

 History of Science Society

Prize Ceremony

Virtual Forum

09 October 2020

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Derek Price/Rod Webster Prize

Michael D. Gordin

Princeton University

“Lysenko Unemployed: Soviet Genetics After the Aftermath,” *Isis* 109, no. 1 (March 2018): 56-78.

The Derek Price/Rod Webster Prize is awarded “in recognition of excellence in a research article published in *Isis*” in the past three years. The committee—considering articles published between 2017 and 2019—is honored to announce the award of this year’s prize to Michael D. Gordin for “Lysenko Unemployed: Soviet Genetics After the Aftermath” (March 2018, Volume 109, Number 1, pp. 56 – 78).

The conflict that existed between Trofim Lysenko’s neo-Lamarckian doctrine of agrobiology and the seemingly suppressed Soviet Mendelian geneticists of his generation, is well known. But the period of Lysenko’s career after his fall from a position of authority in 1965, and the tensions that continued with his Soviet colleagues until his death in 1976, has not been heavily documented or explained. Gordin’s article throws new light on the Lysenko Affair by looking at what happened in this eleven-year period. Gordin’s analysis of the disestablishment of agrobiology is of interest to historians of modern science interested in the Soviet era. But it is also useful for all science historians willing to draw larger lessons about how historians treat the losing side in scientific controversies; how research schools that are reputedly dismissed in the view of the majority can, in fact, continue to operate within the political structures of research institutions; and how the boundaries between history and historiography are blurred.

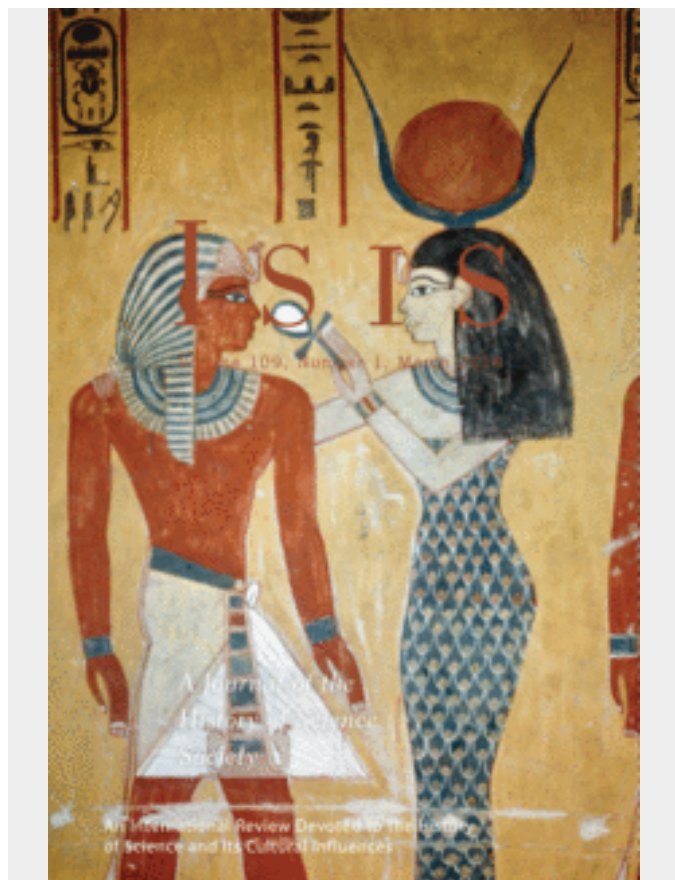
In achieving these goals, Gordin demonstrates an impressive command of sources across two languages, and a beautifully clear writing style capable of reaching a wide range of readers, not just specialists in the history of Soviet science.

Prize Committee

Luciano Boschiero, Chair

Laura Stark

Bernard Lightman



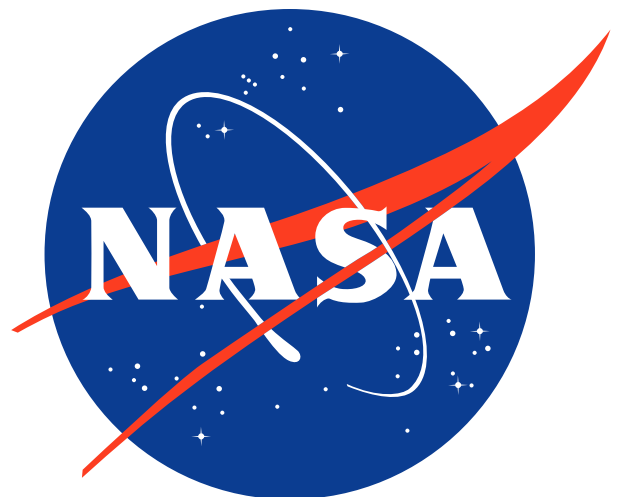
HSS/NASA Fellowship in Aerospace History

Megan Eardley

Princeton University

“Ultra/Deep Space: Planetary Planning from South Africa’s Mines to NASA’s Skylab”

Megan Eardley is a PhD Candidate in the School of Architecture at Princeton University. Her dissertation “Ultra/Deep Space: Planetary Planning from South Africa’s Mines to NASA’s Skylab,” examines how architects, engineers, and scientists concerned with the limits of human physiology and environmental design began to test their theories on South Africa’s ultra-deep mines. Emphasizing corporate archives and experimental records produced between 1950 and 1980, she asks how the extractive industry, in turn, has shaped models and concepts of life in deep space. Working at the intersection of Science & Technology Studies and African History, she analyzes the development of deep shaft mines in Apartheid South Africa. While exceptionally deep gold and uranium deposits drove the development of mines more than two miles below the Earth’s surface, mining companies invested in scientific research and design solutions that would send Black miners into parts of the planet that are dangerously hot, radioactive, and structurally unstable. As she tracks NASA’s interests in deep-mining research, she foregrounds questions about scientific racism, resource management, and the future of “the human” in environments that are hostile to biological life.



Nathan Reingold Prize

Meria Gold

York University

“Shit Archaeology: Ancient Fertilizer and the Manufacture of British Egyptology, 1877-1906”

The 2020 Nathan Reingold Prize is awarded by unanimous decision to Meira Gold’s *Shit Archaeology: Ancient Fertilizer and the Manufacture of British Egyptology, 1877-1906*. Gold’s article examines how archaeological mounds in Egypt created intimate connections between the rise of the discipline of Egyptology in Britain and the cotton trade of British industrialists. These mounds provided highly valuable artefacts for museum collections, but they were also the source of the nitrogenous-phosphate fertilizer sebakh. The article highlights the unacknowledged role of Egyptian laborers in the procurement of sebakh, and the troubling relationship between the cotton industry, the science of Egyptology, and the chemical research on fertilizers. Written in engaging prose and brimming with incisive insights, *Shit Archaeology* makes a major contribution to our understanding of the development of colonial science and technology.



Prize Committee

Luciano Boschiero, Chair

Laura Stark

Bernard Lightman

Philip J. Pauly Prize

Joshua Nall

University of Cambridge

News from Mars: Mass Media and the Forging of a New Astronomy, 1860-1910 (Pittsburgh: University of Pittsburgh Press, 2019)

News from Mars surprises and delights. Surprises, because who other than a few historians or astronomers knew that the Red Planet was the subject of keen and widespread debate in the late nineteenth and early twentieth-century trans-Atlantic world? Delights, because Joshua Nall demonstrates with economy and precision how a seemingly esoteric set of disputes over the character of Mars opens new interpretive windows on western U.S. territorial claims, the language of scientific authority, and the entanglement of the creation of scientific knowledge and new forms of mass media. Energetic prose and careful organization lead readers through a set of episodes surrounding the interpretation of evidence from the surface of Mars. Improved technologies of astronomical visualization created this evidence, and the politics of institutions and media sources made such evidence intensely relevant and contested. Even as newspapers vied to get news, they also helped create an emerging science. The clarity of observation at western U.S. mountain-top observatories facilitated arguments for funding and scientific importance, largely because the speed of the telegraph and the increasingly international reach of newspapers allowed for rapid collation of evidence from far-off places—including Mars itself. Debates over whether the canals of Mars showed evidence of prior life helped establish English as a chief language for the sciences. Nall boldly follows his evidence: who got to write encyclopedia entries, for example, turns out to be a crucial and fascinating question of early-twentieth-century knowledge about the natural world. The topic of media and Mars in a particular half-century may sound niche, but the questions open broadly. This energetic and broad-reaching book shows how the history of science can inspire inquiry in far-reaching fields, just as news from Mars did over a century ago.

We applaud Joshua Nall's historical analysis, and are pleased to recognize *News from Mars* with the third annual Philip J. Pauly Prize for the best first book on the history of American science.



Prize Committee

Luciano Boschiero, Chair
Laura Stark
Bernard Lightman

Ronald Rainger Early Career Award

Emily Kern

University of New South Wales

“Archaeology Enters the ‘Atomic Age’: A Short History of Radio Carbon 1946-1960,” *British Journal of the History of Science* 53, no. 2 (June 2020): 1-21.

The 2020 Rainger Award is given to Emily Kern for her article “Archaeology Enters the ‘Atomic Age’: A Short History of Radio Carbon 1946-1960,” published in the *British Journal for the History of Science*, 53(2) 1-21. Kern’s impressively researched and clearly written piece focuses on a backstory of Willard Libby’s 1960 Nobel Prize in Chemistry for radiocarbon dating. She describes how a presumably little-known interdisciplinary collaboration among unlikely bedfellows—geologists, archeologists, and physical anthropologists working with atomic chemists and physicists—led to the use of radiocarbon dating in several emerging disciplines of the field sciences, a fundamental methodological breakthrough in studies of physical artefacts ranging from ancient relics to petroleum deposits. Kern deftly traces the development of radiocarbon dating as a technique alongside dawning awareness of the ecological and public health threats posed by sharply rising levels of radiocarbon-14 in the environment from nuclear fallout. Although the story is centered on expertise fostered by universities and philanthropic organizations in the United States, it follows research networks to their international field stations across the world. Kern does link atomic research with the Cold War, but the piece usefully complicates the picture by looking into a hugely influential technique (carbon dating) that did not get caught up in Cold War logic. Finally, it is also an interesting essay on past interdisciplinarity – an important, yet understudied field. In short, Kern’s article offers a rich and highly original story, that is well-informed by archival research. For that reason, we think it is a more than worthy winner of the Rainger Prize.



Prize Committee

Mott Greene, Chair

Raf de Bont

Anya Zilberstein



Joseph H. Hazen Prize

Allison C. Marsh

University of South Carolina

The 2020 Hazen Prize is awarded to Associate Professor Allison C. Marsh. Throughout her distinguished career, Dr. Marsh has made valuable contributions to history of science programs around the world, most notably at the University of South Carolina and at the Smithsonian Institution – National Postal Museum. Dr. Marsh is an innovator as a ‘Public Historian,’ bringing history of science to broad audiences in easily accessible platforms. Noteworthy, is Dr. Marsh’s consultantship involving creating, editing and insuring historical accuracy of the 46-episode *Crash Course: History of Science*, a free YouTube education video series viewed by millions. Also noteworthy is her curation of the NSF funded *Imaging the Invisible* project, an exhibition on the history of imaging unseen things, from the microscope to stop-action cameras and nanotechnology. In 2012-13, Dr. Marsh received an NSF-funded Think, Write, Publish Fellowship to research and write ‘Collective Forgetting’ an article about the Smithsonian’s National Museum of American History not having a curator of engineering. The paper appeared in *Issues in Science and Technology* and received the 2014 IEEE-USA Award for Distinguished Literary Contributions furthering Public Understanding and Advancement of the Engineering Profession. Similarly, Dr. Marsh’s teaching reaches a quarter of a million individuals every month with her “Past Forward” articles in the *IEEE Spectrum* journal. These articles focus on electrical engineering artifacts that are at least 40 years old.

Dr. Marsh is the Founding Co-Director of the Ann Johnson Institute for Science-Technology-Society. The AJI is dedicated to building diverse communities for the study of technology, medicine, and science in past and present societies and establishing interdisciplinary communities and supportive activities for building a better society. Her introductory survey course ‘Science and Technology in World History’ has brought history of science to thousands of undergraduates and she has pioneered an online version that has allowed her to explore digital pedagogy (the subject of her September 2020 *Isis* Forum contribution. In 2016 she won a prize for innovative teaching, and in 2020 Dr. Marsh was

the recipient of University of South Carolina’s Office of Student Disability Services ‘Two Thumbs up Award’. Students with SDS recognized her as a faculty member who has made significant differences in students’ campus experiences. Dr. Marsh hopes to raise awareness of and bring more recognition and normalization for individuals with invisible disabilities. For the 2020 HSS meeting, Allison coordinated a roundtable panel on ‘Invisible Disabilities and Chronic Illness.’

Dr. Allison Marsh embodies the History of Science Society’s mission to foster interest in the history of science, promote discussion of science’s social and cultural relations, and bring this understanding to others worldwide. She is a most deserving recipient of the Joseph H. Hazen Prize for Excellence in Education in the History of Science.



Prize Committee

Richard Duschl, Chair
Jean-François Gauvin
John Carson

Margaret W. Rossiter History of Women in Science Prize

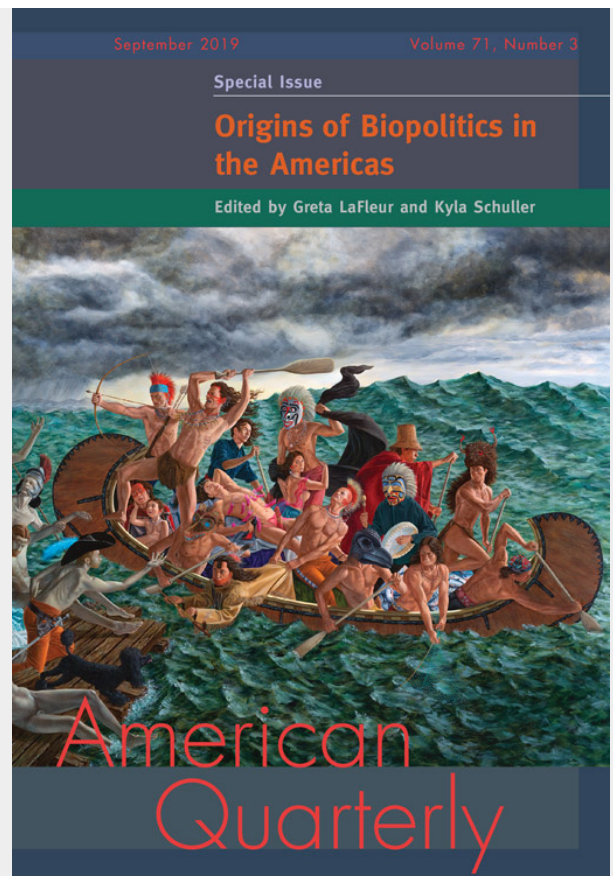
Myrna Perez Sheldon

Ohio University

“Breeding Mixed Race Women for Profit and Pleasure,” *American Quarterly* 71, no. 3 (September 2019): 741-765

The Margaret W. Rossiter History of Women in Science Prize is awarded in recognition of an outstanding article (or in odd-numbered years, book) on the history of women in science. The article may take a biographical, institutional, theoretical, or other approach to the topic, which may include discussions of women’s activities in science, analyses of past scientific practices that deal explicitly with gender, and investigations regarding women as viewed by scientists. The 2020 Rossiter Prize is awarded to Myrna Perez Sheldon (Ohio University) for her article “Breeding Mixed Race Women for Profit and Pleasure,” published in *American Quarterly*, 2019, 71: 741-765.

Elegantly composed and invitingly written, Myrna Perez Sheldon’s article ties a broad story about the evolution of race science and racial policies and practices in America to a particular time and place, and more specifically to a particular woman and her descendents. A microhistory in the very best sense, it begins with a single individual, anchoring the reader in her skin and her relatable aspirations. It then opens up dramatically to address significant issues in the history of slavery and its aftermath tied to a set of major developments in race science, while nodding in interesting ways to the idea of biopower. Like the best microhistories, the article is rich in big developments and big themes beyond the local scale of the original story. Perez Sheldon builds a convincing case for close links between slavery and a very American kind of eugenics.



Prize Committee

Kathryn Davis, Chair
Katharine (Katy) Park
Florence C. Hsia

Suzanne J. Levinson Prize

Erika Lorraine Milam

Princeton University

Creatures of Cain: The Hunt for Human Nature in Cold War America (Princeton: Princeton University Press, 2019)

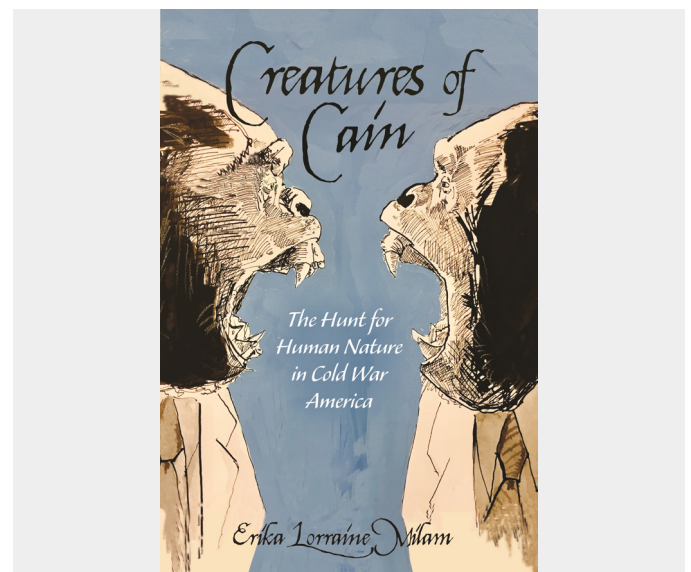
In *Creatures of Cain: The Hunt for Human Nature in Cold War America* (Princeton University Press, 2019) Erika Lorraine Milam provides the definitive account of the intersection of studies of animal behavior and the human sciences on the U.S. home front. Deeply researched but engagingly written, her book makes major contributions to histories of human nature, of race and gender, and of expertise.

The heart of Milam's story, which unfolds between 1955 and 1975, is the debate over Robert Ardrey's *The Territorial Imperative*, Konrad Lorenz's *On Aggression*, and Desmond Morris's *The Naked Ape*. Challenging optimistic postwar visions of evolving cooperation, the "killer ape" theorists instead credited "the ascent of man" to his supposedly unique capacity for murder. By reconstructing reactions to this provocation, Milam assesses the authority of science during struggles for civil rights and women's liberation and in heated debates over violence on the streets and on screens. She follows the responses into the critiques by sociobiologists, New Left, and New Right which brought down not just the theories, but a whole style of work. Hollywood director Sam Peckinpah had justified *Straw Dogs* (1971) as representing Ardrey's "animal nature of man," but biologists soon dismissed his books as not just wrong but unserious, merely popular science.

Milam analyzes two linked transformations—in scientific views of human nature and in how these were communicated during a heyday of what she calls "colloquial science." While paying due attention to technical work for colleagues, she tracks authors and their theories from paperbacks to high-school curricula and from the pages of *Playboy* to conferences of feminist historians. Grounded in a wealth of printed, manuscript, and interview evidence, but arranged in short, character-driven chapters with vivid illustrations, *Creatures of Cain* itself reaches beyond the academy as it interweaves a series of episodes in satisfyingly complex ways.

With this nuanced and compelling book, Erika Milam has painted a striking portrait of an era in all its con-

flict-ridden specificity and at the same time offers timely reflections on problems that resonate in debates over human nature today.



Prize Committee

Nick Hopwood, Chair
Marwa Elshakry
Jeremy Vetter

Watson Davis and Helen Miles Davis Prize

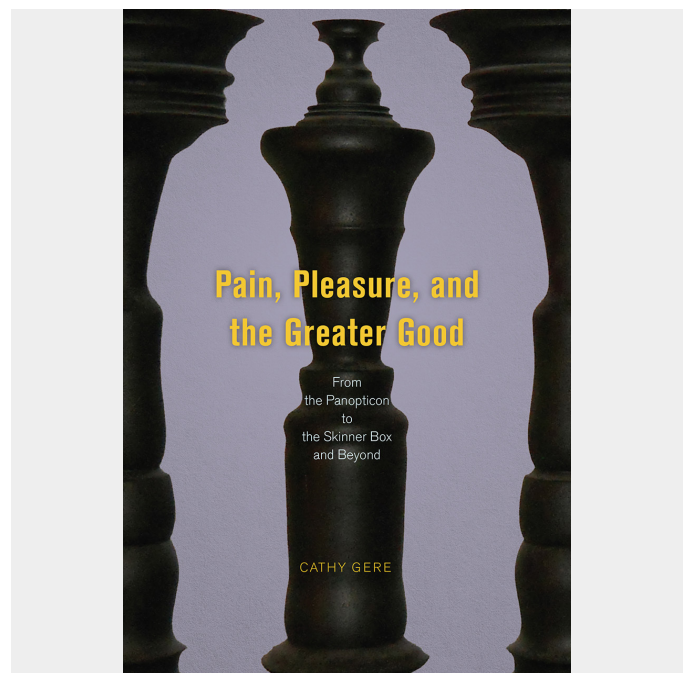
Cathy Gere

University of California at San Diego

Pain, Pleasure, and the Greater Good: From the Panopticon to the Skinner Box and Beyond (Chicago: University of Chicago Press, 2017)

The Watson Davis and Helen Miles Davis Prize Committee is delighted to announce that the 2020 award for a history of science book that effectively appeals to general readers goes to Cathy Gere, *Pain, Pleasure and the Greater Good: From the Panopticon to the Skinner Box and Beyond* (University of Chicago Press, 2017)

This stunning and beautifully written book entangles the history of European science with a fundamental question: when making decisions, is individual liberty (rights) more important than the good of the collective (utilitarianism)? Gere deftly reveals how the scientific understanding of the psychology of pain and pleasure naturalized and legitimized utilitarianism, which dominated the ethics of experimentation and decision-making to the detriment of disempowered people. Eschewing a ‘heroes and villains’ approach, Gere provides new insight on Bentham, Mill, Malthus (“Old Pop”) and Spencer; and the behaviorist scientists Watson and Skinner. Although the Nuremberg Trial rejected utilitarianism in medical ethics, this book warns that it still pervades economics and necessarily complicates common-resource environmental decisions. Gere’s compassionate voice guides readers through a sophisticated yet straightforward analysis of first principles behind ethical reasoning in science over time. Hunger, murder, and the Panopticon are all here; but so is the inborn capacity for sympathy and the beauty of monarch butterflies. In the end, Malthus’ predicted crisis was not inevitable; and the far less well-known Beddoes and Priestley provide better guides for thinking through today’s challenges. From the ethics of experimentation and racial injustice to environmental problems such as climate change, this book transcends categories even as it integrates history, philosophy, sociology of science in new ways. This book resonates powerfully: despite being written before the historic COVID-19 pandemic, *Pain, Pleasure and the Greater Good* demonstrates that Gere’s elegant analysis is genuinely timeless.



Prize Committee

Susan D. Jones, Chair

Tara Abraham

Jim Endersby



Sarton Medal

James A. Bennett

Prof. James (Jim) A. Bennett's work as a historian of scientific instruments, curator of world-class collections, museum leader, and teacher has had a remarkable impact in the field of history of science and beyond. Jim was one of the earliest historians of science to foster the "material turn," i.e., to argue that historical scientific instruments and apparatus not only serve as historical sources, but also provide insights not gained from paper documents. The relevance of scientific instruments and material culture is now almost undisputed, and Jim's work was crucial for this shift of attention from ideas and paradigms to everyday practice and artisanal cultures.

His fundamental 1986 article on "The mechanics' philosophy and mechanical philosophy" (*History of Science* 24, 1-28) made it clear that major changes associated with the Scientific Revolution emerged from the domain of instrument-making and practical mathematics. This article lifted the veil on the 16th-century practitioners who, by engaging with the practical problems posed by artillery, navigation, and surveying, had recorded and addressed several inconsistencies of Aristotelian physics. This lesson has been so deeply absorbed in the decades following the publication of Jim's seminal article that it is now easy to forget where it originated.

His early book *The Divided Circle: A History of Instruments for Astronomy, Navigation and Surveying* (Phaidon-Christie's, 1987), which surveys European instruments for measuring angles made from the 16th through the 19th centuries, showed the profound importance of the circle and its measure for the history of science, highlighting how instruments provide valuable and unique insights into the worlds of theory and practice.

Jim's sharp historiographical approach to science and its material culture was aptly summarized and illustrated in his influential 2002 presidential address to the British Society of the History of Science (BSHS), "Knowing and doing in the sixteenth century: What were instruments for?" (*BJHS* 36, 129-150). The latter remains a compelling invitation to use instruments as



resources for research, constituting an obligatory passage point to all those who engage with this line of inquiry.

As the curator of world-class collections such as those at the Royal Observatory, Greenwich, the Whipple Museum of the University of Cambridge, and the History of Science Museum in Oxford, Jim cultivated innovative dynamics of object-based teaching and research, while seeking to mediate among the worlds of the museum, the instrument collector, and the professional historian of science/technology. He has overseen and supported a substantial number of carefully curated and thought-provoking exhibitions such as "Empires of Physics" (1993, Whipple Museum, Cambridge), "Geometry of War, 1500-1750" (1996, History of Science Museum, Oxford) and "Steampunk" (2010, idem), just to mention a few examples. These exhibits have inspired students, researchers, curators, and the general public alike, bringing fresh perspectives from artifact-based research into the public sphere while setting a benchmark for other exhibit projects and permanent displays in institutions on both sides of the Atlantic.

Throughout his career, Jim has always stood out as an active, influential, and generous member of the museum and scholarly communities. He has held many distinguished leadership positions, including those of

President of the BSHS, President of the Scientific Instrument Commission of the International Union for the History and Philosophy of Science and Technology, Vice-President of the International Academy of the History of Science, and more recently, President of the Hakluyt Society. He has also acted as an associate editor of leading academic journals and served on the advisory boards of the Nobel Museum and the Science Museum.

For his pioneering scholarship and curation in the field of instrument studies, his leadership in the history of science on an international stage, and his attention to the needs of faculty, students, and the public, the HSS is pleased to bestow its most distinguished award, the Sarton Medal, on Prof. Jim Bennett.

