Oct. 4 (Tue), 2016, 15:30-17:00 @ Rm.527

ESISM Seminar (host: N.Tsuji (5462))

NANOSTRUCTURED STEELS

New Technology for an Old Metal

Professor C. Suryanarayana

University of Central Florida, Orlando, FL. 32816, USA

Steel has been an important structural material for several millennia because of the possibility of altering its structure and properties through thermal and mechanical treatments. Recently, nanostructured materials, with a grain size of less than about 100 nm, have assumed special importance because of their high strength, good ductility, and several other interesting physical, electrical, and mechanical properties. Mechanical alloying is an important processing method to synthesize nanostructured metals. We have decided to investigate the effects of nanostructure processing on different types of steel.

As a preliminary step, we have investigated the effects of mechanical alloying on the structure, constitution, and properties of plain carbon steels and stainless steels. Powders have been synthesized, consolidated to bulk conditions and the structure and properties have been evaluated using different techniques. The interesting results obtained will be presented here.

非平衡材料・ナノ結晶材料の研究で著名な米国・Central Florida 大学の C. Suryanarayana 先生にご講演いただくことになりました。多数のご来聴を歓迎いたします。

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Professor C. Suryanarayana obtained his Ph.D. in Metallurgical Engineering from Banaras Hindu University in Varanasi, India and is currently a Professor at the University of Central Florida (UCF) in Orlando. He has taught materials science and engineering at Banaras Hindu University in India, University of Idaho, and Colorado School of Mines, before coming to UCF. He has been a Visiting Professor at several overseas universities in UK, Japan, China, South Korea, and Germany. His research expertise includes non-equilibrium processing of materials, with special emphasis on nanostructured materials and nanocomposites. He has published over 350 technical papers and authored/edited 21 books and conference proceedings. He has also been a member of the editorial boards of several international journals.

Professor Suryanarayana is a Fellow of ASM International, Fellow of the Institute of Materials, Minerals and Mining, London, UK, and Fellow of the Electron Microscope Society of India. He is one of the most cited researchers in the field of materials science and engineering. He has nearly 17,000 citations to his research work with an h-index of 49 and i-10 index of 167. According to Thomson Reuters, he is as one of the top 40 researchers in the world in the field of materials science who achieved the highest citation impact scores for their papers published since January 2000.

Professor Suryanarayana received many awards for his research contributions, including the National Metallurgists' Day Award of the Government of India, Pandya Silver Medal of the Indian Institute of Metals, Science Academy Medal for Young Scientists by the Indian National Science Academy, and Distinguished Alumnus award from Banaras Hindu University, Lifetime Achievement Award in Engineering by Central Florida Engineers and the Lifetime Achievement Award in Electron Microscopy from India. During 2012-2013, he was a Jefferson Science Fellow and Senior Science Advisor at the U.S. Department of State in Washington, D.C. Most recently, he was awarded the prestigious 2016 TMS Educator Award.