

Tuesday, March 5, 2013

8:30 a.m., Welcome and Introduction by Organizing Committee\*

8:40 a.m., Introductory Remarks by Allison Macfarlane, Chair, U.S. Nuclear Regulatory Commission

9:00 a.m.

Contributions of Primary and Secondary Particles to Observed LET for the CRaTER Instrument on LRO

**Jamie A. Porter**  
University of Tennessee

9:20 a.m.

Investigation of Tungsten as a Plasma Facing Material for Fusion Reactors

**Lauren M. Garrison**  
University of Wisconsin-Madison

9:40 a.m.

The Development of Novel Diagnostic Techniques for Plasma Surface Interaction Studies in Tokamaks and Thrusters

**Regina M. Sullivan**  
MIT

10:00 a.m.

Diagnosing Implosion Performance at the National Ignition Facility (NIF) by means of Neutron Spectrometry – An Essential Technique for Guiding the Program Toward Thermonuclear Ignition

**Maria Gatu Johnson**  
MIT

10:20 a.m. break

10:35 a.m.

Development of Advanced Post Irradiation Examination Techniques to Understand the Evolution of Microstructure and Chemistry of Oxide Fuels Under Irradiation

**Melissa C. Teague**  
Idaho National Laboratory

10:55 a.m.

Using Nonlinear Ultrasound to Characterize Radiation Damage in Steel

**Kathryn H. Matlack**  
Georgia Institute of Technology

11:15 a.m.

Electronic Activation at Oxide Superlattices at Elevated Temperatures – Source of Markedly Accelerated Oxygen Reduction Kinetics

**Yan Chen**  
MIT

11:35 a.m.

Hydrologic Contaminant Transport Models in Cyder

**Kathryn D. Huff**  
Argonne National Laboratory

science : systems : society

11:55 a.m., Lunch at the Faculty Club, E52 - 6th Floor, 50 Memorial Drive

Speaker: Lady Barbara Judge

Chairman Emeritus, UK Atomic Energy Authority  
Chairman of the Pension Protection Fund

1:45 p.m.

Composite-Pulse Magnetometry with a Quantum Sensor in Diamond

**Clarice D. Aiello**  
MIT

2:05 p.m.

Radiation Dose-Effects Relationships in Populations of the Aquatic Snail, *Campeloma Decisum*

**Elizabeth Houser**  
Oregon State University

2:25 p.m.

Nanofluids with Tunable and Extraordinary Thermal Properties

**Shima P. Damodaran**  
Ecole Supérieure de Physique et de Chimie Industrielles (ESPCI)

2:45 p.m.

Natural Circulation Cooling of Liquid Salt Pebble Bed Reactors and the Design of Complex Systems to Achieve Passive Safety

**Raluca O. Scarlat**  
University of California-Berkeley

3:05 p.m. break

3:30 p.m.

Panel Discussion

How to Get a Faculty Position... And Survive it

Panelists: Profs. Jacopo Buongiorno\*\*, Paola Cappellaro\*\*, Krystyn J. Van Vliet†, Anne White\*\* and Bilge Yildiz\*\*

4:30 p.m. Wrapup

\* Organizing Committee: Prof. Paola Cappellaro, Prof. Anne E. White, Prof. Bilge Yildiz

\*\* MIT Department of Nuclear Science and Engineering

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