



Back-End to the Future: The Safeguards, Security, and Society of Deep Geological Repositories

Tuesday-Wednesday | June 12-13, 2018 | 12:30 p.m. – 5:00 p.m., 9:30a.m.-4:30p.m.

About the Participants

Stephen Adams, U.S. Department of State

Dr. Adams is the Senior Science Adviser for Nuclear Safeguards and Nonproliferation in the Bureau of International Security and Nonproliferation of the U.S. Department of State. In this capacity, advises senior officials on scientific and nuclear nonproliferation matters. Before assuming this role, Dr. Adams was the Deputy Director of the Office of Multilateral Nuclear and Security Affairs, which is responsible for U.S. Government policy related to the Nuclear Nonproliferation Treaty, the International Atomic Energy Agency, nuclear-weapon-free-zone treaties, nuclear-related security assurances, and nonproliferation aspects of the Group of Seven Summit. Earlier in his career, he supported development of U.S. policy related to strategic arms control treaties by chairing interagency policy formulation committees related to the START and INF Treaties.

Valentina Bonello, University of Texas at Austin

Valentina Bonello is from Milan, Italy. She received her MA in 2018, in Global Policy Studies, University of Texas at Austin, specializing in international security and energy geopolitics. She earned her BA in foreign languages applied to international relations from the Catholic University of the Sacred Heart, in Milan, and speaks fluent Italian, English, Russian, French, and Spanish. Her research focuses on Russia's energy sector, and the EU's energy security and relations with Russia. Her latest collaborative work examines opportunities for US-Russia cooperation on wind energy development in the Arctic.

Kingsley Burns, University of Texas at Austin

Kingsley Burns is an MA candidate in Global Policy Studies at the LBJ School of Public Affairs, University of Texas at Austin. His research interests are nuclear counter-proliferation, cybersecurity, and national security policy. He is a California native and French speaker and completed undergraduate degrees in international business and management of information systems at the University of Oklahoma.

John Carlson, Nuclear Threat Initiative

John Carlson is Counselor to the Nuclear Threat Initiative (Washington). Other current appointments include: Associate, Project on Managing the Atom, Belfer Center, Harvard University; member, International Luxembourg Forum (Moscow); and member, Asia Pacific Leadership Network for Nuclear Non-Proliferation and Disarmament. He was formerly Director General of the Australian Safeguards and Non-Proliferation Office (1989-2010). Of particular relevance to this seminar, he was a member of the Expert Advisory Committee, South Australian Nuclear Fuel Cycle

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Royal Commission (2015-16). John is a Fellow of the Institute of Nuclear Materials Management (INMM), and has the national honour of Member of the Order of Australia (AM).

Lisa Frizzell, Nuclear Waste Management Organization (NWMO)

Lisa Frizzell is the Vice-President of Stakeholder Relations at Canada's Nuclear Waste Management Organization (NWMO). Before joining the organization as Director of Corporate Affairs in 2012, Ms. Frizzell worked in communications for a number of corporate, academic and government organizations in Canada and the United States. Her focus is in strategic communications and she brings extensive experience as a communications leader, primarily in the energy sector. Ms. Frizzell holds a Bachelor of Public Relations from Mount Saint Vincent University and an Executive Master of Business Administration from the University of Calgary's Haskayne School of Business.

Carlyn Greene, UxC

Carlyn Greene joined The Ux Consulting Company, LLC (UxC) in May 2008 and is currently Senior Vice President, Spent Fuel. She is the Managing Editor of UxC's weekly publication, *SpentFUEL*, and the *StoreFUEL and Decommissioning Report*, which is issued monthly. Ms. Greene also contributes to UxC's consulting reports that focus on back-end issues. Ms. Greene has 30 years of nuclear industry experience, including 10 years at UxC and nearly 20 years at NAC International, where she assisted with various projects related to the front-end of the fuel cycle, but now focuses solely on issues related to spent nuclear fuel.

David E. Holcomb, Oak Ridge National Laboratory (ORNL)

David E. Holcomb is a distinguished member of the technical staff at Oak Ridge National Laboratory (ORNL). Dr. Holcomb's technical specialties are in molten salt reactor (MSR) design and evaluation and reactor instrumentation and controls. Dr. Holcomb currently represents the U.S. and serves as co-chair of the provisional system steering committee for the Generation IV International Forum on MSRs, chairs the American Nuclear Society's working group developing a design safety standard for liquid fueled MSRs (ANS 20.2), and provides technical oversight of DOE's university projects on MSRs.

David M. Klaus, Center for International Security and Cooperation (CISAC), Stanford University

David M. Klaus has spent more than half of his career in Washington, DC in public service. He led the Office of the Under Secretary for Management and Performance at the U.S. Department of Energy from July 2013 to January 2017, where he functioned as the Department's COO and oversaw the Office of Environmental Management. He previously served as DOE's Director of Management during the final two years of Clinton Administration and as Associate Director of the U.S. Regulatory Council in the Executive Office of the President during the Carter Administration. He currently is the William J. Perry Security Fellow at the Center for International Security and Cooperation at Stanford University where he is leading a project on Public and Policy-maker Attitudes on the Siting of Nuclear Waste Disposal Facilities.

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Eric K. Knox, AECOM

Eric Knox currently serves as Vice President, Strategic Development of Nuclear & Environment for AECOM. In this role, he leads strategic development activities for the Nuclear & Environment Business Unit and his responsibilities include, repository development pursuits both domestically and internationally, international cooperation on waste management and disposal activities, identification and maturation of strategic initiatives and acquisitions, and thought leadership initiatives advancement. Prior to joining AECOM, he served at the U.S. Department of Energy as Associate Director for System Operations and External Outreach in the Office of Civilian Radioactive Waste Management (OCRWM). Mr. Knox served as a Senior Advisor to three Secretaries of Energy – Watkins, Abraham and Bodman.

Lindsay Krall, Institute for International Science & Technology Policy, George Washington University

Lindsay Krall is interested in the long-term geochemical behavior and disposal of spent nuclear fuel. She was a Marie Curie fellow during her doctoral studies at Stockholm University, though directly employed by the Swedish Nuclear Fuel and Waste Management Company (SKB). Her thesis research progressed the understanding of uranium behavior in deep groundwater through mineralogic, hydrochemical, and isotopic studies of water-rock interaction at Forsmark, proposed to host the Swedish repository. Currently, she is a post-doctoral MacArthur fellow in the Institute of International Science and Technology Policy at George Washington University. She is studying the policy implications for the management of wastes generated by advanced reactors, in addition to other proposals for spent fuel disposition, for instance disposal in boreholes.

Alan J. Kuperman, University of Texas at Austin

Alan Kuperman is Associate Professor at the LBJ School of Public Affairs, University of Texas at Austin, and founding Coordinator of the Nuclear Proliferation Prevention Project (NPPP.org). His books include *Nuclear Terrorism and Global Security* (2014), and he recently published “Nuclear Nonproliferation via Coercion and Consensus,” in *International Cooperation on WMD Nonproliferation* (2016). Kuperman holds a Ph.D. in political science from M.I.T., an M.A. in international relations from Johns Hopkins University, and an A.B. in Physical Sciences from Harvard University. In 2013-2014 he was a Senior Fellow at the U.S. Institute of Peace.

Vincent Ialenti, Institute for International Science & Technology Policy, George Washington University

Vincent Ialenti is an anthropologist who studies nuclear waste expert cultures. As a MacArthur Postdoctoral Fellow at George Washington University's Elliott School of International Affairs, he is currently developing an interview-based study of lessons learned from the 2014 radiological accident at the WIPP defense waste repository in New Mexico. His previous ethnographic project explored how safety assessment experts working on Finland's nuclear energy waste repository project at Olkiluoto grappled with deep time, death, succession, and the limits of human imagination. Vincent holds a PhD in Anthropology from Cornell University and an MSc in Law, Anthropology & Society from the London School of Economics.

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Neal Mann, University of Texas at Austin

Neal Mann is a Ph.D. student in the Department of Mechanical Engineering, University of Texas at Austin. He is affiliated with the university's Nuclear and Radiation Engineering Program and Webber Energy Group. His research explores using nuclear power to drive a low-carbon energy economy to minimize climate change. Recent research projects include: modeling heat storage systems coupled to nuclear power plants; examining the resilience of bulk electric grids; analyzing the market and policy opportunities for nuclear-renewable energy integration; and electric grid modeling with the UT Energy Institute.

Daniel Metlay, Independent Researcher

Daniel Metlay received his Bachelor of Science degrees from Caltech in molecular biology and medieval history and his Masters and Doctoral degrees in public policy from the University of California, Berkeley. He taught political science at Indiana University and MIT. He has worked in the Carter White House and with the Secretary of Energy on radioactive waste issues. Until recently he was a member of the Senior Professional Staff of the U.S. Nuclear Waste Technical Review Board, an independent federal agency charged with evaluating the technical and scientific validity of the Department of Energy's high-level radioactive waste management program. He is currently researching the technical and institutional challenges of developing a deep-mined, geologic repository for high-level radioactive waste in the United States and abroad.

Bruce Moran, Consolidated Nuclear Security LLC, Y-12 National Security Complex

Bruce Moran is a Nonproliferation Technical Staff Specialist with the Y-12 National Security Complex. He was previously the Senior International Safeguards Technical Analyst for the U.S. Nuclear Regulatory Commission (1996-2007, 2015-2016) and Head of the Sections for Concepts and Approaches (2007-2011) and Safeguards Effectiveness Evaluation (2011-2014) in the Department of Safeguards of the International Atomic Energy Agency (IAEA). He served as Chair of the U.S. Government interagency Sub-Group on Safeguards Implementation in the United States and was a recipient of the NRC's Meritorious Service Award. For 30 of his more than 40 years in safeguards, he has been involved in the development of safeguards concepts for decommissioning of facilities, termination of safeguards on waste, and emplacement of spent fuel in geological repositories.

Elizabeth Muller, Deep Isolation

Elizabeth is Co-Founder and CEO of Deep Isolation, a start-up company providing a safe and permanent solution for nuclear waste disposal. She is also Co-Founder and Executive Director of Berkeley Earth, a public-benefit organization using modern statistical techniques to address major environmental concerns such as global warming and air pollution. Previously, she was Director at Gov3 (now CS Transform) and Executive Director of the Gov3 Foundation. From 2000 to 2005 she was a policy advisor at the Organization for Economic Cooperation and Development (OECD). Elizabeth has advised governments in over 30 countries, leading projects on improving government effectiveness, organizational change, citizen centricity, the digital divide, and developing national strategies for e-Government and ICT.

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Fredrik Vahlund, Swedish Nuclear Fuel Waste Management Co. (SKB)

Fredrik Vahlund (PhD Fluid mechanics) is a long-term safety assessment expert at the Swedish Nuclear Fuel and Waste Management Company (SKB). Fredrik has been working at SKB since 2001, participating in different long-term safety assessments performed at the company. These include long-term safety assessments for the repository for spent fuel, for which an application to construct, possess and operate was submitted in 2011, and assessments for the repository for low- and intermediate level waste, a repository that has been in operation since the 1980's. Fredrik was also the project manager of the long-term safety assessment project that was part of an application to extend the repository for low- and intermediate level waste that was submitted in 2014.

Lovely Umayam, Stimson Center

Lovely Umayam manages the nuclear security portfolio at the Stimson Center, which covers projects that explore industry's role in upholding nuclear security commitments, as well as examining the intersection between WMD nonproliferation and global trade development. Currently, she is spearheading efforts to develop an *Organizational Governance Template for Nuclear Security* as a tool for senior leadership in nuclear facilities to demonstrate their reasonable efforts to prevent a security incident. Prior to joining Stimson, Lovely served as a Program Manager at the Office of Nonproliferation and Arms Control within the U.S. Department of Energy - National Nuclear Security Administration (DOE/NNSA), where she implemented nuclear safeguards engagement projects in Southeast Asia and Latin America.

Cindy Vestergaard, Stimson Center

Cindy Vestergaard is the Director of Nuclear Safeguards at the Stimson Center. Her current research focuses on the impact of evolving international safeguards obligations on states and facility operators, from the 'starting point' of safeguards to nuclear waste disposal. Her portfolio also includes chemical weapons disarmament, biosecurity and import/export controls. Before joining Stimson in 2016, Vestergaard was a senior researcher at the Danish Institute for International Studies (DIIS) in Copenhagen, Denmark. Prior to DIIS, she worked on non-proliferation, arms control and disarmament policy and programming at Canada's foreign ministry.

Michael Whitaker, Oak Ridge National Laboratory (ORNL)

Michael Whitaker is the manager of the International Safeguards Group in the Nuclear Security and Isotope Technology Division at the Oak Ridge National Laboratory (ORNL). He has 35 years of experience in international safeguards working at the Oak Ridge Gaseous Diffusion Plant (ORGDP), the Y-12 National Security Complex, and now at ORNL. Over his career, Michael has been involved in a wide variety of technical tasks that support U.S. initiatives to increase the effectiveness and efficiency of international safeguards. Some specific projects include researching and developing inspection and evaluation tools for the IAEA, conducting training for IAEA inspectors, coordinating the application of IAEA safeguards at U.S. nuclear facilities, and assisting countries prepare for and implement IAEA safeguards at their nuclear facilities.

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Jessica White-Horton, Oak Ridge National Laboratory (ORNL)

Jessica White-Horton is an R&D Staff scientist in the International Safeguards Group at ORNL, working primarily within the Human Capital Development and Concepts and Approaches portfolios under NA-241 – the Office of International Nuclear Safeguards. She has a BA in foreign language from McGill University, an MS in chemistry and physics from the University of Tennessee, a diploma in international nuclear law from the Université de Montpellier, and is a 2012 fellow of the World Nuclear University. She is the President with the INMM Central Region Chapter, and prior to that, she served as Vice President and Member-at-Large. At the national level, she is a member of the technical program committee, the chair of the poster session at the annual meeting, and a member of the membership committee.

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