

26th Rare Earth Research Conference 2011

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at the address below.

Los Alamos National Laboratory
c/o John Sarrao
Mail Stop A121
Los Alamos NM 87545

Phone: (505) 665-0481
Fax: (505) 667-5450

sarrao@lanl.gov

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SUNDAY JUNE 19, 2011

17:00 -19:00 **Welcome Reception – Chaco Ballroom**

Plenary Session

Tesuque

19:00-20:00 **Keith Delaney**
Challenges Facing the Rare Earth Industry 2011 – 2020

MONDAY JUNE 20, 2011

Welcome and Spedding Award

Zuni

8:00-9:00 **Gerd Meyer**
Spedding Award Lecture

Spedding Award Celebration Session

Chair:

de Bettencourt-Dias

Zuni

9:15-9:40 **John Corbett**
Exploration of gold examples of the heavy rare-earth metal-rich tellurides*³

9:40-10:05 **Thomas Schleid**
Lanthanido-Ammonium Cations [NLn₄]⁹⁺ as Prominent Structural Features in Nitride Derivatives of the 4f-Elements ⁴

10:05-10:30 **Anja-Verena Mudring**
Lanthanide Phosphors on the Nanoscale Made from Ionic Liquids⁵

10:30-10:50 **BREAK**

Rare Earth Industry and Technology

Chair: Delaney

Tesuque

9:15 -9:40 **Francis Johnson**
Strategies to assure the sustainability of rare earth enabled components for green energy technology ⁵

9:40 -10:05 **John L. Burba**
Project Phoenix – Raising a New Molycorp from the Ashes ⁶

10:05-10:30 **Steve Constantinides**
Rare Earth Science Community Help Needed for Clean Energy Initiatives ⁶

10:30 – 10:50 **BREAK**

Actinide Chemistry and Theory

Chair: Albrecht-Schmitt

Acoma

9:15 -9:40 **Richard L. Martin**
Ionicity and Covalency in the Actinide Dioxides ⁶

9:40 -10:05 **Christopher L. Cahill**
Supramolecular Chemistry with the Uranyl Cation ⁷

10:05-10:30 **Moris S. Eisen**
Breaking common beliefs in the reactivity of organo-f-complexes⁷

10:30 – 10:50 **BREAK**

Spedding Award Celebration Session

Chair: Mudring

Zuni

10:50-11:15 **Susan M. Kauzlarich**

Structure and High Temperature Thermoelectric Properties of $\text{Yb}_{1-x}\text{Ca}_x\text{MnSb}_{11}$

11:15-11:40

Ingo Hartenbach

Rare-Earth Metal Oxomolybdates and their Anionic Derivatives: Promising Materials for Luminescence Applications

LUNCH on Your Own

Rare Earth Industry and Technology

Chair: Delaney

Tesuque

10:50-11:15

Kenneth N. Raymond

Lanthanide Coordination Chemistry: From Basics to Business

11:15-11:40

Robert V. Fox

Separation of rare-earths in supercritical ammonia

LUNCH on Your Own

Actinide Chemistry and Theory

Chair: Albrecht-Schmitt

Acoma

10:50-11:15

Gregory S. Girolami

New Actinide Aminodiboranates and their Utility as Biomedical Reagents

11:15-11:40

Nicola Magnani

Towards actinide-based molecular magnets

11:40-12:05

Geng Bang Jin

Cation-Cation Interactions in Neptunyl(V) Selenate Hydrates, $(\text{NpO}_2)_2(\text{SeO}_4)(\text{H}_2\text{O})_n$ ($n = 1, 2, \text{ and } 4$)

LUNCH on Your Own

Solid State

Chair: Hollingsworth

Zuni

14:00-14:25

Frank C.J.M. van Veggel

Unconverting and magnetic Ln^{3+} doped nanoparticles for optical and magnetic resonance imaging: oversold promises?

14:25-14:50

John A. Capobianco

Luminescent Upconversion Nanoparticles: Bio-Imaging, Cell Tracking and Diagnostic Medicine.

14:50-15:15

Stanley May

The Use of Plasmonic Materials for the Enhancement of NIR-to-Visible Upconversion Luminescence in $\text{Er}^{3+}, \text{Yb}^{3+}:\text{NaYF}_4$ Nanocrystals

15:15-15:40

K. Upendra Kumar

NIR to visible upconversion emission properties of Er^{3+} doped and $\text{Er}^{3+}/\text{Yb}^{3+}$ codoped nanocrystalline NaNbO_3

15:40-16:00

BREAK

Organometallics and Coordination Chemistry

Chair: Mazzanti

Tesuque

14:00-14:25

Kai C. Hultsch

Rare Earth Metal-Catalyzed Asymmetric Hydroamination of Alkenes

14:25-14:50

Paula Diaconescu

Reactivity behavior of metal complexes supported by ferrocene-based chelating ligands

14:50-15:15

William J. Evans

Utilizing the Special Properties of the Rare Earth Elements to Advance the Activation of Small Molecules

- 15:15-15:40 **John C. Gordon**
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Magnetism **Chair: Pecharsky** Acoma

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Solid State **Chair: Hollingsworth** Zuni

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DINNER on Your Own

Chair: Pecharsky Acoma

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Search for Quantum Critical Behavior in Strongly Correlated Electron Systems ""3;
- 16:25-16:50 **Karl Gschneidner, Jr.**
An Analysis of the Magnetocaloric Effect Entropy in Magnetic Refrigerant Materials ""3;
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Lunch on Your Own

Solid State	<u>Chair: Meyer</u>	Zuni
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Organometallics and Coordination Chemistry	<u>Chair: Evans</u>	Tesuque
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Magnetism	<u>Chair: Gschneidner</u>	Acoma
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Solid State	<u>Chair: Meyer</u>	Zuni
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Dinner on Your Own

Organometallics and Coordination Chemistry

Chair: Evans

Tesuque

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Dinner on Your Own

Magnetism

Chair: Gschneidner

Acoma

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Lunch on Your Own

Bio and medicinal

Chair: Parker

Tesuque

10:50-11:15

Jean-Claude Bünzli

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11:15-11:40

Mark Woods

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Lawrence W Miller

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Lunch on Your Own

Actinide Chemistry and Theory

Chair: Ephritikhine

Acoma

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Plenary Session

Zuni

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Lunch on Your Own

18:30-21:00

Banquet –Zuni

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Organometallic and Coordination Chemistry		<u>Chair: Evans</u>	Acoma
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Bio and Medicinal**Chair: Woods**

Zuni

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- 11:40-12:05 **Qing Xia**
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Lunch on Your Own**Actinide Chemistry and Theory****Chair: Kiplinger**

Tesuque

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Lunch on Your Own**Organometallic and Coordination Chemistry****Chair: Evans**

Acoma

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Plenary Session

Zuni

- 12:15-12:30 **John Sarrao, Ana de Bettencourt Dias**
Conference Closing Remarks

Monday, 6/20 Poster Session 7:00 pm to 9:00 pm

<u>No</u>	<u>Authors</u>	<u>Abstract Title</u>
MON 01	Tanja Schustereit, University of Stuttgart, Institute for Inorganic Chemistry Thomas Schleid, University of Stuttgart, Institute for Inorganic Chemistry Ingo Hartenbach, University of Stuttgart, Institute for Inorganic Chemistry	$Ce_2[MoO_5][MoO_4]$ and $Ce_5[MoO_4]_8$: Two New Cerium Oxomolybdates, Each Exhibiting a Special Feature """: 8
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MON 03	Susan M. Kauzlarich, Department of Chemistry, University of California, Davis Fakhod Makhmudov, Institute of Chemistry, tajik Acad. Sci.	The kinetic of oxidation some Zintl Phase The study of oxidation of $Yb_{14}MnSb_{11}$ and $Yb_{14-x}Tm_xMnSb_{11}$, $Yb_{14-x}Tb_xMnSb_{11}$ there was used thermogravimetric method, This method allows to determine the kinetic parameters of oxidation. ""9;
MON 04	Hayao Imamura, Yamaguchi University Toshiki Matsui, Yamaguchi University Naotaka Shimomura, Yamaguchi University Taichi Kanekiyo, Yamaguchi University Yoshihisa Sakata, Yamaguchi University	Properties of absorbed ammonia by nanocrystalline rare earth nitride of YbN """: 9
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10	Masaaki Haneda, Nagoya Institute of Technology Takahiro Noguchi, Nagoya Institute of Technology	property of La and Pr modified alumina nanocomposite catalyst "": 6
MON 11	Masakuni Ozawa, Nagoya Institute of Technology Masaya Amimoto, Nagoya Institute of Technology Masaaki Haneda, Nagoya Institute of Technology Masaya Ito, Nagoya Institute of Technology	Oxygen relaxation and structural modification of some rare earth doped zirconia polycrystals by internal friction measurement "": 6
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MON 13	Tao Zheng, Beijing National Laboratory for Molecular Sciences, State Key Laboratory of Rare Earth Materials Chemistry and Applications, PKU-HKU Joint Laboratory in Rare Earth Materials and Bioinorganic Chemistry, Peking University Wei Feng, Beijing National Laboratory for Molecular Sciences, State Key Laboratory of Rare Earth Materials Chemistry and Applications, PKU-HKU Joint Laboratory in Rare Earth Materials and Bioinorganic Chemistry, Peking University Ling-Dong Sun, Beijing National Laboratory for Molecular Sciences, State Key Laboratory of Rare Earth Materials Chemistry and Applications, PKU-HKU Joint Laboratory in	Self-Assembled Binary Superlattices of Upconversion NaREF ₄ Nanocrystals and CdSe Quantum Dots "": 2

	Rare Earth Materials and Bioinorganic Chemistry, Peking University Chun-Hua Yan, Beijing National Laboratory for Molecular Sciences, State Key Laboratory of Rare Earth Materials Chemistry and Applications, PKU-HKU Joint Laboratory in Rare Earth Materials and Bioinorganic Chemistry, Peking University	
MON 14	Mariusz Weclawiak, Adam Mickiewicz University Tomasz Grzyb, Adam Mickiewicz University Stefan Lis, Adam Mickiewicz University	Gadolinium oxyfluoride $Gd_4O_3F_6$ as upconverting luminescent nanomaterial """: 4
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MON 19	Mirosław Behrendt, University of Gdańsk Marek Grinberg, University of Gdańsk Mirosław Karbowski, University of Wrocław	High Pressure Spectroscopy of Uranium Doped Cs_2NaYCl_6 ""9;
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