

HI TEMP 2014 CONFERENCE

CONFERENCE
AT A
GLANCE

Wednesday 9/17/2014

Thermoelectric Materials
Session Chair: Dr. Juergen Blumm

01:30 – 02:00 Welcome

02:00 – 02:50 01 An overview of the fundamentals of both low and high temperature thermal conductivity as related to thermoelectric materials (Prof. Terry Tritt)

02:50 – 03:40 02 Characterization of Thermoelectric Materials Using Advanced Thermal Analysis Techniques (Dr. Juergen Blumm)

03:40 – 04:00 Break

04:00 – 04:40 03 Thermal Analysis of Pore Forming Agents and Vitrification Aids for Clay Brick (Prof. John P. Sanders)

04:40 – 05:00 04 Thermal Conductivity Measurement of Insulating Materials at Elevated Temperatures (Dr. Marc-Antoine Thermitus)

05:00 – 05:20 05 High Temperature Stability of Carbonate Cement (Daniel Kopp)

05:20 – 07:00 Welcome Cocktail Reception

Building Materials
Session Chair: Prof. John Sanders

Thursday 9/18/2014

High Temperature Materials
Session Chair: Dr. Marc-Antoine Thermitus

08:00 – 08:30 Welcome

08:30 – 09:10 06 High Temperature Isothermal Oxidation Behavior of Ceramic Matrix Composites for Application in Extreme Aerospace Environments (Dr. Erica Corral)

09:10 – 09:30 07 Modeling Material Behavior in Fires (Stanislav Stoliarov)

09:30 – 09:50 08 Simultaneous Measurement of Hydrogen Generation and Mass Change during Steam Oxidation Reactions using Coupled Quadrupole Mass Spectrometry and Thermogravimetry Analysis (Adam Parkison)

09:50 – 10:10 09 High temperature thermal conductivity measurements of graphite insulation using laser flash diffusivity. (Robert Campbell)

10:10 – 10:30 Break

10:30 – 11:10 10 Carbonate Concrete: A Disruptive Technology For CO₂ Utilization and Construction (Prof. Richard Riman)

11:10 – 11:30 11 Thermal Decomposition of Metal Oxide Precursors (Dr. Thomas DeVore)

11:30 – 11:50 12 The air-oxidation of high-purity molten aluminum: temperature-dependent rates and energetics (Eric Coker)

11:50 – 01:20 Lunch

Advanced Ceramics, Metals & Piezoelectrics
Session Chair: Robert Campbell

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Thursday 9/18/2014 (continuation)

Loss of Coolant Accident in Nuclear

Session Chair: Dr. Rory Kennedy

Nuclear Waste Management

01:20 – 02:00 13 Development of Accident-Tolerant Nuclear Materials (Dr. Andrew Nelson)

02:00 – 02:40 14 Permanent Reposition of Spent Nuclear Material in Geological Formations (Dr. Janusz Grebowicz)

02:40 – 03:00 15 Characterization of Salt and Rock Materials considered as Nuclear Waste Storage Formations by Thermal Analysis Methods (Dr. Ekkehard Post)

03:00 – 03:20 16 Thermal Analysis of Chloride Salt Systems for Molten Salt Reactor Concepts using STA and DSC (Elizabeth Sooby)

03:20 – 03:40 Break

03:40 – 04:20 17 Thermal Transport in Nuclear Fuels (Dr. Rory Kennedy)

04:20 – 04:40 18 Evaluation of the effect of defects on thermal conductivity in ceramic nuclear fuels for light water reactor applications (Josh White)

04:40 – 05:00 19 Detection of Small Amounts of Pu Metal in Oxide using Thermogravimetric Analysis and Gas Analysis by Mass Spectrometry (LA UR 14-23501) (Dr. David Wayne)

06:30 Social Event Dinner Conference

Nuclear Fuel

Session Chair: Dr. Andrew Nelson

Friday 9/19/2014

Aerospace

Session Chair: Dr. Steve Sauerbrunn

08:00 – 08:30 Welcome

08:30 – 09:10 20 Analysis of gases and volatiles released by the thermal treatment of soils and rocks by the Sample Analysis at Mars Investigation and Instrument Suite from the Gale Crater, Mars (Dr. Rafael Navarro-Gonzalez)

09:10 – 09:30 21 The Thermal Protection System for the Solar Probe Plus Spacecraft (Dr. Edward Schaefer)

09:30 – 09:50 22 Determining the Rate of In-situ Alloying during the Master Alloy Sintering of Ti6Al4V Using High Temperature Differential Scanning Calorimetry (Dr. Stephen Corbin)

09:50 – 10:10 23 FTIR Spectroscopy – a Non-Destructive Inspection Method for Measuring Thermal Degradation of Aircraft Composites in Situ (Dr. Steve Sauerbrunn)

10:10 – 10:30 Break

10:30 – 11:10 24 Correlating ignition mechanisms of reactive materials with thermo-analytical measurements (Prof. Edward Dreizin)

11:10 – 11:30 25 Aluminum – Fluoropolymer Reactivity: Resolving Kinetics Promoting Reactivity (Dr. Michelle Pantoya)

11:30 – 11:50 26 Application of atmospheric and high pressure thermogravimetry for studying inorganic catalytic materials for CO₂ conversion (Dr. Andrey Tarasov)

11:50 – 01:30 Lunch

Energetic Materials

Session Chair: Prof. Terry Tritt