

The 193rd MANA Special Seminar



IEEE



MAGNETICS



2011 Distinguished
Lecture Series

Magnetic Materials in Sustainable Energy

Chair: Dr. Kazuhiro Hono (MANA PI)

Oliver Gutfleisch

(IFW Dresden, Germany)



A new energy paradigm, consisting of greater reliance on renewable energy sources and increased concern for efficiency in the total energy lifecycle, has accelerated research in energy-related technologies. Due to their ubiquity, magnetic materials play an important role in improving the efficiency and performance of devices in electric power generation, conversion and transportation. Magnetic materials are essential components of energy applications and improvements in magnetic materials will have significant impact in this area, on par with many “hot” energy materials efforts (e.g. hydrogen storage, batteries, thermoelectrics, etc.). The lecture focuses on the state-of-the-art hard and soft magnets and magnetocaloric materials with an emphasis on their optimization for energy applications. Specifically, the impact of hard magnets on electric motor and transportation technologies, of soft magnetic materials on electricity generation and conversion technologies, and of magnetocaloric materials for refrigeration technologies, will be discussed.

Venue: Seminar Room #431, MANA Bldg.

Date: January 27th (Thu) Time: 15:30-16:30

Contact: International Center for Materials Nanoarchitectonics (MANA), Nakata (ex. 8806)

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