

TCSUH Special Seminar

Three Key Questions and Solutions of Material Genome Engineering

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Tuesday, August 22, 2023

Room 102, Houston Science Center, 12:00 pm. – 1:00 p.m.

Sandwiches provided first come, first served.



ABSTRACT: Material genes could be understood as the relationship between composition (element, valence state, function group, etc.), structure (lattice, molecular weight, defect, etc.), thermodynamic parameters (temperature, time, pressure, etc.) and physical properties. Over the past three decades, we have been working on the equilibrium phase diagrams and made some achievements. I will first discuss recent progress in studying dynamic phase transitions. I then will introduce our progress in using plasma resonant optical spectrum to study physical properties of materials. Last, I will discuss the progress using neural networks to learn and predict materials properties. I will discuss the profound impact of these technologies to the field of materials science.

BIO: Xiao-dong Xiang is Chair Professor at the Department of Materials Science and Engineering in Southern University of Science and Technology. He was a Career Staff Scientist at Lawrence Berkeley National Laboratory (LBNL) and a Senior Staff Scientist at SRI. Prof. Xiang is the inventor of "Combinatorial Material Chip" (Science, 268, 1738 (1995)). For the outstanding contribution to combinatorial material science, he won the Discover Magazine Awards in 1996 and the R&D 100 Award in 2000. Prof. Xiang has been the first or corresponding author of 6 "Science", 3 "Nature", 2 "Physical Review Letters", 1 "National Science Review" and 3 "Engineering" papers. His interests cover high temperature superconductivity, thermoelectricity, materials genome engineering, etc. His 100+ publications have been cited for more than 6296 times with an H-index of 42, among which 1 paper was cited 955 times and 18 papers are highly cited (> 100 times).

Host: Dr. Paul C.W. Chu. Please contact Dr. Liangzi Deng at ldeng2@central.uh.edu if you want to meet with the speaker.

Persons with disabilities requiring accommodations to attend the seminar should call (713) 743-8212.