

Frederick K. Lamb (Study Group Chair) is Research Professor of Physics and of Astronomy, Brand and Monica Fortner Chair of Theoretical Astrophysics emeritus, and a core faculty member in the Program in Arms Control & Domestic and International Security at the University of Illinois. A member of the American Academy of Arts and Sciences and a fellow of the American Physical Society (APS), his scientific research has focused on high-energy and relativistic astrophysics. He has been a consultant to the Defense Department, national laboratories, Congressional committees, and the Institute for Defense Analyses on defense and security matters, including space policy, ballistic missiles and missile defenses, and technical aspects of nuclear test bans. He co-chaired the 2003 APS study of boost-phase missile defense and shared the American Physical Society's 2005 Leo Szilard Lectureship Award.

Laura Grego (Study Group Co-chair) is the research director of the Global Security Program at the Union of Concerned Scientists (UCS). Before joining UCS, Dr. Grego was a postdoctoral researcher at the Harvard-Smithsonian Center for Astrophysics. She works at the intersection of science and policy on the topics of nuclear weapons, missile defense, and space security. She is an associate editor of the journal *Science and Global Security*, a fellow of the American Physical Society, and was a member of its Panel on Public Affairs from 2019-2024. She received the American Physical Society's 2023 Leo Szilard Lectureship Award.

James D. Wells (Study Group Co-chair) is a Professor of Physics at the University of Michigan. A fellow of the American Association for the Advancement of Science and the American Physical Society, his research interests include theoretical high-energy physics and the intersections of science and national security policy. A former chair of the American Physical Society's Panel on Public Affairs (POPA), he co-led the 2018 POPA study "Neutrons for the Nation: Discovery and Applications while Minimizing the Risk of Nuclear Proliferation."

William Friedhorsky is former director of the Laboratory-Directed (internal) R&D program at Los Alamos National Laboratory. A Los Alamos and American Physical Society (APS) fellow, he has a broad range of expertise, including on space hardware and space-based sensors. He was previously program manager for proliferation detection, later served as chief scientist of Los Alamos' Threat Reduction directorate, was a member of the 2003 APS study of boost-phase missile defense, and shared the American Physical Society's 2005 Leo Szilard Lectureship Award.

David K. Barton was an independent consultant. A member of the National Academy of Engineering, he was also a Fellow of the Institute of Electrical and Electronics Engineers (IEEE). As an expert on the use of radars for missile launch detection, sensor cuing, missile tracking, and target discrimination, he served as a member of the NRC's Air Force Studies Board, as chair of the Committee on the E-3A Radar, and as chair of the Committee on Advanced Airborne Surveillance Radar. He was a member of the 2003 American Physical Society and the 2012 National Academy of Sciences panels on missile defense.



Philip E. Coyle was a senior science fellow at the Center for Arms Control and Non-Proliferation. A renowned expert on nuclear weapons, missile defense, national security, and defense spending, his recent work focused heavily on analyses of ground-based midcourse defense. He spent more than three decades working on nuclear weapons and related programs at Lawrence Livermore National Laboratory, becoming Deputy Laboratory Director before serving as Assistant Secretary of Defense and Director, Operational Test & Evaluation, and subsequently as Associate Director for National Security and International Affairs in the White House Office of Science and Technology Policy.

Steve Fetter is a professor in the School of Public Policy at the University of Maryland. He is a Fellow of the American Physical Society, a former member of the APS Panel on Public Affairs, and a recipient of the APS Leo Szilard Lectureship and Joseph A. Burton Forum awards. He has served in the departments of State and Defense and led the national security and international affairs division in the White House Office of Science and Technology Policy. He is a member of the National Academy of Sciences' Committee on International Security and Arms Control and has contributed to 10 reports by the National Academies.

Alec Gallimore is the Provost and Chief Academic Officer of Duke University and the Alfred J. Hooks E '68 Distinguished Professor. Prior to his appointment at Duke in 2023, he held multiple leadership roles over his 30+ year career at the University of Michigan, including as Robert J. Vlasic Dean of Engineering, associate dean for academic affairs, associate dean for research and graduate education, and associate dean at the Horace H. Rackham School of Graduate Studies. Dr. Gallimore is a leader in the field of advanced spacecraft propulsion and founded a laboratory that is developing the plasma drive system that may ultimately propel humans to Mars. His work has been recognized with the AIAA's Wyld Propulsion Award, the Electric Rocket Propulsion Society's Ernst Stuhlinger Medal, and induction into the National Academy of Engineering.

Cynthia K. Nitta is the Future Deterrent Program Director in the Weapon Physics and Design Program of the Lawrence Livermore National Laboratory (LLNL) Strategic Deterrence Directorate. She is responsible for the design physics elements to assess emerging threats to the nuclear stockpile, technology development and certification of future concepts to mitigate those threats, and LLNL activities directly supporting system technology maturation funded by the National Nuclear Security Agency (NNSA). Dr. Nitta has extensive experience in nuclear science and technology, and a strong interest in supporting national security and policy; she recently served on a national Failsafe Study of stockpile safety and surety, and currently serves on the Visiting Committee of the M.I.T. Nuclear Engineering and Science Department. She has served on the boards of directors for national organizations that promote STEM education for girls and civil rights.

Aric Tate is a physicist and nuclear engineer who received his doctorate at the University of Illinois during the course of this study. His research has included developing instruments to detect and track nuclear explosive material and the development of highly radiation resistant detectors for use



at particle accelerators. He has also studied proton-ion collisions at the Large Hadron Collider (LHC) at CERN to better understand the role of proton size fluctuations in the interpretation of nuclear collision data. Throughout his graduate career, he assisted with teaching and development of the University of Illinois physics course "Nuclear Weapons and Arms Control." He is currently a postdoctoral researcher in nuclear physics at Illinois, carrying out jet analyses with the ATLAS detector at the LHC.