stretchable semiconductor into a stretchable integrated circuit. Xu also achieved roll-to-roll coating of a stretchable polymer semiconductor blend with a high degree of alignment of the polymer semiconductor nanostructure and enhanced charge-carrier mobility.

The MRS Postdoctoral Award recognizes scholars who show exceptional promise, which may include excellence in scientific research, leadership, advocacy, outreach, or teaching during their postdoc assignment. MRS acknowledges the Jiang Family Foundation and MTI Corporation for their generous support of this award.

Ramesh to present Kavli lecture during 2018 MRS Spring Meeting plenary session

Ramamoorthy Ramesh has been selected to present The Fred Kavli Distinguished Lectureship in Materials Science during the 2018 MRS Spring Meeting. He is the Purnendu Chatterjee Chair Professor of Physics and Materials Science at the University of California, Berkeley, and Associate Laboratory Director for Energy Technologies at Lawrence Berkeley National Laboratory.

Ramesh's presentation is titled "Electric Field Control of Magnetism." Complex perovskite oxides exhibit a rich spectrum of functional responses, including magnetism, ferroelectricity, highly correlated electron behavior, and superconductivity. The basic physics of such materials provide the ideal playground for interdisciplinary scientific exploration, with an eye toward real applications. Over the past decade, the oxide community has been exploring the science of such materials as crystals and in thin-film form by creating epitaxial heterostructures and nanostructures.

Among the large number of materials systems, a small set of materials exhibit multiple order parameters; these are known as multiferroics, particularly, the coexistence of ferroelectricity and some form of ordered magnetism (typically antiferromagnetism). The community has been able to demonstrate electric-field control of both antiferromagnetism and ferromagnetism at room temperature. Current work focuses on ultralow energy (1 attoJoule/operation) electric-field manipulation of magnetism as the backbone for the next generation of ultralow power electronics. In his presentation, Ramesh will describe the progress to date on this exciting possibility. The lecture will conclude with a summary of future research.

Ramesh earned his BS degree in chemistry from Madras University, India, and his PhD degree in materials science from the University of California, Berkeley, in 1987. At Berkeley, he pursues key scientific and technological problems in complex multifunctional oxide thin films, nanostructures, and heterostructures. His group demonstrated the existence of a large ferroelectric polarization in multiferroic $BiFeO_3$ films, in agreement with first-principle predictions. They also demonstrated electric-field control of antiferromagnetism as well as ferromagnetism, a critical step toward the next generation of ultralow power storage and spintronics devices that are completely electric-field controlled.

Ramesh has published extensively on the synthesis and materials physics of complex oxide materials. He is a Fellow of the American Physical Society, the American Association for the Advancement of Science, and the Materials Research Society. He has been recognized with a Humboldt Senior Scientist Prize, the American Physical Society David Adler Lectureship and the James McGroddy Prize, and the TMS Bardeen Prize. In 2014, he was recognized as a Thomson Reuters Citation Laureate in Physics for his work on multiferroics.

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