

Farmer receives National Academy of Engineering membership

Another of ASU's Ira A. Fulton School of Engineering faculty members has been elected to the prestigious National Academy of Engineering. Richard Farmer becomes the 11th among the school's teachers and researchers to earn NAE membership, considered one of the highest distinctions in engineering.

Farmer is the third member of the Fulton School's Department of Electrical Engineering to be elected to the academy, joining professors Gerald Heydt and Vijay Vittal.



Richard Farmer, EE Research Professor

His colleagues say the recognition is long overdue. "It's a testament to his lifetime of achievements in both the educational and industrial components of the electric power field," says Stephen Phillips, professor and department chair.

Farmer was a principal engineer with the Arizona Public Service Co. (APS), the state's largest electric utility, for almost 30 years. In that time, he led projects that developed technology to improve the capacity, efficiency and reliability of electrical power generation and transmission systems.

The NAE cited the far-reaching impact of Farmer's accomplishments in power systems engineering as the reason he merited membership.

Farmer has been bringing his expertise into ASU classrooms and research laboratories as a part-time faculty member since 1966, two years after earning his master's degree at the university.

"He brings a unique perspective to the students because he uses problems faced by the power industry – and the solutions devised to remedy them – as teaching tools," says Gerald Heydt, a Regents' Professor in Electrical Engineering.

"It's a big thing, but it's just frosting on the cake," Farmer says. "Awards are nice, but it's the joy of a rewarding career that has the greatest meaning for me."

Meldrum to join Fulton School of Engineering as dean

Deirdre Meldrum has spent her career establishing research centers at the cutting edge of engineering and associated scientific disciplines, and has now been appointed dean of ASU's Ira A. Fulton School of Engineering.

Meldrum is an electrical engineering professor at the University of Washington (UW), in Seattle and her recent appointment is part of a major effort by ASU to move the Fulton School of Engineering to the top level of engineering schools nationally. ASU will provide Meldrum with additional resources to hire new faculty and to invest in start-up labs and research initiatives.

"Deirdre Meldrum will be the visionary for the Fulton School, its scientific and technological leader," says ASU President Michael M. Crow. "Her work with the Microscale Life Sciences Center, or what researchers call the 'life-on-a-chip lab,' is a prime example of her track record of moving science and scientists to the cutting edge of discovery. Under her direction, we will advance the Fulton School into many new and exciting areas of science and engineering."

Says Meldrum of her appointment: "I'm taking on the challenge as dean of the Fulton School of Engineering because I want to contribute to President Crow's vision of the New American University."

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Message from the Department Chair



Stephen Phillips, Ph.D., P.E.
Professor and Chair

Accomplishments and changes continue at ASU. This month's newsletter leads with Richard Farmer's election to the National Academy of Engineering, the highest peer recognition in engineering. Dick has been with the department since 1966 and joins professors Vijay Vittal and Gerald Heydt as NAE members in the department. Congratulations to Dick. We also highlight the announcement of the next Dean of Engineering, Deirdre Meldrum, an EE faculty member from the University of Washington in Seattle. Deirdre has a bio-oriented research program and earned the PhD in EE from Stanford University. Of interest to some of you, EE has teamed with the W.P. Carey School of Business to offer an MBA/MSE EE dual degree described on page 3. Finally, we continue to profile several successful department alums; this time three graduates of our MS and PhD programs. We welcome any news from you and suggestions for future newsletters.

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Alumnus Gary Bernstein

Gary Bernstein is currently a professor and associate chair in the Department of Electrical Engineering at Notre Dame. He completed his PhD at ASU in 1987.

I grew up in Holyoke, Massachusetts, and received my BSEE from the University of Connecticut, during which time I had summer jobs operating rides at Mountain Park Amusement Park in Holyoke, playing clarinet in the Holyoke City Band, and counting money at the Jai Alai fronton in Hartford, CT. I received my MSEE at Purdue, and then my PhD at ASU in 1987 during which I interned at Los Alamos National Labs and Motorola Semiconductor Research and Development Laboratory (working on ohmic contacts to GaAs for Herb Goronkin). After receiving my Ph.D. I spent one year as a postdoc working for my advisor David Ferry, and then joined the University of Notre Dame as an assistant professor. This transition was facilitated largely by Wolfgang Porod who had been recruited to Notre Dame a couple of years before me.

"I have watched in admiration and envy as the ASU nanoelectronics and EE Department programs have grown and achieved world-wide prominence. I can only say that I feel honored to have been in some small way part of that."

At ASU, I found working under Dave to be a demanding and positive experience. During that time I made many friends among the faculty, staff and students. I can say that it is much less stressful to be a peer with Dave than to be his student, and he has proven to be the best friend and ally a young (or older) ex-student/professor could ask for. I will always be indebted to him. Dave's record for producing university faculty is amazing.

A large number of students and researchers in Dave's group during my time at ASU are now highly successful educators: Wolfgang Porod, Steve Goodnick, Ravindra Joshi, Umberto Ravaoli, Walter Poetz, Paolo Lugli, and Mohamed Osman are likely not the only success stories.

Some of my best times were spent with fellow students Moe Kluksdahl, Dave Johnson, and Kuntal Joardar. I have maintained relationships with other faculty that I knew at ASU, and still consider friends. These include Ron Roedel, Steve Krause, Mike Kozicki, and Dieter Schroeder. I am proud to have been mentored by all of them.

I also remember fondly Gunther Schwuttke and John Marian, and of course, Mel Pratt, who I know is still working hard in the cleanrooms.

Perhaps my two most significant accomplishments were that I was the first person to complete a transistor in the new cleanroom, and I waited in line at the opening of the engineering library so that I could be the first person through the doors when it opened. I walked in, looked around at how impressive it was, and immediately left. One cannot take too much time to relax when working for Dave – see accomplishment number one. Upon joining Notre Dame in 1988 I had the good fortune to inherit a considerable amount of space that eventually become the Notre Dame Nanotechnology Facility. Even my stint installing electric outlets with John Marian in the ASU cleanroom while under construction came in handy, as that kind of experience proved to be valuable in my assistant professor years while developing the Notre Dame lab.

Since I joined Notre Dame, our solid state faculty has more than tripled to 13, and are to a person collegial and cooperative. This positive environment is the most important element in the amazing growth of the Notre Dame Nanoelectronics program.

I have watched in admiration and envy as the ASU nanoelectronics and EE Department programs have grown and achieved world-wide prominence. I can only say that I feel honored to have been in some small way part of that.



Gary Bernstein, ASU EE alumnus

Please e-mail us your career updates to eeinfo@asu.edu



Deirdre Meldrum, Fulton School of Engineering's new dean.

Meldrum to join Fulton School of Engineering

(Meldrum, from page 1)

"Dean Peter Crouch built a solid foundation for the school. I want to help take the school to the next level by increasing research productivity, especially in interdisciplinary efforts that include integrating engineering with the ASU School of Earth and Space Exploration, the Global Institute of Sustainability and the Biodesign Institute, as well as business, design and the arts. With innovations in education, we will produce creative students who can work across disciplines, and effectively contribute to society and compete in the global economy."

"I'm taking on the challenge as dean of the Fulton School of Engineering because I want to contribute to President Crow's vision of the New American University."

Meldrum will begin her tenure as dean of the Ira A. Fulton School of Engineering in January 2007.

In addition to being dean of engineering, Meldrum will hold an academic chair and will direct a new center within the Biodesign Institute. She will continue her many research endeavors, and ASU will appoint an executive dean to aid her in running the school on a day-to-day basis.

Alumnus Narciso Macia



Narciso Macia, EE alumnus

Narciso ("Ciso") Macia received the BS and MS in Mechanical Engineering from the University of Texas at Arlington, where he specialized in dynamic systems, automatic control and fluids. He also earned the PhD in Electrical Engineering from ASU in 1988. His dissertation dealt with modeling and identification of the respiratory system. Drs. Walt Higgins and the late William Dorson (Bioengineering) were his co-advisors. He continues to be active in this area and has received several grants.

He worked for Honeywell (then AiResearch) from 1975 to 1981, in the fluidics group. In 1981 he left AiResearch and co-founded a small company to develop a medical fluidic device that provided oxygen in an intermittent mode to emphysema patients. In 1983, he formed Control Systems Innovation, Inc. in which he continues to have a significant ownership interest, and he uses it as a vehicle for his consulting activities. He is inventor/co-inventor of several devices related to fluid control and holds 3 patents.

He has been involved in advising Junior High and High School students, getting them excited about engineering and technology. In 1990 he joined ASU's Electronics and Computer Engineering Technology department. He has served as the Associate Chair in charge of electronics-related academic programs. He organized two technical sessions for ASME's IMECE (formerly known as the Winter Annual Meeting): one on fluidic sensors and the other one on respiratory mechanics. For several years he was the secretary and newsletter editor of the Fluid Control Panel (a technical panel of the Dynamics Systems and Control Division of ASME).

In 1994 he participated in an interdisciplinary project whose goal was to design and build a cart that would autonomously paint the stripes in a soccer field. Faculty members and students from Electrical, Mechanical Engineering, Computer Science, and Electronics and Computer Engineering Technology participated in this project.

He is active in fluidics, respiratory mechanics, water filtration and recharge, embedded control, entrepreneurship mentoring, sustainable technologies and innovative methods for engineering education.

He believes that one of the factors that transformed the United States into an industrial powerhouse was its entrepreneurial spirit. He is active in helping students discover this spirit. In 1999, during his sabbatical, he worked in Hospital Nacional de Niños, San Jose, Costa Rica where he performed pulmonary function tests on children. He built a mechanical lung analog, confirmed the measurement procedure, and then measured respiratory resistance in children at different postures. He confirmed an observation known by most asthmatics, namely that respiratory resistance in the laying down position is higher than when standing. He is a Registered Professional Engineer (Mechanical) in the State of Arizona.

EE Department teams up with W.P.Carey School of Business to offer MBA/MSE EE dual degree

Responding to demand from the high-tech industry, ASU is offering a new online dual degree program in business and engineering. The dual degree is designed so that students can earn the degrees in less time and at a lower cost than if they were to pursue each degree separately.

"Industry demand also guided the decision to choose communications technology as an emphasis for the electrical engineering degree studies," says Joseph Palais, director of graduate studies for EE.

Applications are now being accepted for the program. For more information, visit: <http://www.fulton.asu.edu/ee/students/graduate/dual.php> or <http://wpcarey.asu.edu/mba/online/mse.cfm>

Alumnus Mariano Costa

Mariano Costa currently lives in Mexico City and is working for IBM as a Product Director. Mariano received the MSEE degree in 1998 and MBA degree in 1999.



Mariano Costa, EE alumnus

Mariano Costa recalls his time at ASU fondly and writes of his memories:

At ASU, I spent 3 of the best years of my life. ASU was always able to provide the economic and human resources to help me dream, explore and discover, as Mark Twain would say.

ASU was extremely generous with me and my wife Tesi. On my side, I was able to get two masters, Electrical Engineering, MSEE and Business, MBA. My wife was able to get her MED.

What amazed me (and still today) the most about ASU, is that I always was able to find somebody who would listen to me about my dreams, support the idea, and after all, celebrate with me my successes. Two of such people were Dr. Joseph Palais, and Mr. Tracy Clark. Thanks!

Also, the wealth of resource available to the students made my search for new challenges easily achievable. It was just a matter to look for the right resources and personnel on campus, and your project would have a virtual team of 50 people ready and willing to help you.

I couldn't end my endless gratitude without mentioning all the life-long friends I made during those 3 wonderful years. Priceless.

Thanks ASU.

Electrical Engineering Alumni Newsletter

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