

Government-University-Industry Research Roundtable February 2023 Webinar

Unlocking New Possibilities for Commercial Fusion

Abstract:

The Government-University-Industry Research Roundtable will convene a webinar to discuss Department of Energy's (DOE) recent efforts towards the commercialization of clean fusion energy. Providing energy from fusion – the same reaction that powers the sun – is one of the National Academy of Engineering's <u>14 Grand Challenges for Engineering in the 21st century</u>. While there have been considerable advances towards achieving commercial fusion, many significant challenges still remain.

During this webinar, **Dr. Richard Hawryluk**, Senior Technical Advisor at the DOE Office of Science; and **Dr. Scott Hsu**, DOE's Lead Fusion Coordinator, will present on DOE's strategic initiatives to accelerate the technical and commercial viability of fusion energy, in partnership with the private sector. They will discuss the recent launch of the <u>Milestone-based Fusion</u> <u>Development Program</u>, and also highlight critical areas of research for stakeholders across sectors to support <u>Biden-Harris Administration's bold decadal vision for commercial fusion</u> <u>energy</u>.

Speaker Biographies:



Dr. Richard (Rich) Hawryluk recently joined the Department of Energy as Senior Technical Advisor in the Office of the Deputy Director for Science Programs. Dr. Richard Hawryluk had retired from his position as Associate Director for Fusion at the Princeton Plasma Physics Laboratory. Among other responsibilities, he was Interim Deputy Director for Operations from October 2018 to January 2019 and Interim Director of the Princeton Plasma Physics Laboratory from August 2017 to July 2018. Hawryluk came to the Lab in 1974 after receiving a Ph.D. in physics from MIT. He headed the Tokamak Fusion Test Reactor at PPPL, then the largest magnetic confinement fusion

facility in the United States, from 1991 to 1997 and led the deuterium-tritium experiments. Hawryluk oversaw all research and technical operations as Deputy Director of the Laboratory for 11 years from 1997 to 2008. He then spent several years working on research and management topics associated with ITER, as head of the ITER and Tokamaks Department from 2009 to 2011 and from 2013 to 2016, and as Deputy Director General for the Administration Department of ITER from 2011 to 2013.

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He has received numerous awards during his career including an American Physical Society Prize for Excellence in Plasma Physics, U.S. Department of Energy Distinguished Associate Award, a Kaul Foundation Prize for Excellence in Plasma Physics Research and Technology, and a Fusion Power Associates Leadership Award. He is fellow of the American Association for the Advancement of Science since 2008 and of the American Physical Society since 1986; he also chaired the board of editors of Nuclear Fusion, a monthly journal devoted to controlled fusion energy. He has chaired or participated in many national and international reviews and advisory panels and most recently the National Academy of Science, Engineering and Medicine Committee on the Key Goals and Innovations Needed for a U.S. Fusion Pilot Plant.



Dr. Scott C. Hsu is a Senior Advisor to the Under Secretary for Science and Innovation at the U.S. Department of Energy (DOE), and Lead Fusion Coordinator for DOE's efforts to accelerate fusion energy research, development, demonstration, and commercialization in partnership with the private sector. Previously (2018–2022), Scott was a Program Director on detail from Los Alamos National Laboratory (LANL) to ARPA-E, where he led and managed its fusion-energy R&D portfolio. Prior to ARPA-E, Scott was a research scientist at LANL (2002–2019), where he conducted and led experimental research on a number of topics including fundamental

plasma/fusion science and fusion concept exploration spanning magnetic, magneto-inertial, and inertial confinement fusion. Scott is author or co-author of 80+ peer-reviewed publications, a Fellow of the American Physical Society (APS), and a co-recipient of the 2002 APS Award for Excellence in Plasma Physics Research. Scott earned a Ph.D. in Astrophysical Sciences (Program in Plasma Physics) from Princeton University and a B.S *summa cum laude* in Electrical Engineering from UCLA.