HISTORY OF SCIENCE SOCIETY MEETING PROGRAM November 21-24, 2013 Boston, Massachusetts

Thursday sessions will take place on the 2nd floor of the Boston Convention and Exhibition Center (BCEC), which can be accessed from the Mezzanine Level (one floor up from the lobby) of the Westin Boston Waterfront hotel via their skywalk. See the maps on pp. 6-7 for more. Sessions on Friday through Sunday will take place in the Westin Boston Waterfront hotel. The Concourse Level is one level down from the Lobby Level.

Further updates and other information during the meeting will be announced on the Twitter feed (@hssonline), using hashtag #hss13.

A note on the use of social media: This year the HSS will take full advantage of all that social media (blogging, Twitter, Facebook, etc.) has to offer. That means you may see audience members on their mobile devices during talks. We want to encourage this kind of digital engagement among our members, so please keep in mind that if you see someone on their mobile device, they may simply be sending out messages about the conference to a wider audience. For those using social media during conference events, please be aware of your surroundings and keep it positive!

Special Rooms: There are a few dedicated rooms for the 2013 meeting.

- The Nursing Mothers Room is in *Elm 2* on the Concourse Level.
- **Quiet Room**: *Grand Ballroom D*, on the Concourse Level, will be set with tables for study, conversation, and other similar activities.

Registration Desk

Thursday, 12:00 PM – 6:00 PM Mezzanine Foyer Friday, 8:00 AM – 5:00 PM Grand Ballroom Foyer Saturday, 8:00 AM – 5:00 PM Grand Ballroom Foyer Sunday, 8:00 AM – 11:00 AM Grand Ballroom Foyer

Nursing Mothers Room

Friday, 8:00 AM – 6:00 PM Elm 2 Saturday, 8:00 AM – 6:00 PM Elm 2 Sunday, 8:00 AM – 12:00 PM Elm 2

Book Exhibit

Friday, 11:45 AM – 6:00 PM Grand Ballroom B & Foyer Saturday, 8:00 AM – 5:00 PM Grand Ballroom B & Foyer Sunday, 8:00 AM – 11:00 AM Grand Ballroom B & Foyer

Quiet Room

Friday, 9:00 AM – 6:00 PM Grand Ballroom D Saturday, 8:00 AM – 6:00 PM Grand Ballroom D Sunday, 8:00 AM – 12:00 PM Grand Ballroom D

Internet Café: Starting on Friday, a small cluster of computers will be available in the Grand Ballroom Foyer for checking email and internet browsing.

THURSDAY – 21 NOVEMBER 2013

11:00 AM – 2:00 PM

Studies in History and Philosophy of Science Editorial Board Meeting

Frost Boardroom (Mezzanine Level)

1:00 - 5:00 PM

HSS Council Meeting

Room 254B (Boston Convention & Exhibition Center)

3:00 - 5:00 PM

Session T1: The Isis Bibliography and the Profession: Past, Present, and Future

Room 254A (Boston Convention and Exhibition Center)

Chair: Joy Harvey (Independent Scholar)

Organizers: Stephen Weldon (University of Oklahoma) and Alain Touwaide (Institute for the Preservation of Medical Traditions and Smithsonian Institution)

- Introductory remarks on the centennial of the *Isis* Bibliography: "A Brief Look at George Sarton's Correspondence as a Source for the *Isis* Bibliography," Joy Harvey (Independent Scholar)
- "The Isis Bibliography, 1966-2000," John Neu (Editor Emeritus, Isis Current Bibliography)
- "Style and Subject: Historiographical Trends through the Lens of the *Isis* Bibliography," Robert K. Olson (University of King's College, Halifax)
- "How Are Historians Using the *Isis* Bibliography Today? Current Trends and Historical Research Practices," Amy Rodgers (University of Oklahoma)
- "Bibliography in the History of Science: What's Next?," Alain Touwaide (Institute for the Preservation of Medical Traditions and Smithsonian Institution)

Session T2: The Materiality of Words in Chemistry and Pharmacy

Room 252A (Boston Convention and Exhibition Center)

Chair and Commentator: Charles Rosenberg (Harvard University)

Organizer: Alisha Rankin (Tufts University)

- "Authenticity, Alchemy, and 'Earth' in Early Modern Pharmacy," Alisha Rankin (Tufts University)
- "Correspondence, Coordination, and the Colorful Language of Paul Ehrlich," Evan Hepler-Smith (Princeton University)

• "Ordering the World of Cures: The International Politics of Drug Names," Jeremy Greene (Johns Hopkins University)

Session T3: Re-Thinking Medieval and Early Modern Science

Room 252B (Boston Convention and Exhibition Center)

Chair and Organizer: Elly Truitt (Bryn Mawr College)

- "Unsettling Boundaries I: Premodern and Modern," Ahmed Ragab (Harvard University)
- "Unsettling Boundaries II: East and West," Katharine Park (Harvard University)
- "Byzantium: The Other East," Darin Hayton (Haverford College)
- "An Irrational Fear of Magic," Elly Truitt (Bryn Mawr College)

Session T4: Stories about Science: Mediating between a Reassuring Past and Uncertain Future

Room 251 (Boston Convention and Exhibition Center)

Chair and Organizer: Robert Bud (The Science Museum)

Commentator: Jeffrey L. Sturchio (Rabin Martin/Johns Hopkins University)

- "History of Science as Tales Told to Promote Visions of the Future," Robert Bud (The Science Museum)
- "The Role of Historical Narratives in American Youth Science Clubs, 1930-1950," Sarah Scripps (University of South Carolina)
- "Remembering the 'Failure' of Cancer Virology and the Fashioning of Molecular Biology's Second Wave," Robin W. Scheffler (Yale University)

3:00 - 6:00 PM

Special Public Engagement Session: Science in the Streets (co-sponsored by the Boston University Center for Philosophy and History of Science) Science in the Streets is not an official part of the HSS program – rather, it was conceived as a way to engage the public in the history of science. We are grateful for the work that Conevery Valencius Bolton (University of Massachusetts, Boston) and Alisa Bokulich (Boston University) dedicated to this event.

Room 253C (Boston Convention and Exhibition Center)

This session will consist of two panel discussions exploring innovative ways of connecting ordinary citizens with science, and how the history of science can inform and enrich these efforts.

Panel I: Science and Spectacle

• "Science Festivals and the Changing Culture of Science Engagement," John Durant (Director of the MIT Museum and Executive Director of the Cambridge Science Festival)

- "History of Science through Comedy," Brian Malow (Science Comedian) and David Kaiser (Massachusetts Institute of Technology)
- "Carving Story Out of Science: On Stage & On Air," Ari Daniel (Story Collider and Freelance Reporter)
- Panel discussion with Gerardo Aldana, Oliver Hochadel, and Heidi Voskuhl

Panel II: Crowdsourcing Science: Science by the People?

- "Crowdsourcing at the Smithsonian: From 1849 Weather Observers to Today's Encyclopedia of Life," Pamela Henson (Director of the Institutional History Division, Smithsonian Institution Archives)
- "Life, Liberty, and the Pursuit of Data: From Whewell's 'Subordinate Labourers' to Maury's Seafarers," Caren Cooper (Cornell Lab of Ornithology)
- "The Zooniverse at Your Fingertips," Lucy Fortson (University of Minnesota, Citizen Science Alliance)
- Panel discussion with Deborah Coen, Leandra Swanner, and Lukas Rieppel

3:30 – 4:30 PM

GECC CV Review

Westin Boston Waterfront Main Lobby

6:15 – 7:45 PM

Plenary Session: New Forms for Old Things: Experiments in Scientific Story-Telling

Room 253AB (Boston Convention and Exhibition Center)

Chair and Discussion Leader: Hélène Mialet (University of California, Berkeley)

- "A Biography of Marie Curie by Her Bicycle," Ken Alder (Northwestern University)
- "Hoso hasa: Manchu Science and the Sound of Shaking Paper," Carla Nappi (University of British Columbia)
- "Crafting Things, Crafting Words," Pamela Smith (Columbia University)

7:45 – 8:45 PM

Opening Reception: Light hors d'oeuvres and cash bar.

Mezzanine Foyer and Alcott (Mezzanine Level)

Mentor/Mentee and Newcomers Reception

Douglass (Mezzanine Level)

FRIDAY – 22 NOVEMBER 2013

7:30 – 8:45 AM

Women's Caucus Breakfast

Grand Ballroom D (Concourse Level)

Physical Science Forum Business Meeting

Bulfinch (Mezzanine Level)

Committee on Honors and Prizes Meeting

Sauciety Restaurant (Lobby Level)

9:00 - 11:00 AM

GECC CV Review

Grand Ballroom D (Concourse Level)

9:00 - 11:45 AM (Coffee Break 10:00 - 10:15)

Coffee Break in Commonwealth Foyer and Mezzanine Foyer

Session F1: Science, Technology, and Medicine during China's "Cultural Revolution"

Paine (Lobby Level)

Chair: Zuoyue Wang (California State Polytechnic University)

Organizer: Danian Hu (City University of New York)

- "Yuan Longping, Hybrid Rice, and the Historical Significance of Science in the Cultural Revolution and Beyond," Sigrid Schmalzer (University of Massachusetts, Amherst)
- "Knowing and Showing: Li Siguang and the Politics of Geological Demonstration," Grace Shen (Fordham University)
- "The Artful Herb: Artemisinin and Chinese Medical Research during the Cultural Revolution," Jia-Chen Wendy Fu (Case Western Reserve University)
- "Revisiting the Criticism of Relativity in China: Overlooked Western Influences and Unexpected Outcomes," Danian Hu (City University of New York)

• "Serve the People: CPM and PERT in China during the Cultural Revolution," Yibao Xu (Borough of Manhattan Community College of the City University of New York)

Session F2: Correspondence in Modern Science

Commonwealth Ballroom C (Concourse Level)

Chair: Janet Browne (Harvard University)

Commentator: Bernard Lightman (York University)

Organizer: Melinda Baldwin (Harvard University)

- "Amateurs, Professionals, or Citizens: Women Plant Collectors and the Harvard Botanists, 1860-1900," Tina Gianquitto (Colorado School of Mines)
- "Stokes and Tyndall: Correspondence, Referee Reports, and the Physical Sciences in Victorian Britain," Melinda Baldwin (Harvard University)
- "The Correspondence of William Huggins: Putting Meat on the Bones of the Scientist's Account," Barbara Becker (University of California, Irvine)
- "Einstein's Correspondence: Communities of Knowledge & Friendship in 20th Century Physics," Diana Kormos-Buchwald (California Institute of Technology)

Session F3: Understanding the Machine in Neptune's Garden: Historical Studies of Technology and Marine Science

Stone (Lobby Level)

Chair and Commentator: Helen Rozwadowski (University of Connecticut)

Organizer: Samantha Muka (University of Pennsylvania)

- "Photographic Tanks and Underwater Cameras: Visual Technologies of Marine Taxonomy," Samantha Muka (University of Pennsylvania)
- "Naval and Zoological Opportunism during World War II: The Case of the Snapping Shrimp," Alistair Sponsel (Vanderbilt University)
- "Have Lab, Will Travel': Per F. Scholander, the R/V Alpha Helix, and the Ship as Scientific Symbol," Penelope Hardy (Johns Hopkins University)
- "Seeing Sharks: The Development of the U.S. Shark Tagging Program, 1960-1990," Jennifer Martin (University of California, Santa Barbara)

Session F4: The Scientific Examination of Art

Hancock (Lobby Level)

Chair: Pamela Smith (Columbia University)

Commentator: Sarah Lowengard (The Cooper Union)

Organizer: Geert Vanpaemel (University of Leuven)

• "Scarlet Letters: The Experimental Research of Art in the Early Royal Society," Vera Keller (Robert D. Clark Honors College, University of Oregon)

- "'X-Rays... And You': Art Conservatorship as a means to Legitimize and Humanize X-Ray Technology in the Mid-Twentieth Century," Matthew Lavine (Mississippi State University)
- "Rembrandt's Chemist: AP Laurie and the Public Science of Art," Geert Vanpaemel (University of Leuven)
- "Fine Arts in a Laboratory: The Fogg Museum and the Emergence of Art Conservation," Francesca G. Bewer (Harvard University)

Session F5: Historical Ontologies

Commonwealth Ballroom A (Concourse Level)

Chair and Commentator: Peter Galison (Harvard University)

Organizers: Stephanie Dick (Harvard University) and Lukas Rieppel (Brown University)

- "Backward Needle: Revisiting the Ontology of Space through Japanese Reversed Compasses," Yulia Frumer (Johns Hopkins University)
- "The Ontological Assemblage of Fossil Dinosaurs," Lukas Rieppel (Brown University)
- "Mathematical Objects in Action': Ontological Entanglements of Mathematics and Computing," Stephanie Dick (Harvard University)
- "Drawing Out Syntax: Phrase Structure Diagrams and the Neural Ontology of Language," Michael Rossi (University of Chicago)

Session F6: Rethinking the Cold War Scientist: Advisers, Activists, and Archetypes from Sputnik to Star Wars

Douglass (Mezzanine Level)

Chair: S.M. Amadae (Ohio State University)

Commentator: Michael Gordin (Princeton University)

Organizer: Benjamin Wilson (Massachusetts Institute of Technology) and Daniel Volmar (Harvard University)

- "Trouble in 'Science City': Hanscom Field as a Literal Military-Industrial-Academic Complex, 1958–1962," Daniel Volmar (Harvard University)
- "The Controllers: Nuclear Arms Control, Community, and Conflict in the 1960s," Benjamin Wilson (Massachusetts Institute of Technology)
- "Taking the US from MAD to NUTS: James R. Schlesinger's Role in President Carter's Strategic Policy," S.M. Amadae (Ohio State University)
- "Vietnam Radicals and Star Wars Critics: Scientists, Activism, and the Problem of Professional Neutrality in the Late Cold War," Sarah Bridger (California Polytechnic State University)

Session F7: The Power of Analogies for Advancing Scientific Knowledge

Grand Ballroom C (Concourse Level)

Chair and Organizer: Roger Launius (Smithsonian Institution)

Commentator: David Devorkin (Smithsonian Institution)

- "The Frontier and the Space Program: Situating Space in the Myth of Manifest Destiny," Catherine Newell (University of Miami)
- "Comparing Antarctic Scientific Stations and Space Operations: Analogies of Public/Private Partnerships for Scientific Investigation," Roger Launius (Smithsonian Institution)
- "Lunar Geology and the Earth Analog," Lisa Messeri (University of Pennsylvania)
- "Earth Under Glass: Ecological and Ecocultural Mimesis at the Biosphere 2," L. Ruth Rand (University of Pennsylvania)

Session F8: Redefining 'Flora': New Directions in the Biological Construction of an Idea

Otis (Lobby Level)

Chair: Vassiliki "Betty" Smocovitis (University of Florida, Departments of Biology and History)

Organizer: Funke Sangodeyi (Harvard University)

- "Beneath the Mastodon: Creating the First Comprehensive Flora of North America," Daron Dierkes (University of Missouri – St. Louis, Missouri Botanical Garden)
- "A Flora with a Capital F': Asa Gray and the Making of the Flora of North America," Kuang-Chi Hung (Harvard University)
- "Lumpers and Splitters: Methods of Classifying the Flora of North America," Nuala Caomhánach (American Museum of Natural History)
- "It's Evolutionary, My Dear Watson: Darwinism and the Carboniferous Flora," Dawn Mooney Digrius (Stevens Institute of Technology)
- "Transforming the 'Normal Flora': The Making of the Ecological Human Body," Funke Sangodeyi (Harvard University)

Session F9: Creative Relationships: Gender and the Practice of Science on Four Continents

Revere (Lobby Level)

Chair and Commentator: Pamela Henson (Smithsonian Institution)

Organizer: Mariana Sombrio (State University of Campinas)

- "Barrier or Blessing? Evangelical Lutheranism, Gender, and Science: Maria Martin (1796–1863), a Case Study," Debra Lindsay (University of New Brunswick)
- "Scientific Practice in Japan: A Case Study of EMA Saiko, 1787-1861," Kae Takarabe (Chubu University, Japan)
- "Ladies at the Lectern: Career Pathways in Horticultural Education among the British Isles, 1896-1906," Donald Opitz (DePaul University)

Session F10: Making Knowledge Outdoors in Large, Organized Groups

Faneuil (Mezzanine Level)

Chair and Organizer: Mark Hineline (University of California, San Diego)

- "Clarence King and the Transcontinental Railroad as Scientific Technology," Paul Lucier (Independent Scholar)
- "Actual Witnessing: When Scientists Return with Colleagues to Look at Specimens," Mark Hineline (University of California, San Diego)
- "American Imperial Expeditions: The Scientific Survey of Puerto Rico," Darryl E. Brock (Fordham University)
- "Science in extremis: Locality and the 1963 American Mount Everest Expedition," Philip Clements (University of California, San Diego)
- "Exploration Endangered: Public Science in an Age of Private Spaceflight," Matthew H. Hersch (University of Pennsylvania)

Session F11: Managing Risk and Uncertainty in Postwar Biomedicine

Commonwealth Ballroom B (Concourse Level)

Chair and Commentator: Soraya de Chadarevian (University of California, Los Angeles)

Organizer: Andrew Hogan (University of Virginia)

- "Time on the Clock: Age-Related Infertility and Reproductive Technologies in Late 20th-Century America," Jenna Healey (Yale University)
- "Seeing and (Sometimes) Believing: Managing Uncertainty in Prenatal Diagnosis," Andrew Hogan (University of Virginia)
- "Molecular Oncology's Hybrid Entities and the Redefinition of Risk: The Case of Triple Negative Breast Cancer," Peter Keating (University of Quebec, Montreal), Nicole Nelson (McGill University), and Alberto Cambrosio (McGill University)
- "When Iatrogenesis Pervades Innovation: Hemophilia Management in the Age of Genetic Medicine," Stephen Pemberton (New Jersey Institute of Technology)

Session F12: Applying Science in America during the Cold War: Regulation, Industrial Management, and Leisure

Alcott (Mezzanine Level)

Chair: Dan Bouk (Colgate University)

Commentator: Larry Owens (University of Massachusetts, Amherst)

Organizer: James D. Skee (University of California, Berkeley)

- "From Civil to 'Climatic' Time: Seabrook Farms, Operations Research, and the Application of Climatology to Industrial Agriculture," James Bergman (Harvard University)
- "Safety Doesn't Sell... Unless We Say So: The Airbag's Role in Federal Regulatory Negotiations," Renée Blackburn (Massachusetts Institute of Technology)

- "Is Walt Disney serious...?': Outside Expertise at the 1964-1965 New York World's Fair," James D. Skee (University of California, Berkeley)
- "Surf's up...forever! In Wave Pools," Peter Neushul (University of California, Santa Barbara)

Session F13: Fields, Waves, and Particles: Debates in Modern Physics

Adams (Mezzanine Level)

Chair: Sabetai Unguru (University of Tel-Aviv)

- "The Resilience of an Inconsistent Model: Kirchhoff's Diffraction of Light Theory," Chan-Pang Yeang and Jed Buchwald (University of Toronto and California Institute of Technology)
- "'A New Radiant Force': Thomas Edison's Inquiry into the Implications of Electromagnetic Field Theory," Paul Israel (Rutgers University) and Louis Carlat (Rutgers University)
- "An Artifact-Based Study of Henry Moseley's X-Ray Spectroscopy," Kristen Frederick-Frost (Chemical Heritage Foundation)
- "Point-particles and Inexhaustible Atoms: Marxism and Particle Physics in Post-War Japan," Pablo Ruiz de Olano (University of Notre Dame)
- "Understanding Scientific Practice: Realism, Pragmatism, and Photons," Indianara Silva (Universidade Estadual de Feira de Santana) and Olival Freire (Universidade Federal da Bahia)

Session F14: Beyond Mendel: Studies in the History of the 20th Century Life Sciences

Grand Ballroom E (Concourse Level)

Chair: Doogab Yi (Seoul National University)

- "More than DNA: Daniel Mazia and the Importance of Cell Biology," Sherrie Lyons (SUNY, Empire State College)
- "Physical Explanations of Developmental Phenomena in Flux, 1950-1990: The Life and Work of J. P. Trinkhaus," Alan Love (University of Minnesota)
- "Social Dominance in Wasp Societies: Anthropomorphic Fallacy or Good Analogy? An Analysis of the Pardi-Deleurance Controversy in European Ethology," Guido Caniglia (Arizona State University)
- "Medical Genetics in Mexico, Circulation of Knowledge, and the Development of Cytogenetics," Ana Barahona (UNAM)
- "Rooting a Wild Grass: Brachypodium, Model Organisms, and Green Energy," Christopher Lyons (Texas A&M University)

11:15 AM – 1:15 PM

Committee on Meetings and Programs Meeting

Executive Boardroom (Mezzanine Level)

12:00 – 1:15 PM

Roundtable F1: Teaching History of Science Outside the Discipline

Revere (Lobby Level)

Chair and Organizer: Rebecca Kinraide (Boston University)

- "Contextualizing Conflict" Rebecca Kinraide (Boston University)
- "Fascinating Lives: Using Scientific Biography," Diane Greco Josefowicz (Boston University)
- "Engineering Ethics Beyond Failures," Christina Matta (University of Wisconsin-Madison)
- "Engaging Engineers," Sarah Pfatteicher (University of Wisconsin-Madison)
- "Training Teachers: What History of Science Offers to Social Studies Education," Brent Ruswick (West Chester University of Pennsylvania)
- "Exploring with the Exploratorium," Sanford Clark (Case Western Reserve University)

Roundtable F2: Where is the History of Science in the History of Capitalism?

Adams (Mezzanine Level)

Chair and Commentator: Seth Rockman (Brown University)

- "Labor," Joanna Radin (Yale University)
- "(Re)Production," Rebecca Woods (Columbia University)
- "Value," William Deringer (Columbia University)
- "Regulation," Sarah Milov (University of California, San Francisco)
- "Philanthropy," Lukas Rieppel (Brown University)

Roundtable F3: 100 Years of Isis - 100 Years of the History of Greek Science

Faneuil (Mezzanine Level)

Chair and Organizer: Alain Touwaide (Smithsonian Institution)

- Participants: Alain Touwaide (Smithsonian Institution)
 - Daryn Lehoux (Queen's University)
 - Efthymios Nicolaidis (Institute of Historical Research, National Hellenic Research Foundation)

Forum for the History of Science in America Business Meeting and Distinguished Lecture

Alcott (Mezzanine Level)

Panel Discussion: Women in American Science

Participants: • Nancy Hopkins (Professor of Biology, Massachusetts Institute of Technology)

- Lotte Bailyn (Sloan School Professor Emerita of Management, MIT)
- Evelynn Hammonds (Professor of the History of Science, Harvard University)

Forum for the History of Science in Asia Business Meeting

Paine (Lobby Level)

Forum for the History of the Mathematical Sciences Luncheon

Webster (Lobby Level)

Physical Science Forum Distinguished Lecture

Douglass (Mezzanine Level)

"Nuclear Wastelands, Nuclear Wilderness," Peter Galison (Harvard University)

1:30 – 3:30 PM

Session F15: Sharing Science in the Digital Age

Revere (Lobby Level)

Chair: Adelheid Voskuhl (University of Pennsylvania)

Organizer: Ann Johnson (University of South Carolina)

- "Biologists and Sharing Practices in 20th-Century Organism-Based Communities," Rachel Ankeny (University of Adelaide) and Sabina Leonelli (University of Exeter)
- "Astronomers, Sharing, and Data, 1965-1985," W. Patrick McCray (University of California, Santa Barbara)
- "Code on the Move: The Circulation of Computer Simulation Tools between Communities, "Ann Johnson (University of South Carolina)
- "A Tale of Two Algorithms: Sharing at the Emergence of Data Mining," Matthew Jones (Columbia University)

Session F16: Madness in the Colonies

Alcott (Mezzanine Level)

Chair: Erik Linstrum (University of Michigan)

Organizer: Anouska Bhattacharyya (Harvard University)

- "Making a Spanish Bedlam in the New World: Madness and Colonization in Colonial Mexico," Christina Ramos (Harvard University)
- "Madness in a Colonial Community: Surveying the Nineteenth-Century 'Native' Lunatic Asylum in British India," Anouska Bhattacharyya (Harvard University)

- "The Great Divide, or How an Obscure Psychiatric Diagnosis from Colonial Africa Ended Up In Playboy Magazine," Latif Nasser (Harvard University)
- "Mental Health' after Empire: British Experts and the Postcolonial Personality," Erik Linstrum (University of Michigan)

Session F17: The Fifty-Year Anniversary of the Limited Test Ban Treaty: Origins and Legacies

Stone (Lobby Level)

Chair: Jacob Hamblin (Oregon State University)

Organizer: E. Jerry Jessee (University of Wisconsin - Stevens Point)

- "United Nations' Scientific Committee on the Effects of Atomic Radiation and the Multinational Negotiations of Risk Knowledge, 1954-1958," Toshihiro Higuchi (University of Wisconsin-Madison)
- "'There is no Mystery about Producing a 50 Megaton Bomb': Very High-Yield Nuclear Weapons and the Limited Test Ban Treaty," Alex Wellerstein (American Institute of Physics)
- "Radiation Ecologies: Fallout, the Biosphere, and the Limited Test Ban Treaty," E. Jerry Jessee (University of Wisconsin Stevens Point)
- "Limits and Legacies: The Limited Test Ban Treaty and Global Environmentalism," Roger Eardley-Pryor (University of California, Santa Barbara)

Session F18: Sketches of a Conceptual History of Epigenesis

Commonwealth Ballroom B (Concourse Level)

Chair and Organizer: Charles Wolfe (Ghent University)

- "Matter Made Flesh: Anatomical Debates over the Material Origins of Fetuses, 1600-1651," Karin Ekholm (St. John's College, Annapolis, MD)
- "Dignity, Natural Theology, and Epigenesis," Benjamin Goldberg (University of South Florida)
- "Theorizing Epigenesis in a Time of Preexistence (1690-1730)," Angela Ferraro (Università di Roma "La Sapienza" and Université de Nantes)
- "Materialism and Epigenesis in Diderot's Biological Project," Charles Wolfe (Ghent University)

Session F19: DNA at 60: New Sources, New Questions, New Interpretations

Grand Ballroom C (Concourse Level)

Chair: William Summers (Yale University)

Organizer: Pnina Abir-Am (WSRC-Brandeis University)

• "Why Does the Identity of the Discoverers of DNA Structure Keep on Changing?," Pnina Abir-Am (WSRC-Brandeis University)

- "Narratives, Disciplines and the Agency of Biomolecular Techniques; or why Frederick Sanger Shifted from Protein to Nucleic Acid Sequencing (1945-1977)," Miguel Garcia-Sancho (University of Edinburgh)
- "Not Quite a 'Eureka moment.' Reception of the DNA Structure by the American Phage Group," William Summers (Yale University)
- "Proving How DNA Structure Replicates: An Insider Retrospect of the Meselson-Stahl Experiment," Matthew Meselson (Harvard University)

Session F20: Changing Meanings in/of the Middle East: Archaeological Work and the Disciplined Past

Commonwealth Ballroom C (Concourse Level)

Chair: Mirjam Brusius (Harvard University)

Commentator: Betty Anderson (Boston University)

Organizers: William Carruthers (University of Cambridge), Mirjam Brusius (Harvard University) and Melania Savino (Kunsthistorisches Institut, Florenz)

- "Making Egypt: Archaeological Practice and the Postcolonial State," William Carruthers (University of Cambridge)
- "The Development of Archaeological Practice in the Turkish Republic," Melania Savino (Kunsthistorisches Institut, Florenz)
- "Archaeological Practice in Jerusalem: Ideology and Nationalism," Katharina Galor (Brown University)

Session F21: Euro-Asian Encounters in the Scientific Revolution: Visual and Material Culture on the Move

Paine (Lobby Level)

Chair and Commentator: Harold Cook (Brown University)

Organizers: Daniel Margocsy (Hunter College - CUNY) and Anna Winterbottom (Indian Ocean World Centre)

- "A Natural History of Satyrs: Myths and Exotica in the Age of Discoveries," Daniel Margocsy (Hunter College CUNY)
- "Personal Science vs. Corporate Enterprise: Gathering Indigenous Botanical Knowledge in Seventeenth-Century India," Matthew Sargent (University of California, Berkeley)
- "Medical Cosmopolitanism and Design in Kandyan-Period Sri Lanka," Anna Winterbottom (Indian Ocean World Centre)

Session F22: Paper and Paperwork: Tools of Governance and Science

Hancock (Lobby Level)

Chair: Lissa Roberts (University of Twente)

Organizers: Andreas Weber (University of Twente) and Megan Williams (University of Groningen)

- "Armament of Embassy: Paper as a Tool of Governance in Sixteenth-Century Habsburg Foreign Policy," Megan Williams (University of Groningen)
- "A Master of Paperwork: C.G.C. Reinwardt (1773-1854), Natural History and the Governance of the Dutch Empire in the East," Andreas Weber (University of Twente)
- "Whitehall-Quebec: Writing Hydrography Across the North Atlantic, 1830-1850," Megan Barford (University of Cambridge)
- "Paper Bodies: Labanotation and the German State, 1910-1935," Whitney Laemmli (University of Pennsylvania)

Session F23: Science & Technology in Zionist Ideology and Imagination

Faneuil (Mezzanine Level)

Chair and Organizer: Noah Efron (Bar Ilan University)

Commentator: Rakefet Zalashik (Moses Mendelssohn Center, Pottsdam University)

- "The Scientific Imagination and the Origins of Zionism," Tal Golan (University of California, San Diego)
- "'Our Country Stands at a Crossroad': Science as a Bridge between East and West in Zionist Ideology," Noah Efron (Bar Ilan University)
- "Health and Nation Building: Exploring Zionism and Public Health in Context," Nadav Davidovitch (Ben Gurion University of the Negev)

Session F24: 'Secreta Secretorum'? Sarton, the History of Mathematics, and the History of Science

Grand Ballroom E (Concourse Level)

Chair: Brittany Shields (University of Pennsylvania)

Organizer: Karen Parshall (University of Virginia)

- "Tracing Practices: A Microhistorical Approach to World History of Science," Roger Hart (Texas Southern University)
- "Escaping the Esoteric: The Present State and Future Prospects of the Historiography of Greek and Medieval Islamic Mathematics," Lennart Berggren (Simon Fraser University)
- "Three Cases from Medieval and Early Modern Mathematics and Their Interrelations," Edith Sylla (North Carolina State University)
- ""The Kernel of the History of Culture': Mathematics in the Victorian World," Joan Richards (Brown University)

Session F25: Modern Science and Medicine in China

Otis (Lobby Level)

Chair: Robert G. Dorfman (University of Oxford)

• "Goldfish, History, and Progress: Divergent Understandings of Evolution and the Chinese Development of Experimental Biology in the Early Twentieth Century," Lijing Jiang (Princeton University)

- "Wartime Networks in the Life Sciences: Immunology and Bacteriology in China, 1937-1949," Mary Augusta Brazelton (Yale University)
- "Popular Science and the Wartime Dietary Reform Campaign in 20th-Century China" Seung-joon Lee (National University of Singapore)
- "Love China, But Not the Bomb: A Cultural History of Hoff Lu," Baojie Song (University of Minnesota)

Session F26: Science Education & Public Engagement in the 20th Century

Commonwealth Ballroom A (Concourse Level)

Chair: Bonnie Gidzak (University of Minnesota)

- "Exhibiting Health for the Public: Museum Challenges in the 1920s," Julie K. Brown (Independent Scholar)
- "The AIP's Selling of Physics during the Great Depression," Mina Park (Korea Advanced Institute of Science and Technology)
- "From Particles to Pedagogy: Alternative Careers of U. S. Atomic Physicists in the 1960's

 Frank Oppenheimer, Harvey E. White, and Robert Karplus," Arne Schirrmacher (Humboldt Universität zu Berlin)
- "Making the Grade: Quantification, Measurement, and Assessment in U.S. Precollege Mathematics Education," Emily Redman (University of Massachusetts, Amherst)

Session F27: Science and Technology in a Transnational Context

Douglass (Mezzanine Level)

Chair: Tamara Caulkins (Oregon State University)

- "Environmental Health and the Science of Industrial Salmon," Stephen Bocking (Trent University)
- "Predicting Disease and Sex in Silkworms," Lisa Onaga (Nanyang Technological University)
- "From Colonial to Imperial: Typhoon Study in the Japanese Empire, 1890s-1930s," Takuya Miyagawa (Seoul National University)
- "A Bullock Cart on Nuclear-Powered Wheels': Nuclear Science, Indigeneity and the National Development Narrative in India," Jayita Sarkar (Graduate Institute, Geneva)

Session F28: Exploring Space: Politics, Institutions, and Collaborations

Adams (Mezzanine Level)

Chair: Mordechai Hodkin (Northwestern University)

- "Politics, Scientific Priorities, and Big Science: The Development of U.S. Radio Astronomy," Sierra Smith
- "Arnold Frutkin and the Rhetoric of Cooperation in Space: Transnational Networks of Space Exploration at NASA, 1959-1979," Petar Markovski (University of Oklahoma)
- "The Dawn of Celestial Mechanics at the JPL," Allan Olley (University of Toronto)

• "From the Ground to Space (and Back Again to the Ground): Some Epistemological Questions on the Fabrication of Satellite Data," Gemma Cirac Claveras (Centre Alexandre Koyré)

2:00 - 4:00 PM

GECC CV Review

Grand Ballroom D (Concourse Level)

3:30 - 3:45 PM

Coffee Break

Grand Ballroom B and Foyer (Concourse Level) Mezzanine Foyer (Mezzanine Level)

3:45 – 5:45 PM

Session F29: Science, Diplomacy, and Security in the Cold War

Otis (Lobby Level)

Chair: Kristie Macrakis (Georgia Institute of Technology)

Commentator: Ron Doel (Florida State University)

Organizer: Douglas O'Reagan (University of California, Berkeley)

- "Comparing French and British Efforts to Exploit German Science and Technology after WWII," Douglas O'Reagan (University of California, Berkeley)
- "Textbook Diplomacy: The Biological Sciences Curriculum Study Abroad," Audra Wolfe (Independent Scholar)
- "IR, OR and DND: The Integration of Canada's Department of National Defence," Jonathan Turner (University of Toronto Mississauga)

Session F30: Recasting Germany's Scientific Past

Grand Ballroom E (Concourse Level)

Chair and Organizer: Kathryn Olesko (Georgetown University)

Commentator: Mitchell Ash (University of Vienna)

- "Bodies, Population, and Power: The Concept of Biopower and the Re-writing of Eighteenth-Century German History," Claudia Stein (University of Warwick)
- "Uses of Science in the Prussian State around 1800," Ursula Klein (Max Planck Institute for the History of Science)

 "Making Poland Prussian: Mapping the Polish Partitions and Reorganizing Polish Life" Kathryn Olesko (Georgetown University)

Session F31: Invisible Lives: Industrial Microbiology and Fermentation Sciences in Global Perspective

Stone (Lobby Level)

Chair and Organizer: John Ceccatti (University of Pennsylvania)

Commentator: Nicolas Rasmussen (University of New South Wales)

- "Activation and Redistribution: Nutritional Hopes for Japanese Fermentation Science, 1918-1945," Victoria Lee (Princeton University)
- "Polytechnic Penicillin: Innovation through Technology Transfer in the Context of Interdisciplinary Education," Christopher Leslie (Polytechnic Institute of New York)
- "Microbes in the Service of the State: Yeast, Brewing, and German Nationalism before the First World War," John Ceccatti (University of Pennsylvania)

Session F32: Texts as Tools: Rethinking the Cognitive Routines of Early Modern Learners

Faneuil (Mezzanine Level)

* We invite audience members to view related primary source documents, which will be uploaded two weeks in advance of the conference, and to tag the documents with questions and comments. To do so, please register in advance with MIT's Nota Bene through the following URL: http://bit.ly/17hUKMx. But there is no need to look at the website in advance of the panel!

Chair and Commentator: Ann Blair (Harvard University)

Organizer: Margaret Schotte (Princeton University)

- "Triangulating through Mathematical Seas: Teaching Trigonometry in Early Modern Navigational Manuals," Margaret Schotte (Princeton University)
- "The Page as a Picture: Visualising the Everyday World of Learning," Matthew Eddy (Durham University)
- "Dictionary, Phrasebook, Grammar: or, How to Learn a Foreign Language without the Aid of Foreigners," Hansun Hsiung (Harvard University)

Session F33: What It Means to Be a Mathematician: Post-WWII Mathematics in Search of Identity

Commonwealth Ballroom A (Concourse Level)

* This session is sponsored by the Forum for the History of the Mathematical Sciences.

Chair: Karen Parshall (University of Virginia)

Organizer: Slava Gerovitch (Massachusetts Institute of Technology)

• "International Mathematics and International Peace in the Mid-Twentieth Century," Michael Barany (Princeton University)

- "It is almost a social distinction': Constructing the American Applied Mathematician," Alma Steingart (Massachusetts Institute of Technology)
- "Laurent Schwartz and the Collective Life of Mathematics: The Case of the Mathematical Seminar in Postwar France," Anne-Sandrine Paumier (Institut de Mathématiques de Jussieu/Institut des Hautes Études Scientifiques)
- "Socially and mathematically, it was a paradise': Private Worlds of Soviet Mathematics in the 1970s," Slava Gerovitch (Massachusetts Institute of Technology)

Session F34: Natural Knowledge, Identity, and Authority in Modern Islam

Commonwealth Ballroom C (Concourse Level)

Chair: Robert Westman (University of California, San Diego)

Commentator: H. Floris Cohen (Utrecht University)

Organizer: Harun Kucuk (Max Planck Institute for the History of Science)

- "Experience in 18th-Century Istanbul," Harun Kucuk (Max Planck Institute for the History of Science)
- "Texts, Teachers, and Scholars: Studying the Sciences in 18th-Century Cairo," Jane Murphy (Colorado College)
- "Debating Science and Identity in the 19th-Century Ottoman Empire," Alper Yalcinkaya (Ohio Wesleyan University)

Session F35: Behavioral Sciences in the Postwar Era: Community of Discourse or Community of Practice?

Alcott (Mezzanine Level)

Chair and Commentator: Nicolas Guilhot (CIRHUS (CNRS-NYU))

Organizer: Philippe Fontaine (Ecole normale supérieure de Cachan)

- "A 'Not Particularly Felicitous Phrase': A History of the 'Behavioral Sciences' Label," Jeff Pooley (Muhlenberg College)
- "Propagandists for the Behavioral Sciences': The Partnership between the Carnegie Corporation and SSRC at Mid-20th Century," Emily Hauptmann (Western Michigan University)
- "The Committee(s) on the Behavioral Sciences: When Natural Scientists Talk about Society, 1949–1955," Philippe Fontaine (Ecole normale supérieure de Cachan)

Session F36: Biology on Land, at Sea, and in the Air: Research Methods, Transportation Technology, and the Biological Sciences in the United States, 1930-1975

Paine (Lobby Level)

Chair and Commentator: Frederick Davis (Florida State University)

Organizer: Gerard Fitzgerald (George Mason University)

- "Bioscience above the Borderlands: Fred C. Meier, Charles Lindbergh, and the Birth of Aerobiology in the United States 1933-1941," Gerard Fitzgerald (George Mason University)
- "Spraying the Airplane Way: Fred E. Weick, the Ag-1, and the Emerging Science of Aerial Application," David Vail (Kansas State University)
- "Invasion Biology, Environmental Diplomacy, and the Panama Sea-Level Canal Debate," Christine Keiner (Rochester Institute of Technology)

Session F37: Paleontology as an International Endeavour in the Nineteenth and Twentieth Centuries

Commonwealth Ballroom B (Concourse Level)

Chair: Paul D. Brinkman (North Carolina Museum of Natural Sciences)

Organizer: Ilja Nieuwland (Royal Netherlands Academy of Arts and Sciences)

- "Red Deer Shakedown: A History of the Captain Marshall Field Paleontological Expedition to Alberta, 1922," Paul D. Brinkman (North Carolina Museum of Natural Sciences)
- "Building Baluchitherium: Imperial and International Networks in Early 20th-Century Paleontology," Chris Manias (University of Manchester)
- "The Siwalik Fossils and Early Contributions to Paleontology from India," John Mathew (Duke University)
- "The Double-Edged Spike: The Iconic Dinosaur Iguanodon as the Agent of Reconstruction and Debate," Ilja Nieuwland (Royal Netherlands Academy of Arts and Sciences)

Session F38: The Material Culture of Music and the Auditory Culture of Science, 1800-1960

Revere (Lobby Level)

Chair: Emily Richmond Pollock (Massachusetts Institute of Technology)

Organizer: Axel Volmar (University of Siegen)

- "The Sound of Silver and Gold: 19th-Century Experiments with Materials and Acoustics," Rebecca Wolf (Deutsches Museum)
- "Max Planck's Cosmic Harmonium," Peter Pesic (St. John's College, Santa Fe, NM)
- "Image, Sound, and Logic: The Geiger Counter Between Nuclear Physics and Radiation Protection (1910–1960)," Axel Volmar (University of Siegen)
- "Scientific Scores: Sonic Skills, Diagrams and Field Work in Ornithology (1880-1930)," Joeri Bruyninckx (Maastricht University)

Session F39: Private Lives, Public Reputations

Adams (Mezzanine Level)

Chair: Alix Cooper (State University of New York, Stony Brook)

Commentator: Jan Golinski (University of New Hampshire)

Organizer: Meghan Roberts (Bowdoin College)

- "Loving and Learned: Jérôme Lalande, Amélie LeFrançois, and the Public Reputations of Women Astronomers," Meghan Roberts (Bowdoin College)
- "Private Practice: Women and the Family Asylum in Nineteenth-Century France," Jessie Hewitt (University of San Francisco)
- "William Herschel's Speculative Cosmology: Hypotheses and the Modest Natural Historian of the Heavens," Jennifer Pegg (Stanford University)

Session F40: Natural History and Natural Philosophy in the Eighteenth Century: Two Arts or One?

Grand Ballroom C (Concourse Level)

Chair and Organizer: Michael Bycroft (Max Planck Institute for the History of Science)

- "Réaumur's Assistants: Bridging the Gap between Natural History and Experimental Physics," Mary Terrall (University of California, Los Angeles)
- "Charles Dufay's Systematic Experimental History of Gems," Michael Bycroft (Max Planck Institute for the History of Science)
- "Jokes of Art: Useful Knowledge and the Virtuoso in the 18th Century," Paola Bertucci (Yale University)
- "From Philosophical Observer to Active Experimenter: Jean Senebier and the Transformations of the Chemical Study of Light," Victor Boantza (University of Minnesota)

Session F41: Science on Vacation

Hancock (Lobby Level)

Chair: Rebecca Woods (Columbia University)

Commentator: Daniela Helbig (University of Sydney)

Organizer: Megan Shields Formato (Harvard University)

- "Working Vacations: Dr. Mearns and the Museum," Amy Kohout (Cornell University)
- "For collecting a bathing suit and sneakers are indispensable': Summers at the Bermuda Biological Station, 1903-1926," Jenna Tonn (Harvard University)
- "Quantum Theory at the Summer Cottage," Megan Shields Formato (Harvard University)

Session F42: Women in Science

Douglass (Mezzanine Level)

Chair: Kathleen Sheppard (Missouri University of Science and Technology)

• "Illustrating Enlightenment Science: Women and Positions of Marginality," Margaret Carlyle (University of Cambridge)

- "Sexual Science as Gendered Science? Considering the Role of Women and Questions of Gender in Early 20th Century Sexology," Kirsten Leng (Columbia University)
- "The Use of Knowledge in Emerging Genetics: Strategies of Women, 1900-1930," Ida Stamhuis (Vrije Universiteit, Amsterdam)
- "A Moonwalk for Women: The Women's Health Initiative and Feminist Health Activism Since the 1990s," Heather Munro Prescott (Central Connecticut State University)

6:00 - 7:00 PM

HSS Distinguished Lecture: "Life on the Moon, Newspapers on Earth," James Secord (University of Cambridge)

Grand Ballroom A (Concourse Level)

During the nineteenth century, science became news. Ideals of journalistic objectivity developed in dialog with new forms of knowledge in the early nineteenth century, and in turn scientific practitioners drew on interactions with wider audiences in the making of knowledge. I will be looking at these issues by examining the global reach of the most celebrated piece of scientific news ever perpetrated, when the *New York Sun* announced in 1835 that the



astronomer John Herschel, working at an imperial observatory in Cape Colony and using a telescope of unprecedented power, had discovered life on the moon. Within the history of science, this story has a place in debates about extraterrestrial life, or is seen as a lesson in public gullibility. In the history of communication it is seen as a turning point towards a mass circulation press accessible to all readers. Tellingly, these two histories rarely intersect. To those who study newspapers, science is important but for reasons that are not entirely satisfactory; to historians of science, it doesn't seem to matter if it takes place in the newspapers at all. There is so much mythology surrounding the episode that we need to clear the ground and see what contemporaries said. Before we laugh at the gullibility of our forebears, it makes sense to examine why we have been willing to believe such tall tales ourselves.

7:00 - 8:00 PM

Earth and Environment Forum Meeting

Revere (Lobby Level)

Reception in Honor of John Neu

Webster (Lobby Level)

A reception celebrating the centennial of the *Isis* Bibliography and honoring John Neu, Editor Emeritus. All are welcome to come by and enjoy good conversation, light hors d'oeuvres, and a cash bar.

Joint Caucus for Socially Engaged Philosophy and History of Science Meeting

Paine (Lobby Level)

7:15 – 8:30 PM

HSS at Work Networking Event: Careers Outside the Academy

Grand Ballroom D (Concourse Level)

If you have considered jobs outside the traditional tenure track, have worked in such positions, or would just like more information about what roles other historians of science have taken beyond the academy, please join us for an informal networking event focused on giving academics the tools they need to think about a broad range of career options. The event will include refreshments and opportunities for casual conversation with identified experts in a variety of fields (including museums, non-profits, business, publishing, and independent research libraries). This event is part of a new HSS caucus "HSS at Work" and aims to help scholars think about career-related issues beyond the tenure track, such as the fields available to historians of science, how to conduct informational interviews, how to convert a CV into a resume, and how others have managed to maintain their active engagement as scholars and members of the HSS community from non-University positions.

7:30 – 9:15 PM

Isis Editorial Board Dinner

Faneuil (Mezzanine Level)

8:45 - 10:00 PM

Workshop F1: Laying the Foundation for Your Digital or Computational Project in the History of Science: an Interactive Workshop

Alcott (Mezzanine Level)

Chair: Julia Damerow (Arizona State University)

Presenters: Julia Damerow (Arizona State University) Erick Peirson (Arizona State University) Wally Hooper (Indiana University) Daron Dierkes (Missouri Botanical Garden) Adam Goldstein (Darwin Manuscripts Project) Manfred Laubichler (Arizona State University) Jane Maienschein (Arizona State University) Rapid advances in computer technology have created exciting new opportunities to enhance and transform historical research and education. Many historical projects involve the use of digital materials, and diverse digital collections are becoming increasingly available in openaccess repositories. One of the big promises of the "digital turn" in scholarship is increased opportunity for a sharing and integrating datasets. But how can we turn those aspirations of openness and interoperability into realities? And once we do, how can we leverage computational tools to gain new insights into the history of science?

Participants in the international Digital History and Philosophy of Science Consortium (www.digitalhps.org) are actively developing and implementing a wide range of tools and techniques, ranging from repositories and data management solutions to text-mining, network analysis, and ontologies. Come learn about how you can use these tools to jump-start or enhance your own digital projects! You will see brief demonstrations by representatives from various Consortium projects and have an opportunity to interact directly with those representatives to learn more about how you can use those tools in their own work.

If you are already using or developing digital and computational methods, we want to hear from you as well! Come learn how to get involved with the Consortium and exchange ideas and insights from your own research. This workshop will serve as a forum for discussion and sharing of experiences among scholars who have started, or are considering starting, their own digital projects.

Workshop F2: Wikipedia Workshop

Revere (Lobby Level)

* This workshop sponsored by the HSS Committee on Research and the Profession.

Chair and Organizer: Sage Ross (Wikimedia Foundation)

This is a Wikipedia training workshop to explore how historians of science can improve coverage of important topics on Wikipedia. During the workshop, participants will review Wikipedia editing in broad strokes, what history of science coverage is like (and what we know about the gender bias that's apparent in history coverage), suggestions for getting started as an editor, and the options for incorporating Wikipedia editing into courses. A broader discussion about the good and bad of history of science on Wikipedia, and broader strategy and tactics for improving key history of science coverage as a scholarly community will follow.

Before and after the scheduled workshop time, Mr. Ross will be available to give hands-on training to one or a few people at a time, as individual schedules allow.

Workshop F3: Your Work in One Minute

Adams (Mezzanine Level)

Chair: Nathan Crowe (University of North Carolina, Wilmington)

Organizer: Rachel Mason Dentinger (King's College London)

Presenter: David Attis (Education Advisory Board)

The HSS Graduate and Early Career Caucus is hosting a workshop on the craft of the elevator pitch. How do you explain your research, passion, and work in a minute or less? Whether you are seeking a job, grants, or admission, the articulate pitch is a critical skill for

the early careerist and established professional alike. This workshop session focuses on improving critical short-format communications in a workgroup setting. Participants should be prepared to discuss their own work in order to learn to how to make their presentation effective and more confident. Leaving the workshop with their own elevator pitch, they will have a chance to try it out immediately on their fellow scholars at the HSS annual meeting.

Workshop F4: The Past, Present, and Future of the Physical Sciences

Douglass (Mezzanine Level)

Chair: Amy Fisher (University of Puget Sound)

Organizers: Suman Seth (Cornell University), Don Howard (University of Notre Dame), and Amy Fisher (University of Puget Sound)

Presenters: Joseph Martin (Colby College) James Fleming (Colby College) Amy Fisher (University of Puget Sound) Richard Staley (University of Cambridge)

The inaugural meeting of the Physical Sciences Forum (PSF) was held at the HSS Meeting in San Diego in 2012. Participants from diverse fields of study discussed the goals and desired outcomes of the PSF including, but not limited to: developing a community of junior and established scholars working in the physical sciences, providing a regular venue in which to discuss issues in history and historiography, and promoting dialogue across subspecialties. This session will help to achieve these goals by fostering conversations about two aspects of the physical sciences: the role of disciplinary identity in framing research questions and methods and the tension in the literature between theory (conceptual development) and experiment (practice). Four scholars at various stages in their careers and with different research interests will provide short historiographical essays on these topics to stimulate discussion among session attendees on the history, present state, and future of the field. Each of the presenters will keep their remarks to approximately 15 minutes, to provide a foundation for discussion between session attendees and the panel.

Workshop F5: Demonstrating Darwin: Introduction to a New Pedagogical Approach in the History of Science

Paine (Lobby Level)

Organizer: Neeraja Sankaran (Yonsei University, Seoul)

This pedagogical workshop will introduce an innovative and interactive way to engage students with the history of science: Reacting to the Past (RTTP). Developed by a group of teachers at Barnard College, NY, RTTP consists of elaborate "games" set in the past, in which all learners are assigned roles informed by classic texts in the history of ideas. One RTTP game that is particularly appropriate for historians of science is Charles Darwin, the Copley Medal, and the Rise of Naturalism, 1862-1864, which thrusts students into the intellectual ferment of Victorian England just after publication of *The Origin of Species*. Students take on roles of different members of the Royal Society to debate and eventually decide whether or not Darwin merits the Copley Medal, the Society's most prestigious honor. What makes this episode particularly apt for enabling students to grapple with history is that Darwin was nominated more than once, and thus, there is no "correct" or prescribed

outcome. By playing the game and coming to their own decisions, students get a realistic idea of how the debate could have gone either way in any given year.

This workshop will provide HSS members some hands-on experience with the RTTP pedagogy by having them play one session of the Darwin game. Teachers and scholars who designed or have used this game in their classes will be at the meeting to introduce the concept, guide participants through the session, and also share their own experiences with Reacting.

SATURDAY – 23 NOVEMBER 2013

7:30 – 8:45 AM

Committee on Education Meeting

Sauciety Restaurant (Lobby Level)

Osiris Editorial Board Meeting

Sauciety Restaurant (Lobby Level)

7:45 – 8:45 AM

Forum for the History of the Chemical Sciences Breakfast

Commonwealth Ballroom C (Concourse Level)

8:00 – 9:00 AM

GECC CV Review

Grand Ballroom D (Concourse Level)

9:00 - 11:45 AM (Coffee Break 10:00 - 10:15)

Coffee Break in Grand Ballroom B and Foyer and Mezzanine Foyer

Session Sa1: Chemists and Chemistry in the Nineteenth Century: A Session in Honor of Alan J. Rocke

Commonwealth Ballroom C (Concourse Level)

* This session is sponsored by the Forum for the History of the Chemical Sciences and the Commission on the History of Modern Chemistry.

Chair: Mary Jo Nye (Oregon State University)

Commentator: Alan J. Rocke (Case Western Reserve University)

Organizer: Peter Ramberg (Truman State University)

- "Atomic Theory and Multiple Combining Proportions: Some Things Just don't Add Up," Mel Usselman (University of Western Ontario)
- "Intelligent Design' in Post-Bellum America? Edward Morley and the Theory of Heat," Rich Hamerla (University of Oklahoma)
- "William Barlow and the Determination of Atomic Arrangement in Crystals," Seymour Mauskopf (Duke University)
- "Dilemmas of 19th-Century Liberalism among German Academic Chemists: Shaping a National Science Policy from Hofmann to Fischer," Jeffrey Johnson (Villanova University)

Session Sa2: Agricultural History of American Science

Grand Ballroom E (Concourse Level)

* This session is sponsored by the Forum for the History of Science in America.

Chair and Organizer: Jeremy Vetter (University of Arizona)

- "Experiments all for Worldly Gain': Profit and Knowledge Making in Nineteenth-Century American Agriculture" Emily Pawley (Dickinson College)
- "New Grasses for the New South: Agrostology, Agriculture, and Environmental Transformation in the U.S. South," Albert Way (Kennesaw State University)
- "'The Debatable Ground Between': Agricultural Ecology in the Progressive Era," Mark Hersey (Mississippi State University)
- "Reframing Science from the Ground Up: Knowledge of Grass and Soil in the Making of the U.S. Great Plains," Jeremy Vetter (University of Arizona)
- "Agriculture and the Life Sciences in the Cold War Context," Sharon Kingsland (Johns Hopkins University)

Session Sa3: Institutionalizing Ethics

Commonwealth Ballroom B (Concourse Level)

Chair: Frazier Benya (National Academy of Engineering)

Commentator: Dan Wikler (Harvard University)

Organizer: J. Benjamin Hurlbut (Arizona State University)

- "Making Up Human Subjects: Participants in NIH Drug Research, 1959-1979," Laura Stark (Vanderbilt University) and Nancy Campbell (Rensselaer Polytechnic Institute)
- "Making a Place for Bioethics Discussions in the Federal Government," Frazier Benya (National Academy of Engineering)
- "Making Ethics a Part of Engineering," Mary Sunderland (University of California, Berkeley)

• "Reactive Institutions: Emerging Technologies and Public Bioethics from Recombinant DNA to Synthetic Biology," J. Benjamin Hurlbut (Arizona State University)

Session Sa4: Interrogating the Cosmos with Mathematical Imaginings and Physical Intuitions, 1880-1965: Bridging Disciplinary and Cultural Practices

Adams (Mezzanine Level)

Chair: Scott Walter (University of Lorraine)

Organizer: Connemara Doran (Harvard University)

- "Can the Global Curvature of Space be Empirically Determined?: Mathematical Imaginings, Physical Intuitions, and Constraints of Cosmological Measurement, 1873-1936," Connemara Doran (Harvard University)
- "Relativity and Astronomy at Caltech and Palomar, 1948-1961: How Allan Sandage Learned his "Two Numbers"," Peter Susalla (University of Wisconsin-Madison)
- "Poincaré's Probabilistic Approach to Planetary Physics and Cosmology," Scott Walter (University of Lorraine)
- "Everything from Nothing: John Archibald Wheeler's Metaphysics of the Vacuum," Aaron Wright (University of Toronto)
- "The Geometry of Fixed and Unfixed Stars: Shapley and Lemaître in the 1920s," Nasser Zakariya (New York University Polytechnic Institute)

Session Sa5: Reading Early Modern Science and Technology

Stone (Lobby Level)

Chair: Elaine Leong (Max Planck Institute for the History of Science)

Commentator: Paula Findlen (Stanford University)

Organizers: Renee Raphael (University of California, Irvine) and Elaine Leong (Max Planck Institute for the History of Science)

- "Kunckel Translates Neri: Reading Technology in the Seventeenth Century," Sven Dupré (Max Planck Institute for the History of Science)
- "Reading Lazare Rivière in Early Modern England," Elaine Leong (Max Planck Institute for the History of Science)
- "Doing Math with Galileo: Marginal Annotations in Extant Copies of his 'Two New Sciences'," Renee Raphael (University of California, Irvine)
- "Information Factory: Samuel Hartlib and the Creation of Scientific Knowledge," Carol Pal (Bennington College)

Session Sa6: The History of Science and/as the History of Media

Revere (Lobby Level)

Chair and Organizer: Orit Halpern (New School for Social Research)

• "A Hexagon Shaped World? Cousteau and French Cinema's Scientific Mission," James Cahill (University of Toronto)

- "Digital Complexity: On the Circulation of Special Effects," Oliver Gaycken (University of Maryland)
- "Test-Bed Urbanism: Cybernetics, Design, and the Territory of Ubiquitous Computing," Orit Halpern (New School for Social Research)
- "Vital Media and Population Aesthetics," Robert Mitchell (Duke University)

Session Sa7: Organisms in Changing Environments: Concepts and Contexts of Adaptability in 20th Century Plant Sciences

Alcott (Mezzanine Level)

Chair and Commentator: Everett Mendelsohn (Harvard University)

Organizers: Marci Baranski and Erick Peirson (Arizona State University)

- "The Awe in which Biologists Hold Physicists: Phytotrons, Ecotrons, and the Definition of a Science of the Environment in the Early Cold War," David Munns (John Jay College of Criminal Justice)
- "Wide Adaptation of Green Revolution Wheat: Climate, Agricultural Science, and the Indian State," Marci Baranski (Arizona State University)
- "Plasticity, Stability, and Yield: The Agricultural Dimensions of Anthony David Bradshaw's Model of Adaptive Phenotypic Plasticity," Erick Peirson (Arizona State University)
- "The Evolution of Phenotypic Plasticity: A New Perspective on the History of a Debate in Genetics," Antonine Nicoglou (Institut d'Histoire et de Philosophie des Sciences et des Techniques (IHPST), Université Paris)

Session Sa8: Metascience in the History of Science

Grand Ballroom C (Concourse Level)

Chair and Commentator: Adrian Johns (University of Chicago)

Organizer: Henry Cowles (Princeton University)

- "Inventing Photography, Inventing Science: Early Histories of a New Medium in Britain, 1839-1851," Chitra Ramalingam (Cambridge University)
- "Reinventing the Whewell: Anglo-American Vocabularies of Method," Henry Cowles (Princeton University)
- "Counting what Counts: Metrics of Science in the 19th Century," Alex Csiszar (Harvard University)
- "Heidegger on the Scientific Process," Cathryn Carson (University of California, Berkeley)

Session Sa9: Historians and Biologists: Mutualism, Commensalism, or Parasitism?

Douglass (Mezzanine Level)

Chair: David Foster (Harvard University) Organizer: Gina Rumore (University of Minnesota)

- "Expanding Time and Space: Historical Perspectives and the Long-Term Ecological Research Network," Gina Rumore (University of Minnesota)
- "Taylor's Valley: What the History of Antarctica's 'Heroic Era' Can Contribute to Contemporary Ecological Research in the McMurdo Dry Valleys," Adrian Howkins (Colorado State University)
- "Evolving Individuals: An Historian's Account of an Empirical Investigation," Mark Borrello (Indiana University)
- "Jaguar Traps, Monkey-Puzzles, and Parrot Quarantines: Accounting for the History of Women Field Scientists in Latin America," Emily Wakild (Boise State University)

Session Sa10: Postwar Transformations in the North American Medical Marketplace

Paine (Lobby Level)

Chair: Brianna Rego Lind (Life Sciences Foundation)

Organizer: Vanessa Burrows (The Graduate Center of the City University of New York)

- "Surveilling Salmonella: The Infrastructure of Foodborne Disease Outbreak Detection in Mid-Twentieth-Century America," Angie Boyce (Cornell University)
- "Redefining Quackery in the Age of Wonder Drugs," Eric Boyle (National Museum of Health and Medicine)
- "Hans Selye and the Selling of Stress," Eric Oosenbrug (York University)
- "Post-Antibiotic World? Biotech Approaches to Antibiotic Resistance," Brianna Rego Lind (Life Sciences Foundation)
- "'To Serve, and Not To Be Served': The AARP and the Origins of Medicare, 1958-1965," Ben Hellwege (The Graduate Center of the City University of New York)

Session Sa11: Beyond Blood and Guts: Probing the Body for Knowledge in the History of Medicine

Commonwealth Ballroom A (Concourse Level)

Chair: David Jones (Harvard University)

Organizer: Miriam Rich (Harvard University)

- "The Civilized Uterus: Race and the Pain of Childbirth in Early Nineteenth-Century American Obstetrics," Miriam Rich (Harvard University)
- "The Murderer and the Phrenologist: Constructing Body Expertise in Nineteenth-Century Prisons and Courts," Courtney Thompson (Yale University)
- "Addition by Subtraction: The Removal of the Spleen in Nineteenth-Century Darmstadt," Lisa Haushofer (Harvard University)
- "'Careful Consideration' and 'Due Discrimination': Bloodletting, Individuality, and Scientific Medicine in Late Nineteenth-Century Britain and America," Eli Anders (Johns Hopkins University)
- "Seeing and Doing: Therapeutic Fashion and the Interpretation of Coronary Angiography, 1950-1970," David Jones (Harvard University)

Session Sa12: Science Art and Visual Culture

Hancock (Lobby Level)

Chair: Glen M. Cooper (Brigham Young University)

- "The Graphic and Typographic Context of Regiomontanus's Books (Nuremburg 1474-1575)," Renzo Baldasso (Arizona State University)
- "Hans Holbein and the Renaissance Technology of Perspective," Alexander Boxer
- "Training for the Abstract: Visualizing *Geometrie* in the 16th-Century German Lehrbuch," Noam Andrews (Harvard University)
- "Ars et Scientia: The Van Der Guchts and Artistic-Scientific Networks in the First Half of the Eighteenth Century," Jennifer Steenshorne (Columbia University)
- "The Unnoticed Place of Art and Artists in Pasteur's Scientific Biography," Bert Hansen and Richard E. Weisberg (Baruch College, CUNY)

Session Sa13: Popularizing Science in the 19th Century

Faneuil (Mezzanine Level)

Chair: Lisanne W.B. Walma (Utrecht University)

- "The Shadow of Napoleon: Understanding Science and the Newspapers, 1800-1815," Iain Watts (Princeton University)
- "Edgar Allan Poe: Narrator of Nineteenth-Century Science," Murray S. Ellison (Virginia Commonwealth University)
- "Mountaineering and the Periodical Press: James Forbes's and John Tyndall's Debate over Glacial Motion," Nanna Kaalund (York University)
- "Mach's Popular Scientific Lectures," Maria Elisa Maia and Isabel Serra (Universidade de Lisboa)
- "The Pedagogical Use of Models in Late-Victorian Era Physics," Shawn Bullock (Simon Fraser University)

Session Sa14: Negotiating Medical Knowledge in the Early Modern World

Otis (Lobby Level)

Chair: Ashley Inglehart (Indiana University)

- "Shop Natural History: The Conversable and Convivial Science of the Renaissance Pharmacy," Valentina Pugliano (Cambridge University)
- "Needles, Texts and Anatomy: Towards a Cross-Cultural Understanding of Acupuncture in Seventeenth-Century Japan," Wei Yu Wayne Tan (Harvard University)
- "Making Observations: Patients and the Medical Encounter in Early Modern England," Olivia Weisser (University of Massachusetts, Boston)
- "Reforming Knowledge over the Nature of Drugs: A Physiological Turn in Eighteenth Century Chinese *Materia Medica*," He Bian (Harvard University)

• "Mercury Drugs as Objects of Knowledge in Tokugawa Japan," Daniel Trambaiolo (Princeton University)

12:00 – 1:15 PM

Roundtable Sa1: Sources and Resources: A Panel of Curators of Special Collections

Alcott (Mezzanine Level)

Participants: Marilyn Gaull (Boston University) Lilla Vekerdy (Smithsonian Institution) Ron Brashear (Chemical Heritage Foundation) Charles Greifenstein (American Philosophical Society) James Fleming (Colby College)

Roundtable Sa2: The Pleasures and Dangers of Social Media

Adams (Mezzanine Level)

* This roundtable is sponsored by the HSS Committee on Research and the Profession.

Chair and Organizer: Nathaniel Comfort (Johns Hopkins University)

- "My Own Private Ishkabibble: Individualizing the Scholarly Community," Nathaniel Comfort (Johns Hopkins University)
- "Social Media as Public Participation," Jaipreet Virdi-Dhesi (University of Toronto)
- "Kickstarting Scholarship: Crowdsourcing as a Historical Tool," Kathleen Bachynski (Columbia University)
- "Online Archives and the Illusion of Completeness," Stephen Casper (Clarkson University)
- "Sounding Out Social Media," Sean Cosgrove (University of Sydney)
- "Tweets as Sources in the History of Contemporary Science," Luis Campos (University of New Mexico)

Forum for History of Human Science Business Meeting and Distinguished Lecture

Faneuil (Mezzanine Level)

"Understanding Testing as Technology," Michael Sokal (Worcester Polytechnic Institute)

Early Science Forum Business Meeting

Paine (Lobby Level)

HSS at Work Business Meeting

Revere (Lobby Level)

Graduate and Early Career Caucus Business Meeting

Douglass (Mezzanine Level)

12:00 – 2:00 PM

Committee on Research and the Profession

Sauciety Restaurant (Lobby Level)

12:00 - 3:00 PM

Committee on Publications Meeting

Bulfinch (Mezzanine Level)

Finance Committee Meeting

Frost Boardroom (Mezzanine Level)

1:00 – 2:00 PM

GECC CV Review

Grand Ballroom D (Concourse Level)

1:30 – 3:30 PM

Session Sa15: Catholic Engagements with Science in the Nineteenth Century

Otis (Lobby Level)

Chair and Commentator: Phillip Sloan (University of Notre Dame)

Organizer: Jeffrey Zalar (University of Cincinnati)

- "The Fall of the American Priest-Scientist: John Zahm's Attempt to Bridge Evolution and Catholicism," John Slattery (University of Notre Dame)
- "A Medical Turf War: Rural Physicians and the Holy See in Post-Unification Italy," Aaron Wirth (Brandeis University)
- "The Popularization of Science in Catholic Germany, 1871-1918," Jeffrey Zalar (University of Cincinnati)

Session Sa16: Science as an Agent of Continuity, Part 1: Knowledge, Political Authority, and Social Stability

Grand Ballroom C (Concourse Level)

Chair and Organizer: Christine Manganaro (Maryland Institute College of Art)

- "The Cultural Synergy of Mathematical Knowledge in Magna Graecia," Jean De Groot (Catholic University of America)
- "Saving Appearances: Heredity and the Microcosm of New Spain at the Turn of the Seventeenth Century," Heather Peterson (University of South Carolina, Aiken)
- "Science for Children Voiced by a Portuguese Daily Newspaper (1924-1933)," Isabel Zilhão (Universidade Nova de Lisboa)
- "Struggling toward Stability: Human Ecology and the Nature of Colonial Development in Hawai'i," Christine Manganaro (Maryland Institute College of Art)

Session Sa17: Insides/Outsides: Drawing Out the Boundaries of Botanical Bodies and Environments

Paine (Lobby Level)

Chair and Commentator: Ann Shteir (York University)

Organizer: Lynnette Regouby (University of Wisconsin-Madison)

- "Saffron Fields and Naval Hospitals: Tending Bodies from the Outside In," Lynnette Regouby (University of Wisconsin-Madison)
- "Epigenesis and Milieu in Lamarck and Erasmus Darwin," Amanda Jo Goldstein (Cornell University)
- "Floral Embassies," Alison Syme (University of Toronto)

Session Sa18: Acid Rain, Acid Science, Acid Debates

Commonwealth Ballroom B (Concourse Level)

Chair and Commentator: Jimena Canales (Harvard University)

Organizer: Peder Anker (New York University)

- "Making the Invisible Visible: Scientific Expertise and International Policies on Acid Rain," Rachel Rothschild (Yale University)
- "The Environmental Antagonist at the Center Stage?," Peder Anker (New York University)
- "What is 'severe damage'? Facts and Values in the US-Canada Debates About Lake Acidification in the 1980s," Milena Wazeck (University of East Anglia)

Session Sa19: Foundations at the Philosophical Turning-Points: Chronicling Conceptual Turns in Theories of Modern Physics

Grand Ballroom E (Concourse Level)

Chair: Jaume Navarro (Universidad del País Vasco)

Commentator: Alexei Kojevnikov (University of British Columbia)

Organizer: Clarissa Ai Ling Lee (Duke University)

- "Explaining the Demise of the Ether," Jaume Navarro (Universidad del Pais Vasco/Euskal Herriko Unibertsitatea)
- "A Lost Manuscript from a Lost Voice: Grete Hermann's 1933 Essay on Quantum Mechanics," Elise Crull (University of Aberdeen)
- "Speculative Turns in the Standard Model of Particle Physics," Clarissa Ai Ling Lee (Duke University)

Session Sa20: Caste and Its (Dis)contents: Caste and the Scientific Imagination in India

Revere (Lobby Level)

Chair and Organizer: Banu Subramaniam (University of Massachusetts, Amherst)

Commentator: Balmurli Natrajan (William Paterson University)

- "Caste-distance, Affinities, and Anxieties in Indian Anthropometry, 1920-1960," Abha Sur (Massachusetts Institute of Technology)
- "Engineering Caste Subjects in Indian Technical Education," Ajantha Subramanian (Harvard University)
- "Dividing up the Earth: Caste, Sustainability and Theories of Ecological Resource Partitioning," Banu Subramaniam (University of Massachusetts, Amherst)

Session Sa21: Visual Epistemology and Early Modern Science

Hancock (Lobby Level)

Chair and Commentator: Nicholas Popper (College of William and Mary)

Organizers: Surekha Davies (Western Connecticut State University) and Brian Ogilvie (University of Massachusetts, Amherst)

- "America in Print, Print in America," Daniela Bleichmar (University of Southern California)
- "Mapping Exotic Monsters, 1500-1600," Surekha Davies (Western Connecticut State University)
- "Mapping the Insect Body: Pierre Lyonet's Anatomy of the Goat Moth Caterpillar," Brian Ogilvie (University of Massachusetts, Amherst)

Session Sa22: Winning the Science-Ethics Wars: Historians, Philosophers, and Bureaucrats

Commonwealth Ballroom C (Concourse Level)

Chair and Commentator: Sarah Pfatteicher (University of Wisconsin-Madison)

Organizer: Ioanna Semendeferi (University of Houston)

• "Motivating Ethical Science from the Inside: How Philosophy of Science's Knowledge-Building Should Matter to Scientists," Janet D. Stemwedel (San Jose State University)

- "Experiencing Science Ethics: Living in the Present-Connecting with the Past," Ioanna Semendeferi and Ioannis Pavlidis (University of Houston)
- "Being Ethical in Large-Team Science: A Quantitative Historical Perspective," Alexander Petersen (Institute for Advanced Studies, Lucca-Italy)

Session Sa23: Sciences of the Child in America and Russia, 1890-1950: Nutrition, Neuroscience, Health

Adams (Mezzanine Level)

Chair: Rima Apple (University of Wisconsin-Madison)

Organizer: Andy Byford (Durham University)

- "Children's Food and the Science of Child Growth in the Progressive Era United States," Helen Zoe Veit (Michigan State University)
- ""Reflexology' and 'Pedology' as Scientific Movements: V. M. Bekhterev in Russian/Soviet Child Science, 1900s-1920s," Andy Byford (Durham University)
- "Juvenile Health in Besieged Leningrad and Soviet Medical Science, 1941-1950," Pavel Vasilyev (St. Petersburg Institute of History of the Russian Academy of Sciences)

Session Sa24: Chymistry and Life in Early Modern Europe

Stone (Lobby Level)

Chair: Jole Shackelford (University of Minnesota)

Organizers: Evan Ragland (University of Alabama, Huntsville) and Joel A. Klein (Chemical Heritage Foundation/Indiana University)

- "The Principle of Life in Renaissance Natural Philosophy, Medicine and Alchemy," Hiro Hirai (Radboud University Nijmegen)
- "Daniel Sennert and the Quest for a Nearly Universal Medicine," Joel A. Klein (Chemical Heritage Foundation/Indiana University)
- "Transmuting Mechanism: Mechanical Ideals and the Chymistry of Life in the Work of Franciscus Dele Boë Sylvius," Evan Ragland (University of Alabama, Huntsville)
- "Life and Matter in Georg Ernst Stahl's Dissertation *De Intestinis*," Kevin Chang (Academia Sinica, Taipei)

Session Sa25: Human Sciences as Field Sciences

Faneuil (Mezzanine Level)

Chair: Ben Harris (University of New Hampshire)

Commentator: John Carson (University of Michigan)

Organizer: Jacy L. Young (York University)

- "Psychology and the Street: Hugo Münsterberg, Harold Burtt, and the 1914 Joint Street Lighting Committee," Jeremy Blatter (Harvard University)
- "'A Better Man Than Ever': German Mountaineering and Early American Space Medicine," Jordan Bimm (York University)

• "An ideal laboratory for studying social phenomena': Researching Social Relations in Children's Summer Camps," Jacy L. Young (York University)

Session Sa26: The History of Genetics in Context

Commonwealth Ballroom A (Concourse Level)

Chair: Luis Campos (University of New Mexico)

- "The Mutationism Myth, the Mendelian-Mutationist Synthesis, and the Missing Piece," Kele Cable and Arlin Stoltzfus (University of Minnesota and National Institute of Standards and Technology)
- "From the Lab to the Field: Tobacco Mosaic Virus, Mendelian Genetics, and Crop Improvement," Karen-Beth Scholthof (Texas A&M University)
- "Atomic Gardens: Radiation-Induced Mutagenesis and Agricultural Improvement," Brian Dick (Life Sciences Foundation)

Session Sa27: Freud and the History of Psychology

Douglass (Mezzanine Level)

Chair: Debbie Weinstein (Brown University)

- "Freud's Psychopharmacological Research in its Scientific and Medical Environment (1884-1887)," Anna Lindemann (University of Vienna)
- "Constructing Collectivities by Evolutionizing Freud and Spencer," Snait B. Gissis (Tel Aviv University)
- "A Dreamer and a Painter': Art and the Psychology of Dreams in Turn-of-the Century America," Emily Gephart (Tufts University/School of the Museum of Fine Arts)
- "Treating the Emotionally Troubled En Masse: The Rise of Group Therapy and the Management of Obesity," Jessica Parr (University of New Hampshire, Manchester/Granite State College)

Session Sa28: Global Science and Knowledge Transition in the 19th Century

Alcott (Mezzanine Level)

Chair: Anne Ricculli (Drew University)

- "The Acquisitive Sciences: 'Humboldtian' Science within World History," Jessica Ratcliff (Yale-NUS College)
- "The Impact of Humboldtian Science in the United States during the 19th Century," Sandra Rebok (Spanish National Research Council/Huntington Library)
- "Encounters and Exchanges in the Field between Men of Science and Aboriginal People in 1850s and 1860s Colonial Victoria," Amanda Lourie (Deakin University)
- "Transatlantic Communications: Sound, Space, and Science," Fiona Smyth (University College Dublin)

1:30 - 5:00 PM

Poster Session

Grand Ballroom Foyer

- "From Antediluvian Beasts to the Flaring Fields of the West," Daniel Zizzamia (Montana State University)
- "Research on the Origin of Engineering Science and its Development in China: Theory Frame and Case Study," Zhihui Zhang (Chinese Academy of Sciences)
- "Early Modern Japanese Theories of Vision," Tomoko Onabe (Osaka University)
- "Medical Practice and the Measurement of Nature," E.A. Driggers (University of South Carolina)
- "Digital History of Psychology: Clusters and Networks of Early Journal Articles," Christopher D. Green, Ingo Feinerer, and Jeremy T. Burman (York University and Technische Universität Wien)
- "The Units of Observation in the Belgian Population Censuses, 1846-1930," Kaat Louckx (Universiteit Gent)
- "The Enamel Knot. A History of Shifting Theoretical and Epistemic Commitments to Morphogenesis during the 20th Century Borne Out in Teeth," Kate MacCord (Arizona State University)
- "Paper Games: Graphical Methods and British Engineering Education at the Turn of the Century," Ion Mihailescu (Harvard University)
- "Expert Testimonial Discourse in Early Video Game CD-ROM Technology," Daniella Perry (University of California, Los Angeles)
- "The Regime of Cheese: Medicine, Experience, and Social Relations in Pantaleone of Confienza's *Summa Lacticiniorum* (1477)," Paolo Savoia (Harvard University)
- "LSD in LA: From Treating Alcoholics to the War on Drugs," Robert Schraff (University of California, Los Angeles)
- "Images, Innovation and the Lengthened Shadow': Dr. C.E. Kenneth Mees and the Development of Information Management Systems and Innovation Processes at the Kodak Research Laboratories, 1912-1950," Michael Staufenberg (Long Island University)
- "Weather and Time: Links between Early-modern Meteorology, Technologies of Time, and History," Brant Vogel

3:30 - 3:45 PM

Coffee Break

Grand Ballroom B and Foyer (Concourse Level) Mezzanine Foyer (Mezzanine Level)

3:45 – 5:45 PM

Session Sa29: Science and Its History in Educational Settings

Commonwealth Ballroom C (Concourse Level)

* This session is sponsored by the HSS Committee on Education.

Chair: Marga Vicedo (University of Toronto)

Organizer: James Evans (University of Puget Sound)

- "Science and History of Science at St. John's College," William Donahue (St. John's College)
- "History of Biology and the Uses of History in Biology Textbooks," Joel Hagen (Radford University)
- "The Politics of History of Science in the Science Classroom," Adam Shapiro (Birkbeck University of London)
- "How Much Science in a History Course? How Much History in a Science Course?," James Evans (University of Puget Sound)

Session Sa30: History of Data in Biology and Biomedicine

Commonwealth Ballroom A (Concourse Level)

Chair: David Sepkoski (Max Planck Institute for the History of Science)

Organizer: Hallam Stevens (Nanyang Technological University, Singapore)

- "Modeling Data and Animals in Movement Ecology," Etienne Benson (University of Pennsylvania)
- "Off the Rez: How Indigenous Bodies Became 'Big Data'," Joanna Radin (Yale University)
- "Replaying Life's Tape': Simulations, Databases, and the Reconstruction of the Past," David Sepkoski (Max Planck Institute for the History of Science)
- "GenBank and the Role of Big Data in Biology," Hallam Stevens (Nanyang Technological University, Singapore)

Session Sa31: Happiness beyond the Professoriate - Advising and Embracing Careers Outside the Academy

Otis (Lobby Level)

 \ast This session is sponsored by HSS at Work and the HSS Committee on Research and the Profession.

Chair: Tania Munz (Northwestern University)

Organizer: Carin Berkowitz (Chemical Heritage Foundation)

- "Careers in Policy and Business," David Attis (Education Advisory Board)
- "Widening Our Professional Horizons: What Academics Can Do," Lynn K. Nyhart (University of Wisconsin-Madison)
- "Between the Museum and the Academy," Sara Schechner (Harvard University)
- "Scholarly Societies, Research Libraries, and the Broader Landscape," Jim Grossman (American Historical Association)

Session Sa32: Science as an Agent of Continuity, Part 2: Science for Stability and Maintenance in Industrial America

Grand Ballroom C (Concourse Level)

Chair: Monika Gisler (Unternehmen Geschichte, Zürich)

Organizer: Roger Turner (Dickinson College)

- "Infrastructural Science: Stabilizing Socio-Technical Systems through Routinized Scientific Observation and Prediction," Roger Turner (Dickinson College)
- "Foreboding Fruit: Ellen Isham Schutt's Pomological Illustrations of Decay (1911-1915)," Xan Chacko (University of California, Davis)
- "Growing Concerns: Selective Science and the National Fertilizer Association, 1910-1950," Timothy Johnson (University of Georgia)
- "Forward to the Past: Forecasting Continuity in Energy Debates During the 1970s," Henry Trim (University of British Columbia)

Session Sa33: When Mathematics Mattered

Alcott (Mezzanine Level)

Chair and Commentator: Joan Richards (Brown University)

Organizer: Amir Alexander (University of California, Los Angeles)

- "The War Against Disorder: The Jesuit Victory over Indivisibles," Amir Alexander (University of California, Los Angeles)
- "A Scientific Object at the Paris Opéra: Jean Phillipe Rameau's Pygmalion Moment and Sentimental Empiricism as a Culture of Affect," Kevin Lambert (California State University-Fullerton)
- "Changing Order: Mathematical Life at the Fall of an Empire," Massimo Mazzotti (University of California, Berkeley)

Session Sa34: Secretive Informers: Transmitting 'Indigenous Knowledge' in Latin America, 16th to 19th Centuries

Hancock (Lobby Level)

Chair and Organizer: Stefanie Gänger (Cologne University)

- "Mexica Evidence in the Spanish Court: Visual Thinking in a 1539 Inquisitorial Trial," Iris Montero (Cambridge University/Brown University)
- "Between History and Theory. Knowledge about Water in Colonial Mexico," Ivonne del Valle (University of California, Berkley)
- "Inalienable Truths. Indian Informers in Eighteenth-Century Botanical Writings about South American Medicinal Plants," Stefanie Gänger (Cologne University)
- "Idols and Theodolites: Mapping Pre-Conquest Antiquities in Early 19th-Century Mexico," Miruna Achim (Universidad Autónoma Metropolitana-Cuajimalpa)

Session Sa35: Science as Performance: Optical Instruments, Imagination, and Trust in Early Modern Europe

Stone (Lobby Level)

Chair: Nick Wilding (Georgia State University)

Commentator: Raz Chen-Morris (Bar-Ilan University)

Organizer: Megan Baumhammer (University of Sydney)

- "Starry Messengers and Imaginative Journeying: Reading and Visualising in Kepler's *Dissertatio cum Nuncio Sidereo*," Megan Baumhammer (University of Sydney)
- "Sitting Inside the Eye: Robert Hooke's Public Optical Demonstrations," Ian Lawson (University of Sydney)
- "Conjuring Trust: Optical Performance and the Formation of Scientific Spectacle," Aileen Robinson (Northwestern University)

Session Sa36: Infection as Host-Parasite Interaction: Studying Parasites at the Interface of Biology and Medicine

Commonwealth Ballroom B (Concourse Level)

Chair: Neeraja Sankaran (Yonsei University, Seoul)

Organizers: Rachel Mason Dentinger (King's College London) and Pierre-Olivier Méthot (Laval University)

- "Epidemic Types, Changes in Virulence, and the Evolution of Host-Parasite Interactions: The "Transforming Principle" of Fred Griffith in Historical Context," Pierre-Olivier Méthot (Laval University)
- "Postcolonial Ecologies of Parasite and Host: Making "Tropical' Medicine Cosmopolitan," Warwick Anderson (University of Sydney)
- "Patterns of Infection and Patterns of Evolution: How a Malaria Parasite Brought 'Monkeys and Man' Closer Together in the 1960s," Rachel Mason Dentinger (King's College London)

Session Sa37: Boxed Environments - Glassware and the Rise of Ecological Thinking

Revere (Lobby Level)

Chair: Nathan Crowe (University of North Carolina, Wilmington)

Commentator: James Collins (Arizona State University)

Organizer: Florian Huber (University of Vienna)

- "The Aquarium and the Formation of Modern Ecology," Christina Wessely (Humboldt University of Berlin)
- "Glassy Nature: The Blaschka Models," Florian Huber (University of Vienna)
- "Meeting Halfway: John C. Lilly's Cybernetic Dolphin Experiments," Jan Mueggenburg (Leuphana University Lüneburg)

Session Sa38: Developmentalism and the Human Sciences in Nineteenth-Century Britain

Faneuil (Mezzanine Level)

Chair: Peter Harrison (University of Queensland)

Commentator: James Elwick (York University)

Organizer: Ian Hesketh (University of Queensland)

- "Close Encounters of the Human Kind: Ethnographic Observations of Indigenous Peoples from the Beagle Voyage Narratives, 1826-1836," Efram Sera-Shriar (York University)
- "Progress and Purpose in the Evolutionary Epic; or The Victorian Origins of 'Big History'," Ian Hesketh (University of Queensland)
- "Herbert Spencer's Late Lamarckism," Theodore Koditschek (University of Missouri)

Session Sa39: Transnational Science? Building the Nation across the Mexican-U.S. Frontier

Paine (Lobby Level)

Chair: Joel Vargas-Dominguez (Universidad Nacional Autonoma de Mexico)

Commentator: John Krige (Georgia Institute of Technology)

Organizer: Josep Simon (Universidad del Rosario)

- "Transnational Lives in Science? Manuel Sandoval Vallarta at the Crossroad of the U.S.-Mexico Journey," Adriana Minor Garcia (Universidad Nacional Autonoma de Mexico)
- "Transnational Standards? Making 20th-Century Nutritional Knowledge across Mexico and the U.S.," Joel Vargas-Dominguez (Universidad Nacional Autonoma de Mexico)
- "Transnational Pedagogy? The Itineraries of the Physical Science Study Committee in Mexico," Josep Simon (Universidad del Rosario)

Session Sa40: Epistemic Strategies in 20th-Century Physics and Cosmology: Reshaping Spaces, Structures, and Styles

Grand Ballroom E (Concourse Level)

Chair and Commentator: Silvan Schweber (Harvard University)

Organizer: Sophie Ritson (University of Sydney)

- "The Cosmic Microwave Background: Reshaping the Conceptual Space of Modern Cosmology," Jacob Pearce (University of Melbourne) – This paper will not be presented, but can be downloaded at www.hssonline.org/Meeting/2013HSSMeeting/Pearce.pdf. Comments and questions may be shared with the session chair.
- "Dualities in Superstring Theory: From 'Oddity' to Epistemic Strategy," Sophie Ritson (University of Sydney)
- "The Early Years of the Electronic Computer as a Tool for Physicists: Exploring its Epistemological Potential," Edo N.W. van Veen (Radboud University Nijmegen)

Session Sa41: Making Hearing Aids: Diverse Motivations, Aesthetics, and Audiences

Adams (Mezzanine Level)

Chair: Graeme Gooday (University of Leeds)

Commentator: Daniel Mitchell (Harvard University/Cambridge University)

Organizer: Jaipreet Virdi-Dhesi (University of Toronto)

- "Cotton-Wool vs. Vulcanized Rubber: Expertise and the Artificial Tympanum Controversy," Jaipreet Virdi-Dhesi (University of Toronto)
- "The Aesthetics of the Invisible: The Design and Meaning of Nineteenth-Century Aids to the Deaf," Karen Sayer (Leeds Trinity University)
- "Hearing Aids at the Historical Nexus of Patenting, Prosthetics, Physics and Physiology," Graeme Gooday (University of Leeds)

Session Sa42: Constructing and Deconstructing Pseudoscientific Objects

Douglass (Mezzanine Level)

Chair: Katja Guenther (Princeton University)

- "Richard Owen and the End of Monster Studies," Brian Regal (Kean University)
- "From Peale to Piltdown: Artists, Amateurs, and Agendas in Science," James Burnes (University of Oklahoma)
- "Reich's Bion Experiments and the U.S. State Department," James Strick (Franklin & Marshall College)
- "Inventing a Viking Ancestor: Prestige, Pressure, and Human Evolution in Interwar Scandinavia," Peter Kjærgaard (Aarhus University)

6:00 - 6:45 PM

HSS Prize Ceremony

Grand Ballroom A (Concourse Level)

7:00 – 9:30 PM

100th Anniversary Celebration of Isis:

MIT Museum (265 Massachusetts Ave., Cambridge, MA 02139)

Celebrate the centennial of *Isis* with hors d'oeuvres and a hosted bar (beer and wine). A celebratory cake will be cut and served at 8:30.

Buses will run on a circuit from the hotel to the MIT Museum with a stop after the MIT Museum in the Faneuil Hall neighborhood for local dining. Buses will begin departing the hotel at 6:45, and the last bus will leave the MIT Museum at 9:45.

The MIT Museum store will be open during the reception, and free tickets for a brief behind the scenes tour of the Museum will be available on a first-come, first-serve basis at the MIT Museum – tickets available at the Museum's 2nd floor reception desk.

Please note that this is a ticketed event. You must wear your name badge for admittance.

SUNDAY – 24 NOVEMBER 2013

8:30 - 9:30 AM

HSS Business Meeting and Strategic Planning

Webster (Lobby Level)

See agenda on p. 62 or online at www.hssonline.org/Meeting/index.html.

8:30 - 10:00 AM

Nominating Committee Meeting

Frost Boardroom (Mezzanine Level)

10:00 AM - 12:00 PM

Session Su1: Writing the History of Scientific Academies

Commonwealth Ballroom C (Concourse Level)

Chair and Commentator: Daniel Kevles (Yale University)

Organizer: Peter Westwick (University of Southern California)

- "The NAS in the 1960s: The Rebellion of the Underappreciated Engineers, Physicians and Social Scientists," Ruth Schwartz Cowan (University of Pennsylvania)
- "The Royal Society and British Foreign Relations," Peter Collins (Royal Society)
- "Serving the State and Science: The NAS and the Vietnam Era," Peter Westwick (University of Southern California)

Session Su2: Practices of Human Measurement

Stone (Lobby Level)

Chair and Commentator: Emily Brock (University of South Carolina)

Organizer: Elizabeth Neswald (Brock University)

- "Measuring Metabolism," Elizabeth Neswald (Brock University)
- "Patterns of Pathology: The Graphical Method, Laparoscopy and 'Mechanical Objectivity' in 20c. Gynecology," Ramona Braun (University of Cambridge)
- "The Unmeasurable Serial Killer: Epistemic Shocks around 1930," Malte Bachem (Eidgenössische Technische Hochschule, Zürich)

Session Su3: Evidence and Evolutionary Theory at Darwin's Deathbed: Rethinking the "Eclipse of Darwin"

Grand Ballroom C (Concourse Level)

Chair and Commentator: Brian K. Hall (Dalhousie University)

Organizer: Mark Ulett (Arizona State University)

- "Marine Dredging, Deep Sea Crinoids, and Wyville Thomson's Late-Nineteenth-Century Rejection of Darwinian Natural Selection," Rodolfo John Alaniz (University of California, San Diego)
- "Darwin's Russian Defender: Peter Kropotkin's Struggle between Neo-Darwinism and Neo Lamarckism," Eric Johnson (University of British Columbia)
- "The Energy of Evolution: Edward Drinker Cope and the Nature of Variation," Mark Ulett (Arizona State University)

Session Su4: Metabolic Philosophy: Digesting Biology in Mid-20th Century European Thought

Hancock (Lobby Level)

Chair and Commentator: Hannah Landecker (University of California, Los Angeles)

Organizer: Isabel Gabel (Columbia University)

- "Humanist with an Ontological Attitude': On Kurt Goldstein's Anxious Brain," Simon Taylor (Columbia University and Reed College)
- "History, Heredity, Event: Raymond Aron, Georges Canguilhem and an Epistemology of Biology," Isabel Gabel (Columbia University)
- "Muscles without Bodies: The Philosophy of Biology and the Strange History of In Vitro Meat," Ben Wurgaft (Massachusetts Institute of Technology)

Session Su5: The Order of the Interdisciplinary: How the Materiality of Sociopolitics Shapes Interpretations and Representations in Physics

Douglass (Mezzanine Level)

Chair: Linda Richards (Oregon State University)

Organizer: Clarissa Ai Ling Lee (Duke University)

- "The Historiography of Relativity: Partisanship, Politics, Poetry and Prejudice," John Stachel (Boston University)
- "Only Connect: Laboratory Design and the Genesis of Physical Chemistry in Meiji Japan," Yoshiyuki Kikuchi (The Graduate University for Advanced Studies, Sokendai)
- "Subaltern Science and Indian Nationalism: Meghnad Saha," Somaditya Banerjee (University of Idaho)
- "On the Beach: Speculative Fact and Fiction in Health Physics," Linda Richards (Oregon State University)

Session Su6: Who Counts? Responses to Natural Challenges in Cambodia and Vietnam

Alcott (Mezzanine Level)

Chair: C. Michele Thompson (Southern Connecticut State University)

Commentator: Hue-Tam Ho Tai (Harvard University)

Organizer: Michitake Aso (University at Albany-State University of New York)

- "Irrigating Numbers: Evolving Claims of Water Flow Management and Measurements in the Red River Delta," Michitake Aso (University at Albany–State University of New York)
- "Measured Relief: Coping with Floods and Social Differentiation in Rural Cambodia," John Marston (El Colegio de México)
- "Discovery as Disaster: The Fate of the Saola and of the Peoples Who Know It Best," C. Michele Thompson (Southern Connecticut State University)

Session Su7: Social Organization and Labor Relations in the American Human Sciences

Commonwealth Ballroom A (Concourse Level)

* This session is sponsored by the Forum for History of Human Science.

Chair: Andrew Jewett (Harvard University)

Commentator: Jamie Cohen-Cole (George Washington University)

Organizers: Tal Arbel (Harvard University) and Jason Oakes (University of Pennsylvania)

- "Office Work and Knowledge of Life: Gender and the Organization of Work at the Metropolitan Life Insurance Company and the Institute for Biological Research," Jason Oakes (University of Pennsylvania)
- "The Moral Life of Scientific Survey Research," Tal Arbel (Harvard University)
- "Subject-Experimenter Relations in Postwar Psychology Experiments: The Case of the Bogus Pipeline' Technique," Jill Morawski (Wesleyan University)

Session Su8: Plotting the History of European Agriculture: Between Urban and Rural, Knowledge and Practice, Tradition and Innovation

Paine (Lobby Level)

Chair and Commentator: Prakash Kumar (Colorado State University)

Organizer: Joppe van Driel (University of Twente)

- "The Fat of the Land: Oeconomic Chemistry in Late Eighteenth-Century Dutch Agriculture," Joppe van Driel (University of Twente)
- "Agrarian Reform and the Invention of Veterinary Medicine in Eighteenth-Century Italy," Karl Appuhn (New York University)
- "The Garden City Paradise," Thomas Fleischman (Yale University)

Session Su9: Reduce, Reuse, Recycle: Histories of Epistemic Practice in the Human and Life Sciences

Commonwealth Ballroom B (Concourse Level)

Co-Chairs and Organizers: Melissa Lo (Harvard University) and Marissa Petrou (University of California, Los Angeles)

- "Cartesianism, Chaos, and *reductio ad absurdum*: Gabriel Daniel's *Voyage du monde de Descartes* (1690) in an Age of Pictorial Reproduction," Melissa Lo (Harvard University)
- "Upcycling Science: Collecting, Editing, and Publishing Scientific Papers in the Early 18th Century Royal Society," Elizabeth Yale (Western Carolina University)
- "Recycling Skulls, Reducing Exoticism: Drawing the Line between Physical and Cultural Anthropology in Imperial Germany," Marissa Petrou (University of California, Los Angeles)
- "Repurposing Herbaria: New Roles for Plant Specimens in the 21st Century," Maura Flannery (St. John's University, New York)

Session Su10: Nurturing the Nation, Cultivating Innovation

Faneuil (Mezzanine Level)

Chair and Commentator: Joshua Nall (University of Cambridge)

Organizer: Joy Rankin (Yale University)

- "Bridging for Innovation: MIT's "Technological Education" and Academic-Industrial Research between World Wars," Ellan Spero (Massachusetts Institute of Technology)
- "A Personal 'Computer Revolution': Achieving Widespread Interactive College Computing 1963-1968," Joy Rankin (Yale University)
- "The Elite's Last Stand: Negotiating Toughness and Fairness in the IIT-JEE," Shreeharsh Kelkar (Massachusetts Institute of Technology)

Session Su11: Crossing Boundaries: Vernacular Science in the Late Medieval and Early Modern Worlds

Otis (Lobby Level)

Chair: Kurt Boughan (The Citadel)

Commentator: Steven A. Walton (Michigan Tech)

Organizer: Kenneth Mondschein (Higgins Armory Museum/Westfield State University/American International College)

- "Alchemical Cosmology and the Quest for a Universal Science in the Fifteenth and Sixteenth Centuries," Nancy L. Turner (University of Wisconsin-Platteville)
- "He Who Contemplates the Earth and Makes It Tremble': Meteorological Phenomena in a Late Byzantine and Slavonic Manual of Natural Philosophy," Anne-Laurence Caudano (University of Winnipeg)
- "The Science of Arms: Fencing Books as Vernacular Science," Kenneth Mondschein (Higgins Armory Museum/Westfield State University/American International College)

Session Su12: Eugenics, Race, and Human Genetics in America

Grand Ballroom E (Concourse Level)

Chair: Deborah Levine (Providence College)

Commentator: Marsha L. Richmond (Wayne State University)

- "The New Intellectual Hierarchy: Mongrelist Sociology in America, 1918-1937," Kevin Donnelly (Alvernia University)
- ""These Hindering Forces': Intellectual and Cultural Foundations of Postwar Eugenics on the Southern Great Plains," Ry Marcattilio-McCracken (Oklahoma State University)

Session Su13: Studies in Modern Science and Religion

Adams (Mezzanine Level)

Chair: David Hecht (Bowdoin College)

- "Religion and Science at the Sidelines: American Modern Orthodox Jews' Encounter with Darwinism in the 20th Century," Rachel Pear (Bar Ilan University)
- "The Historical Debate about End Times and Environmental Action among Evangelical Christians," Melissa Charenko (University of Wisconsin-Madison)
- "An Enhanced Needham Question on the Birth of the Modern Physics," Gennady Gorelik (Boston University)