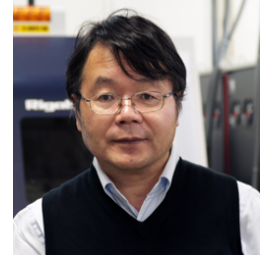


**Title Electron and Hydrogen as Anions in Oxides to Realize Novel Functionality**

**Speaker** Prof. Hideo HOSONO  
Professor  
Materials and Structures Laboratory  
Tokyo Institute of Technology



**Date & Time** Friday, October 9, 2015 3:00 p.m.

**Place** I<sup>2</sup>CNER Hall, Ito campus, Kyushu University

**Abstract**

It is a grand challenge in materials science to realize valuable active functionality using abundant elements. Electron and hydrogen are the most simple and abundant species in space. Most of functionalities in oxides are obtained by tuning cations. In this talk I will introduce our approach to electro-active functionality in oxide-based materials focusing on electron and hydrogen as anions.

**About the Speaker**

Prof. Hideo Hosono is the founding director of Materials Research Center for Element Strategy, and a professor of Materials and Structures Laboratory at Tokyo Institute of Technology. Since 2003, he has concentrated on electro-active function cultivation in transparent oxide-based materials to date. The representative achievements so far are discovery of iron-based high T<sub>c</sub>-superconductors (IBSC), establishment of transparent oxide electronics, and cultivation of materials science of electride and its application. The discovery of IBSC was chosen as a breakthrough of the year 2008 by *the Science Magazine*. Thin film transistors using InGaZnOx (called IGZO) reported in 2004 are now practically used to drive high precision, energy-saving displays in tablets, smart phones, pc monitors, and large-sized OLED-TV. He received Bernd T. Matthius Prize, Jan Rajchman Prize (Society for Information Display), James C. McGroddy Prize for New Materials (American Physics Society), a Thomson Reuters Citation Laureate in 2013 in physics and so on in addition to domestic awards including the Imperial Prize and the Japan Academy Prize. His h-index is 104(Google scholar) or 83 (Web of Science).

**Host:** Assoc. Professor Miho Yamauchi

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<http://i2cner.kyushu-u.ac.jp/>

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