

Rare Earths 2016 in SAPPORO, JAPAN

June 5-10, 2016, Sapporo, Hokkaido, Japan

Monday, June 6, 2016

Opening Ceremony

Lecture Hall (2nd Floor)

Monday, June 6, 9:20 – 9:30

9:20-9:30 Opening and Introductory Remarks
Welcome
Nobuhito Imanaka, Conference Chair, Osaka University

Plenary Lecture

Lecture Hall (2nd Floor)

Monday, June 6, 9:30 – 10:30

Chair : Yasuchika Hasegawa, Hokkaido University, Japan

9:30-10:30 PL-01 Jean-Claude G. Bünzli, Swiss Federal Institute of Technology,
Switzerland
The Role of Light in Rare Earth Science

10:30-11:00 ***Coffee Break***

Oral Presentation

Lecture Hall (2nd Floor)

Session 05. Coordination Chemistry, Analytical Chemistry, and Separation (1)

Monday, June 6, 11:00 – 18:30

Co-Chairs : Miki Hasegawa, Aoyama Gakuin University, Japan
Luís António Dias Carlos, Universidade de Aveiro, Portugal

11:00-11:40 K05-01 Kenneth N. Raymond, University of California, Berkeley, USA
*Ligand Design for Selective Complexation and Properties of f Element
Metals: From Basics to Business*

11:40-12:10 I05-01 Stéphane Petoud, University of Geneva, Switzerland
*Metal-organic Frameworks and Polymetallic Dendrimer Complexes: New
Perspectives for Near-infrared Imaging Based on Lanthanides*

12:10-12:30 I05-02 Nobuhiko Iki, Tohoku University, Japan
Lanthanide Clusters Assembled by Thiocalixarene

- 12:30-14:00 **Lunch**
- Co-Chairs : Stefan Lis, Adam Mickiewicz University, Poland
Satoshi Shinoda, Osaka City University, Japan
- 14:00-14:40 K05-02 Luís António Dias Carlos, Universidade de Aveiro, Portugal
Lanthanides in Luminescent Thermometry
- 14:40-15:10 I05-03 Stefan Lis, Adam Mickiewicz University, Poland
Selected Lanthanides Luminescent Complexes, Inorganic Nanophosphors and Their Functionalized Systems: From Synthesis to Applications
- 15:10-15:30 I05-04 Yasuchika Hasegawa, Hokkaido University, Japan
Lanthanide Coordination Nanoparticles for Novel Luminescent Materials
- 15:30-15:45 C05-01 Junpei Yuasa, Tokyo University of Science, Japan
Chiroptical Properties of Chiral Lanthanide(III) Complexes Having β -diketonate Ligands
- 15:45-16:00 C05-02 Mathias S. Wickleder, Justus Liebig University Giessen, Germany
Novel Ligands for Lanthanide Linkage - Synthesis, Structures, and Properties of Rare Earth Polysulfonates
- 16:00-16:30 **Coffee Break**
- Co-Chairs : Yuko Hasegawa, Tokyo University of Science, Japan
Kenneth L. Nash, Washington State University, USA
- 16:30-17:10 K05-03 Kenneth L. Nash, Washington State University, USA
The Genesis of TALSPEAK Chemistry as an Approach to Trivalent f-Element Separations
- 17:10-17:40 I05-05 Linfeng Rao, Lawrence Berkeley National Laboratory, USA
Enthalpy and Entropy Measurements to Investigate the Nature of Actinide/Lanthanide Complexes in Solution
- 17:40-18:00 I05-06 Karsten Gloe, TU Dresden, Germany
Syntheses, Structures, and Solvent Extraction Behavior of New Heteropolynuclear 3d/4f Metal Complexes with Multifunctional N,O-Ligands
- 18:00-18:15 C05-03 Ryunosuke Karashimada, Tohoku University, Japan
Separation of Homo- and Heterotrinnuclear Complexes for Lanthanide – Thiocalix[4]arene-p-tetrasulfonate System by Capillary Electrophoresis
- 18:15-18:30 C05-04 Hirokazu Narita, National Institute of Advanced Industrial Science and Technology, Japan
Extraction Properties of Lanthanides with Tridentate Amide-type Compounds

Distinguished Evening Lecture

Lecture Hall (2nd Floor)

Monday, June 6, 18:40 –

Chair : Mineo Sato, Niigata University, Japan

18:40- SP-01 John E. Greedan, McMaster University, Canada
More than 40 Years of Rare Earth Research

Oral Presentation

Small Lecture Hall (1st Floor)

Session 03. Batteries, Fuel Cell Systems, and Ionic Conductors (1)

Monday, June 6, 11:00 – 18:25

- Co-Chairs : John Kilner, Imperial College London, UK
 Hiroshige Matsumoto, Kyusyu University, Japan
- 11:00-11:30 K03-01 Tatsumi Ishihara, Kyushu University, Japan
Ce_{0.6}Mn_{0.3}Fe_{0.1}O₂ as an Active Fuel Electrode for Reversible Type Solid Oxide Cells
- 11:30-11:50 I03-01 Koji Amezawa, Tohoku University, Japan
Reaction Distribution in Rare Earth-containing Oxide Cathode for Solid Oxide Fuel Cells
- 11:50-12:10 I03-02 Mathieu Marrony, EIFER Institute, Germany
Rare Earths-based Proton Conducting Ceramic Cells: A New Regenerative Hydrogen Fuel Cell System
- 12:10-12:30 I03-03 Toshiaki Matsui, Kyoto University, Japan
Direct Ammonia-fueled Solid Oxide Fuel Cells Employing Ni-based Cermet Anodes
- 12:30-14:00 **Lunch**
- Co-Chairs : Tatsumi Ishihara, Kyusyu University, Japan
 Mathieu Marrony, EIFER Institute, Germany
- 14:00-14:20 I03-04 John Kilner, Imperial College, UK
Ceria Solid Solutions for High Temperature Electrochemical Devices
- 14:20-14:40 I03-05 Hitoshi Takamura, Tohoku University, Japan
Ceria-based Mixed Conductors for Gas Separation and Storage
- 14:40-15:00 I03-06 Yoshitaka Aoki, Hokkaido University, Japan
Design of Electrochemical Devices Based on Mixed-conducting BaCeO₃/metal Heterointerfaces
- 15:00-15:20 I03-07 Kotaro Fujii, Tokyo Institute of Technology, Japan
New Perovskite-related Structure Family of Oxide-ion Conducting Materials NdBaInO₄
- 15:20-16:00 I03-08 Shu Yamaguchi, The University of Tokyo, Japan
Size Effect of Lanthanide Ion Dopants on Electronic and Ionic Carrier Transport in Perovskite and Fluorite Oxides
- 16:00-16:30 **Coffee Break**

- Co-Chairs : Koji Amezawa, Tohoku University, Japan
Hiroki Sakaguchi, Tottori University, Japan
- 16:30-16:50 I03-09 Tetsuya Tsuda, Osaka University, Japan
Aluminum Electrodeposition from a Chloroaluminate Ionic Liquid with Lanthanum Chloride
- 16:50-17:10 I03-10 Toshiyuki Nohira, Kyoto University, Japan
Electrochemical Formation of RE-Ni (RE=Pr, Nd, Dy) Alloys in Molten NaCl-KCl-RECl₃ Systems
- 17:10-17:30 I03-11 Takuya Goto, Doshisha University, Japan
Thermodynamic and Electrochemical Properties of f-block Elements in Molten Chlorides Containing O²⁻ or N³⁻ Ions
- 17:30-17:50 I03-12 Nobuhiro Kuriyama, National Institute of Advanced Industrial Science and Technology, Japan
Nickel-Metal Hydride Battery, One of the Most Successful Applications of Rare-earth Elements
- 17:50-18:10 I03-13 Hiroyuki Usui, Tottori University, Japan
Gadolinium Silicide/Silicon Composite Electrode with Excellent Anode Performance for Lithium-ion Battery
- 18:10-18:25 C03-01 Wei-Ren Liu, Chung Yuan Christian University, Taiwan
Nano-porous ZnCo₂O₄ Anode with High Capacity for Li-ion Batteries

Oral Presentation

Conference Room 1 (1st Floor)

Session 02. Actinoid

Monday, June 6, 11:00 – 12:40

- Co-Chairs : Masaki Ozawa, Tokyo Institute of Technology, Japan
Tsuyoshi Yaita, Japan Atomic Energy Agency, Japan
- 11:00-11:30 K02-01 Masaki Ozawa, Tokyo Institute of Technology, Japan
Rare Earths, Key Elements for Future Nuclear Fuel Cycle
- 11:30-11:50 I02-01 Yuezhou Wei, Shanghai Jiao Tong University, China
Separation of Trivalent Actinides and Lanthanides Using Porous Silica-based 2,6-bis(5,6-dialkyl-1,2,4-triazin-3-yl)pyridine Adsorbent
- 11:50-12:10 I02-02 Yoshinori Haga, Japan Atomic Energy Agency, Japan
Synthesis, Characterization and Physical Property Investigation of Actinide Intermetallic Compounds
- 12:10-12:25 C02-01 Yuji Sasaki, Japan Atomic Energy Agency, Japan
Dependence of Actinide Extractions on the Central Frames in Amidic and Diamidic Extractants
- 12:25-12:40 C02-02 Tsuyoshi Yaita, Japan Atomic Energy Agency, Japan
Chemical Bond Properties of Actinides Based on Synchrotron Radiation X-ray Analysis
- 12:40-14:00 **Lunch**

Conference Room 1 (1st Floor)

Session 10. Organometallic and Organic Synthesis (I)

Monday, June 6, 14:00 – 16:00

- Co-Chairs : Peter Courtney Junk, James Cook University, Australia
Masayoshi Nishiura, RIKEN, Japan
- 14:00-14:30 K10-01 Zhaomin Hou, RIKEN, Japan
Recent Progress in Rare-earth-catalyzed Organic Synthesis
- 14:30-14:50 I10-01 Stephen T. Liddle, University of Manchester, UK
Phosphorus-stabilised Rare Earth(III) and (IV) Methanediides: Structure, Bonding, and Magnetism
- 14:50-15:10 I10-02 Lixin Zhang, Fudan University, China
Reactivities of Trinuclear Rare Earth Metal Phosphenidene Complexes
- 15:10-15:30 I10-03 Mark R. Crimmin, Imperial College London, UK
Triphenylphosphonium Methylide Complexes of Yttrium: Stoichiometric and Catalytic Reactivity

- 15:30-15:45 C10-01 Jianhua Cheng, Changchun Institute of Applied Chemistry, China
Cationic Scandium Methyl Complexes Bearing Amidinate Ligands
- 15:45-16:00 C10-02 Shu Zhang, Beijing University of Chemical Technology, China
Styrene Polymerization Using Rare Earth Complexes Containing N-heterocyclic Carbene Ligand
- 16:00-16:30 **Coffee Break**

Conference Room 1 (1st Floor)

Session 06. Earth Science, Resources, and Recycling (1)

Monday, June 6, 16:30 – 18:30

- Co-Chairs : Ritsuro Miyawaki, National Museum of Nature and Science, Japan
Kenzo Sanematsu, National Institute of Advanced Industrial Science and Technology, Japan
- 16:30-17:00 K06-01 Frances Wall, University of Exeter, UK
Controls on Light and Heavy Rare Earth Enrichment in Carbonatite-related Ore Deposits
- 17:00-17:30 K06-02 Alain Rollat, Consultant for Rare Earths Process & Technology, France
Rare Earths Separation – Is There an Industrial Alternative to Solvent Extraction?
- 17:30-17:50 I06-01 Yasuhiro Kato, The University of Tokyo, Japan
Progress in Science and Engineering of REY-rich Mud
- 17:50-18:10 I06-02 Laura S. Lauri, Geological Survey of Finland, Finland
Rare Earth Element Deposits in the Fennoscandian Shield
- 18:10-18:30 I06-03 Philip L. Verplanck, U.S Geological Survey, USA
Rare Earth Element Resources of the United States

Tuesday, June 7, 2016

Plenary Lecture

Lecture Hall (2nd Floor)

Tuesday, June 7, 9:00 – 10:00

Chair : Zhaomin Hou, RIKEN, Japan

9:00-10:00 PL-02 Masakatsu Shibasaki, Institute of Microbial Chemistry, Tokyo (BIKAKEN), Japan
Recent Progress in Cooperative Asymmetric Catalysis: Nd/Na Heterobimetallic Catalyst

10:00-10:30 **Coffee Break**

Oral Presentation

Lecture Hall (2nd Floor)

Session 05. Coordination Chemistry, Analytical Chemistry, and Separation (2)

Tuesday, June 7, 10:30 - 12:40

Co-Chairs : Stéphane Petoud, University of Geneva, Switzerland
Kenneth N. Raymond, University of California, Berkeley, USA

10:30-10:50 I05-07 Masahiro Goto, Kyushu University, Japan
New Extractants Applicable to Industrial Solvent Extraction Process for Rare Earth Separation

10:50-11:10 I05-08 Kazuko Matsumoto, Sophia University, Japan
Lanthanide Luminescent Materials for Time-resolved Imaging and Microarray System

11:10-11:25 C05-05 Ayumi Ishii, Aoyama Gakuin University, Japan
An Interfacial Eu Complex on a Mesoporous TiO₂ Nano Film for Photo-emission and Photo-electric Conversion Devices

11:25-11:40 C05-06 Fabio Piccinelli, University of Verona, Italy
New Chiral Eu(III) Complexes for Sensing Applications

11:40-11:55 C05-07 Yuko Hasegawa, Tokyo University of Science, Japan
Isomeric Effects of Ligand on Luminescence of Eu(III)/Zn(II) Binuclear Complexes

11:55-12:10 C05-08 Miki Hasegawa, Aoyama Gakuin University, Japan
New Aspects to Keep the Molecular Structure and Luminescence of Helicate Lanthanide Complexes

12:10-12:25 C05-09 Michael D. Wyrsta, Lixivia, Inc., USA
New Rare Earth Element Refining Lixivants

12:25-12:40 C05-10 Moheddine Abdul Karim Wehbie, Institute of Chemical Separation of Marcoule, CNRS-UM, France
Preorganization of Diglycolamides on Resorcinarene Cavitand Platforms for Rare Earths Extraction

12:40-14:00 **Lunch**

Lecture Hall (2nd Floor)

Session 10. Organometallic and Organic Synthesis (2)

Tuesday, June 7, 14:00 – 17:00

Co-Chairs : Zhaomin Hou, RIKEN, Japan
Peter W. Roesky, Karlsruhe Institute of Technology, Germany

14:00-14:20 I10-04 Peter Courtney Junk, James Cook University, Australia
Tetravalent and Divalent Lanthanoid Chemistry

14:20-14:40 I10-05 Peter W. Roesky, Karlsruhe Institute of Technology, Germany
Small Molecule Activation by Di- and Trivalent Lanthanide Complexes

14:40-15:00 I10-06 Xiaofang Li, Beijing Institute of Technology, China
Chiral Cyclopentadienyl Ligated Rare Earth Metal Dialkyl Complexes: Synthesis, Characterization, and Application in Olefin Polymerization

15:00-15:20 I10-07 Jianfeng Li, Nankai University, China
Rare-earth Ene-diamido Complexes for Selective Hydrosilylation and Styrene Polymerization

15:20-15:40 I10-08 Yi Luo, Dalian University of Technology, China
Rare Earth Metal Complexes in Homogeneous Polymerization: A Theoretical Perspective

15:40-16:00 I10-09 Fang Guo, Dalian University of Technology, China
Scandium-catalyzed Synthesis and Novel Functions of Syndiotactic Polystyrenes Containing Amino and Silyl Groups

16:00-16:20 I10-10 Marc Visseaux, Universite de Lille, France
Controlled Conjugated Dienes Polymerization Catalysis Mediated by Rare Earths Organometallic Compounds

16:20-16:40 I10-11 Masayoshi Nishiura, RIKEN, Japan
Rare-earth-catalyzed Step-growth Copolymerization of Dialkoxyarenes to Unconjugated Dienes

16:40-17:00 I10-12 Dongmei Cui, Changchun Institute of Applied Chemistry, China
A New Strategy to Sequence Controlled Copolymerization via Changing the Intrinsic Reactivity Ratios

17:00-18:30 **Coffee Break and Poster Session (1)**

Distinguished Evening Lecture

Lecture Hall (2nd Floor)

Tuesday, June 7, 18:40 –

Chair : Hiroki Sakaguchi, Tottori University, Japan

18:40- SP-02 Gin-ya Adachi, Osaka University (Professor emeritus), Japan
Research Trend in Rare Earths Seen from Chemical Abstracts Registration

Oral Presentation

Small Lecture Hall (1st Floor)

Session 03. Batteries, Fuel Cell Systems, and Ionic Conductors (2)

Tuesday, June 7, 10:30 - 12:25

- Co-Chairs : Shu Yamaguchi, The University of Tokyo, Japan
Hitoshi Takamura, Tohoku University, Japan
- 10:30-10:50 I03-14 Naoto Kitamura, Tokyo University of Science, Japan
Defect-structure Analysis of Lanthanum-containing Oxides with Oxide-ion Conduction by Reverse Monte Carlo Simulation
- 10:50-11:10 I03-15 Takahisa Omata, Osaka University, Japan
Proton-conducting Phosphate Glasses Stable at Intermediate Temperatures
- 11:10-11:25 C03-02 Masatomo Yashima, Tokyo Institute of Technology, Japan
Experimental Visualization of Ion Diffusion Paths in Ceramic Ion Conductors
- 11:25-11:40 C03-03 Helena Tellez, Kyushu University, Japan
La₂NiO_{4+δ} Single Crystals: Anisotropic Oxygen Diffusion and Surface Chemistry Dependence of the Oxygen Exchange Reaction
- 11:40-11:55 C03-04 Hideki Yoshioka, Hyogo Prefectural Institute of Technology, Japan
Structure and Properties of Anode-supported Solid Oxide Fuel Cells Using Lanthanum Silicate Electrolyte Films
- 11:55-12:10 C03-05 John Druce, Kyushu University, Japan
Surface Composition and Oxygen Transport Properties of Rare-earth Perovskites without Alkaline Earth Dopants
- 12:10-12:25 C03-06 Kwati Leonard, Kyushu University, Japan
Nanoionics Effects of Disperse Platinum Particles on SrCeO₃ and SrZrO₃ Based Proton Conductors
- 12:25-14:00 **Lunch**

Small Lecture Hall (1st Floor)

Session 09. Luminescence (1)

Tuesday, June 7, 14:00 - 17:00

- Co-Chairs : Setsuhisa Tanabe, Kyoto University, Japan
Dirk Poelman, Ghent University, Belgium
- 14:00-14:20 I09-01 Marco Bettinelli, University of Verona, Italy
New Oxide Phosphor Materials Containing Terbium and Europium for LED Lighting

- 14:20-14:40 I09-02 Pieter Dorenbos, Delft University of Technology, The Netherlands
The Role of the Conduction Band Bottom in the Performance of Phosphors
- 14:40-15:00 I09-03 Jacques Lucas, University of Rennes, France
Rare Earths Doped Sulfur Glasses for CO₂ Sensing
- 15:00-15:20 I09-04 Marek Grinberg, University of Gdańsk, Poland
Location of Ln³⁺ and Ln²⁺ Energy Levels in the Host Bandgap under High Hydrostatic Pressure
- 15:20-15:40 I09-05 Yasufumi Fujiwara, Osaka University, Japan
Towards Highly Efficient Wavelength-stable Red Light-emitting Diodes Using Eu-doped GaN as an Active Layer
- 15:40-16:00 I09-06 Fiorenzo Vetrone, Université du Québec, Canada
Multifunctional Nanoplatfoms Based Rare Earth Doped Nanoparticles
- 16:00-16:20 I09-07 Bruno Viana, Chimie ParisTech - CNRS, France
Yb³⁺ Doped Laser Materials in Different Shapes (Crystals, Fiber Crystals and Transparent Ceramics) for Laser Applications
- 16:20-16:40 I09-08 Luis Seijo, Universidad Autónoma de Madrid, Spain
Intervalence and Metal-to-Metal Charge Transfer States of Phosphor Materials: Ab Initio Calculations
- 16:40-17:00 I09-09 Xiaojun Wang, Georgia Southern University, USA
Luminescence and EPR Studies on the Effects of Encaged Anions on the Optical Emissions in RE-doped Calcium Aluminates
- 17:00-18:30 ***Coffee Break and Poster Session (1)***

Oral Presentation

Conference Room 1 (1st Floor)

Session 06. Earth Science, Resources, and Recycling (2)

Tuesday, June 7, 10:30 - 12:35

- Co-Chairs : Mihoko Hoshino, National Institute of Advanced Industrial Science and Technology, Japan
Yasuhiro Kato, The University of Tokyo, Japan
- 10:30-10:50 I06-04 Cheng Xu, Peking University, China
A Mo and HREE-rich Carbonatite in Chinese Qinling Orogen
- 10:50-11:10 I06-05 Yasushi Watanabe, Akita University, Japan
Differential Fractionation of Rare Earth Elements in Reduced and Oxidized Granitic Rocks
- 11:10-11:30 I06-06 Kenzo Sanematsu, National Institute of Advanced Industrial Science and Technology, Japan
Characteristics of Ion-adsorption Type REE Deposits
- 11:30-11:50 I06-07 Jindrich Kynicky, Mendel University in Brno, Czech Republic
The Role of Carbonate-fluoride Melt Immiscibility in Shallow REE Deposit Evolution
- 11:50-12:05 C06-01 Patrick Zhang, Florida Industrial and Phosphate Research Institute, USA
Rare Earths Occurrence in Florida Phosphate Ore and Their Fate during Mining and Processing
- 12:05-12:20 C06-02 Kentaro Nakamura, The University of Tokyo, Japan
Distribution of REY-rich Mud in the Minamitorishima EEZ: Implications from Subbottom Profiling
- 12:20-12:35 C06-03 Ritsuro Miyawaki, National Museum of Nature and Science, Japan
The Crystal Structures of Kimuraite-(Y) and Lokkaite-(Y)
- 12:35-14:00 **Lunch**

Conference Room 1 (1st Floor)

Session 12. Solid State and Magnetism (1)

Tuesday, June 7, 14:00 - 17:00

- Co-Chairs : Regino Sáez Puche, Universidad Complutense Madrid, Spain
Hiroshi Kageyama, Kyoto University, Japan
- 14:00-14:30 K12-01 Regino Sáez Puche, Universidad Complutense Madrid, Spain
Polymorphism, Magnetic Properties and Magnetocaloric Effect in RCrO₄ (R=Rare Earth) Oxides
- 14:30-14:50 I12-01 Katsuhisa Tanaka, Kyoto University, Japan
Divalent Europium: A Key to Ferromagnetic Oxide

- 14:50-15:10 I12-02 Hiroshi Kageyama, Kyoto University, Japan
Valence Manipulation of Eu-based Perovskite Compounds
- 15:10-15:30 I12-03 Yuichi Shimakawa, Kyoto University, Japan
Crystal and Magnetic Structures of Cation Ordered Perovskites with Unusual High Valence Iron
- 15:30-15:50 I12-04 Yoshihiro Doi, Hokkaido University, Japan
Crystal Structures and Magnetic Properties of Perovskite-related Oxides Containing Rare Earths
- 15:50-16:10 I12-05 Yoshiyuki Inaguma, Gakushuin University, Japan
Synthesis, Valence State and Occupation Site of Pr, and Properties in Pr-containing Oxides
- 16:10-16:30 I12-06 Alexandra Navrotsky, University of California, Davis, USA
Calorimetric Measurements of Heats of Formation of Rare Earth (RE) Minerals
- 16:30-16:45 C12-01 Francisco Fernández, Universidad Complutense Madrid, Spain
Single-crystal Magnetic Behavior and Magnetocaloric Effect of RVO_4 ($R = Nd$ and Gd)
- 16:45-17:00 C12-02 Retno Asih, RIKEN, Japan
Magnetic Ordered States in the Pyrochlore Iridates $R_2Ir_2O_7$ ($R = Nd$ and Sm) Investigated by μSR
- 17:00-18:30 ***Coffee Break and Poster Session (1)***

Wednesday, June 8, 2016

Plenary Lecture

Lecture Hall (2nd Floor)

Wednesday, June 8, 9:00 – 10:00

Chair : Yoshiki Takano, Nihon University, Japan

9:00-10:00 PL-03 Vitalij K. Pecharsky, Iowa State University Ames Laboratory, USA
Magnetocalorics: Rare Earth Paving the Way for Energy Efficient Cooling

10:00-10:30 **Coffee Break**

Oral Presentation

Lecture Hall (2nd Floor)

Session 07. Heavy Fermions, Metallurgy, Alloys and Intermetallics (1)

Wednesday, June 8, 10:30 - 12:40

Chair : Tadataka Watanabe, Nihon University, Japan

10:30-11:00 K07-01 Gendo Oomi, Kurume Institute of Technology, Japan
Effect of Pressure on the Novel Electronic States of Rare Earth Intermetallics

11:00-11:20 I07-01 António M. dos Santos, Oak Ridge National Laboratory, USA
Neutron Scattering at High Pressure: A Unique Tool in Rare-earth Research

11:20-11:40 I07-02 Yoshiya Uwatoko, The University of Tokyo, Japan
Interplay Between Valence and Magnetic Ordering in YbNi_3X_9 ($X = \text{Ga}$ and Al)

11:40-12:00 I07-03 Shigeo Ohara, Nagoya Institute of Technology, Japan
Single-crystal Growth and Magnetic Properties of RNi_3Al_9 , RNi_3Ga_9 , and $\text{R}_2\text{Pt}_6\text{Ga}_{15}$ ($R=\text{Rare-earth}$)

12:00-12:20 I07-04 Kazuyuki Matsubayashi, The University of Electro-Communications, Japan
Quantum Criticality and Superconductivity in Non-magnetic Quadrupolar System $\text{PrT}_2\text{Al}_{20}$ ($T=\text{Ti}, \text{V}$)

12:20-12:40 I07-05 Shigeyuki Murayama, Muroran Institute of Technology, Japan
Magnetic Properties of Heavy-fermion Compound CeRu_2Si_2 and the Element Substitution Effect

Oral Presentation

Small Lecture Hall (1st Floor)

Session 09. Luminescence (2)

Wednesday, June 8, 10:30 - 12:35

- Co-Chairs : Ru-Shi Liu, National Taiwan University, Taiwan
Teng-Ming Chen, National Chiao Tung University, Taiwan
- 10:30-10:50 I09-10 Masato Kakihana, Tohoku University, Japan
Tailoring of Deep-red Emission in $\text{Ca}_2\text{SiO}_4:\text{Eu}^{2+}$ by Crystal-site Engineering
- 10:50-11:05 C09-01 Victor Lavin, Universidad de La Laguna, Spain
New Advances in Rare Earths Pressure and Temperature Optical Sensors
- 11:05-11:20 C09-02 Cancelled
- 11:20-11:35 C09-03 Marcin Runowski, Adam Mickiewicz University, Poland
Synthesis of Bifunctional, Luminescent-plasmonic Core/Shell Nanomaterials Doped with Lanthanide Ions
- 11:35-11:50 C09-04 Tomasz Grzyb, Adam Mickiewicz University, Poland
Synthesis, Up-conversion Luminescence and Cytotoxicity of $\text{Yb}^{3+}/\text{Ho}^{3+}$, $\text{Yb}^{3+}/\text{Er}^{3+}$ and $\text{Yb}^{3+}/\text{Tm}^{3+}$ Doped Nanocrystalline Fluorides
- 11:50-12:05 C09-05 Agata Maria Szczeszak, Adam Mickiewicz University, Poland
Up-conversion and Down-conversion Phenomenon in Nanomaterials Based on Rare Earth Fluorides and Orthovanadates Doped with Lanthanide Ions
- 12:05-12:20 C09-06 Song Ye, Tongji University, China
Control Synthesis and Tunable Up-conversion Luminescence Properties of Rare Earth Ions Doped $\text{LiYF}_4/\text{YF}_3$ Nanoparticles through pH Turning
- 12:20-12:35 C09-07 Hairong Zheng, Shaanxi Normal University, China
Unusual Upconversion Emission from Single $\text{NaYF}_4:\text{Yb}^{3+}/\text{Ho}^{3+}$ Microrod

Oral Presentation

Conference Room 1 (1st Floor)

Session 06. Earth Science, Resources, and Recycling (3)

Wednesday, June 8, 10:30 - 12:35

- Co-Chairs : Mikiya Tanaka, National Institute of Advanced Industrial Science and Technology, Japan
Alain Rollat, Consultant for Rare Earths Process & Technology, France
- 10:30-10:50 I06-08 Teodora Retegan, Chalmers University of Technology, Sweden
The Complex Scenario of Recycling of REMs from WEEE Streams
- 10:50-11:10 I06-09 Atsushi Iizuka, Tohoku University, Japan
Separation of Scandium from the Aqueous Solution Using a Novel Resin Containing Glycol Amic Acid Group
- 11:10-11:30 I06-10 Yoshio Takahashi, The University of Tokyo, Japan
Development of Recovery and Separation Methods of Rare Earth Elements by Adsorption on Bacteria and DNA-related Materials: Importance of Identification of Binding Site using EXAFS Spectroscopy
- 11:30-11:50 I06-11 Yuiko Handa, National Institute of Advanced Industrial Science and Technology, Japan
Separation of Neodymium and Dysprosium in Aqueous Solutions by Formation of Phosphoester Coordination Polymers
- 11:50-12:05 C06-04 Marino Gergoric, Chalmers University of Technology, Sweden
Extraction of the Rare Earth Elements from Neodymium Magnet Leachate in Chloride Media via Solvent Extraction using TODGA and D2EHPA
- 12:05-12:20 C06-05 Takeshi Ogata, National Institute of Advanced Industrial Science and Technology, Japan
Adsorption Mechanism of Rare Earth Ions by Silica Gel-based Adsorbent with Diglycolamic Acid Ligands
- 12:20-12:35 C06-06 Milin Zhang, Harbin Engineering University, China
Functional Equation between the Atomic Radius and the Deposition Potential of Lanthanides on Cu and Ni Cathodes

Thursday, June 9, 2016

Plenary Lecture

Lecture Hall (2nd Floor)

Thursday, June 9, 9:00 – 10:00

Chair : Toshiyuki Masui, Tottori University, Japan

9:00-10:00 PL-04 Alessandro Trovarelli, Università di Udine, Italy
Forty Years of Catalysis by Ceria: A Success Story

10:00-10:30 **Coffee Break**

Oral Presentation

Lecture Hall (2nd Floor)

Session 04. Catalysts (1)

Thursday, June 9, 10:30 - 12:30

Co-Chairs : Masakuni Ozawa, Nagoya University, Japan
Tomoyoshi Suenobu, Osaka University, Japan
Hidenori Yahiro, Ehime University, Japan

10:30-10:50 I04-01 Masato Machida, Kumamoto University, Japan
Metal-embedded CeO₂ Surface Structure as Highly Efficient Catalysts

10:50-11:10 I04-02 Noriyoshi Kakuta, Toyohashi University of Technology, Japan
Evaluation of Oxygen Mobility and Pt Promotion Effect on OSC Performance: Pt/CeO₂-ZrO₂ with Different Structures

11:10-11:30 I04-03 Ken-ichi Shimizu, Hokkaido University, Japan
CeO₂-catalyzed Transformations of Nitriles, Amides and Esters

11:30-11:50 I04-04 Masaaki Haneda, Nagoya Institute of Technology, Japan
Effect of Rare Earth Additives on the Catalytic Performance of Rh/ZrO₂ for Three-way Catalytic Reactions

11:50-12:10 I04-05 Satoshi Sato, Chiba University, Japan
Dehydration of Alkanediol over Rare Earth Oxide Catalyst

12:10-12:30 I04-06 Katsutoshi Nagaoka, Oita University, Japan
Oxidation of Rare Earth Oxides as a Trigger for Hydrogen Production from Hydrocarbons and Ammonia

12:30-14:00 **Lunch**

Lecture Hall (2nd Floor)

Session 10. Organometallic and Organic Synthesis (3)

Thursday, June 9, 14:00 – 16:40

- Co-Chairs : Kazushi Mashima, Osaka University, Japan
Yaofeng Chen, Shanghai Institute of Organic Chemistry, China
- 14:00-14:20 I10-13 Trevor W. Hayton, University of California Santa Barbara, USA
New Methods for the Synthesis of Actinide-Ligand Multiple Bonds
- 14:20-14:40 I10-14 Yaofeng Chen, Shanghai Institute of Organic Chemistry, China
Borabenzene Rare-earth Metal Complexes: Synthesis, Structures and Reactivity
- 14:40-15:00 I10-15 Wenxiong Zhang, Peking University, China
Synthesis, Structure and Reactivity of Rare-earth Metallacyclopentadienes
- 15:00-15:20 I10-16 Cancelled
- 15:20-15:40 I10-17 Laurent Maron, Universite de Toulouse, France
A DFT Mechanistic Journey into the World of CO₂ Activation
- 15:40-16:00 I10-18 Kazushi Mashima, Osaka University, Japan
C-H Bond Activation of N-Heteroaromatics Catalyzed by Group 3 Metal Complexes
- 16:00-16:20 I10-19 Yixian Wu, Beijing University of Chemical Technology, China
Synthesis of Neodymium Trichloride Complexes Containing N-heterocyclic Carbenes and Their Catalytic Behavior
- 16:20-16:40 I10-20 Shaowu Wang, Anhui Normal University, China
Reactivity of Functionalized Indoles with Rare-earth Metal Amides: Synthesis, Structure and Catalysis
- 16:40-18:30 ***Coffee Break and Poster Session (2)***

Oral Presentation

Small Lecture Hall (1st Floor)

Session 09. Luminescence (3)

Thursday, June 9, 10:30 - 17:00

- Co-Chairs : Pieter Dorenbos, Delft University of Technology, Netherland
Jacques Lucas, University of Rennes 1, France
- 10:30-10:50 I09-11 Claudia Wickleder, University of Siegen, Germany
Less Material-More Energy – Novel Energy-saving Nano Phosphors
- 10:50-11:10 I09-12 Teng-Ming Chen, National Chiao Tung University, Taiwan
Recent Progress in Rare Earth-activated Thiosilicate and Thiohalosilicate Phosphors for Solid-state Lighting
- 11:10-11:30 I09-13 Kiyoshi Shimamura, National Institute for Materials Science, Japan
Single Crystal Phosphors for High-brightness White LEDs and LDs
- 11:30-11:45 C09-08 Lingdong Sun, Peking University, China
New Insights into Luminescence of Rare Earth Nanocrystals
- 11:45-12:00 C09-09 Masashi Ishii, National Institute for Materials Science, Japan
Fluorescence Lifetime Fluctuation: A New Approach to Photoexcitation/Relaxation Mechanisms
- 12:00-12:15 C09-10 Masashi Ishii, National Institute for Materials Science, Japan
Delayed Eu^{2+} Excitation in $(\text{Sr}, \text{Ba})\text{Al}_2\text{Si}_3\text{O}_4\text{N}_4:\text{Eu}^{2+}$: Excitation Energy Transfer from Host Material to Emission Centers Discovered with Fluorescence Lifetime Fluctuation
- 12:15-12:30 C09-11 Fang Lei, Shanghai University, China
Color-tunable Luminescence and the Internal Mechanisms of Eu Doped Yttrium Tungstate based Materials as Single Component Phosphors for White LED
- 12:30-14:00 **Lunch**
- Co-Chairs : Kenji Toda, Niigata University, Japan
Marco Bettinelli, University of Verona, Italy
- 14:00-14:20 I09-14 Dirk Poelman, Ghent University, Belgium
Rare Earths for Phosphor Development: The Final Frontier?
- 14:20-14:40 I09-15 Ru-Shi Liu, National Taiwan University, Taiwan
Chemical Control of Crystal Structure and Photoluminescence in Oxonitridosilicate Phosphors for the Application in LED
- 14:40-15:00 I09-16 Xiaogang Liu, National University of Singapore, Singapore
Controlling Photon Up-conversion in Lanthanide-doped Nanocrystals

- 15:00-15:15 C09-12 Jing Wang, Sun Yat-sen University, China
Facile Preparation and Ultrastable Performance of $\text{Eu}^{2+}/\text{Mn}^{2+}$ Activated Single-component White-light-emitting Phosphor-in-Glass for High Power Warm White LEDs
- 15:15-15:30 C09-13 Dagmara Stefanska, Institute of Low Temperature and Structure Research, Poland
New Phosphor $\text{Mg}_{0.5}\text{Ca}_2\text{Si}_{1.5}\text{AlO}_7$: Eu^{2+} , Energy Level Location of Ln^{3+} and Ln^{2+} in $\text{Mg}_{0.5}\text{Ca}_2\text{Si}_{1.5}\text{AlO}_7$
- 15:30-15:45 C09-14 Masayoshi Mikami, MCHC R&D Synergy Center, Inc., Japan
First-principles Study of $\text{Eu}^{2+}/\text{Ce}^{3+}$ -doped Phosphors: Ab Initio Crystal Site Engineering
- 15:45-16:00 C09-15 Mamoru Kitaura, Yamagata University, Japan
UV-Induced Infrared Absorption Change in SrAl_2O_4 : Eu^{2+} Crystals: Influence of Eu^{2+} Concentration on Trap Filling Process
- 16:00-16:15 C09-16 Cancelled
- 16:15-16:30 C09-17 Jumpei Ueda, Kyoto University, Japan
Charging and De-trapping Mechanism of SrAl_2O_4 -based Persistent Phosphors
- 16:30-16:45 C09-18 Jian Xu, Kyoto University, Japan
Design of Novel Garnet Persistent Phosphors with red/NIR Persistent Luminescence for the First Bio-imaging Window Based on Tanabe-Sugano (d_3) and Host Referred Binding Energy (HRBE) Diagrams
- 16:45-17:00 C09-19 Hongwu Zhang, Institute of Urban Environment, China
Long Afterglow Luminescent Nanoparticles for Super-long Time in vivo and in situ Imaging
- 17:00-18:30 ***Coffee Break and Poster Session (2)***

Oral Presentation

Conference Room 1 (1st Floor)

Session 06. Earth Science, Resources, and Recycling (4)

Thursday, June 9, 10:30 - 12:35

- Co-Chairs : Frances Wall, University of Exeter, UK
Yasushi Watanabe, Akita University, Japan
- 10:30-10:50 I06-12 Taek-Soo Kim, Korea Institute of Industrial Technology, Korea
Diffusion Tendency of Dysprosium from Permanent Magnets to Liquid Mg
- 10:50-11:10 I06-13 Katsunori Yamaguchi, Iwate University, Japan
The Recovery of Rare Earth Elements from Used Motors without a Manual Dismantling and Demagnetization
- 11:10-11:30 I06-14 Tomoko Akai, National Institute of Advanced Industrial Science and Technology, Japan
Recovery of Green Phosphor (LaPO₄:Ce,Tb) from Waste Phosphor by Using High-gradient Magnetic Separation
- 11:30-11:50 I06-15 Eugen Andreiadis, CEA, France
A Combined Process for the Selective Rare Earth Recovery and Separation from Used Permanent Magnets
- 11:50-12:05 C06-07 Cristian Tunsu, Chalmers University of Technology, Sweden
Hydrometallurgical Recovery of Rare Earth Elements from Fluorescent Lamp Waste
- 12:05-12:20 C06-08 Akane Ito, Hokkaido University, Japan
Geochemical Signatures of Heavy Mineral Processing Containing REE Minerals in a Contaminated Area in Malaysia
- 12:20-12:35 C06-09 Mihoko Hoshino, National Institute of Advanced Industrial Science and Technology, Japan
Potential of Apatite for Heavy Rare Earth Resource
- 12:35-14:00 **Lunch**

Conference Room 1 (1st Floor)

Session 11. Rare Earths in Bioscience (1)

Thursday, June 9, 14:00 - 16:55

- Co-Chairs : Jun Sumaoka, Tokyo Institute of Technology, Japan
Atsuko Shinohara, Seisen University, Japan
- 14:00-14:20 I11-01 Makoto Komiyama, University of Tsukuba, Japan
Ce(IV)-based Artificial Tool for Site-selective Scission of Human Genome -Molecular Design and Biological Applications-

- 14:20-14:40 I11-02 Jean-Claude G. Bünzli, Swiss Federal Institute of Technology, Switzerland
Bioanalysis and Bioimaging with Lanthanide Helicates
- 14:40-15:00 I11-03 Toshihiro Ihara, Kumamoto University, Japan
Biosensing Based on Rare Earth Metal Complex Formation through Dynamic Programming of DNA Structure
- 15:00-15:20 I11-04 Kazuya Kikuchi, Osaka Univeristy, Japan
Development of Multifunctional ^{19}F MRI Contrast Agents with Fluorine-encapsulated Silica Nanoparticle with Gd^{3+} Complex
- 15:20-15:40 I11-05 Takashi Jin, RIKEN, Japan
Rare-earth Conjugated Nanoprobes for Dualmodal Deep-tissue Imaging
- 15:40-16:00 I11-06 Shinji Sueda, Kyushu Institute of Technology, Japan
Time-Resolved Luminescence Assays for Biomolecules Using Biotin Ligase Modified with a Tb^{3+} Complex
- 16:00-16:20 I11-07 Kai Kamada, Nagasaki University, Japan
Enzyme-mimetic Activity of Inorganic Nanosheets Including Cerium Ions
- 16:20-16:40 I11-08 Hironobu Yanagie, Meiji Pharmaceutical University, Japan
Translational Researches of DDS & NCT for Cancer Treatments using Boron/Gadolinium/Platinum
- 16:40-16:55 C11-01 Svetlana V. Eliseeva, Centre de Biophysique Moléculaire - CNRS, France
 $\text{Zn}^{\text{II}}/\text{Ln}^{\text{III}}$ and $\text{Ga}^{\text{III}}/\text{Ln}^{\text{III}}$ Metallacrowns as Visible and Near-infrared Probes for Biological Imaging
- 16:55-18:30 ***Coffee Break and Poster Session (2)***

Friday, June 10, 2016

Oral Presentation

Lecture Hall (2nd Floor)

Session 04. Catalysts (2)

Friday, June 10, 9:00 - 12:30

- Co-Chairs : Ken-ichi Shimizu, Hokkaido University, Japan
Katsutoshi Nagaoka, Oita University, Japan
- 9:00-9:20 I04-07 Saburo Hosokawa, Kyoto University, Japan
Oxidation Characteristics of Hexagonal YbFeO₃ Catalyst
- 9:20-9:40 I04-08 Hidenori Yahiro, Ehime University, Japan
Perovskite-type Oxides Catalysts Prepared from Heteronuclear Cyano Complex
- 9:40-10:00 I04-09 Tomoyoshi Suenobu, Osaka University, Japan
Composite Photocatalytic Systems Containing Metallic Nanoparticles, Metal Complexes, and Rare Earth Metal Ions for Production of Hydrogen Peroxide from Water and Dioxygen
- 10:00-10:30 **Coffee Break**
- Co-Chairs : Masaaki Haneda, Nagoya Institute of Technology, Japan
Saburo Hosokawa, Kyoto University, Japan
Satoshi Sato, Chiba University, Japan
- 10:30-10:45 C04-01 Masatomo Yashima, Tokyo Institute of Technology, Japan
Atomic-scale Characterization of Ceria Catalysts and Related Materials
- 10:45-11:00 C04-02 Tatsumi Ishihara, Kyushu University, Japan
Low Temperature Oxidation of Diesel Particulate Matter on Nano CeO₂ Modified Catalyst
- 11:00-11:15 C04-03 Yawen Zhang, Peking University, China
Subnanometric PtO_x Clusters Deposited on CeO₂ Nanowires for Low Temperature CO Oxidation
- 11:15-11:30 C04-04 Ayaka Hosoya, Osaka University, Japan
Low Temperature Operative Catalytic Combustion-type Carbon Monoxide Gas Sensors Employing Rare-earth Oxide Based Catalysts
- 11:30-11:45 C04-05 Minchan Jeong, Osaka University, Japan
Catalytic Combustion of Methane on PdO-loaded CeO₂-ZrO₂-Fe₂O₃/γ-Al₂O₃ Catalysts

- 11:45-12:00 C04-06 Pil-Gyu Choi, Osaka University, Japan
High Efficiency on Catalytic Liquid-phase Oxidation for 1,4-Dioxane by Using CeO₂-ZrO₂-SnO₂ Promoter
- 12:00-12:15 C04-07 Hiroshi Yoshida, Kumamoto University, Japan
Cr-Cu Embedded CeO₂ as an Efficient Catalyst for CO-NO Reaction
- 12:15-12:30 C04-08 Zeai Huang, Kyoto University, Japan
Flux Method Fabrication of K₂RETa₅O₁₅ for Photocatalytic Conversion of CO₂ by Using H₂O as an Electron Donor
- 12:30-14:00 **Lunch**

Lecture Hall (2nd Floor)

Session 10. Organometallic and Organic Synthesis (4)
Friday, June 10, 14:00 – 15:10

Chair : Dongmei Cui, Changchun Institute of Applied Chemistry, China

- 14:00-14:20 I10-22 Florian Jaroschik, Universite de Reims, France
New Transformations Based on Elemental Lanthanides: From the Reduction of Metallacyclopentadienes to C-F Activation
- 14:20-14:40 I10-23 Yutaka Nishiyama, Kansai University, Japan
Deoxygenerative Dimerization of Diaryl Ketones with Lanthanum Metal under Carbon Dioxide
- 14:40-14:55 C10-03 Shao-Jie Lou, RIKEN, Japan
Rare-earth Catalyzed Regiodivergent C-H Alkylation of Quinolines
- 14:55-15:10 C10-04 Huailong Teng, RIKEN, Japan
Intermolecular Enantioselective Hydroamination of 3,3-Disubstituted Cyclopropenes Catalyzed by Chiral Half-sandwich Samarium Alkyl Complexes
- 15:40- **Closing Remarks**

Oral Presentation

Small Lecture Hall (1st Floor)

Session 11. Rare Earths in Bioscience (2)

Friday, June 10, 9:00 - 9:45

- Chair : Jean-Claude G. Bünzli, Swiss Federal Institute of Technology, Switzerland
- 9:00-9:15 C11-02 Ashis K. Patra, Indian Institute of Technology Kanpur, India
Luminescent Europium(III)-platinum(II) Heterometallic Complex as Theranostic Agent
- 9:15-9:30 C11-03 Jun Sumaoka, Tokyo University of Technology, Japan
Terbium(III) Complex as a Luminescent Probe for Detecting Tyrosine Phosphorylation
- 9:30-9:45 C11-04 Atsuko Shinohara, Seisen University, Japan
Behavior of Inhaled Three Elements of the Rare Earth Group in Mice

Small Lecture Hall (1st Floor)

Session 09. Luminescence (4)

Friday, June 10, 9:45 - 12:30

- Co-Chairs : Claudia Wickleder, University of Siegen, Germany
Shintaro Ida, Kyusyu University, Japan
- 9:45-10:00 C09-20 Ka-Leung Wong, Hong Kong Baptist University, Hong Kong
Responsive Lanthanide Complexes for Imaging of Key Cell Cycle Regulators and Inhibition of Tumor
- 10:00-10:30 **Coffee Break**
- 10:30-10:45 C09-21 Elisabeth Kreidt, University Tübingen, Germany
An Aminofunctionalised Building Block for the Development of Functionalised Lanthanide Complexes
- 10:45-11:00 C09-22 Ga-Lai Law, Hong Kong Polytechnic University, Hong Kong
A Little More Insight to Triboluminescence with Lanthanide Compounds
- 11:00-11:15 C09-23 Shun Omagari, Hokkaido University, Japan
Excited State Dynamics of Nonanuclear Tb(III) Clusters
- 11:15-11:30 C09-24 Kazuki Nakamura, Chiba University, Japan
Electroswitchable Emission and Coloration Using Luminescent Europium(III) Complexes and Electrochromic Viologen Derivatives
- 11:30-11:45 C09-25 Debao Lin, Shanghai University, China
Luminescence and Structure Properties of Zinc Oxide Synthesized by Different Precipitation Conditions
- 11:45-12:00 C09-26 Cancelled

- 12:00-12:15 C09-27 He Feng, Shanghai University, China
Growth and Optical Properties of (Gd_{0.5}Y_{0.5})₂Si₂O₇:0.1%Ce Scintillation Crystal
- 12:15-12:30 C09-28 Takuya Hasegawa, Niigata University, Japan
Long Wavelength Emission of Ce³⁺ in Rare Earth Oxide Host Materials
- 12:30-14:00 **Lunch**

Small Lecture Hall (1st Floor)

Session 07. Heavy Fermions, Metallurgy, Alloys and Intermetallics (2)

Session 08. Hydrogen Storage Materials, Permanent Magnet

Friday, June 10, 14:00 - 15:30

- Co-Chairs : Yoshiki Takano, Nihon University, Japan
Yoshiya Uwatoko, The University of Tokyo, Japan
- 14:00-14:20 I07-06 Kouichi Takase, Nihon University, Japan
Electrical and Magnetic Properties of the Layered Oxypnicide Natural Superlattice
- 14:20-14:40 I08-01 Hirotohi Fukunaga, Nagasaki University, Japan
Magnetic Properties of Multi-layered Sm-Co/TM/ α -Fe/TM Nanocomposite Thick Film-magnet
- 14:40-15:00 I08-02 Satoshi Sugimoto, Tohoku University, Japan
High Coercive Nd-Fe-B Ultrafine Powders with the Size Comparable to Single Domain Size
- 15:00-15:15 C07-01 Rikio Konno, Kinki University, Japan
Theory of Thermal Expansion of Dilute Ce Compounds
- 15:15-15:30 C07-02 Noraina Adam, Universiti Sains Malaysia, Malaysia
Magnetic States of the Kondo Semiconductor (Ce_{1-y}La_y)Ru₂Al₁₀ Studied by Muon Spin Relaxation Method and DFT Calculations

Oral Presentation

Conference Room 1 (1st Floor)

Session 12. Solid State and Magnetism (2)

Friday, June 10, 9:00 – 14:45

- Co-Chairs : Kazuyoshi Ogasawara, Kwansei Gakuin University, Japan
Hiroyuki Serizawa, Japan Atomic Energy Agency, Japan
- 9:00-9:20 I12-07 Sergey V. Ushakov, University of California Davis, USA
Structure and Thermodynamics of Rare Earth Oxides above 2000 °C: New Experimental Approaches
- 9:20-9:40 I12-08 Hiromitsu Kozuka, Kansai University, Japan
New Glassy Materials Composed of Organically Modified Metal-oxo-oligomers
- 9:40-10:00 I12-09 Nobuaki Soh, Saga University, Japan
Development of Bioanalytical Method Based on Titanate Nanosheets
- 10:00-10:30 **Coffee Break**
- Co-Chairs : Sergey V. Ushakov, University of California, Davis, USA
Hiromitsu Kozuka, Kansai University, Japan
- 10:30-10:50 I12-10 Hiroyuki Serizawa, Japan Atomic Energy Agency, Japan
Formation of Negative Crystal in Ceramics
- 10:50-11:10 I12-11 Kazuyoshi Ogasawara, Kwansei Gakuin University, Japan
First-principles Calculations of $4f^n-4f^{n-1}5d$ Transition Spectra and MCD of $M_{4,5}$ Edge XANES of Rare Earth Ions in Crystals
- 11:10-11:30 I12-12 Shinji Hirai, Muroran Institute of Technology, Japan
Synthesis and Sintering of EuS for Magnetic Refrigeration Applications
- 11:30-11:50 I12-13 Kenji Toda, Niigata University, Japan
Beyond the Kinetics and Thermodynamics: New Type Synthesis Methods for Rare Earth Materials
- 11:50-12:05 C12-03 Takuma Takahashi, Kanagawa Academy of Science and Technology, Japan
Fabrication of Transparent and Fluorescent α -SiAlON Bulk Ceramics
- 12:05-12:20 C12-04 Taro Ueda, Nagasaki University, Japan
VOC-sensing Properties of YSZ-based Gas Sensors Using a Au Sensing Electrode Added with a Rare-earth Oxide
- 12:20-12:35 C12-05 Shiv J. Singh, Muroran Institute of Technology, Japan
Study of Thermoelectric Properties of FeAs Based Superconductors, with Thick Perovskite- and Sm-O Fluorite-type Blocking Layers

12:35-14:00

Lunch

Co-Chairs :

Kai Kamada, Nagasaki University, Japan
Makoto Wakeshima, Hokkaido University, Japan

14:00-14:15

C12-06

Paolo Mele, Muroran Institute of Technology, Japan
Nanoengineering Approach to Extend the Applicability Limits of REBa₂Cu₃O_x (RE = Y and Lanthanides) Superconducting Thin Films

14:15-14:30

C12-07

Tetsuji Saito, Chiba Institute of Technology, Japan
Magnetic Properties of Sm-Fe-N Bulk Magnets Produced by the Spark Plasma Sintering Method with Dynamic Compression

14:30-14:45

C12-08

Makoto Wakeshima, Hokkaido University, Japan
Crystal Structures and Magnetic Properties of New Quasi-one-dimensional Rare Earth Molybdenum Oxides

Conference Room 1 (1st Floor)

Session 01. General

Friday, June 10, 14:45 - 15:30

Co-Chairs :

Kai Kamada, Nagasaki University, Japan
Makoto Wakeshima, Hokkaido University, Japan

14:45-15:00

C01-01

Daniel Sánchez-Rodríguez, University of Girona, Spain
Critical Conditions of LaFeO₃ Perovskite-type Oxide Synthesis via the Solid State Combustion of a Cyano Complex Precursor

15:00-15:15

C01-02

Mizuki Watanabe, Niigata University, Japan
Morphology Change of Alkali Rare Earth Molybdate Synthesized by Dilute Acid Proton Exchange Method

15:15-15:30

C01-03

Byungseo Bae, Osaka University, Japan
Novel Environment-friendly Yellow Pigments Based on Praseodymium(III) Tungstate