



## Xiang Zhang to present Kavli Lecture at 2011 MRS Spring Meeting

**X**iang Zhang, the Ernest S. Kuh Chaired Professor at the University of California, Berkeley and the director of the National Science Foundation Nanoscale Science and Engineering Center (SINAM), has been selected for the Fred Kavli Distinguished Lectureship in Nanoscience. He will give a presentation at the 2011 Materials Research Society Spring Meeting on Monday, April 25, 7:00 pm at the San Francisco Marriott

Marquis. The title of his presentation is “Metamaterials—Creating properties that do not exist in nature.”

Recent theory predicted a new class of photonic composite materials whose properties, derived by structure rather than chemical compositions, promise unprecedented electromagnetic properties that do not exist in nature, such as optical magnetism and negative refraction. Zhang will describe recent progress

that demonstrated the physics. He will also discuss an array of new technologies, including a superlens for nanoscale lithography that could transform the next generation of nanomanufacturing and plasmon lasers that could act as sources of coherent light on the molecular scale.

Zhang received his PhD degree from the University of California, Berkeley in 1996 and was on the faculties of the Pennsylvania State University and the University of California, Los Angeles (UCLA) prior to joining the Berkeley faculty in 2004. Zhang was elected to the National Academy of Engineering (NAE) in 2010. He has over 180 publications. His group’s research in optical metamaterials was included in Time Magazine’s Top 10 Scientific Discoveries in 2008.

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### Materials Research Societies in Singapore, China, and India presented inaugural trilateral conference on nanoscience

**T**he Materials Research Society of Singapore (MRS-S) and the Nanoscience Nanotechnology Initiative (NUSNNI) of the National University of Singapore (NUS) in association with the Chinese Materials Research Society (C-MRS) and the Materials Research Society of India (MRS-I) jointly organized the inaugural MRS-S Trilateral Conference on Advances in Nanoscience: Energy, Water & Healthcare. B.V.R. Chowdari (MRS-S), Duan Weng (C-MRS), and Baldev Raj (MRS-I) co-chaired the conference, which was held on August 11–13, 2010 at the Institute of Materials Research and Engineering (IMRE), Singapore, the supporting organization. Guest-of-honor Barry Halliwell, Deputy President of Research and Technology at NUS, emphasized the need for research collaboration between the three countries and congratulated the corresponding Materials Research Societies for bringing the scientists from these countries together.

Keynote speaker Seeram Ramakrishna (NUS) described the importance of the

theme and uniqueness of challenges in energy, water, and healthcare to the three countries and to the world overall. He described his work in the area of electrospun nanofibers, demonstrating how an understanding of the basic science quickly translates into commercial products. According to Ramakrishna, the ability of the electrospinning process to mass-produce continuous fibers with nanometer-scale diameter of different materials may provide solutions to global issues ranging from healthcare to environmental issues to energy.

Oral and poster presentations in the area of healthcare placed emphasis on the diagnosis of diseases and in the delivery of drugs and other biomolecules. To convert a laboratory discovery to a useful product for the benefit of society, many different skills will be required and the conference brought such experts together.

For example, after discoveries are made in biomarkers, it is essential for researchers to work with those who can fabricate and utilize the information.

The overriding message in the section of presentations on water was that challenges in water can unite the nations.



Co-chairs of the MRS-S Trilateral Conference on Advances in Nanoscience were (left to right) Duan Weng (Chinese MRS) of Tsinghua University, Beijing, China; B.V.R. Chowdari (MRS Singapore) of the National University of Singapore, Singapore; and Baldev Raj (MRS India) of the Indira Gandhi Center for Atomic Research, Kalpakkam, India.

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