Padture heads Ohio State's Center for Emergent Materials

ACerS Fellow Nitin Padture has been named founding director of the new $17 million Center for Emergent Materials at Ohio State University. Established with a $10.8 million NSF award, the new center will now become one of a network of 27 NSF materials research science and engineering centers.

Competing against 87 other candidates in a competition that takes place once every three years, OSU is one of only five institutions selected in this cycle to join this prestigious NSF network. OSU will supplement NSF's funding with an additional $6.2 million cost share, bringing total initial funding to $17 million.

“This is a first for Ohio State and for the state of Ohio,” says Padture. “The fact that we won this highly sought-after center speaks volumes about the outstanding quality of our faculty team and its interdisciplinary research.”

Padture explains that the new CEM, set to operate for at least six years, will be an interdisciplinary research center that studies and develops materials for “tomorrow’s electronics.” He reports that CEM’s primary focus will be magnetoelectronics, also known as spintronics. Research in this area could lead to the development of computers that store more data in less space, process data faster and consume less power, he explains.

The CEM will have a significant student-oriented component. Half of the participants will be graduate and undergraduate students, and the program will have a materials science outreach program for K-12 schools.

Padture is the recipient of three major ACerS awards, including the Roland B. Snow Award, the Robert L. Coble Award for Young Scholars and the Richard M. Fulrath Award. He is the principal editor of the Journal of Materials Research and an associate editor of the Journal of the American Ceramic Society.

Science aptitude runs in Azad family

UT student Sara McKelvey (left) and Professor Abdul-Majeed Azad (right) watch as Azad’s daughter, Zainab Al-Firdaus (center), makes an adjustment to the flow rate of the viscous fluid that will eventually electrospin into nanofibers.

Zainab Al-Firdaus, the 14-year-old daughter of ACerS member, University of Toledo Professor Abdul-Majeed Azad, may be one of the youngest researchers to ever coauthor a technical paper published in DOE’s Advanced Material Manufacturing and Testing Information Analysis Center Quarterly.

The paper – “Fabrication of Antimicrobial Titania Nanofibers by Electrospinning” – appeared in the fall edition of the AMMTIAC Quarterly and was coauthored by the trio performed experiments that eventually led to the published paper.

Azad is proud of the contributions his daughter and McKelvey made to the paper and believes “it’s very important to stimulate the next generation of inventors and to share the wonder and passion of scientific discovery.”

The UT associate professor of chemical and environmental engineering has instilled that wonder and passion within his family. After 22 years of rearing children, his wife, Shakila, recently returned to college to obtain her Ph.D. in pharmaceutical science. The family’s 24-year-old son is working on a doctorate in electrical engineering at Ohio State University and their 21-year-old daughter is a psychology major at Owens Community College, with plans to one day become a psychiatrist.

For the Azads, it’s clear – science really is “all in the family.”