



DEPARTMENT OF
Nuclear Engineering
UNIVERSITY OF CALIFORNIA, BERKELEY

The University of California at Berkeley Nuclear Research Center

Invites you to

The 3rd UC Forum on the Future of Nuclear Power:

EMERGING NON-PROLIFERATION AND SECURITY CHALLENGES IN NUCLEAR ENERGY

- NEAR AND LONG-TERM SOLUTIONS –

(DRAFT)

June 11-12, 2009

Assuming that the global energy demand will be increasingly supplied by nuclear-generated power, what advances in technology and governance are needed to mitigate unintended proliferation and physical security risks and achieve sustainability? The Forum will consider the key implications of a projected nuclear renaissance on the proliferation-resistance and physical protection aspects with emphasis on the back-end of the nuclear fuel cycle. The agenda will be organized to elicit discussion on emerging issues of technology and governance that need to be considered in the next 4-8 year time period to ensure success in the future.

WEDNESDAY, JUNE 10, 2009

YOUNG PROFESSIONALS WORKSHOP: GLOBAL PERSPECTIVES ON NONPROLIFERATION AND NUCLEAR FUEL CYCLE

09:00 AM – 04:00 PM

The Workshop will be held at Lawrence Berkeley National Laboratory
Check the Workshop Agenda for details

RECEPTION for the Participants of the 3rd UC Forum and Young Professional Workshop

05:30 PM – 06:30 PM

Reception (UCB Faculty Club, Heyns Room)

06:30 PM – 07:30 PM

New Nuclear Research Center at Berkeley (Jasmina Vujic and David McCallen)

THURSDAY, JUNE 11, 2009 (MORNING)

FACULTY CLUB, SEABORG ROOM, UNIVERSITY OF CALIFORNIA AT BERKELEY

7:30 AM – 8:00 AM

Continental Breakfast (Faculty Club, Seaborg Room)

8:00 AM – 8:05 AM

Welcoming Remarks (**Jasmina Vujic, UCB**)

8:05 AM – 8:20 AM

Key Messages from the 2nd UCOP Asia-Pacific Forum on Integration of Sustainability, Safety and Security of Nuclear Technology (**David McCallen, LBNL**)

SESSION I: GLOBAL PERSPECTIVES ON THE PROLIFERATION RISK OF NUCLEAR ENERGY EXPANSION

FACULTY CLUB, SEABORG ROOM, UNIVERSITY OF CALIFORNIA AT BERKELEY

8:30 AM – 12:00 PM

Organizers /Co-Chairs: Nancy Jo Nicholas (LANL) and Mona Dreicer (LLNL)

INTRODUCTION

8:30 AM – 8:45AM

Link between nuclear disarmament and Nonproliferation in the context of nuclear energy expansion (**Mona Dreicer, LLNL**)

8:45 AM – 9:15 AM

“Back-end” Proliferation Risks and Issues (**Geoffrey Shaw, Australian Safeguards and Non-Proliferation Office**)

9:15 AM – 09:30 AM

DISCUSSION and Q&A

PLENARY AND PANEL DISUSSIONS: Risks and Challenges Associated with Reprocessing and Waste Disposal

09:30 AM – 12:00 PM

Chinese Perspective (**Ning Li, China**)

Korean Perspective (**Yongsoo Hwang, KAERI, Korea**)

Japanese Perspective (**Yusuke Kuno, JAEA**)

Australian Perspective (**Geoffrey Shaw, ASNO**)

10:50 AM – 11:00 AM

BREAK

11:00 AM – 12:00 PM

PANEL DISCUSSION and Q&A

12:00 PM – 01:30 PM

Luncheon (Faculty Club)

THURSDAY, JUNE 11, 2009 (AFTERNOON)

FACULTY CLUB, SEABORG ROOM, UNIVERSITY OF CALIFORNIA AT BERKELEY

SESSION II: EMERGING PROLIFERATION RESISTANT AND PHYSICALLY SECURE TECHNOLOGIES

01:30 PM – 4:30 PM

Organizer: Per Peterson (UCB) and Keith Bradley (LLNL)

Co-Chairs:

KEYNOTES

01:30 PM – 02:00 PM

Overview of issues for proliferation resistance and physical protection (**Robert Bari, Brookhaven National Laboratory**)

02:00 PM – 02:30 PM

DISCUSSION and Q&A

PLENARY AND PANEL DISUSSIONS: Emerging Technologies

02:30 PM – 02:50 PM

Advanced Safeguards and Proliferation Resistance of the Future Nuclear Fuel Cycle Systems (**Yusuke Kuno, JAEA**)

02:50 PM – 03:10 PM

Emerging trends for physical protection (**Mark Snell, Sandia National Laboratory**)

03:10 PM – 03:30 PM

Emerging and innovative concepts for reactors (**Roald Wigeland, Idaho National Laboratory**)

03:30 PM – 4:30 PM

PANEL DISCUSSION and Q&A

05:00 PM – 06:00 PM

Reception (UCB Faculty Club, Heyns Room)

06:00 PM – 08:00 PM

Dinner (UCB Faculty Club, Heyns Room)

After Dinner Lecture

Introduction: **Per Peterson**

Dinner Keynote Speaker: **William Tobey, Harvard Belfer Center**

FRIDAY, JUNE 12, 2009 (MORNING)

FACULTY CLUB, SEABORG ROOM, UNIVERSITY OF CALIFORNIA AT BERKELEY

8:30 AM – 9:00 AM Continental Breakfast (Faculty Club, Seaborg Room)

SESSION III: DOMESTIC AND INTERNATIONAL GOVERNANCE & REGULATIONS

9:00 AM – 12:30 PM

Organizers: Robert Budnitz (LBNL) and Jor-Shan Choi (University of Tokyo, Japan)

Co-Chairs:

- 09:00 AM - 09:20 AM** How will the implementation of multi-national fuel cycle models impact nonproliferation policy and the verification of compliance with safeguards commitments? (**John Ahearne, Sigma Xi**)
- 09:20 AM – 09:40 AM** Fuel take-back/assurances (**Micah Lowenthal, National Academy of Sciences**)
- 09:40 AM – 10:00 AM** **DISCUSSION and Q&A**
- 10:00 AM – 10:15 AM** Are international formal mechanisms required or can like-minded nations leading the way be sufficient? (**Yong-Soo Hwang, KAERI**)
- 10:15 AM – 10:30 AM** International Waste repositories (**Tom Isaacs, Lawrence Livermore National Laboratory**)
- 10:30 AM – 10:45 AM** How are safeguard norms to be enforced? (**Yusuke Kuno, JAEA**)
- 10:45 AM – 12:00 PM** **PANEL DISCUSSION and Q&A**
- 12:00 PM – 01:30 PM** *Luncheon (Faculty Club)*

SESSION IV: MEETING THE CHALLENGES IN NONPROLIFERATION AND PHYSICAL SECURITY

1:30 PM – 4:30 PM

Organizer Co-Chairs: Mona Dreicer (LLNL) and Nancy Jo Nicholas (LANL)

- 1:30 PM – 2:00 PM** DOE Nuclear Energy R&D Programs – Addressing Proliferation Concerns for Advanced Nuclear Energy Systems (**Paul Lisowski, DOE**)
- 2:00 PM – 4:00 PM** **PLENARY AND PANEL DISCUSSIONS**
- Industry Solutions (Caroline Jorant, Areva)**
University Perspectives (Raymond Juzaitis, TAMU)
Sharing Best Practices (Nancy Jo Nicholas, WINS)
Next Generation Safeguards Initiative (NA-24 Representative, NNSA)
PANEL DISCUSSION and Q&A
- 4:00 PM – 4:15 PM** **Closing remarks (Per Peterson, UCB)**

Berkeley Nuclear Research Center Contacts

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Currently Affiliated Institutions

