

## 2016

**Squire Booker**, professor of Chemistry in the Eberly College of Science, has made remarkable breakthroughs in his work with iron-sulfur radical cluster enzymes. His lab has developed innovative techniques to work with these enzymes within an oxygen-free atmosphere and, most recently, his lab solved a series of structures capturing intermediates in the reaction pathway, characterizing them with a spectroscope and solving their co-crystal structures.

Squire's work in this area is of great importance because these key findings could lead to strengthening of antibiotics. Colleagues also cited Squire's other outstanding work involving studies of the fatty acid synthase, because of its potential applications in renewable energy.

Squire has been published in several prestigious scientific journals, including *Science*, the *National Journal of Chemistry*, and the *Journal of American Chemistry*. Colleagues said Squire's productivity in terms of publications, talks, and grant funding is unrivaled, with one adding that his research is "exceptional on every level."

**Kim Cook**, professor of Music in Cello in the College of Arts and Architecture, continues to enhance her reputation with widely acclaimed performances and recordings of world renowned composers.

Hailed by critics as a "superb American cellist" and a "world-class" and "definitive" performer of classical works, Kim has performed in 28 countries with acclaimed ensembles and conductors, premiering several new concerti and dozens of other works for the cello.

One nominator said, "From her classics of the concerto repertory to premises of new works by notable composers, Kim's legacy of recordings is noteworthy for its breadth as well as for the quality of her contributions."

Phil Muse, from the Audio Society of Atlanta, said that Kim “handles the virtuosic demands of the music, culminating in a fast scale passage and the sensational C-sharp trill at the very end, with an ease that belies all the difficulties. She cultivates one of the most beautiful singing tones I have ever heard coaxed from a cello.”

**S. Shyam Sundar**, distinguished professor in the College of Communications, is a pioneering researcher of digital media interfaces, having built original theoretical models on the social and psychological consequences of communication technology.

As founding director of Penn State’s Media Effects Research Laboratory, he researches a wide range of topics, including the effectiveness of interactive news and advertising, persuasion in online health communications, role of social media in empowering individuals and the effects of smartphones and robots on consumer attitudes. Last year, nearly 1000 scholarly publications referenced Shyam’s research.

“Over the last two decades, in keeping up with the dizzying changes in communication technology, Shyam has been prescient in spotting trends, asking the right questions, developing new study designs that are sensitive to changes in the media landscape, and advancing research at the nexus of new communication technologies,” said a colleague. “From the Internet to social media to mobile media, at every transition, Shyam’s contributions have been innovative, path-breaking, and instrumental in shaping key aspects of communication research.”

An editor of a top communication journal has called Shyam “perhaps our field’s leading theorist” who has “revolutionized our thinking.”

According to his colleagues, **Mauricio Terrones** a professor of Chemistry in the Eberly College of Science, has transformed Penn State into an “internationally recognized mecca for research on two-dimensional materials.” His extensive

background and his ability to seamlessly meld disciplines of condensed matter physics, materials science, chemistry, and biology have established Mauricio as a “quintessentially interdisciplinary scientist.”

In 2010, Mauricio led the charge to create Penn State’s Center for 2-Dimensional and Layered Materials, which has made the University a premier player in the field. Since 2013, he’s been the center’s Director.

Mauricio has published 142 scientific papers in the past five years, of which 18 were deemed “hot papers” because of such heavy citations. One nominator called Mauricio a superb scientist and teacher with “outstanding productivity in terms of publication rate, invited talks, and grant funding,” adding that he is uniformly praised “as a leader in his field, one with excellent vision of problems and an extremely creative mind.”