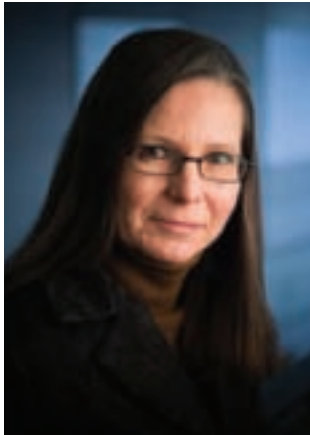


Faculty News

NADINE AUBRY AWARDED LANE PROFESSORSHIP



Nadine Aubry has been named the Raymond J. Lane Distinguished Professor in Mechanical Engineering. Aubry, who is the head of the Department of Mechanical Engineering, received the professorship for her outstanding research contributions and her leadership in mechanical engineering. Her appointment was effective Feb. 1, 2009.

"I am deeply honored by this recognition, and I plan to continue championing change and innovation throughout my department and the highly-ranked College of Engineering," said Aubry, who was recently awarded the distinction of fellow by the American Association for the Advancement of Science (AAAS).

"This professorship is awarded to individuals with entrepreneurial spark and leadership abilities that

are endemic to the problem-solving environment at Carnegie Mellon," said Ray Lane, a university trustee and managing partner of Kleiner Perkins Caufield & Byers. "Professor Aubry is an outstanding researcher and an excellent role model for young women seeking to enter the important fields of science and technology where much of the business economy's innovation is created." Lane is also chairman of the university's \$1 billion "Inspire Innovation Campaign for Carnegie Mellon." The campaign's public fundraising phase was launched in October 2008.

Pradeep K. Khosla, dean of the College of Engineering, praised Aubry for leading-edge work in improving technologies involving fluid flows ranging from aerospace to tissue engineering and biotechnology. "The Department of Mechanical

Engineering is growing, and this latest accolade reflects her hard work and outstanding vision and leadership."

In addition to being a pioneer in the field of fluid dynamics research, she is part of a research team developing new materials with special properties to increase the efficiency of drug delivery patches, solar cells and the next generation of high-performance computing.

Aubry's interdisciplinary research and close partnerships with industry have landed her several impressive awards, including the National Science Foundation's Presidential Young Investigator Award. She has served as chair of the U.S. National Committee on Theoretical and Applied Mechanics. This National Research Council committee serves as a national forum for defining major issues in mechanics research, technology and education, and it represents the U.S. internationally in scientific matters related to the field of mechanics.

By Chriss Swaney

Newsmaker

JON PEHA NAMED CHIEF TECHNOLOGIST FOR THE FEDERAL COMMUNICATIONS COMMISSION

Carnegie Mellon University's Jon Peha has been named chief technologist for the Federal Communications Commission (FCC), where he will apply his extensive telecommunications expertise to a variety of issues. His appointment began October 1, 2008.

Peha will function as a senior advisor to the FCC chairman and commissioners on technology-related matters and perform specific assignments, such as conducting research addressing policy issues regarding IP and telecommunications networks, according to the FCC.

For more than two decades, Peha's research has spanned technical and policy issues of computer and telecommunications networks. Some of those issues have included spectrum, broadband Internet, wireless networks, video and voice over IP, communications for emergency responders, universal service, secure Internet payment systems, e-commerce and network security. He also frequently consults for industry and government agencies around the world.

"Professor Peha is a leading researcher in telecommunications policy. He will bring both depth and breadth to his position as chief technologist for the FCC," says Pradeep K. Khosla, the dean of College of Engineering.

M. Granger Morgan, head of Carnegie Mellon's Department of Engineering and Public Policy, said, "Jon combines deep technical knowledge of telecommunications with superb policy skills. The FCC will benefit greatly from his presence, and we will also benefit when he returns to Carnegie Mellon to inform his teaching and research with a wide range of new experiences."

By Chriss Swaney

YU-LI WANG NAMED HEAD OF BIOMEDICAL ENGINEERING

“Exciting potential” is what swayed Yu-Li Wang, a prominent researcher, to accept CIT’s offer to lead its Biomedical Engineering Department (BME). In August 2008, Wang succeeded Todd Przybycien, who served for five years as BME’s first department head.

“Biomedical engineering is a young field,” says Wang, “If you go to 10 schools, you will see 10 different flavors. The field is searching for direction.” This mutability intrigues Wang, who had been a Physiology professor studying cellular mechanics at the University of Massachusetts Medical School since 1997. “In terms of how we structure Carnegie Mellon’s BME department, there is both a long tradition and a great deal of fluidity and potential. I view this position as being in a place where I can come in and make a difference,” he says.

Wang explains that BME is CIT’s youngest department, but biomedical engineering has had a presence at Carnegie Mellon for 40 years and has already developed many strengths. He wants to leverage faculty and student talent and broaden BME’s influence by enhancing collaborative research opportunities with other departments. Looking at the big picture, he intends to round out present research with new initiatives. For example, after consulting with the faculty, the department will amplify its work in basic cell engineering.

“We want to do a better job of understanding the fundamental principles that impact biomedical engineering, which are often overlooked by basic science departments,” says Wang. Complex interactions occur within and between cells throughout their lifecycles, and Wang believes that Carnegie Mellon can make a big impact in biomedical engineering by unraveling how mechanical forces operate to influence cell function and fate. Wang says tissue engineering, as one example, would benefit from this information.

To complement this fundamental work, BME will increase its efforts to produce tools and technologies that facilitate the development of knowledge. “A particular strength of this department is in applying computational techniques to research,” says Wang, “One particular example is the sophisticated computer programs that read microscope images.” (This work is coming out of CIT’s Center for Bioimage Informatics.)

Two other directions that BME will continue to pursue include nano/biotechnology and medical applications. The department will expand its work dealing with biomaterials and micro/nano devices, i.e., biosensors that detect toxins. Wang also sees increased emphasis on bone tissue engineering and cardiac devices, both of which have garnered Carnegie Mellon recognition. “The heart research builds on our strength in fluid dynamics and computation. By understanding the physical behavior of the heart, we can build better devices,” says Wang.

Concluding, he says that different universities have strengths in one or two of the areas that he has outlined for his department, “However, what we are after at Carnegie Mellon is close interactions and an overall balance among all the four thrusts.”



BRIEF BIOGRAPHY

Yu-Li Wang comes to Carnegie Mellon from the University of Massachusetts Medical School, where, as a professor of Physiology, he taught and conducted research dealing with the mechanical forces and interactions within cells. Other positions he has held include: both senior and principal scientist at the Worcester Foundation for Biomedical Research at Shrewsbury, Mass., (1987-1997); and staff and senior scientist at the National Jewish Medical and Research Center in Denver, Colo., (1982-1987). He received a Ph.D. in Biophysics from Harvard University in 1980. He is the author of more than 100 papers and edits several journals and books.

