**GW Faculty & Organizers**

**Allison Macfarlane (Principal Investigator)**

Allison M. Macfarlane is Professor of Science and Technology Policy at George Washington University and Director of the Institute for International Science and Technology Policy at the University’s Elliott School of International Affairs. She recently served as Chairman of the U.S. Nuclear Regulatory Commission from July, 2012 until December, 2014. As Chairman, Dr. Macfarlane had ultimate responsibility for the safety of all U.S. commercial nuclear reactors, for the regulation of medical radiation and nuclear waste in the U.S., and for representing the U.S. in negotiations with international nuclear regulators. She was nominated by President Obama and confirmed by the Senate. She was the agency’s 15th Chairman, its 3rd woman chair, and the only person with a background in geology to serve on the Commission.

Dr. Macfarlane holds a doctorate in geology from the Massachusetts Institute of Technology and a bachelor's of science degree in geology from the University of Rochester. During her academic career, she held fellowships at Radcliffe College, MIT, Stanford, and Harvard Universities. She has been on the faculty at Georgia Tech in Earth Science and International Affairs and at George Mason University in Environmental Science and Policy.

From 2010 to 2012 she served on the Blue Ribbon Commission on America's Nuclear Future, created by the Obama Administration to make recommendations about a national strategy for dealing with the nation's high-level nuclear waste. She has served on National Academy of Sciences panels on nuclear energy and nuclear weapons issues. Dr. Macfarlane has also chaired the Science and Security Board of the Bulletin of Atomic Scientists, the folks who set the “doomsday clock.”

Her research has focused on environmental policy and international security issues associated with nuclear energy. Her expertise is in nuclear waste disposal, nuclear energy, regulatory issues, and science and technology policy. As Chairman of the Nuclear Regulatory Commission, she pushed for a more open dialogue with the public, for greater engagement with international nuclear regulators and, following the Fukushima accident, for stricter safety protocols at U.S. nuclear reactors. She also advocated for a more family-friendly workplace. She has spoken on a wide range of topics, from women and science to nuclear policy and regulatory politics.

In 2006, MIT Press published a book she co-edited, *Uncertainty Underground: Yucca Mountain and the Nation's High-Level Nuclear Waste,* which explored technical issues at the proposed waste disposal facility at Yucca Mountain, Nevada. Dr. Macfarlane has published extensively in academia and her work has appeared in *Science, Nature, American Scientist, The Bulletin of Atomic Scientists, and Environment Magazine*.

**Christopher Cahill (Director of the GW Nuclear Security Policy Boot Camp)**

Christopher Cahill is an expert in solid-state and materials chemistry of the f-elements with a particular emphasis on X-ray crystallography. He has published over 140 peer reviewed papers in a range of areas related to the synthesis and structural characterization of materials and minerals. Current research areas include exploring the behavior of uranium species under environmentally relevant conditions as well as the synthesis of lanthanide containing sensor materials. More recent efforts include nuclear science curriculum development for non-technical individuals within the energy and weapons proliferation arenas.

He joined the faculty of GWU in 2000 after a one-year post-doctoral position in the Environmental Mineralogy group at the University of Notre Dame. He is a recipient of the prestigious NSF CAREER Award (2004), a Bender Teaching Award (2005), a Fulbright Scholarship (2008) and the Oscar and Shoshanna Trachtenberg Prize for Excellence in Teaching (2013). He is a past member of the US National Committee for Crystallography, a Past President of the American Crystallographic Association and has held visiting researcher positions at the Carnegie Institution of Washington and Argonne National Laboratory. Most recently, he served as the American Institute of Physics State Department Science Fellow in the Bureau of International Security and Nonproliferation’s Office of Weapons of Mass Destruction-Terrorism on the Nuclear Forensics Team.

**Emily Hammond**

Emily Hammond is a nationally recognized expert in energy law, environmental law, and administrative law. A former environmental engineer, she brings technical fluency to cutting-edge issues at the intersection of law, science, and policy. Professor Hammond’s scholarship focuses on regulatory process, the responses of various legal institutions to scientific uncertainty, electricity markets, climate change, and the law of water quality. Her articles have appeared in numerous top-ranked journals, including the *Columbia Law Review*, the *Duke Law Journal*, the *Michigan Law Review*, and the *Vanderbilt Law Review*. She is a co-author of one of the nation’s leading energy law texts, *Energy, Economics and the Environment,* and the environmental law text *Environmental Protection: Law and Policy*, in addition to a variety of book chapters and shorter works.

An elected member of the American Law Institute, Professor Hammond is also past chair of the American Association of Law Schools’ Administrative Law Section and a member scholar of the Center for Progressive Reform. She has consulted on various energy, environmental, and administrative law matters, authored amicus briefs, and testified before Congress on these issues. Professor Hammond actively collaborates with other researchers from a variety of disciplines within her field, and she is a past Distinguished Young Environmental Scholar recipient at the Stegner Center, University of Utah.

Prior to joining the GW law faculty, Professor Hammond served on the faculties at Wake Forest University and the University of Oklahoma College of Law, where she served as Associate Dean for Academic Affairs and Associate Director of the Law Center, and won numerous teaching awards.  She has visited at the University of Texas, Florida State University, and the University of Georgia.  Before entering academia, Professor Hammond practiced with law with Bondurant, Mixson & Elmore, LLP in Atlanta, Georgia, and clerked for Judge Richard W. Story of the U.S. District Court for the Northern District of Georgia.

**Doug Shaw**

Doug Shaw is an assistant professor of international affairs at The George Washington University’s Elliott School of International Affairs.  He teaches and conducts original research on nuclear proliferation, arms control, disarmament, and terrorism.

Prior to joining the Elliott School faculty full-time, Dr. Shaw served in several leadership roles in higher education, including as Senior Associate Provost for International Strategy at GW; Associate Dean for Planning, Research, and External Relations at GW’s Elliott School of International Affairs; and Director of Policy Planning in the Office of the President at Georgetown University.   During the Clinton Administrations, he served in the U.S. Department of Energy working to secure plutonium and highly-enriched uranium in Ukraine, at the U.S. Arms Control and Disarmament Agency supporting the indefinite extension of the Nuclear Non-Proliferation Treaty, and in the White House Office of Presidential Personnel.  Dr. Shaw has also served in leadership roles in several non-governmental organizations, including the Nobel Peace Prize laureate Physicians for Social Responsibility; the Lawyers Alliance for World Security, College Bound, and the Worker Rights Consortium.

Dr. Shaw holds B.S.F.S., M.A. and Ph.D. degrees from Georgetown University in international relations and security studies. He has lectured on nuclear nonproliferation on four continents in venues including the Organization of American States and Harvard University; discussed security issues on C-SPAN and National Public Radio; and has been published in *The Los Angeles Times*, *The Nonproliferation Review*, and *The Bulletin of the Atomic Scientists*.  He also serves on the Board of the World Affairs Council — Washington, DC.

**Sharon Squassoni**

Sharon Squassoni is an expert on nuclear weapons proliferation and measures to reduce nuclear risks. Her current research focuses on proliferation risks from nuclear fuel cycle capabilities and measures to enhance transparency related to nuclear weapons and fissile material. She directed the Proliferation Prevention Program at the Center for Strategic and International Studies from 2010 to 2017 and was a senior scholar at the Carnegie Endowment for International Peace from 2007 to 2010.

Ms. Squassoni advised Congress from 2002 to 2007 as a senior specialist in weapons of mass destruction at the Congressional Research Service (CRS) and held other staff positions at the Department of State and in the Arms Control and Disarmament Agency from 1992 to 2001. She is the recipient of various service awards, has published widely, and is a frequent commentator for U.S. and international media outlets. Ms. Squassoni received her B.A. in political science from the State University of New York at Albany, a master’s in public management from the University of Maryland, and a master’s in national security strategy from the National War College.

Ms. Squassoni is a member of the International Institute for Strategic Studies, a member of the Science & Security Board of the Bulletin of Atomic Scientists, and a member of the advisory board of the PIR Center in Moscow.

**Samantha D’Introno**

Samantha D'Introno is the Nuclear Policy Research Program Assistant at the Institute for International Science and Technology Policy at the George Washington University. Samantha previously worked at trade associations specializing in energy and financial services. She also interned in the U.S. House of Representatives and New York State Senate. Samantha earned a dual Bachelor's Degree in History and International Politics focusing in European Affairs and International Security from George Mason University. She received her Master's Degree from the George Washington University's Graduate School of Political Management in Political Management and Global Public Relations in 2017. She wrote her capstone (thesis) paper on the "Political/PR Implications of Brexit within Euratom."

**Speakers**

**Thomas Countryman (Key Note)**

Thomas Countryman was chosen in October 2017 to serve as Chairman of the Board of Directors of the Arms Control Association. The ACA is a nonpartisan NGO, committed to analysis of key national security issues and to advising the executive branch, Congress and the public on choices that promote global security and reduce the risk that weapons of mass destruction will be used.

He retired from the Senior Foreign Service in January 2017 after 35 years of service. At that time, he served simultaneously as acting Undersecretary for Arms Control and International Security, and as Assistant Secretary for International Security and Nonproliferation, a position he held since September 2011. The ISN Bureau leads the US effort to prevent the spread of nuclear, chemical and biological weapons, their related materials, and their delivery systems.

Previously he served as Principal Deputy Assistant Secretary for Political-Military Affairs (2009-10), and as Deputy Assistant Secretary for European Affairs (2010-11), with responsibility for the Balkans region.

He served overseas at US Embassies in Belgrade, Tunis, Cairo, Rome and Athens.  His domestic assignments include the US Mission to the United Nations, the National Security Council, and the office of the Commandant of the Marine Corps.

He received Superior Honor Awards for his work in EUR, Rome, Athens and New York. In 2007,he received the Presidential Meritorious Service award.

Mr. Countryman graduated from Washington University in St. Louis (summa cum laude) with a degree in economics and political science, and studied at the Kennedy School of Government at Harvard. His foreign languages are Serbo-Croatian, Arabic, German, Italian and Greek.

He is a native of Tacoma, Washington.

**Ambassador Laura S.H. Holgate (Key Note)**

Vice President, Materials Risk Management

Ambassador Laura S. H. Holgate joined NTI as Vice President for Materials Risk Management in April 2018. Previously, Ambassador Holgate was a consultant to the Third Way’s project on advanced nuclear reactors and national security, and to the Pacific Northwest National Laboratory. She served as U.S. Representative to the Vienna Office of the United Nations and the International Atomic Energy Agency from July 11, 2016 to January 20, 2017. The United States Mission to International Organizations in Vienna works with seven major organizations of the United Nations system based in Vienna: the International Atomic Energy Agency; the UN Office on Drugs and Crime; the Preparatory Commission of the Comprehensive Test Ban Treaty Organization; the UN Office of Outer Space Affairs; the Wassenaar Arrangement; the UN Commission on International Trade Law; and the UN Industrial Development Organization.  In this role, Ambassador Holgate advanced President Barack Obama’s commitment to design and implement global approaches to reduce global threats and seize global opportunities in the areas of nuclear nonproliferation, nuclear security, verification of the Iran Deal, nuclear testing, counterterrorism, anti-corruption, drug policy, export control, and the Nuclear Suppliers Group.  She also promoted gender balance in the staff and programming of the Vienna-based international organizations.

Ambassador Holgate was previously the Special Assistant to the President and Senior Director for Weapons of Mass Destruction Terrorism and Threat Reduction on the National Security Council. In this role, she oversaw and coordinated the development of national policies and programs to reduce global threats from nuclear, biological and chemical weapons; detect, identify, secure and eliminate nuclear materials; prevent malicious use of biotechnology; and secure the civilian nuclear fuel cycle. She was also the U.S. Sherpa to the Nuclear Security Summits and co-led the effort to advance the President’s Global Health Security Agenda.

From 2001 to 2009, Ambassador Holgate was the Vice President for Russia/New Independent States Programs at the Nuclear Threat Initiative. Prior to that, Ambassador Holgate directed the U.S. Department of Energy’s Office of Fissile Materials Disposition from 1998 to 2001, and was Special Coordinator for Cooperative Threat Reduction at the Department for Defense from 1995 through 1998, where she provided policy oversight of the “Nunn-Lugar” Cooperative Threat Reduction program.

Ambassador Holgate received a Bachelor of Arts Degree in politics from Princeton University and a Master of Science Degree in political science from the Massachusetts Institute of Technology, and spent two years on the research staff at Harvard University’s Center for Science and International Affairs at the Kennedy School of Government.  Ambassador Holgate is a member of the Strategic Advisory Group to Oak Ridge National Laboratory. She serves on the Steering Group of the Fissile Material Working Group and on the Szilard Advisory Board of the Center for Arms Control and Nonproliferation. She is a Distinguished Visitor at the Institute for International Science and Technology Policy at the Elliott School of Public Policy at the George Washington University. She is a past President of Women in International Security and a member of the Council on Foreign Relations.  She and her husband live in Arlington, Virginia.

**Ariel Braunstein**

Ariel Braunstein currently works as a National Nuclear Security Administration (NNSA) fellow, researching the legal implications of geologic repository standards for high-level nuclear waste. She is a joint degree student, pursuing her J.D. at The George Washington University Law School and her Master of Arts in Security Policy Studies at The George Washington University Elliott School of International Affairs. Both degrees are expected to be conferred in January 2019. Ariel has worked in the Office of the General Counsel at NNSA, as well as in the Superior Court of the District of Columbia. She will be published in the *Emory International Law Review* next spring.

**Dan Fenstermacher, Ph.D.**

Dan Fenstermacher, Ph.D is a physicist by training and began his career in Washington as a AAAS Fellow in 1991.  He is now a Senior Advisor in the Office of Nuclear Energy, Safety and Security in State’s Bureau of International Security and Nonproliferation.  He focuses on nuclear security, verification, and worldwide efforts to minimize the use of highly enriched uranium and dispose of excess plutonium.  He played a key role in negotiating two plutonium agreements with Russia, traveling there almost 80 times since 1994, and more recently was helping with the project to convert Iran’s heavy-water research reactor under the JCPOA.

**Chris Gadomski**

Chris Gadomski is the Lead Analyst of Nuclear at Bloomberg New Energy Finance. Chris directs the firm’s nuclear energy research team in developing a robust methodology for forecasting global nuclear investment in new build, innovative technologies, O&M, fuel cycle and decommissioning. As a business development and corporate communications consultant, Chris has more than 25 years’ experience working with regional and multinational firms and global institutions on energy and environmental projects. Chris joined the faculty of New York University’s Center for Global Affairs in September 2005 where he teaches graduate courses on Energy Policy; the Economics and Finance of Energy; and Nuclear Energy, the Environment and Proliferation. Current research interests include the social, technical, economic, environmental and political challenges to nuclear and renewable energy development. Following the March 2011 earthquake and ensuing tsunami, Chris discussed the implications of the Fukushima nuclear event as a guest on Bloomberg TV, MSNBC, National Public Radio and ABC and CBS affiliates.

**Darcy Gentleman**

Darcy J. Gentleman, Ph.D., has over 15 years’ experience in communications. He has worked with over 100 speakers to deliver “TED”-style talks from institutions including Arizona State University, the National Academy of Sciences, the Smithsonian Institution, and SpaceX, and has delivered several science communications workshops. Over nearly a decade at the American Chemical Society, Darcy had various roles: managed the congressional briefings program, running 55 briefings in under six years; developed and ran a communications contest for younger scientists; wrote and occasionally hosted YouTube videos; and was managing editor for two peer-reviewed journals. Previously he wrote about bionanotechnology and also climate change, and lectured chemistry at the University of Toronto. Darcy is an alumnus of The Banﬀ Center’s Science Communications program and attended the Summer Institute at The Alan Alda Center for Communicating Science. He has a Ph.D. and M.S. in analytical chemistry from Arizona State University (2003, 2001) and an Hon. B.Sc. in planetary science and also chemistry from the University of Toronto (1999).

**Ambassador Thomas Graham, Jr.**

Ambassador Thomas Graham, Jr. is Executive Chairman of the Board of Directors of Lightbridge Corporation, a company which develops new types of nuclear power fuel based on high power density metallic technology. These fuels are designed to improve the economics of existing and new nuclear power plants while enhancing safety characteristics and proliferation resistance and reducing waste. Lightbridge is a U.S. company located in McLean, Virginia, listed on the NASDAQ, which has conducted its primary research and development work in the United States, Russia, and Canada.

In December of 2009, Ambassador Graham was appointed to the United Arab Emirates' International Advisory Board, helping to guide that country's nuclear energy program and hold it to the highest standards of safety, security, non- proliferation, transparency and sustainability. Ambassador Graham is also Chairman of the Board of Directors of CanAlaska Uranium Ltd. of Vancouver, Canada a uranium exploration company. From July, 1997 to November, 2012 Ambassador Graham chaired the Board of Directors of Mexco Energy Corporation of Midland, Texas, an oil and gas exploration company listed on AMEX.

Internationally known as one of the leading authorities in the field of international arms control and non-proliferation. Ambassador Graham served as a senior U.S. diplomat involved in every major international arms control and non-proliferation negotiation in which the United States took part during the period 1970-1997. This includes The Strategic Arms Limitations Talks (the Interim Agreement on Strategic Offensive Arms, the Anti-Ballistic Missile Treaty and the SALT II Treaty), The Strategic Arms Reduction Talks (the START I Treaty and the START II Treaty), the Intermediate Range Nuclear Forces Treaty (INF), the Nuclear Non- Proliferation Treaty extension, the Conventional Armed Forces in Europe Treaty (CFE), and the Comprehensive Test Ban Treaty (CTBT).

In 1993, Ambassador Graham served as the Acting Director of the U.S. Arms Control and Disarmament Agency (ACDA) and for seven months in 1994 served as the Acting Deputy Director. From 1994 through 1997, he served as the Special Representative of the President for Arms Control, Non-Proliferation, and Disarmament, appointed by President Clinton and in this capacity in 1994-1995 led U.S. government efforts to achieve the permanent extension of the NPT. He also served for 15 years as the general counsel of ACDA.

He additionally served among other assignments as the Legal Advisor to the U.S. SALT II, START I, and START II Delegations and was the senior arms control agency representative to the U.S. INF Delegation and the U.S. Conventional Armed Forces in Europe Delegation.

Ambassador Graham worked on the negotiation of The Chemical Weapon Convention and The Biological Weapons Convention. He testified before Congress on the implementing legislation for the Biological Weapons Convention and co-managed the Senate approval of the ratification of the Geneva Protocol banning the use in war of chemical and biological weapons. He also helped manage Senate consideration of the ratification of the SALT II, START I, INF and CFE Treaties. He chaired the U.S. delegation to the 1993 ABM Treaty Review.

Ambassador Graham is a widely published author in both scholarly journals and major newspapers for example publishing a major article on nuclear weapon proliferation in the National Strategy Forum Review in 2007. A comparable article in the Baker Center Journal for Applied Public Policy at the University of Tennessee was also published in 2007. In 2008 with Ambassador Max Kampelman, Ambassador Graham published an article on the elimination of nuclear weapons in the Washington Times and an article on the Test Ban in Spectrum, the magazine of the Comprehensive Test Ban Treaty Office. He also published an article with Russell Schweickart on asteroids, NASA and nuclear weapons in the March, 2008 issue of Scientific American. In the spring of 2012, the Baker Center Journal published a second article by Ambassador Graham entitled the Nuclear Non-Proliferation Treaty under Threat: Iran and North Korea. His article, A New Pathway to Prohibiting Nuclear Testing, was published online on June 3, 2014 by WMD Junction which is edited by the Monterey Nonproliferation Review. Ambassador Graham has authored seven books. *Disarmament Sketches: Three Decades of Arms Control and International Law* (2002), *Cornerstones of Security: Arms Control and International Law in a Nuclear Era* (2003) with Damien LaVera, *Common Sense on Weapons of Mass Destruction* (2004), *Spy Satellites and Other Technologies that Have Changed the Course of History* (2007) with Keith Hansen, and *Unending Crisis: National Security Policy after 9/11* (2012), were published by the University of Washington Press. A second book with Keith Hansen, *Preventing Catastrophe: The Use and Misuse of Intelligence in Efforts to Halt the Proliferation and Use of Weapons of Mass Destruction* was published by Stanford University Press in 2009. A novel, *Sapphire: A Tale of the Cold War*, was published in 2014 by AuthorHouse, a subsidiary of Penguin Books. A new book, *The Alternate Route: Nuclear Weapons Free Zones*, which addresses the potential for the nuclear weapon free zone movement to serve as an alternate pathway to nuclear disarmament given the current U.S.-Russia impasse, will be published in late 2017 by the Oregon State University Press. A second new book co-authored with Dr. Scott Montgomery is planned for publication by Cambridge University Press, also in late 2017. Ambassador Graham has taught at many prestigious universities, including the University of Virginia School of Law, the George town School of Foreign Service, the Georgetown University Law Center, Stanford University, the University of California at Berkeley, the Jackson School of International Studies at the University of Washington, the University of Tennessee, and Oregon State University.

Ambassador Graham received an A.B. in 1955 from Princeton University and a J.D. in 1961 from Harvard Law School. He is a member of the Kentucky, the District of Columbia and the New York Bars and is a member of the Council on Foreign Relations. He chaired the Committee on Arms Control and Disarmament of the American Bar Association from 1986-1994. Ambassador Graham received the Trainor Award for Distinction in Diplomacy from Georgetown University in 1995. On May 2, 2007 Ambassador Graham received the 2006 World Order Under Law Award of the International Section of the American Bar Association. He twice received the Distinguished Honor Award, twice the Superior Honor Award and the Meritorious Honor Award from ACDA. He also received the Meritorious Honor Award from the Department of State. He is a board member of the Center for Interfaith Relations based in Louisville, Kentucky which is committed to the development of interfaith understanding. He is also a board member of the Faith and Politics Institute of Washington, DC, the mission of which is to promote racial harmony in politics as well as interfaith understanding. In 2015 Ambassador Graham was appointed to the Board of the World Affairs Council of Kentucky and Indiana. In addition, in 2015 he co-authored a Manifesto on Climate Change, also co-authored by Richard Rhodes, Dr. KunMo Chung, Kathleen Kennedy Townsend, Ambassador Jayantha Dhanapala, Ambassador Sergio Duarte, Dr. Hans Blix, Ms. Jody Williams, and Dr. Karen A. Hallberg. In 2011 Ambassador Graham was appointed Adjunct Professor of Political Science by the Department of Political Science at the University of Tennessee and in 2012 he was appointed an Affiliate Professor by the Jackson School of International Studies at the University of Washington.

**Jennie Gromoll**

Jennie Gromoll is a career civil servant, arriving in 1986.  She is now a Senior Advisor in the office of Multilateral Nuclear and Security Affairs in State’s Bureau of International Security and Nonproliferation (ISN).  She focuses on the Nuclear Non-proliferation Treaty (NPT), and cross-bureau coordinator for G7 and EU policy interactions.  She has been involved in nuclear disarmament, landmine and chemical/biological weapons negotiations over a 30-year period. She was integrally involved in investigation/dismantlement of Soviet, Iraqi and Libyan weapons of mass destruction.  She has focused on bringing together the WMD communities to better share resources and lessons learned (e.g., disease surveillance), as well as supporting nonproliferation education.

**Peter Habighorst**

Mr. Habighorst is currently the Chief of the Export Controls and Nonproliferation Branch in the Office of International Programs at the U.S. Nuclear Regulatory Commission. Mr. Habighorst received an M.S. in Environmental Engineering from the University of New Haven and a B.S. in Marine Engineering from U.S. Merchant Marine Academy. Having been with the agency for 31 years, Mr. Habighorst has held various positions of increasing responsibility. In 2004, Mr. Habighorst was awarded a Meritorious Service Award for excellence in reactor inspections. Prior to employment with the NRC, Mr. Habighorst was employed with Westinghouse Electric Corporation as a nuclear plant engineer/shift manager at the S5G prototype focused on naval nuclear propulsion operations and training.

**Theresa Hitchens**

Theresa Hitchens is a Senior Research Associate at CISSM, where she focuses on space security, cyber security, and governance issues surrounding disruptive technologies. Prior to joining CISSM, Hitchens was the director of the United Nations Institute for Disarmament Research (UNIDIR) in Geneva from 2009 through 2014. Among her activities and accomplishments at UNIDIR, Hitchens served as a consultant to the U.N. Group of Governmental Experts on Transparency and Confidence Building Measures in Outer Space Activities, provided expert advice to the Conference on Disarmament regarding the prevention of an arms race in outer space (PAROS), and launched UNIDIR's annual conference on cyber security.

From 2001 to 2008, Hitchens worked at the Center for Defense Information, where she served as Director, and headed the center’s Space Security Project, setting the strategic direction of the center and conducting research on space policy and other international security issues. She was also previously Research Director of the Washington affiliate of the British American Security Information Council (BASIC), where she managed the organization’s program of research and advocacy in nuclear and conventional arms control, European security and North Atlantic Treaty Organization (NATO) affairs.

Hitchens previously worked for Defense News of Springfield, Virginia, covering transatlantic relations, the European Union, NATO, arms control, USAF issues, and international security. At Defense News, Hitchens served as International Editor on security, covering arms trade issues, nuclear, chemical and biological weapons, and as Editor for two years.

Hitchens's latest publications include, “Space Security-Relevant International Organizations: UN, ITU, ISO,” 2014, which was penned for the Handbook of Space Security; “Preserving Freedom of Action in Space: Realizing the Potential and Limits of U.S. Spacepower,” 2011, which was coauthored with Michael Krepon and Michael Katz-Hyman; and “Saving Space: Threat Proliferation and Mitigation,” 2009. Hitchens holds a Bachelor of Science in journalism from Ohio University in Athens, Ohio.

**Richard Johnson**

Richard Johnson is Senior Director for Fuel Cycle and Verification at the Nuclear Threat Initiative. Prior to joining NTI, he was Deputy Lead Coordinator (Acting) for Iran Nuclear Issues at the U.S. Department of State.  Johnson previously served as Director for Nonproliferation at the National Security Council in the Obama Administration. In addition, he has held numerous positions at the Departments of State and Energy and has been involved deeply in both the Iran and North Korea nuclear issues. Johnson was a member of the JCPOA (Iran) Joint Commission and the Six-Party Talks delegations and was a U.S. nuclear disablement monitor at the Yongbyon nuclear facility in the DPRK. Johnson also has experience in California state government and politics. He graduated as valedictorian from Claremont McKenna College and later earned his masters degree at Princeton University's Woodrow Wilson School.

**Dr. Chen Kane**

Dr. Chen Kane focuses on projects related to reducing the proliferation of weapons of mass destruction and terrorism, with a particular focus on the Middle East at the James Martin Center for Nonproliferation Studies. In addition, she examines means to strengthen the International Atomic Energy Agency’s safeguards system and the projected expansion of nuclear energy in the Middle East. She continues her affiliations as a non-resident research associate with the Managing the Atom project at Harvard’s John F. Kennedy School, as an advisor to the National Nuclear Security Administration, and as an adjunct professor with the National Defense University.

Dr. Kane joined CNS after serving as a fellow in the nonproliferation program at the Center for Strategic and International Studies (CSIS). Previously, she worked for the Israel Atomic Energy Commission (IAEC), eventually becoming Director of External Relations. Dr. Kane has also held research positions at the Belfer Center for Science and International Affairs, Harvard University, and the Washington Institute for Near East Policy. Dr. Kane was an adviser to both the Jebsen Center for Counter-Terrorism at Tufts University and the Crown Center for Middle East Studies at Brandeis University. She also served as an officer in the Israeli Defense Forces.

**Paul Kerr**

Paul Kerr currently works at the Congressional Research Service. He had previously served as research analyst at the Arms Control Association covering missile and nuclear non-proliferation issues from 2002-2007. He also covers weapons of mass destruction developments in South Asia, Northeast Asia, and the Persian Gulf regions, as well as Israel's status within the international non-proliferation regime and U.S. non-proliferation policy. Mr. Kerr contributes articles to Arms Control Today, the Association's publication, and has published editorials in Defense News and The Washington Times. He is also frequently quoted in the press.

Mr. Kerr has been an analyst for the Center for Strategic and International Studies' International Security Program, where he managed projects dealing with export controls on high-performance computers and U.S. nuclear strategy. He also conducted extensive research on regional integration in Southeast Asia, as well as nuclear and biological weapons proliferation. He also managed the defense program at the Lexington Institute and was a writer for the Anteon Corporation's Center for Security Strategies and Operations.

Mr. Kerr received his M.A. in International Relations from the University of South Carolina and his B.A. in History from the University of Vermont.

**Hans Kristensen**

Hans M. Kristensen is Director of the Nuclear Information Project at the Federation of American Scientists in Washington, D.C., where he is responsible for researching and documenting the status and operations of nuclear forces of the nine nuclear-armed states. He is a frequent advisor to the news media on the status of nuclear forces and policy. Kristensen is co-author of the bi-monthly “Nuclear Notebook” column in the Bulletin of the Atomic Scientists and the World Nuclear Forces overview in the SIPRI Yearbook, both of which are some the most widely used reference material on the status of the world’s nuclear arsenals.

**Alan Kuperman**

Alan J. Kuperman is chair of the Graduate Studies Committee of the LBJ School’s Global Policy Studies program and is founding coordinator of the Nuclear Proliferation Prevention Project ([www.NPPP.org](http://www.nppp.org/)). His research focuses on ethnic conflict, military intervention, and nuclear nonproliferation. His latest books are [Constitutions and Conflict Management in Africa](https://www.amazon.com/Constitutions-Conflict-Management-Africa-Institutional/dp/0812246586/ref=as_sl_pc_tf_til?tag=n0b3f-20&linkCode=w00&linkId=TKMKBI46OO74WKDC&creativeASIN=0812246586) and [*Nuclear Terrorism and Global Security*](https://www.amazon.com/Nuclear-Terrorism-Global-Security-Challenge/dp/1138847623/ref=mt_paperback?_encoding=UTF8&me=), and his articles include [“Obama’s Libya Debacle.”](http://www.foreignaffairs.com/articles/143044/alan-j-kuperman/obamas-libya-debacle?gp=140292:f47c722455083cef) In 2013-2014, he was a senior fellow at the U.S. Institute of Peace, and in 2009-2010 he was a fellow at the Woodrow Wilson International Center for Scholars, both in Washington, D.C. From 2002 to 2005, Dr. Kuperman was resident assistant professor and coordinator of the international relations program at the Johns Hopkins University School of Advanced International Studies (SAIS) in Bologna, Italy. Prior to his academic career, Kuperman worked as legislative director for U.S. Rep. Charles Schumer, as a legislative assistant for U.S. Speaker of the House Thomas Foley, as chief of staff for U.S. Rep. James Scheuer, as a senior policy analyst for the nongovernmental Nuclear Control Institute, and as a fellow at the U.S. Agency for International Development.

**Ed Lyman**

Edwin Lyman is a senior scientist at the Union of Concerned Scientists in Washington, DC. He earned a doctorate in physics from Cornell University in 1992.  From 1992 to 1995, he was a postdoctoral research associate at Princeton University's Center for Energy and Environmental Studies (now the Science and Global Security Program). From 1995 to 2002, he was scientific director and then president of the Nuclear Control Institute. His research focuses on the prevention of nuclear proliferation, nuclear and radiological terrorism, and nuclear accidents. He is a co-author (with David Lochbaum and Susan Q. Stranahan) of the book *Fukushima: The Story of a Nuclear Disaster* (The New Press, 2014), as well as a co-author of a 2017 Policy Forum article in Science about the danger of spent fuel pool fires. He is the recipient of the 2018 Leo Szilard Lectureship Award from the American Physical Society.

**Chip Martin**

Charles R. “Chip” Martin, Ph.D. is an AAAS/ANS S&TP Fellow and Distinguished Engineer.  Currently serves at the Chief Nuclear Officer for the Nevada National Security Site in Nevada.  Chip Martin is a nuclear engineer with an extensive background in nuclear weapon design, development, testing, and operations; commercial nuclear reactor design and development; nuclear safety; space nuclear power; and nuclear science and technology. While at the Nevada National Security Site, Chip serves as the Chief Nuclear Officer where he is responsible for oversight of seven nuclear facilities for nuclear safety, quality, and software quality assurance.  He reports directly to the President and ensures that NSTec’s nuclear facilities are operated in accordance with applicable regulatory requirements.  He is also the corporate safety culture champion.   He holds a DOE Q clearance.  In his spare time, Chip enjoys sailing, hiking, skiing, and writing.

**Daniel Metlay**

Dr. 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. In addition to his work in this area, Dr. Metlay has authored numerous publications dealing with technology policy, regulation, and organization behavior. Dr. Metlay has testified before Congress and several state legislative committees. His immediate research agenda is the preparation of a monograph examining the technical and institutional challenges of developing a deep-mined, geologic repository for high-level radioactive waste in the United and abroad.

**Zia Mian**

Zia Mian is a physicist and co-director, with Alexander Glaser, of the Program on Science and Global Security.  Zia has been with the Program on Science and Global Security since 1997. His research and teaching focuses on nuclear weapons and nuclear energy policy, especially in Pakistan and India, and he directs the Program’s Project on Peace and Security in South Asia. He has a Ph.D. in physics from the University of Newcastle upon Tyne. His most recent book is [*Unmaking the Bomb: A Fissile Material Approach to Nuclear Disarmament and Nonproliferation*](http://unmakingthebomb.com/) (with Harold Feiveson, Alexander Glaser, and Frank von Hippel, MIT Press, 2014).

Zia is co-chair of the [International Panel on Fissile Materials](http://www.fissilematerials.org/) (IPFM), a group of technical and policy experts from 18 countries working to reduce global stockpiles of nuclear weapon-useable material, and co-editor of [Science & Global Security](http://scienceandglobalsecurity.org/), an international journal of technical analysis for arms control, disarmament and nonproliferation policy. Mian received the 2014 Linus Pauling Legacy Award for “his accomplishments as a scientist and as a peace activist in contributing to the global effort for nuclear disarmament and for a more peaceful world.”

**Paul Murphy**

Paul Murphy, a managing director in Gowling WLG’s Energy Group, has been appointed to the U.S. [Civil Nuclear Trade Advisory Committee (CINTAC)](http://trade.gov/mas/ian/nuclear/tg_ian_003233.asp) for the fourth time.

Operating under the auspices of the U.S. Department of Commerce, CINTAC is tasked with advising the U.S. Secretary of Commerce on a range of trade issues affecting U.S. nuclear exports. The industry panel is composed of nuclear vendors, contractors, scientists, academics, lawyers, consultants and industry representatives.

“It’s a tremendous honour to be appointed to CINTAC,” said Murphy. “The committee offers a valuable forum for the exchange of ideas among key nuclear industry participants, as we collectively look for ways to foster the development of nuclear power generation for the promotion of clean energy, while maintaining the highest standards and practices.”

Murphy’s practice focuses on multiple aspects of nuclear energy law, including project development and financing, international regulatory and treaty frameworks, and nuclear liability issues. His unique industry expertise is frequently sought by several international agencies (including the International Atomic Energy Agency, Nuclear Energy Agency, and International Framework for Nuclear Energy Cooperation), as well as by the U.S. government.

The experienced legal professionals in Gowling WLG’s Nuclear Energy Group deliver hands-on legal and strategic guidance in all aspects of nuclear power operations at every stage — from project development and financing to regulatory affairs. They provide trusted counsel on operating facility compliance, dispute resolution, waste management and decommissioning, and act for a wide range of clients — including providers of equipment, materials and services to the nuclear industry.

**Mirchiru Nishida**

Mr. Michiru Nishida is Special Assistant for Disarmament and Non-Proliferation Issues of the Ministry of Foreign Affairs of Japan (MOFA) since 2007. He currently serves as Head of Disarmament Unit in the Arms Control and Disarmament Division since July 2011. Before this current assignment, he served from 2006 as First Secretary to the Delegation of Japan to the Conference on Disarmament in Geneva, mainly in charge of nuclear issues as well as space security issues. He is also Visiting Associate Professor of Research Center for Nuclear Abolition (RECNA) of Nagasaki University. Before being posted to Geneva, Mr. Nishida served as Head of the Export Control Unit of the Non-Proliferation, Science and Nuclear Energy Division of the Ministry of Foreign Affairs. He was also in charge of NPT, IAEA, MNA (Multilateral Nuclear Approaches to the Nuclear Fuel Cycle), PSI (Proliferation Security Initiative), SUA amendment, etc. He was a member of the Japanese delegation to the Six-Party Talks in 2005 on the occasion of agreement on the Joint Statement. He served as Head of the Political Section of the Consulate-General of Japan to Karachi, Pakistan.

**Olga Oliker**

Olga Oliker is a senior adviser and director of the Russia and Eurasia Program at CSIS. Her recent research has focused on military, political, economic, and social development in countries in transition, particularly in Russia, Ukraine, and the Central Asian and Caucasian successor states to the Soviet Union. Prior to joining CSIS, Oliker held a number of senior posts at the RAND Corporation, most recently as director of RAND’s Center for Russia and Eurasia. She is the author or coauthor of “Russian Foreign Policy in Historical and Current Context: A Reassessment” (*RAND Perspectives, 2015), Building Afghanistan’s Security Forces in Wartime: The Soviet Experience*(RAND, 2011),*Nuclear Deterrence in Europe: Russian Approaches to a New Environment and Implications for the United States* (RAND, 2011), and*Russian Foreign Policy: Sources and Implications* (RAND, 2000), among other books, articles, and reports. She has also published commentary on Russia-related topics in print and online with the*New York Times*,*Chicago Tribune*, CNN,*U.S. News and World Report*, among others. Oliker holds a B.A. in international studies from Emory University, an M.P.P. from the Kennedy School of Government at Harvard University, and a Ph.D. in political science from the Massachusetts Institute of Technology.

**Levi Patterson**

Levi is currently serving Representative Ben Ray Luján as a Legislative Assistant and manages the energy, environment, and security portfolios. In this role, he has had the opportunity to work closely on security issues, including nuclear security as Los Alamos National Lab is in Rep. Luján’s district. Previously, Levi was able to contribute to these same issues on the U.S. Senate side as he served in Senator Chris Coons as a Legislative Fellow sponsored by the American Nuclear Society and the American Association for the Advancement of Science. Before coming to Capitol Hill, Levi worked at General Electric Hitachi Nuclear Energy where he worked on nuclear energy and cyber security projects. He holds a B.S. in Engineering Physics and a M.S. in Nuclear Engineering from the Colorado School of Mines.

**Joanne Savoy**

Ms. Savoy is the licensing assistant for the Export Controls and Nonproliferation Branch in the Office of International Programs, at the U.S. Nuclear Regulatory Commission. Has been with the NRC for over 8 years and within the Office of International Programs since 2014.

**Ralph Steinhardt**

Ralph G. Steinhardt specializes in international law, human rights, conflicts of laws, international civil litigation, and international business transactions. He is co-director of the [Oxford-GW Program in International Human Rights Law](https://www.law.gwu.edu/oxford-summer-program) at New College, Oxford. His current research and advocacy concern the human rights obligations of multi-national corporations. He now serves as the only U.S. citizen on the Expert Legal Panel on that subject under the auspices of the International Commission of Jurists and has served as an expert witness in several federal cases testing the liability of corporations for aiding and abetting human rights violations by governments.  
  
Professor Steinhardt also serves on the Board of Editors of the Oxford University press project on international law in domestic courts. He has written books and articles on the application of international law in U.S. courts, statutory construction, international trade law, jurisprudence, and human rights. Having served on the Harvard International Law Journal and won the Jessup Moot Court Competition at Harvard Law School, Professor Steinhardt practiced law for five years in Washington, D.C., specializing in federal litigation, administrative law, and trade. He has served as legal counsel to several foreign governments in both commercial and intergovernmental matters, including border disputes and economic relations, and pioneered the application of international human rights law in U.S. courts. He served as counsel to the U.N. High Commissioner for Refugees, Amnesty International, Human Rights Watch, and the International Human Rights Law Group, as well as to individuals alleging violations of international human rights law. He also has served as chairman of the board of the Center for Justice and Accountability in San Francisco, an anti-impunity organization established by Amnesty International in 1998.

**Zachary Stern**

Zachary R. Stern is a General Attorney in the National Nuclear Security Administration Office of the General Counsel. His work focuses on international, nonproliferation, and export control law and he is a staff attorney liaison to Defense Nuclear Nonproliferation. He also holds the responsibility of the ethics portfolio.

Prior to joining NA-GC in 2013, Mr. Stern was a Terrorism Analyst at the Anti-Defamation League. In that capacity he provided training to law enforcement personnel on extremist trends and ideologies, monitored extremist activity, and researched and wrote articles for publication on ADL’s website and in newsletters.

Mr. Stern received his Juris Doctor degree from The George Washington University Law School, with Honors in 2010. During law school, he interned with the NNSA Office of the General Counsel from 2008-2010 and also served as a JAG intern with the Air Force in the summer of 2009. He also served as an Articles Editor for the Public Contract Law Journal.

Mr. Stern graduated Phi Beta Kappa from New York University, double majoring in Politics (with Highest Honors) and Middle Eastern and Islamic Studies. During his undergraduate studies he served as a Research Assistant to Ambassador Michael Sheehan and Karen Greenberg at the NYU Center on Law and Security. Mr. Stern studied abroad in Prague and Jerusalem.

Mr. Stern has authored articles on government contracting and terrorism. He has also been credited with research and editorial assistance on a number of publications.

**Benn Tannenbaum**

Benn Tannenbaum is a government relations manager and head of the Washington Program Office for Sandia National Laboratories. He is a Professorial Lecturer at George Washington University’s Elliot School of International Affairs. He has testified before the House Homeland Security Committee on radiation portal monitors and has authored or coauthored over 160 scientific or policy-related publications. Tannenbaum has served on the American Physical Society's Panel on Public Affairs, as the Secretary-Treasurer of APS's Forum on Physics and Society, on the steering committee of the American Association for the Advancement of Science's Section on Industrial Science and Technology, and is currently on the American Institute of Physics's Public Policy Panel. He is a Fellow of the American Physical Society.

Dr. Tannenbaum has been the Program Director at the Center for Science, Technology and Security Policy; a Senior Research Analyst for the Federation of American Scientists; and the 2002-2003 American Physical Society Congressional Science Fellow.  He worked as a Postdoctoral Fellow at the University of California, Los Angeles. At UCLA, he was involved in the Compact Muon Solenoid experiment at CERN, in Geneva, Switzerland, and the Collider Detector Facility at the Fermi National Accelerator Laboratory outside Chicago, Illinois. He received his Ph.D. in physics from the University of New Mexico in 1997. Trained as an experimental particle physicist, his doctoral dissertation involved a search for evidence of physics beyond the Standard Model in the form of supersymmetry. None was found.

**Dyllan Taxman**

Dyllan is a graduate of the University of Wisconsin and a 4LE at the Georgetown University Law Center, expecting to graduate in December. He is currently serving as a staff member at the U.S. Court of Appeals for the Armed Forces. Dyllan’s article, co-authored with Professor David S. Jonas, Esq., is titled “JCP-No-Way: A Critique of the Iran Nuclear Deal as a Non-Legally-Binding Political Commitment” and will be published in the next edition of Georgetown’s Journal of National Security Law & Policy.

**Boris Toucas**

Boris Toucas is a visiting fellow with the Europe Program at CSIS. Prior to joining CSIS, he served at the nuclear nonproliferation and disarmament office of the French Ministry of Foreign Affairs from 2013 to 2016 and was responsible for nuclear deterrence and ballistic missile defense as a member of the Warsaw Summit negotiating team. During this period, he also focused on the North Korean proliferation crisis. From 2007 to 2013, he was an officer at the French National Court of Asylum in charge of examining refugee status applications on appeal. He holds a M.A. in international relations and political science from the Bordeaux Institute of Political Studies.

**Frank von Hippel**

Frank von Hippel is Senior Research Physicist and Professor of Public and International Affairs emeritus at Princeton University where, in 1975, he co-founded and co-chaired for three decades the Program on Science and Global Security. In 2006, he co-founded the International Panel on Fissile Materials and co-chaired it for its first nine years

During 1983-90, he worked with President Gorbachev’s advisor, Evgenyi Velikhov, to develop a number of successful initiatives to end nuclear testing, end the production of plutonium and highly enriched uranium for weapons, and eliminate excess weapons materials.

He has advised U.S. Administrations and Congress on nuclear security issues since the Carter Administration. During 1993-4, he served as Assistant Director for National Security in the White House Office of Science and Technology Policy and helped develop U.S.- Russian cooperative initiatives on nuclear threat reduction.  In 1993, he was awarded a MacArthur (“genius”) fellowship.

**Tracey-Ann Wellington, Ph.D**

Tracey-Ann Wellington, Ph.D., is a AAAS Fellow in the Office of Weapons of Mass Destruction Terrorism (WMDT) in the Bureau of International Security and Nonproliferation. She serves as the principal action officer for China engagements for WMDT and provides technical expertise on the implementation of diplomatic, programmatic, and policy efforts related to nuclear forensics. After completing her PhD in Energy Science and Engineering, Tracey served as a National Nuclear Security Administration (NNSA) Graduate Fellow supporting NNSA’s Office of Nuclear Export Controls where she provided analysis on proliferation concerns and conducted export license reviews for dual-use goods related to chemical, biological, and nuclear weapons and missile technologies.