The 4th Annual Asia-Pacific Nuclear Energy Forum on
Small and Medium Reactors (SMRs): Benefits and Challenges
Friday, June 18, and Saturday, June 19, 2010, in Berkeley, CA

with
Student and Young Professionals Poster competition
Thursday, June 17, 2010, Berkeley, CA

Forum Chair:
Professor Jasmina Vujic

The Asia-Pacific Forum series provide an annual opportunity for nuclear energy leaders from around the Pacific Rim to exchange timely information and perspectives on recent international developments in nuclear energy from their respective regions. The objective of the series of forums organized, is to bring together the leading world's experts and decision makers to establish a framework that could provide the science, technology and policy base for the development, deployment and life-cycle use of nuclear energy and nuclear technology infrastructure that meets global goals for safety, security, sustainability, and economics.

The 4th Forum will focus both on SMRs based on proven LWR technologies, as well as on innovative non-LWR designs that could provide increased benefits in safety, security, sustainability, non-proliferation, siting flexibility economics and advanced fuel cycle options. We will bring together approximately seventy experts and leaders from industry, universities, national laboratories, government, and international organizations to identify Small and Medium Reactor innovations and issues associated with safe, secure, sustainable and economical nuclear energy systems. The 4th Forum includes invited participants from USA, Canada, China, India, Japan, Korea, France, Russia and representatives of the IAEA.

Location: University of California at Berkeley Campus and Lawrence Berkeley National Laboratory.
Scientific Tours: Lawrence Berkeley National Laboratory and Lawrence Livermore National Laboratory.

Hotel: Shattuck Plaza Hotel in Berkeley, Call: (510) 845-7300 or (866) 466-9199 and ask for the "BNRC Forum" rate (17% discount), or go to www.hotelsattuckplaza.com, enter the dates, click "Book Now", click on "Corporate Rates" and enter the code: bnrc10.
For other hotels see: http://www.nuc.berkeley.edu/Overview/Visitor Information
For maps and directions, please visit the UC Berkeley visitor's page: http://www.berkeley.edu/visit/
Public Transportation: http://visitors.berkeley.edu/GETHERE/PUBLIC_TRANSIT.SHTML

Contact:
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Dr. Francesco Ganda (gandaf@nuc.berkeley.edu)
Dr. Bethany Goldblum (Bethany@nuc.berkeley.edu)
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Program Committee
Prof. Jasmina Vujic, UCB
Dr. David McCallen, LLNL
Dr. Sara Scott, LANL
Dr. Robert Budnitz, LBNL
Dr. Jor Shan Choi, University of Tokyo, Japan
Dr. Ning Li, Xiamen University, China
Dr. Dan Ingersoll, ORNL
Prof. Ehud Greenspan, UCB

Organizing Committee
Prof. Jasmina Vujic, UCB
Prof. Ehud Greenspan, UCB
Prof. Per Peterson, UCB
Dr. Francesco Ganda
Dr. Bethany Goldblum, UCB
Dr. David McCallen, LLNL
Dr. Max Fratoni, LLNL
Dr. Sara Scott, LANL
Dr. Robert Budnitz, LBNL
Dr. Lee Schroeder, LBNL

International Committee
Dr. Atam Rao, IAEA, Austria
Dr. Ning Li, Xiamen University, China
Dr. Rata Sinha, BARC, India
Dr. Jor Shan Choi, University of Tokyo, Japan
Prof. Koji Okamoto, University of Tokyo, Japan
Prof. Kune Suh, Seoul National University, Korea
Dr. Tamara Poveschenko, Kurchatov Institute, Russia
Prof. Jong-Kyung Kim, Hanyang University, Korea

GENERAL TOPICS

• Small and Medium Reactors for Early Deployment
• Advanced Concepts of Small and Medium Reactors
• Meeting the Challenges of Regulatory, Economical and Scalability Issues
• Meeting the Challenges of Proliferation Resistance and Energy Security Issues
• Physics of Advanced Nuclear Reactors
• Principal Advanced Reactor Design Features
• Innovative Safety Designs and Features
• Nuclear Sustainability and Advanced Fuel Cycles
## A G E N D A

### THURSDAY, JUNE 17, 2010

**WOZNIAK LOUNGE, SODA HALL, UNIVERSITY OF CALIFORNIA AT BERKELEY**

**Student and Young Professionals Poster Competition (PART I)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>10:00 AM – 12:00 PM</td>
<td><strong>Small and Medium Size Reactors Poster Competition: Student Presentations</strong> Competing Student Teams</td>
</tr>
<tr>
<td>12:00 PM – 12:30 PM</td>
<td>Lunch for Students</td>
</tr>
<tr>
<td>12:30 PM</td>
<td>Board a bus for the tour of NIF at LLNL Le Roy Ave, between Hearst Ave and Ridge Road, on the East side of Soda Hall</td>
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**Tour of the National Ignition Facility, Lawrence Livermore National Laboratory**

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<tr>
<td>12:30 PM</td>
<td>Board a bus for the tour of NIF at LLNL (Le Roy Ave, between Hearst Ave and Ridge Road, on the East side of Soda Hall)</td>
</tr>
<tr>
<td>01:00 PM – 05:00 PM</td>
<td>Visit to Lawrence Livermore National Laboratory and tour of the National Ignition Facility (Bus will be provided.)</td>
</tr>
<tr>
<td>06:00 PM – 09:00 PM</td>
<td><strong>RECEPTION</strong> (UCB Faculty Club, Seaborg Room)</td>
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<td></td>
<td><strong>STUDENT AND YOUNG PROFESSIONALS POSTER COMPETITION (PART II – POSTER EXHIBITION)</strong></td>
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<tr>
<td>07:00PM – 08:00 PM</td>
<td><strong>KEYNOTE SPEAKER: DR. ED MOSES, LLNL, “THE NATIONAL IGNITION FACILITY: THE FUTURE FOR FUSION ENERGY”</strong></td>
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</table>
# The 4th Annual Asia-Pacific Nuclear Energy Forum on Small and Medium Reactors (SMRs): Benefits and Challenges

**FRIDAY MORNING, JUNE 18, 2010**
**FACULTY CLUB, SEABORG ROOM, UNIVERSITY OF CALIFORNIA AT BERKELEY**

7:30 AM – 8:00 AM Registration and Continental Breakfast  
8:00 AM – 8:05 AM **Welcoming Remarks** (Jasmina Vujic, UCB, US)

**SESSION I: SMALL AND MEDIUM REACTORS FOR EARLY DEPLOYMENT**

*OBJECTIVE:* Review of the SMR technologies that are ready for early deployment. Identification of opportunities for further enhancement of the sustainability, safety and security of SMRs.  
*Co-Chairs:* Shunsuke Kondo, JAEC, Japan, and Bill Halsey, LLNL

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter</th>
<th>Institution/Location</th>
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</thead>
<tbody>
<tr>
<td>08:05 AM – 08:25 AM</td>
<td>Historical Perspective of Small Modular Reactors</td>
<td>Dan Ingersoll, ORNL, US</td>
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<tr>
<td>08:25 AM – 08:45 AM</td>
<td>Global Perspectives on SMRs and Developing Countries Expectations</td>
<td>Atam Rao, IAEA, Austria</td>
<td></td>
</tr>
<tr>
<td>08:45 AM – 09:05 AM</td>
<td>Exploring Institutional Consensus for Modular Nuclear Deployment</td>
<td>Joseph C. Perkowski, INL, US</td>
<td></td>
</tr>
<tr>
<td>09:05 AM – 09:25 AM</td>
<td>Alternative Financing Perspectives for SMRs: NuScale Example</td>
<td>August Fern, CMEA Capital, US</td>
<td></td>
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<tr>
<td>09:25 AM – 09:45 AM</td>
<td>Discussion</td>
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**PANEL PRESENTATIONS AND DISCUSSION**  
*Moderator:* Per Peterson, UCB, US

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<tbody>
<tr>
<td>09:45 AM - 10:05 AM</td>
<td>The SMART Reactor</td>
<td>Won Jae Lee, Korea</td>
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<tr>
<td>10:05 AM - 10:25 AM</td>
<td>SMR Hitachi’s Activities: DMS and the Package Reactor</td>
<td>Tetsushi Hino, Hitachi, Japan</td>
<td></td>
</tr>
<tr>
<td>10:25 AM - 10:45 AM</td>
<td>NuScale</td>
<td>Bruce Landrey, NuScale, US</td>
<td></td>
</tr>
<tr>
<td>10:45 AM – 11:05 AM</td>
<td>Current Activities on the 4S Reactor Deployment</td>
<td>Kazuo Arie, Toshiba, Japan</td>
<td></td>
</tr>
<tr>
<td>11:05 AM – 11:25 AM</td>
<td>SVBR-100 Module-Type Fast Reactor of the IV Generation for Regional Power Industry</td>
<td>Alexander Chebeskov, IPPE, Ozninsk, Russia</td>
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<tr>
<td>11:25 AM – 12:00 AM</td>
<td>DISCUSSION and Q&amp;A</td>
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<tr>
<td>12:00 PM - 01:00 PM</td>
<td>LUNCHEON (UCB Faculty Club, Seaborg Room)</td>
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The 4th Annual Asia-Pacific Nuclear Energy Forum on
Small and Medium Reactors (SMRs): Benefits and Challenges

FRIDAY AFTERNOON, JUNE 18, 2010
FACULTY CLUB, SEABORG ROOM, UNIVERSITY OF CALIFORNIA AT BERKELEY
SESSION II: ADVANCED CONCEPTS OF SMALL AND MEDIUM REACTORS – Part I
OBJECTIVE: Review the technologies, either developed and under development, for advanced concepts of SMRs and identify challenges and opportunities.

Co-Chairs: Alexander Chebeskov, IPPE, Obninsk, Russia, and Harold McFarlane, INL

01:00 PM – 01:20 PM Department of Energy Small Modular Reactor (SMR) Program
Richard Black, DOE-NE, US

01:20 PM – 01:40 PM Presentation: SMR Economics Evaluation
Giorgio Locatelli, POLIMI, Italy

01:40 PM – 02:00 PM Review of France’s Nuclear Program
Luc Van Der Durpel, AREVA, France

02:00 PM – 02:20 PM Review of Korea’s Advanced SMRs
Kune Suh, Seoul Natl. University, Korea

02:20 PM – 02:45 PM DISCUSSION and Q&A
BREAK

PANEL PRESENTATIONS AND DISCUSSION Moderator: Ehud Greenspan UCB, US

03:00 PM – 03:20 PM PRISM
Eric Loewen, GE-Hitachi Nuclear, US

03:20 PM – 03:40 PM PB-AHTR – Fluoride Salt Cooled
Per Peterson, UCB, US

03:40 PM – 04:00 PM Sm-AHTR
Sherrell Greene, ORNL, US

04:00 PM – 04:20 PM EM2: Addressing the Major Issues Confirming U.S. Nuclear Power in the 21st Century
Robert Schleicher, General Atomics, US

04:20 PM – 04:40 PM ENHS, STAR and ELSY
Craig Smith, Naval Postgraduate School and LLNL

04:40 PM – 05:00 PM Approaches to a LFR Demonstrator
James Sienicki, ANL, US

05:00 PM – 05:20 PM Three-Dimensional Liquid Metal Flow Visualization Using DNCT"
Koji Okamoto, The University of Tokyo, Japan

05:20 PM – 05:45 PM DISCUSSION and Q&A
BREAK

07:00 PM – 09:30 PM Dinner
(UCB Faculty Club, Seaborg Room)

After Dinner Lecture Introduction: Prof. Per Peterson

Dinner Keynote Speaker: Prof. Shunsuke Kondo (Japan Atomic Energy Commission, Japan) “Overview of the current status and regulatory issues in Japan”
### SESSION II: ADVANCED CONCEPTS OF SMALL AND MEDIUM REACTORS – Part II

**Co-Chairs: Kune Suh, Seoul Natl. University, Korea, and David McCallen, LLNL, US**

<table>
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<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>08:55 AM – 09:15 AM</td>
<td>ARC-100</td>
<td>David Wade, Advanced Reactor Concepts, LLC, US</td>
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<tr>
<td>09:15 AM – 09:35 AM</td>
<td>CRIEPI’s Experience on SMRs</td>
<td>Yoshihisa Nishi, CRIEPI, Japan</td>
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<tr>
<td>09:35 AM – 09:55 AM</td>
<td>The Travelling Wave Reactor</td>
<td>Kevan Weaver, TerraPower, US</td>
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<tr>
<td>09:55 AM – 10:15 AM</td>
<td>DISCUSSION and Q&amp;A</td>
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