

UNM Engineering



New Beginnings

Message from the Dean



One of my prime goals as dean is to enhance the reputation of the School so that our national rankings are a better match with the School of Engineering that we all know to be excellent. During the next few years, we will make it a priority to better identify our student, faculty, and alumni success stories and make sure that more of our peers know about the great things we are doing in the School.

I am entering the dean's job at a very exciting time. Joining the School this semester are several new faculty (read about them on Page 14) and a lot of other leadership changes. Edl Schamiloglu, a longtime UNM faculty member and Distinguished Professor of Electrical and Computer Engineering, is the new associate dean for research. Edl has an exemplary history at UNM in generating some very large grants and has a lot of ideas on how to re-energize the research

Welcome to the 2017

issue of *UNM Engineering!* I am very pleased to be greeting you as the new dean of the School of Engineering! For some of you, I am a familiar face, as I have been around UNM for a while in various administrative roles and in the academic and research community even longer, but for those of you who have not had the opportunity to get to know me, you can learn more about my career, my background, and my priorities for the School starting on Page 2.

One of my prime goals as dean is to enhance the reputation of the School so that our national rankings are a better match with the School of Engineering that we all know to be excellent. During the next few years, we will make it a priority to better identify our student, faculty, and alumni success stories and make sure that

efforts within the School. Read more about Edl's ideas and the current status of our research enterprise on Pages 12-13.

I am also excited to be working with a new development team (see Page 16). Kara Clem began as senior director of development on July 1. She was previously director of development. And Leslie Currie, who comes to us from Texas A&M University-Kingsville, began in June as director of development. In these challenging budgetary times, fostering relationships with our alumni, friends, and corporate partners is more important than ever, and I'm eager to work with such an energetic and vibrant team who will bring some great new ideas to our fundraising efforts in the School.

And speaking of new, one of the most obvious signs of the future is the renovation of Farris Engineering Center. The \$26 million, 18-month project is nearing completion, with move-in expected early next year. While many of the changes will take place inside the building, the outside is looking very impressive as well—a tangible sign of our renewed spirit and high aspirations for the School! This building will be the home to the departments of Computer Science, Chemical and Biological Engineering, and Nuclear Engineering. Read more about these exciting changes on Page 7.

Although this is a yearly publication, as dean, I look forward to sharing news with everyone on a more regular basis to keep you informed of the great things happening in the School of Engineering. So many of you will be hearing from me, and seeing the results from our success, in the months to come as we strive toward excellence.

Christos Christodoulou
Jim and Ellen King Dean of Engineering and Computing

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UNM Engineering
2017, Volume 13

UNM Engineering is published annually by the University of New Mexico School of Engineering. Subscriptions are free; requests should be submitted to the address below. Material may not be reproduced without permission.

School of Engineering, Centennial Engineering Center,
Room 3071, MSC01 1140, 1 University of New Mexico,
Albuquerque, NM 87131-1140. 505-277-5521
engineering.unm.edu

Interested in receiving *UNM Engineering* electronically?
Contact Kim Delker at ksdelker@unm.edu

Managing Editor
Kim Delker

Writing
Kim Delker, UNM

Design
Brian Hurshman, Sparkplug Studio

Photography
Eric Swanson, Obscura Inc.



On the cover
Christos Christodoulou settles in as the new dean of the UNM School of Engineering.

a man in
perpetual
motion



New Beginnings

After nearly 20 years as a UNM researcher, Christodoulou takes the reins as dean

By Kim Delker

CHRISTOS CHRISTODOULOU IS A MAN IN PERPETUAL MOTION.

If he's not meeting with graduate students or faculty or working on a research project, he's heading off to meet future collaborators or colleagues for coffee. And in meetings, he is always an active participant, interjecting his knowledge and humor, putting a tense room at ease. He feels a need to fill every minute of his day with something useful and is found frequently going from one meeting to the next with a phone in hand, talking to a colleague, even answering emails at the gym. When his time with one task is winding down, he wastes no time enthusiastically moving on to the next one.

Unlike the stereotypical engineer, who is introverted, Christodoulou is a proud extrovert who greatly values his vast and diverse network of friends and colleagues, both locally and around the world.

It is with that energy that Christodoulou, who joined the UNM faculty in 1999, becomes dean of one of UNM's largest colleges.



"I will work with the state and the leadership of UNM to get it done, but I still am focused to do what's best for our students and faculty."

Christodoulou is taking charge at a challenging time for UNM and for higher education in general. State revenues are on the decline, and more and more competition—both in state and out of state—is popping up in the higher-education landscape. But that doesn't faze Christodoulou.

"I welcome the challenges because it makes the job a little more interesting," he said. "I do realize from my experience that I'm going to always have roadblocks. The key is how to take something bad and figure out how to turn the tables. I believe like the ancient Greeks that there is nothing bad without some element of goodness in it. I always try to find the good things so I can take advantage of it. There are always solutions."

He said a key to that will be thinking creatively, much like an engineer solves problems.

"I am not the type that's going to let any problems stop me," he said. "I have to go beyond state and UNM politics to create a better School of Engineering. I will work with the state and the leadership of UNM to get it done, but I still am focused to do what's best for our students and faculty."

A humble beginning

Perhaps it's his background as an immigrant that makes him such a tenacious leader.

Christodoulou was born and raised in a Greek community in Cairo, Egypt. His family had been there for decades due to wars and economic strife. His grandmother on his father's side was a refugee, coming to Alexandria, Egypt, from Asia Minor due to war in

1923. On his mother's side, his grandparents were economic refugees, coming to Egypt from Cyprus. His parents moved to Greece as Christodoulou was finishing his bachelor's degree in the late '70s.

Judging from his family background, going to college and eventually becoming a dean of an engineering school was not something many would have predicted for Christodoulou.

"I am the only one in my family who finished high school and college," he said. "My parents didn't even finish elementary school."

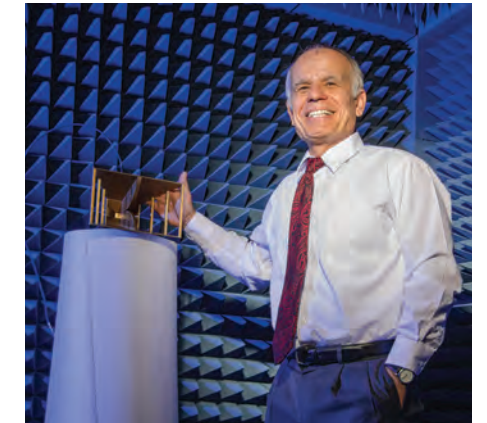
But thanks to his social circle, he became open to new opportunities.

"I had a good circle of friends, so it was peer pressure and we all wanted to go to college," he said. "I was a good student and everybody said I was college material, so I believed them."

Christodoulou enrolled in the American University in Cairo, studying math and physics, earning his bachelor's degree in 1979. While there, he learned some English and some American customs. One day, a math professor of his, Dr. Jones, presented him with another new opportunity.

"I was good in math, so one day he brought me an application form to apply to North Carolina State. I had never heard of North Carolina State. I didn't even know where the state of North Carolina was!," Christodoulou said.

He was interested, yet skeptical of how he could make it work.



Christodoulou with Interim President Chaouki Abdallah (left), former President Bob Frank, and in his antennas and RF lab.

"I didn't even know where the state of North Carolina was!"

"I wasn't sure if I could make it because I was very poor. I didn't have money. To get a visa in the United States, you have to show that you have a certain amount of money in the bank. If you get a scholarship, it's easier. But my scholarship hadn't come in yet," he said.

That's when Dr. Jones intervened.

"If it wasn't for this guy, who put his own money down for me, sponsoring me until I got my scholarship from North Carolina State, I would never have made it to the U.S.," he said.

Christodoulou considered other graduate schools, but not knowing much about the U.S., he was encouraged to go to school in North Carolina.

"I was so naïve, the only thing I knew about the U.S. was what I knew from movies and things," he said. "We did have some American students at American University, but I had never seen snow before coming to the U.S., so my math professor told me to go to North Carolina State. I didn't want to shovel snow!"

Change of plans

Christodoulou's intention was to earn his master's in the U.S., then rejoin his family in Greece. But that plan never materialized.

He ended up borrowing money from a friend to help his family in Greece, which was undergoing some hardships. He wanted to stay around to pay off the loan, so he enrolled as a Ph.D. student and had nearly finished his doctoral studies when he had the money paid back. Plus, he had gotten married about a year before finishing his Ph.D. Now overqualified for jobs in Greece, he stayed in the U.S., following his wife, also an engineer, to her new job in Orlando, Florida. Luckily, Christodoulou was able to acquire a professor job at the University of Central Florida, where he stayed for 15 years.

It was the pursuit of a new challenge that prompted Christodoulou to make the move to The University of New Mexico, starting as professor and chair of the Department of Electrical and Computer Engineering in 1999. He stayed in that position until 2005. Chaouki Abdallah, now interim UNM president, followed Christodoulou as chair.

"It was a very good move for me and my family," he said. "This place in terms of academics, research, it's a unique place in the U.S. Not that many places can match the combination with the proximity to national labs. It is any scientist's dream to be here."

"I want to be a servant"

Christodoulou is one of the founders of UNM's COSMIAC (formerly the Configurable Space Microsystems Innovations and Applications Center), serving as its director from 2012 to 2014. He was named a Distinguished Professor in 2014 and served as associate director of research in the School of Engineering from 2014-2017. As a researcher, he has been one of the School's top earners, bringing in about \$50 million in research funding.

He said it was never his life goal to become a dean, and in fact, didn't even know what a dean did until he served as an associate dean.

"The reason I decided is that it's a change," he said. "It's a good time age-wise for me and a new challenge. I feel that I can really help the School of Engineering. And I feel I can be successful at it. If I didn't, I wouldn't do it."

He is passionate about increasing the visibility of the School—in increasing marketing and recruitment efforts—in order to boost enrollment and raise national rankings.

"All the surrounding states have moved past us—Texas, Arizona, Colorado—with growing colleges, especially in engineering," he said. "They have grown and outpaced us in students and faculty. In research, we're holding our own, but we really do need to do something because we don't want to end up being a small, regional, irrelevant school for engineering. We have so much talent, not just at UNM but in the state. We need to really build. I believe this is my calling. We need to focus on doing this and building an amazing school."

'I want to be a servant'

Probably because of his background, Christodoulou is an eternal optimist, seeing many opportunities to capitalize on success and grow the School of Engineering.

"Most people who came from overseas, we definitely see the U.S. as the land of opportunity, and it's amazing for me that this opportunity never ends," he said. "Once you come from abroad, some of the things you learn are how to overcome language barriers, cultural barriers, and other types of barriers. I think America



The Christodoulous.

gives time to every newcomer to learn, adjust, and succeed. It's just the system and the culture. I don't think it's as easy in other countries. They give you time. It's the beauty of the system in this country."

Christodoulou has a lot of ideas of his own, but is prepared to listen and work closely with others to move the School forward.

"I just want people in my school to know that what I believe are the two biggest components that are my responsibility are students and faculty," he said. "My job is to facilitate everything that goes education-wise and research-wise between students and faculty. That is really the bottom line. There is no magic to it. It's a service job. A good leader of the people is a good servant of the people. I don't want to be a policeman. I want to be a servant."

THE CHRISTODOULOU FILE

Born: Cairo, Egypt

Education: Ph.D. electrical engineering, North Carolina State University, 1985
 Master of science, electrical engineering, North Carolina State University, 1981
 Bachelor of science, physics and math, American University in Cairo, 1979

Family: Wife of 33 years, Athena. Three sons: Anthony, Paul and Mark.



FARRIS ENGINEERING CENTER

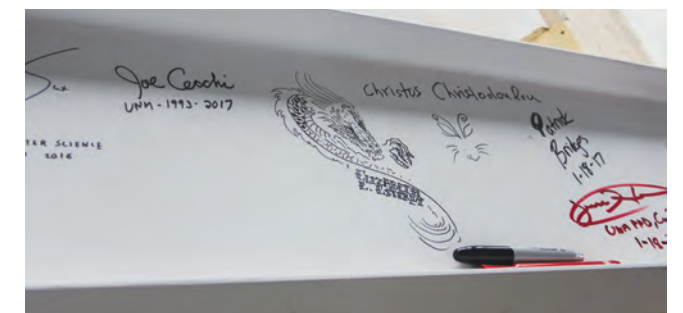
UNDERGOES MAJOR RENOVATION

As anyone who works on or has visited The University of New Mexico campus recently is well aware, the Farris Engineering Center is undergoing a major 18-month renovation, which began in late summer of 2016.

The Farris Engineering Center has a rich history on the UNM campus as a major building within the School of Engineering. Since it opened in 1967, the building has grown and transformed over the years, most currently housing the faculty, staff, and graduate students of the departments of Computer Science, Chemical and Biological Engineering, and Nuclear Engineering. The building, which contains no classrooms, includes staff and graduate student offices, computer labs, server rooms, conference rooms, and event space.

The renovation will ensure that Farris complies with current standards of safety, efficiency, ADA compliance, as well as providing modern learning and collaboration space for students and faculty.

The renovation is expected to be completed in November 2017, but students, faculty and staff who have been relocated to various locations across campus will move back into Farris as the spring 2018 semester begins in January.



The beam-signing ceremony with Joseph L. Cecchi (left) and Christos Christodoulou (far right).

Naming opportunities for rooms and labs in the renovated Farris are available. For details, contact Kara Clem, senior director of development, at kara.clem@unmfund.org or (505) 277-2051.

RESEARCH ROUNDUP

\$7 million Air Force contract to fund next-generation satellite electronics

The University of New Mexico has been awarded a \$7 million grant from the Air Force Research Laboratory to develop and build new materials and devices for electronics in space. The five-year contract was awarded this spring to COSMIAC, a research center in the School of Engineering.

The grant is part of an AFRL project that will build faster electrical devices that are better-suited for space satellites. Researchers on the project will focus on developing alternative semiconductor materials for electronics that perform better than current materials in the harsh conditions of a space environment.

The project will strive to produce more robust space electronics, which will improve the capabilities of satellites.

NSF CAREER recipient to investigate reactivity of uranium mine wastes in Native communities

José M. Cerrato, an assistant professor in the Department of Civil Engineering, received a National Science Foundation (NSF) Faculty Early Career Development (CAREER) award. The focus of his



project is to measure the environmental impact that abandoned uranium mines have had in certain Native communities and develop methods to lessen the effects.

Cerrato was awarded a 5-year, \$500,000 grant to study "Understanding Reactivity in American Native Impacted Uranium Mines: Research,

Education and Outreach." His project integrates research, education, and outreach activities to identify the main biogeochemical mechanisms affecting the contamination and remediation of metals in organic-rich sediments in abandoned uranium mine wastes in northwest and central New Mexico.



UNM was awarded \$1.6 million from the National Science Foundation to continue a program to provide educational materials and services to industry trainers and educators on the growing science and technology of microsystems. It is funding the creation and maintenance of microsystems educational materials used by colleges, educators, and industry members across the nation. This is a continuation of previous NSF grants for the initiative, called the Southwest Center for Microsystems Education.

NSF ADVANCE grant to boost female STEM faculty

The University of New Mexico has been awarded a five-year, \$3.3 million National Science Foundation grant to boost the number of women faculty in STEM (science, technology, engineering, and math) fields.

UNM will benefit through programs as part of the NSF's ADVANCE Institutional Transformation program, which aims to increase the representation and advancement of women faculty in academic science and engineering careers, thereby contributing to the development of a more diverse science and engineering workforce.

Additional goals of the project include creating a more inclusive, egalitarian, and supportive institutional climate; increasing the participation of women, particularly minority women and STEM faculty in leadership positions; improving satisfaction with, and perceptions of fairness of, the tenure and promotion process among women, and especially minority and female STEM faculty; increasing the number of women, particularly minority women, at all levels in STEM departments; and increasing the national and international recognition of scholarship by all female STEM faculty at UNM.



UNM's COSMIAC plays key role in developing car seat technology

What does a center for aerospace-related research and a device invented by a teenager to prevent children being left in hot cars have in common?

Seemingly nothing. But thanks to a unique connection that was made in the community, the two came together to create a now-successful and profitable product.

At age 14, Albuquerque's Alissa Chavez came up with an idea for a science fair project: a sensor that sounds an alarm if a child is left in a car seat.

Chavez, who is currently a freshman psychology major at UNM, had the idea for the product and what she wanted it to do, patented the idea, but not having an engineering or manufacturing background, she was struggling to make the product one she could successfully market.

The product, called **Hot Seat**, is available for sale at www.babyhotseat.com for \$79.99. The product works by placing a sensor pad in the baby or toddler car seat, and the sensor talks to a smartphone app that sounds an alert to the phone if it senses that a child is still in the seat when the cell phone is at least 20 feet away.

"It was a neat product, but it lacked manufacturability. As designed, the product cost too much to produce and make a profit."

CRAIG KIEF

"It was a neat product, but it lacked manufacturability," said Craig Kief, interim director of COSMIAC, a research center in the School of Engineering. "As designed, the product cost too much to produce and make a profit."

Kief said COSMIAC was connected to the project through the New Mexico Small Business Assistance program. Kief said he knew that the center would have the ability to help her, and it created a valuable opportunity to help a budding entrepreneur develop technology.

Kief said he and engineer Brian Zufelt from COSMIAC helped Chavez create 3D prototypes and develop more efficient manufacturing processes that would allow for the mass production of a profitable product. They also developed software that could interface with the sensor.

Chavez, who has since created Assila LLC, which she hopes will include many other inventions, has been featured on a variety of media outlets, including the *Today* show, ABC News, *The Washington Post* and *Glamour* magazine.

"She is a dynamite at marketing and has been able to create an order system online," Kief said.

Chavez received hundreds of pre-orders, and the partnership with COSMIAC allowed her to reduce the cost of development by \$10,000, allowing her to negotiate contracts with two Albuquerque-based manufacturers.

He said the team worked nights and weekends to take on the project, and the team enjoyed the project because it allowed them to begin looking at new areas.

While it was an unusual project for the aerospace center to take on, Kief felt it was worthwhile.

"It was a great chance to step out of our comfort zones and make a difference in people's lives," he said.

HIGH HOPES



LOBO LAUNCH, A NEW SENIOR DESIGN PROJECT, LAUNCHES WORLD'S LARGEST AMATEUR ROCKET

About 25 mechanical engineering students at UNM built and launched what is believed to be the world's largest amateur rocket on May 27 as part of the two-semester rocket engineering senior design course.

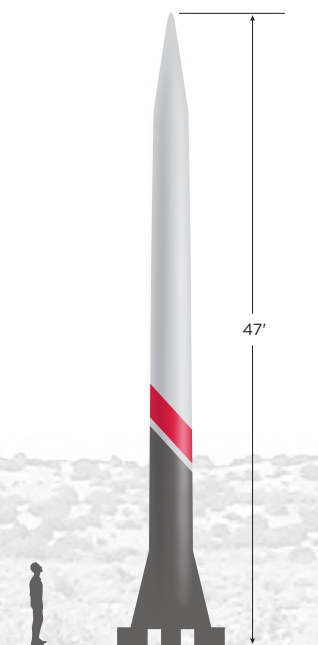
The launch at the Albuquerque Rocket Society in Rio Rancho was well-attended, but didn't go exactly as planned. The launch was delayed, then the rocket didn't lift off after the first countdown. During the second launch, the rocket looked good at liftoff, but then it veered off course and disintegrated. The rocket was expected to go more than 200 mph and soar 3,000 feet into the sky before releasing a UNM-developed payload.

Despite how the flight ended, team member Avery Lopez, who graduated in spring 2016 with a mechanical engineering degree, said the project was a learning experience.

"It wasn't what we anticipated, but the fact is, we launched," Lopez told the Albuquerque Journal. "That's a feat in and of itself for UNM."

To donate to Lobo Launch, contact Kara Clem, senior director of development for the School of Engineering, at 505-277-2051 or kara.clem@unmfund.org.

Photos by Dan Herrera, Albuquerque Journal



On July 1, Edl Schamiloglu became associate dean for research in the School of Engineering. The Office of the Associate Dean for Research provides support for the School's research enterprise, seeking to enhance the strength and vitality of Engineering research. This is accomplished by identifying new research opportunities, encouraging research collaborations, and facilitating partnerships among faculty both within and outside of UNM, as well as non-University individuals and organizations.

About Edl

He was born in The Bronx, New York, and was educated in the New York City public school system, graduating from The Bronx High School of Science in 1976. He received his B.S. in applied physics and M.S. in plasma physics from Columbia University in 1979 and 1981, respectively, and received his Ph.D. in engineering (minor in mathematics) from Cornell University in 1988. He joined the Department of Electrical and Computer Engineering at UNM as an assistant professor in 1988, and he has been on the faculty ever since. He is currently a Distinguished Professor of Electrical Engineering and is a Fellow of the IEEE. He serves on the external advisory board for Sandia National Laboratories' Radiation Effects/High Energy Density Science Foundation, on the Air Force Research Laboratory's High Energy Density Plasmas Program's external review panel, and on the Board of Visitors for the Army's extramural basic research program in electronics.

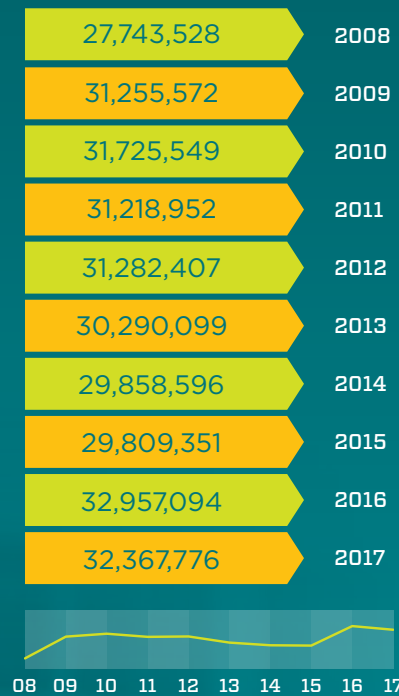
His priorities as associate dean for research:

- Assist the dean with increasing the visibility and stature of the School so that we can compete successfully for engineering research centers and other large programs, and support the dean's initiative for an Albuquerque high-tech summit.
- Develop a research strategic plan for the School to dovetail with UNM's vice president for research soon-to-be-published strategic plan
- Rankings and reputation—enhance the School's visibility and reputation
 - Transparency—post data on the School's website summarizing investments made with discretionary funds
 - Grow the research enterprise in the SOE—UNM SOE is classified R1: Doctoral Universities—Highest Research Activity (Carnegie Classification of Institutions of Higher Education)

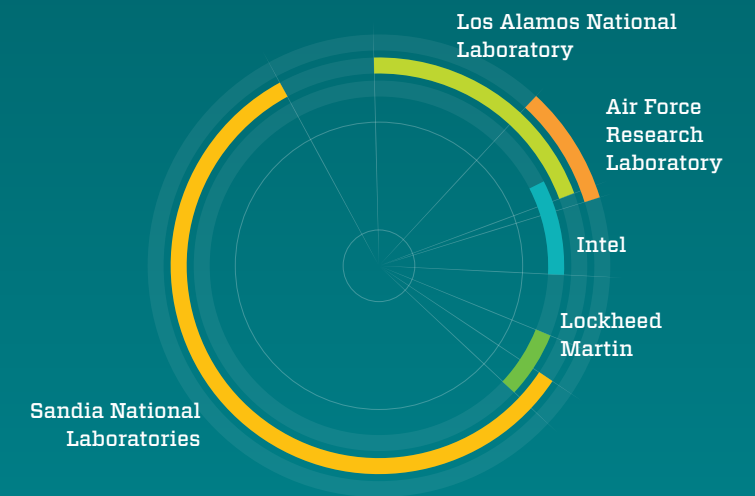


research

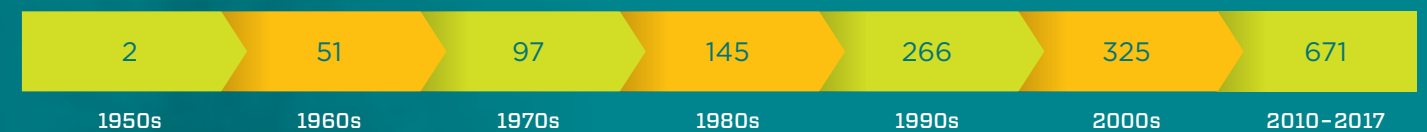
Research Expenditures (USD per fiscal year)



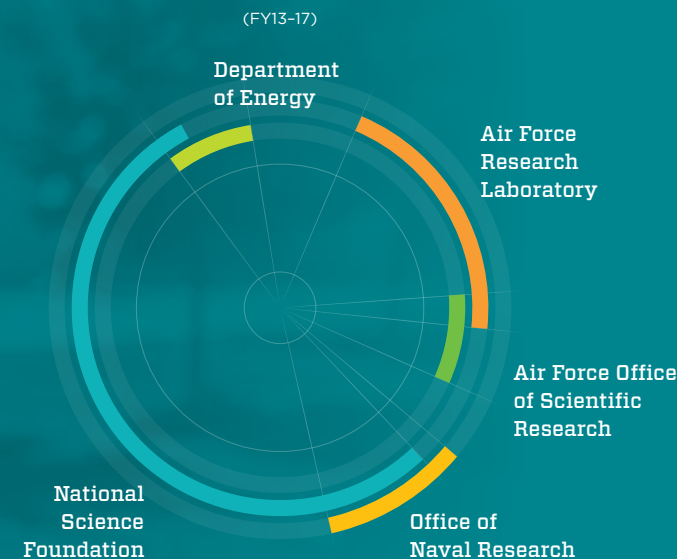
Top Non-University Employers of our Ph.D.s



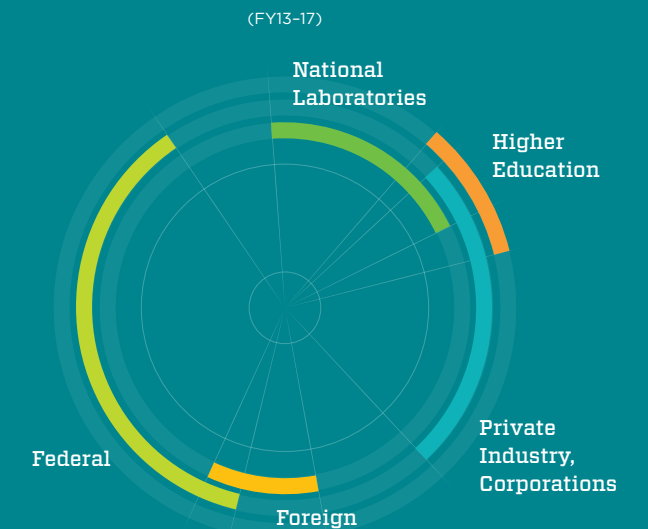
Ph.D. Recipients (living alumni per decade)



Top Five Federal Research Sponsors (FY13-17)



Top Five Research Sponsor Sectors (FY13-17)



Transitions

Keeping up with the people in the School of Engineering



Christos Christodoulou



Edl Schamiloglu



Charles Fleddermann



Joseph L. Cecchi



Gary Cooper

New leadership

Christos Christodoulou stepped into the dean's role on July 1, holding the title of Jim and Ellen King Dean of Engineering and Computing. He named **Edl Schamiloglu** as associate dean for research, effective July 1. Schamiloglu is a Distinguished Professor in the Department of Electrical and Computer Engineering and most recently served as director of COSMIAC. Charles Fleddermann will continue as associate dean for academic affairs during the 2017-2018 academic year, with a search for the position being launched in spring of 2018.

New faculty

Neven Y. Ali has joined the Department of Nuclear Engineering as a lecturer. She has been a postdoctoral researcher at Missouri University of Science and Technology since 2016. She received her Ph.D. and master's degree in nuclear engineering from Missouri S&T in 2016 and 2014, respectively. She also holds a master's in computer information systems from Arab Academy for Banking and Financial Sciences in Jordan in 2008 and a bachelor's degree in software engineering from Al-Rafidain University in Iraq in 2001.

Nathan Jackson has joined the Department of Mechanical Engineering as an assistant professor. He has been a senior research scientist at Tyndall National Institute in Cork, Ireland, since 2013. He received his Ph.D., BSE and MSE degrees in bioengineering, all from Arizona State University.

Matthew R. Lakin has joined the Department of Computer Science as an assistant professor. He has been a research assistant professor in the UNM departments of Chemical and Biological Engineering and Computer Science since 2015. He received his Ph.D. in computer science in 2010, his master's in 2009 and his bachelor's degree in 2005, all from the University of Cambridge.

Eirini Eleni Tsiropoulou has joined the Department of Electrical and Computer Engineering as an assistant professor. She most recently was a postdoctoral associate at the Institute for Systems Research in the Department of Electrical and Computer Engineering at the University of Maryland. She received her Ph.D. in 2014, her MBA in 2010, and her diploma in electrical and computer engineering in 2008, all from the National Technical University of Athens, Greece.

Marie Vasek has joined the Department of Computer Science as an assistant professor. She is a graduate research assistant at the University of Tulsa. She received her Ph.D. from the University of Tulsa in 2015, a master's degree from Southern Methodist University in 2015, and a bachelor's degree in 2012 from Wellesley College, all in computer science.

Retiring faculty

Joseph L. Cecchi, Jim and Ellen King Dean of Engineering and Computing and professor of chemical and biological engineering; **Robert Busch**, principal lecturer in the Department of Nuclear Engineering; and **Gary Cooper**, associate professor of nuclear engineering.

Achievements

Giving kudos to our faculty and students



Lydia Tapia



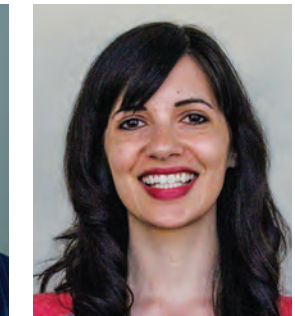
Eirini-Eleni Tsiropoulou



Gabriel P. López



Mohamed S. El-Genk



Elisa Borowski

Faculty

Lydia Tapia, an associate professor in the Department of Computer Science, has been awarded the Borg Early Career Award from the Computing Research Association-Women. The award recognizes an early-career faculty member or researcher in an industry or government lab who has made significant research contributions and also has had a positive and significant impact on advancing women and diversity in the computing research community.

Eirini-Eleni Tsiropoulou, an assistant professor in the Department of Electrical and Computer Engineering, has been chosen as one of the top 10 Rising Stars of 2017 by Networking Networking Women (N2Women), a community for researchers in the communications and networking field.

Gabriel P. López, Vice President for Research and Professor of Chemical and Biological Engineering, was named a 2016 Fellow of the National Academy of Inventors. The award is given to academic inventors who have demonstrated a prolific spirit of innovation in creating or facilitating outstanding inventions that have made a tangible impact on quality of life, economic development, and the welfare of society.

Mohamed S. El-Genk, Regents' Professor of nuclear, mechanical, and chemical and biological engineering, and the founding director of the Institute for Space and Nuclear Power Studies at UNM, received the American Society of Mechanical Engineers 2017 Heat Transfer Memorial Award.

Students

Sabahattin C. Yurt, a Ph.D. student working with Edl Schamiloglu in the Department of Electrical and Computer Engineering, has received a 2017 Nuclear & Plasma Sciences Society Graduate Scholarship Award. This award recognizes contributions to the fields of nuclear and plasma science by a graduate student.

Gabriel Alan Shipley, a Ph.D. student in Mark Gilmore's lab in the Department of Electrical and Computer Engineering, received the Department of Energy National Nuclear Security Administration Stewardship Science Graduate Fellowship. This is the first time a UNM graduate student received this honor.

Elisa Borowski, who received her master's degree in May from in the Department of Civil Engineering, was selected to receive the 2017 National Defense Science and Engineering Graduate Fellowship. Out of 3,500 eligible applications, the Department of Defense awarded approximately 150 fellowships this year.

Jane Nguyen, a senior in the Department of Chemical and Biological Engineering, was awarded a Student Presentation Award at the 2016 Society for Advancement of Chicanos/Hispanics and Native Americans in Science National Diversity in STEM Conference in Long Beach, California. She was recognized for her work, "The Bactericidal Effects of Iron Oxide Nanoparticles Integrated into Commercial Mouthwash on Periodontal Bacteria."

MEET THE NEW UNM ENGINEERING DEVELOPMENT TEAM

A new development team is on board in the School of Engineering.



KARA CLEM

On July 1, **Kara Clem** was promoted to senior director of development for the School of Engineering, overseeing fundraising operations for the School. Since 2015, she has served as director of development. From 2012-13, she was the School of Engineering alumni relations coordinator.

A native of Chicago, Clem grew up in Santa Fe and received a bachelor of arts degree in theater and Italian from Sarah Lawrence College. Before rejoining the School of Engineering, Clem was associate director of development for the Children's Miracle Network Hospitals at UNM Children's Hospital.

Also joining the development team is **Leslie Currie**, who began in June working under Clem as director of development. A native of Oregon, Currie most recently was executive director of alumni and development at Texas A&M University-Kingsville Foundation. From



LESLIE CURRIE

2013-2015, she was director of development for the Irma Lerma Rangel College of Pharmacy at Texas A&M. Before that, she held a variety of development positions in Texas. She also served in the Peace Corps in the Fiji Islands from 2008-2010. Currie received her bachelor of arts degree in fine art from the University of Dallas in 2004 and her MBA from the University of Dallas Graduate School of Management in 2006.

Clem will be focusing on the departments of Electrical and Computer Engineering, Mechanical Engineering, and Nuclear Engineering, and Currie will be working with the departments of Chemical and Biological Engineering, Civil Engineering and Computer Science.

Clem can be contacted at kara.clem@unmfund.org, and Currie can be contacted at leslie.currie@unmfund.org. Their offices are located in the Office of the Dean on the third floor of Centennial Engineering Center.

FIVE FOR Julian Vigil



Julian Vigil is an Albuquerque-grown success story. As a first-generation college student, he has worked at Sandia National Laboratories during all four of his years as an undergraduate chemical engineering student. This

spring, Vigil also co-founded a startup company, Sandia Nanoinks LLC, which won the \$25,000 technology prize at the UNM Business Plan Competition. In 2016, he received the Goldwater Scholarship, and this year he became the first UNM student ever to win the Churchill Scholarship, which is allowing him to travel to the University of Cambridge this fall to earn a master of philosophy degree in chemistry before returning to the U.S. for Ph.D. studies in chemical engineering at Stanford University.

What got you interested in being an engineer?

In high school, I always enjoyed science and especially chemistry classes. I became connected to Sandia National Laboratories through a STAR Program summer mentorship position, which pairs high school students with research mentors, and I chose UNM so I could continue working at the Labs.

What has been your favorite memory while a student at UNM?

The memory that will stick with me is the everyday classwork my junior and senior year. You get really close with the other ChemE students because you have classes together so you develop really great relationships working on group projects. That and being vice president and president of the UNM chapter of AIChE [American Institute of Chemical Engineers].

What does being a Churchill Scholar mean to you?

It was amazing [to be selected]. You look at those lists of recipients, and it's such an accomplished group, and a small group, too. I was really honored. It was especially important to me because UNM wasn't previously a participating [nominating] institution with the Churchill Foundation. I emailed the executive director and asked if I could apply, and he said I could if I got UNM to join. I was able to coordinate with UNM's Center for Academic Excellence and Leadership Development to submit an application for UNM to become a participating institution, and then I could apply. I was the first one to apply and the first one to win from UNM, and now UNM will be able to nominate students every year.

What are you most looking forward to during your time abroad?

I've been abroad, but never to Europe. My research will be in chemistry — a similar motivation within renewable energy technologies to what I have already done, but it's a completely different skillset. What I've been doing so far is making materials, and this will be making molecular catalysts to put onto materials. I've heard the environment of research in the U.K. is a lot different [than the U.S.], so I'm excited to get some experience in a different culture of research.

What are your career plans?

I would like to hold an academic position and lead a research group in materials chemistry for renewable energy applications.

JOSEPH L. CECCHI

**Thank you for your
many years of leadership
to the School of
Engineering and UNM!**

Dean, 2000 – 2009, 2014 – 2017

Jim and Ellen King Dean of Engineering
and Computing, 2017 – 2017

Vice Provost for National Laboratory
Relations, 2015 – 2017

Chair of Chemical and Biological
Engineering, 1993 – 2000

Professor of Chemical and Biological
Engineering, 1993 – 2017

