cfaed Seminar Series

DATE: August 5, 2019
TIME: 3:00 PM – 4:30 PM
LOC: Seminar room HEM 219 (second floor)
Walther-Hempel-Bau
Mommsenstr. 4, 01069 Dresden

GUEST SPEAKER:
Prof. Zhifeng Ren
Department of Physics and Texas Center for Superconductivity (TcSUH), University of Houston, Houston, TX 77204, USA

TITLE:
"Challenges and Potential Solutions to Future Energy Need"

ABSTRACT:
Energy conversion, transport, and storage are the most challenging issues facing our society. How to effectively convert energy between heat and electrical power? What is the best way to store the electrical energy? How to cool the hot spot of the future power electronics? How to do desalination to get pure water? In this talk, I will talk our studies on water splitting to generate hydrogen, high performance thermoelectric materials for cooling and power generation, and also extremely high thermal conductivity (higher than 1200 W m^{-1} K^{-1} at room temperature) to move the large amount of heat from the hot spot of the electronic devices.

BIOGRAPHY:
Zhifeng Ren, Ph.D., is an M. D. Anderson Chair Professor of Physics at the University of Houston, also the director of the Texas Center for Superconductivity at the University of Houston (TcSUH). He received B.S. degree from Xihua University in 1984, M.S. degree from Huazhong University of Science and Technology in 1987, and Ph.D. degree from the Institute of Physics, Chinese Academy of Sciences in 1990. He has published more than 500 peer-reviewed journal papers and was awarded with more than 51 patents. He was ranked as the 49th Materials Scientists among the 500,000 in the world based on impact of papers published in the decade from 2000 to 2010. He is listed as a 2018 Highly Cited Researcher in Physics. He received the 2008 R&D 100 Award, the 2014 Edith and Peter O'Donnell Award in Science from The Academy of Medicine, Engineering & Science of Texas (TAMEST), and the 2018 Humboldt Research Award from the Alexander von Humboldt Foundation. He was elected an APS fellow (2004), AAAS fellow (2005), and fellow of the National Academy of Inventors (2013).