



Invited Speaker 7

The Rise of A New Superconducting Era

"The Nickel Age"

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Short Abstract:

After the reward of decades-long pursuit on the superconducting cuprate analog with the hope to obtain a better understanding of the mechanism of high-temperature superconductivity, the recent discovery of superconductivity in infinite-layer nickel-oxides brings more mystery to the picture than anticipated. In this talk, I will present challenges and progress in studying superconductivity in the nickelate-analogs of the cuprates. Despite the structural and electronic similarities between the nickelates and the cuprates, it seems nickelate superconductivity shows substantial dissimilarities and requires further consideration of multiple orbitals, raising new questions for physicists and chemists about the mechanism of superconductivity.

Short Bio:

Ariando is currently the Deputy Head of Research and Graduate Studies of the Department of Physics, National University of Singapore (NUS). He received his PhD in Physics from the University of Twente, the Netherlands, in 2005, on the study of pairing symmetry in high-temperature superconducting cuprates and imaging quantum vortices in s-wave/d-wave Josephson junctions in collaboration with IBM TJ Watson Research Center. He then took a post-doctoral position under the Dutch Nanoscience Research Network (NanoNed) and joined the National University of Singapore as a Faculty member in 2008. He was the Deputy Director of NUS Nanoscience and Nanotechnology Initiative (NUSNNI) and has been recognized with Omicron Gold Medal by the Institute of Physics Singapore (IPS), Young Investigator Award, Dean's Chair Professor, and Outstanding Researcher Award, Faculty of Science, NUS, and a NEXT Visiting Investigator at LNCMI, CNRS France.