looking at how interactions between two species living together, or "co-occurring," as she describes, "leads to the evolution of a new species." Most researchers working in her particular field have paid more attention to what happens to the two, co-occurring species but Rice focuses also on a species individually, or "where they occur by themselves versus with that second species." It was the topic of her presentation at "Evolution 2015," the joint annual meeting of the Society for the Study of Evolution (SSE), the Society of Systematic Biologists (SSB) and the American Society of Naturalists (ASN). "That talk went great," she says. "A number of other collaborators have been looking at speciation in this way so the idea is gaining appreciation."

Going to conferences is critical to her research and the **Eugene Mercy, Jr. '59 President and Provost's Fund for Faculty Development** has made this possible more than once. "I've been the recipient several years in a row and I really appreciate it." At conferences, she can gather feedback and exchange ideas. "I come back home thinking, 'I could try that.'"

The Secrets to Motivation: Bridget Dever

Bridget Dever, assistant professor, school psychology, College of Education

"Students are so unmotivated," is a cry heard across the country in school districts everywhere and from teachers at all grade levels. Lehigh's Bridget Dever has the kind of answer to this lament that makes educators want to shout Eureka! As one principal said to her, "I no longer feel like I am committing random acts of leadership. I'm actually doing something for my students."

Dever, an assistant professor of school psychology in the College of Education, took her motivational secrets to Limassol, Cyprus, in late August for the EARLI (European Association for Research in Learning and Instruction) bi-annual meeting at the Cyprus University of Technology. This young professor puts high value on such experiences because "to be able to learn about education in the international venue is critical to my work here in the U.S. figuring out what works and what doesn't. National conferences are important too for meeting people and exchanging ideas. We sometimes forget how education around the world is so different."

The Eugene Mercy, Jr. '59 President and Provost's Fund for Faculty Development made travel to this EARLI meeting possible. "Without these grants, I wouldn't have been able to go due to financial constraints," she explains. While there, she presented a paper on motivation but "her baby," as she says, was leading a symposium on "Screening Measures and Procedures in Schools," a favorite topic because of her longtime interest in resilience in students who are at risk. "I've been on this path looking at children's behavioral and emotional struggles and what teachers and schools can do to identify them early and intervene."

At Lehigh since 2013, Dever teaches Hierarchical Linear Modeling, Advanced Applications of Psychometric Principles and Analysis of Experimental Data. Students walk into class expecting her to talk only about the numbers. "The numbers don't really mean anything if we are not applying them to something that matters," she explains. Dever has also been out in Pennsylvania schools "showing educators ways to deal with motivational strengths and deficits

in students. "Motivation comes in all different forms" she says. "Two of the main varieties of motivation I've been studying are: Do the kids really have the skills to succeed? And, do they actually value the work? If you don't figure out what the real motivational struggle is, you will miss the mark." This is the kind of educational research that prompts educators to use words like "amazing" after working with Dever. "An intervention with a child who doesn't value the work is very different from one with a child who doesn't have the skills to do that work. I'm trying to tease all this out for schools."

The Eugene Mercy, Jr. '59 President and Provost's Fund for Faculty Development made travel to this EARLI meeting possible. "Without these grants, I wouldn't have been able to go," she explains.

Dever earned her undergraduate degree in Psychology at the University of Notre Dame in 2002, a master's degree at Marywood University in Child Clinical/School Psychology and her doctorate at the University of Michigan in 2009. She completed a post-doctoral fellowship at Georgia State University in Atlanta and was on a tenured professor track there when she saw her "dream job" posted at Lehigh. "I loved Atlanta and had no intention of leaving Georgia State but this job description was written for me. And, I'm a Philadelphia girl. I grew up in Philly and my family is still here." She loves Lehigh as well as her students who are always motivated to go the extra mile. "I have students who may be struggling with an assignment but they come to me early asking, 'Can I do this extra assignment and will you look at it to see if I've got it down yet?'"

Last year, a Eugene Mercy, Jr. '59 President and Provost's Fund for Faculty Development travel grant enabled Dever to travel to Helsinki, Finland, for the International Conference on Motivation. There, she met researchers from all over the world equally passionate about motivation. Colleagues at the conference insisted that she put Cyprus on her to-do list back then. Putting theory into practice, Dever is always motivated to work hard and continue her research, which brought her to Cyprus this summer.

Bringing International Issues to Light: Alex Nikolsko-Rzhevskyy

Alex Nikolsko-Rzhevskyy, assistant professor, economics, College of Business and Economics

Not all monetary policy experts confront life and death issues in their work, but last April, Alex Nikolsko-Rzhevskyy did exactly this. The assistant professor in Lehigh University's College of Business and Economics found himself side by side with prominent European and American economic and political leaders in Kyiv, Ukraine, grappling with critical matters impacting the survival of his home country. There, he delivered a presentation, "Make Friends, Not War," that looked for resolutions to the current Ukrainian conflict and built a statistical premise on death tolls from the Russian conflict and annexation of Crimea.

Nikolsko-Rzhevskyy was back at the Kyiv School of Economics where he earned his master's degree in 2003. A travel grant from the Eugene Mercy, Jr. President and Provost's Fund for Faculty Development supported this important trip where he participated in a symposium titled "Ukraine: Escape from Post-Soviet Legacy?" The symposium was assembled for a special issue by the editors of the *Journal of Comparative Economics* in partnership with the University of California, Berkeley, the University of Pittsburgh, Stockholm Institute of Transition Economics, and other world-class researchers and leading policymakers. "A lot is going on in Ukraine and this was a very important trip for me. The situation there is as bad as conditions in Greece," he says. The paper generated for his presentation was co-authored with another Lehigh assistant professor, Dinissa S. Duvanova, in the Department of International Relations and has been submitted for publication.

The research for "Make Friends, Not War" highlighted the pressing problems in Ukraine. "Conflict in many countries can bring a nation together, as citizens " 'rally round the flag,' and people with different beliefs and backgrounds unite," he explains. "However, Ukraine is a historically fragmented and ethnically diverse country. As the death toll, currently in excess of 1,500, rises, ties between different regions of Ukraine continue to break down, fragmenting the country further."

Originally a physics major at Odesa National University, Nikolsko-Rzhevskyy switched to economics in his post-graduate studies to pursue "something a little bit more applied. I had been specializing in theoretical physics," he laughs. Now, "I work on monetary policy looking at the U.S. Federal Reserve, what it is doing right now, what it has done in the past, defining successes and mistakes, and predicting the future." In March, his essay, "Why the economy – and the Fed – isn't ready for a rise in rates" was published on The Conversation, an online journal and later republished by the Australian Institute of International Affairs. He writes often on Taylor Rules, monetary policies that stipulate how central banks should respond to economic conditions, and he maintains his interests in multinational enterprises and emerging economies. His masters' thesis examined "Bank Bankruptcy in Ukraine: What are the Determinants and Can Bank Failures be Forecasted?"

"Lehigh students are demanding and active," he says. They are always asking, "What do I need to do to get that A?"

Nikolsko-Rzhevskyy earned his doctorate in Economics from the University of Houston in 2008 and prior to joining Lehigh's faculty in 2012, he was at the University of Memphis where he taught Macroeconomics and Econometrics. His papers have been published in the *Journal of Monetary Economics, Journal of Money, Credit and Banking* and the *International Journal of Forecasting.* At Lehigh, he teaches all levels from undergraduate courses like Money, Banking, Financial Markets, and Fed Challenge, to the PhD Advanced Macroeconomics and Applied Microeconometrics. He has been the recipient of several research grants and his research was referred to by the U.S. Congress in testimony before the Committee on Financial Services in February 2014.

Twice a week, students line up outside Nikolsko-Rzhevskyy's door for office hours, animated and debating about the Fed, Janet Yellen, and monetary policy. He also coaches the Lehigh Fed Challenge Team that regularly competes in Philadelphia Fed's regional contest but has not won yet. "Lehigh students are demanding and active," he says. They are always asking, "What do I need to do to get that A?"

LEHIGH UNIVERSITY

The Sue and Eugene Mercy, Jr. ’59 Professorship

Endowed faculty positions are vital to Lehigh because they offer the opportunity to recruit and retain leaders in research and education. Outstanding faculty members are attracted to and remain at the university because their contributions to teaching and research are held in high regard. Building an extensive pool of talented faculty enriches the academic environment, which attracts the brightest students.

Your support of endowed faculty through the Sue and Eugene Mercy, Jr. ’59 Professorship is a great asset to the university as it enables professors to focus on mission critical initiatives, develop expertise in emerging high-impact areas, and compete more effectively for funding in important interdisciplinary fields. Lehigh currently employs nearly 100 endowed faculty members who individually offer substantial and continued contributions to teaching, scholarship, and research in their chosen discipline. We are proud of educators like Heibatollah Sami, and Ke Yang (featured in this report), because they provide an education that is of the highest standards.

YEAR CREATED

1985

NUMBER OF PROFESSORS TO HOLD THIS POSITION

10

Book Value as of June 30, 2015
$100,200

Market Value as of June 30, 2015
$427,129

Heibatollah Sami, Sue and Eugene Mercy , Jr. Professor (2005-2014)

Professor Heibatollah Sami pictured with students graduating from the Master of Science in Accounting and Information Analysis Program: Qing (Celeste) Li '14, Beichen (Sherry) Fan '14, and Ruihan (Gracie) Xia '14 .

Heibatollah Sami, the ninth holder of the Sue and Eugene Mercy, Jr. '59 Professorship, knew that he wanted to become a teacher while pursuing his master's degree in accounting. "After working for six years at a public accounting firm, I decided to return to school," Sami explains. "I enjoyed my years as a professional accountant but my decision to attend graduate school led me to become interested in teaching." Although Sami made the decision to switch careers, the field of accounting still remained front and center. Sami went on to earn a doctorate in accounting from Louisiana State University. While pursuing his advanced degrees, Sami was drawn to research, especially pertaining to accounting standards. Subsequently he wrote his dissertation on inflation accounting. "When I earned my doctorate in 1984, there was a period of high inflation," he explains. "As a result, there were new accounting standards created. I studied how the stock market uses that information in determining stock prices." Sami did find that the inflation adjusted data provided information to the capital market. Accounting standards remain a prominent topic that is at the forefront of Sami's research studies today.

Sami's interest in accounting research continued throughout his career. After working at Temple University for more than twenty years as a professor of accounting, he joined Lehigh in 2005. "The Lehigh accounting program has always been known for graduating high quality students," Sami says. "However, Lehigh is also widely recognized for our research in accounting. In fact, the university is considered a balanced research-teaching school, and if anything, leaning more toward research."

Sami continues to work with colleagues in the U.S., Hong Kong, China, and Malaysia on international research topics. He is currently studying international accounting standards for global capital markets. His research in this area has evolved with the times since International Financial Reporting Standards (IFRS) became effective in 2005 for companies in the European Union, and more recently have become a global standard. Sami's research has shown that

Heibatollah Sami (center) pictured with Robert Duquette, adjunct professor (seventh from right) and Parveen P. Gupta, chair of the Department of Accounting (sixth from right), and students graduating from the Master of Science in Accounting and Information Analysis Program.

the adoption of new accounting standards affects trading volume. "This was a result of foreign companies having to conform to U.S. accounting standards, commonly referred to as Generally Accepted Accounting Principals or U.S. GAAP," Sami says. "Foreign registrants had to reconcile their financial statements to U.S. standards, which resulted in a fluctuation in trading volume." Sami's research on this topic was published in *Contemporary Accounting Research* and *The International Journal of Accounting.*

Another emerging research area for Sami involves conflict minerals, which are minerals, such as tin, tungsten, and gold that are mined in parts of the world in the midst of armed conflict. More than 5.4 million people have been forced to mine these materials and have died due to poor working conditions, most notable the Democratic Republic of the Congo. To combat this international human rights issue, and to prevent purchase and use by U.S. manufacturers, the U.S. adopted standards requiring manufacturers to disclose where their raw materials are sourced in their supply chain. Sami's research is determining if this disclosure has had any effect on the capital market. "A larger question that we are trying to answer is, is the government establishing accounting standards to achieve political objectives?" explains Sami.

Sami teaches Advanced Accounting, ensuring that students are well versed in consolidated financial statements, mergers and acquisitions, foreign operations, partnerships, international financial reporting standards, and governmental accounting. "Nowadays, the big accounting firms are seeking graduates who are 'IFRS ready,' " explains Sami. "I place a strong emphasis on global accounting because it is important to point out the major differences between U.S. and international standards."

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Ke Yang
Sue and Eugene Mercy, Jr. ’59 Professor (2015)

Ke Yang, assistant professor in the Perella Department of Finance and the new Sue and Eugene Mercy, Jr. ’59 Professor is not new to Lehigh University. Since joining the university in 2008, her research and teaching interests have included corporate finance, mergers and acquisitions, restructurings, corporate governance, agency issues, capital structure, and investments.

Yang earned her doctorate from the University of Iowa, a master’s degree from the University of Nebraska-Omaha, and her bachelor’s degree from Henan University of Science and Technology. During her time at Lehigh, Yang has been the recipient of many awards including the most recent Theodore A. Lauer Professorship (2013-2015); Outstanding Paper Award in Corporate Finance at the Financial Management Association Asian Conference (2012); and the Sue and Eugene Mercy, Jr. ’59 President and Provost Fund for Faculty Development travel grant (2009, 2011, 2013, 2014). We look forward to communicating more about Yang’s scholarship and research at Lehigh in the future.

Ke Yang, assistant professor, Perella Department of Finance, College of Business and Economics, and 10th holder of the Sue and Eugene Mercy, Jr. ’59 Professorship