

PETER L. GALISON is the Joseph Pellegrino University Professor at Harvard.

AT THE CENTER of Galison's work is **physics**: physics as a crossing point for our grasp of the fundamental objects of our world; physics as inextricably connected to ancient and present philosophical questions about the nature of time and space, and about the role of causality; and physics as central to all-too immediate issues of war, peace, and national security. In writing and film he has explored the complex interaction between the three principal subcultures of physics—experimentation, instrumentation, and theory—and the embedding of physics in the wider world.

Trained at Harvard, Galison finished his first dissertation in the history of science and a second in theoretical particle physics exploring the structure of the Higgs and its effect on the soon-to-be-measured W and Z masses. From 1983 he taught at Stanford, before returning to Harvard in 1992. In 1997, Galison was awarded a John D. and Catherine T. MacArthur Foundation Fellowship; he won a 1998 Pfizer Award for *Image and Logic*, about the twin traditions of image-making devices (cloud chambers, nuclear emulsions, bubble chambers) and statistical machines (counters, spark chambers, and wire chambers). In 1999, he received the Max Planck and Humboldt Stiftung Prize; and in 2017, the Pais Prize from the American Physical Society. More recently, as a member of the Event Horizon Telescope Collaboration, Galison shared in the 2020

Breakthrough Prize in Fundamental Physics for the first image of a black hole.

His other books include *How Experiments End* (1987); *Einstein's Clocks, Poincaré's Maps* (2003); and *Objectivity* (with Lorraine Daston, 2007). He has explored cross-currents between science and other domains through a series of co-edited volumes including *Big Science; The Disunity of Science; The Architecture of Science; Picturing Science, Producing Art; Scientific Authorship*, and *Einstein for the 21st Century*.

Galison's first film, on the moral-political debates over whether scientists should build the H-bomb, *Ultimate Weapon: The H-bomb Dilemma* (2000, with P. Hogan), has been broadcast frequently. With Robb Moss, he then directed *Secrecy*, about national security secrecy and democracy. *Secrecy* premiered in competition at Sundance in 2008. Galison and Moss followed up in 2015 with *Containment*, about the need to guard radioactive materials for the 10,000-year future. As dramaturg, Galison collaborated with South African artist William Kentridge on a multi-screen installation on the nature of time, "The Refusal of Time" (2012) and the associated chamber opera, "Refuse the Hour," the themes of which grew out of his study of time in the work of Einstein and Poincaré. As part of his work at the Black Hole Initiative, he completed a film about these most mysterious objects, *Black Holes | The Edge of All We Know* (2020), currently available on Netflix and other platforms.

In 2016, with colleagues from astronomy, physics, and mathematics, Galison established the Black Hole Initiative—which he now directs. His own work there, as part of the Event Horizon Telescope Collaboration, has concentrated on Bayesian imaging and the development of methods to capture movies of the surrounding plasma. He is now, with a growing team of colleagues, working toward the preparation of an explorer-class mission to image the photon ring.

Today, Professor Galison will speak about the complex industrial, physical, moral, and political issues surrounding the A- and H-bombs, and J. Robert Oppenheimer's role in shaping them: "Oppenheimer and the Bombs."

