

Newsletter

of the History of Science Society

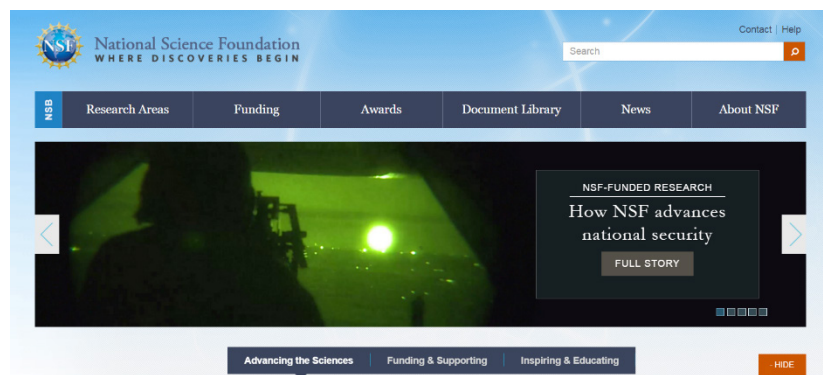
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DEMYSTIFYING THE NSF PROCESS

by Anita Guerrini, Oregon State University

Over the course of my career, I've had four National Science Foundation (NSF) grants to fund my research on early-modern topics. The first, back in the early 1980s, was a Dissertation Improvement Fellowship, and I remember sending multiple (20?) Xerox copies of my application through the mail. The most recent, granted just last year, is a Standard Grant, filed online. I've also—as have many HSS members—reviewed proposals for NSF, as well as for other granting agencies, and I have served on the NSF STS panel in suburban Washington. I'm not sure this makes me an expert on the NSF, but since I've been involved at both ends of the process, maybe my experience can help demystify it a bit.

If you are even thinking about applying to NSF, the first thing to do is **check the STS program solicitation**. History of Science is under the Science, Technology, and Society (STS) program, which is under the Division of Social and Economic Sciences (SES), all of which are included in the directorate for Social, Behavioral, and Economic Science (SBE): Washington is the land of acronyms. The easiest way to access the STS website is to do a Google search for “NSF STS” (without the quotes). The current program directors are Fred Kronz (a philosopher of science), and Wenda Bauchspies,



whose background is in sociology and STS. Fred and Wenda are there to guide you through the application process. They can't write your proposal for you, but they can offer well-informed advice.

Get to know the grants people at your institution. Since almost every college and university in the US receives some sort of federal funding, there will almost certainly be a Sponsored Projects Office on your campus, which will be familiar with NSF and with FastLane (the online federal grant submission system). That does not mean you have to have an academic affiliation to apply—many people have been quite successful applying as independent scholars. But if you are at an institution, you will need to apply through that institution (and they will take a chunk of your grant as “overhead”).

On the NSF website, take some time to look at the list of previous awards in your field. You can look at just the STS awards—**there's a link at the bottom of the**

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STS program page—and if you click on the award title, you will be taken to a page with an abstract. This is helpful in giving you an idea of the range of topics that are considered STS, and it will also give you insights into what you might be competing against. STS covers history, philosophy, and sociology of science, and most years, history proposals, particularly in pre-modern eras, are decidedly in the minority. This definitely does not mean you should not apply! More on this below.

Before you begin your proposal, you should **consult the NSF FastLane page**. Go to the “FastLane FAQs” for a downloadable “FastLane Help” manual. This will guide you through the labyrinth of NSF forms required for a FastLane application. It does not give specific information on writing a proposal; for that you need to consult the somewhat daunting **Proposal and Awards Policies and Procedures Guide**, or PAPPG, which gives details on the correct length of proposal narratives (Project Descriptions, in NSF-speak) and what needs to be included. It is best to download a PDF of that so you can search it easily. A lot of it is, of course, geared toward scientists, but buried in the bureaucratic prose (including a list of acronyms!) are essential instructions and requirements for preparing a proposal—you must follow the guidelines to the letter.

The main sections of an NSF Project Description are the overview, intellectual merit, and broader impacts. These are displayed in miniature in your one-page Project Summary (written, of course, after you have written the Project Description itself), and at greater length in your 15-page Project Description. First, a bit of advice: keep strictly to the prescribed length (and yes, 15 pages rather than a word count is kind of vague, but think of scientists who don’t necessarily write their entire proposal in prose but include equations or diagrams). The PAPPG specifies accepted typefaces, sizes, and margins. As far as spacing, the rule is “no more than six lines of text within a vertical space of one inch.”

The Project Description should be as precise as possible about two main things: what you are going to do during the period of your grant, and what the final products of your research will be. Note that not all of these products need to be completed within the grant period: if you are just starting on a project, the two years of most grants will almost certainly not be enough to do the research for and write a book. You should be able to discuss with confidence where your work fits within the existing historiography, and how it changes or expands upon it. As the PAPPG states, “Proposers should address what they want to do, why they want to do it, how they plan to do it, how they will know if they succeed,

History of Science Society

EXECUTIVE OFFICE

History of Science Society

440 Geddes Hall
University of Notre Dame
Notre Dame, IN 46556
Phone: 574-631-1194; Fax: 574-631-1533
E-mail: info@hssonline.org
Web site: <http://www.hssonline.org/>

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EDITORIAL POLICIES, ADVERTISING AND SUBMISSIONS

The *History of Science Society Newsletter* is published in January, April, July, and October, and sent to all individual members of the Society.

The *Newsletter* is edited and published in the Executive Office. The format and editorial policies are determined by the Executive Director in consultation with the Society Editor. All advertising copy must be submitted in electronic form. Advertisements are accepted on a space-available basis only, and the Society reserves the right not to print a submission. The rates are as follows: Full page (10 x 7”), \$625; Horizontal or Vertical Half page (5 x 7”), \$375; Quarter page (5 x 3.5”), \$225. The deadline for insertion orders is six weeks prior to the month of publication and should be sent to info@hssonline.org. Please send photographs in a jpeg format, with a maximum size of 1024 pixels and file size of 1 MB to maintain quality during sizing and printing. The deadline for news, announcements, and job/fellowship/prize listings is firm: four weeks prior to the month of publication. Long items (feature stories) should be submitted eight weeks prior to the month of publication. Please send all material to the attention of the Executive Office: info@hssonline.org.

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DEMYSTIFYING THE NSF PROCESS, *CONT.*

and what benefits could accrue if the project is successful.” Keep in mind that although the external reviewers of your proposal will be experts in your field, the members of the panel may not be. So you need to leave out in-group jargon and write as clearly as possible for an educated, STS-savvy but not necessarily history-savvy audience.

Be sure to leave room in your Project Description for the all-important “Broader Impacts” section. This can include many things, such as how you will disseminate the results of your research beyond academe. A list of examples appears at https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13626. It is important to note that diversity is also an important goal, and you should highlight the ways in which your research might contribute to a more diverse and inclusive science. There is no prescribed length for this section, but it should be at least a page.

At this point, you have gone over your project description with a fine-tooth comb for typos, included your 7-page bibliography and statements on data management and facilities and equipment. You have included your 2-page bio according to NSF guidelines (no, you can’t append your 20-page CV). Your budget, you think, is reasonable. So you send your submission to your Sponsored Projects Office at least a week before the NSF deadline, and they press the button to submit. Now what happens?

In the next six months or so, your proposal goes through two sets of review. First, it is sent to experts in your field (and you can suggest reviewers, or list those whom you think would not give a fair review). They will read your proposal and rank it according to five categories: Excellent, Very Good, Good, Fair, Poor. The reviewers will write comments, and you will get to see these after the reviewing process is over. Whether you get the grant or not, the comments can be very helpful. If you are asked to be a proposal reviewer, please do it if at all possible. It is indeed time-consuming, but it is one of the best kinds of service, and it will give you a better feel for what constitutes a good proposal, as well as helping your fellow historians with well-reasoned comments. Of course if you review a proposal, you will need to maintain confidentiality.

After proposal review, a review panel meets twice a year in Washington, DC (actually Arlington, Virginia, where the NSF moved several years ago). These meetings are in spring (late March-early April) and fall (late October-early November). The panel consists of about 15 people, representing the fields and disciplines that the STS directorate covers: history of science, history of technology, philosophy of science, sociology, STS. When I was on the panel I was one of I think three or four historians, and the only pre-1800 historian. The panelists are each

assigned a dozen or so proposals to review before the meeting, not all of which are in their areas of expertise—I did not, for example, get all of the history proposals. The panel also has access to the reviewers’ rankings and comments. They then add their own rankings. Each proposal is reviewed by two panelists.

The panel meeting itself takes place over an intense three days, in a room full of computers—everything is done online—presided over by genial overlord Fred Kronz. At the panel I attended, we had over 100 proposals to consider for an unspecified, but pretty small, number of awards. Often it is unclear exactly how many awards can or will be made, owing to congressional delays or budgetary snafus, as well as the size of individual budgets. But the panelists are very aware that not everyone will be funded, and indeed that most applicants will not be funded. The panel carefully considers each proposal. Those whose reviews are all “fair” or “poor” most likely will have little chance of funding but are nonetheless discussed. I was very impressed by the focus and dedication of my fellow panelists, who strove to be as fair as possible. At least one of my favorites went down in flames before the panel’s withering gaze, while others rose in my estimation after a spirited defense. Fueled by coffee and fruit trays, the

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DEMYSTIFYING THE NSF PROCESS, *CONT.*

panel powered through the proposals, ranking them into several categories that differ from the excellent-to-poor categories of the external reviewers. The panel's categories include, among others, "highly recommended," "recommended," and "do not fund." The proposals are also ranked within these categories, because it is never clear at the time the panel meets exactly how many can actually be funded.

Budgets are not part of the panel's purview, although if a budget seems inflated someone may comment on it. But a big-ticket proposal can swamp its competition, and your program officers will often request budget revisions from successful applicants in order to fund a few more. To give a somewhat different example: many years ago I was on an NEH panel for editions and translations, and we agreed to fund two very big-ticket items whose names you would recognize, leaving a very small pool of dollars for the other 30 or so applicants.

Once the panel has made its rankings, the program officers get to work figuring out how many can be funded, requesting budget revisions, informing applicants of the fate of their applications, and making it all look pretty seamless. The notifications generally go out about two months after the panel meeting, so that if your application is unsuccessful, you have time to regroup, and, paying close attention

to your reviewers' comments, revise your proposal for the next submission, in February or August. Resubmissions are very common and are not considered differently than first-time submissions—so don't be discouraged if you don't make it on the first try. It is fiercely competitive. Serving as a proposal reviewer and, if you can spare the time, serving on a review panel are invaluable experiences that will help you to produce a better application. I certainly applied the knowledge I gained from serving on a panel to my most recent successful NSF application.

Funding of all sorts is uncertain in our current political climate. But simply the act of writing a proposal is a very useful exercise—small consolation, to be sure, if you do not get funding. Your program officers work very hard to help applicants with the process, and many times will man (and woman) a table at the HSS annual meeting to talk over proposals. They will also give feedback on preliminary proposals. Take advantage of this, even if your next proposal is months or years away. And don't give up.



**Join us in Toronto for the 2017 HSS Annual Meeting,
9-12 Nov 2017**

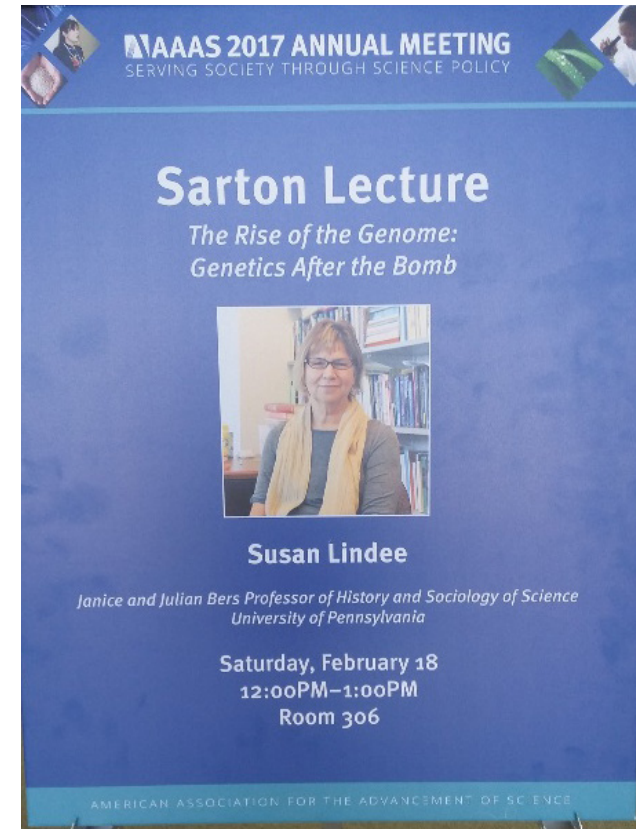
HSS AT AAAS

AAAS Sarton Memorial Lecture: “The Rise of the Genome: Genetics after the Bomb”

Susan Lindee (University of Pennsylvania) delivered the 2017 George Sarton Memorial Lecture in the History and Philosophy of Science at the annual meeting of the American Association for the Advancement of Science (AAAS) this past February. She proposed that the use of atomic bombs in Japan in August 1945, and the policy of intensive atmospheric weapons testing that began almost immediately after the war, created a perfect storm of human genetics. Genetic effects of radiation in the offspring of the survivors were the most feared long-term consequences at the time, and radiation risk quickly emerged as a major international concern. Some calculations of global impact predicted genetic damage stretching indefinitely into the future, with many millions of victims. The question of how to calculate genetic risk attracted public funding and highly visible debates. The bomb jump-started genetics with money, publicity, social relevance, and policy importance. It diverted attention from the tragic scandal of the involvement of geneticists in German racial hygiene and in many other eugenics movements around the world—at the very moment when revelations about the Holocaust were emerging. Geneticists suddenly had a new mandate, one that required technical sophistication and public support.

Nuclear weapons testing, she noted, constituted what Bo Jacobs has called a *limited nuclear war*, not between the Soviet Union and the United States, but rather one between the superpowers and those disadvantaged, impoverished, disempowered people who were vulnerable to testing and nuclear development programs. The nuclear states were all on the same side in this battle—they detonated more than 2000 nuclear weapons that destroyed the lives of people who could not retaliate in kind—in the Marshall Islands, Algeria, Polynesia, and other sites, producing radioactive dust that circled the globe.

For geneticists, the stakes in calculating genetic risk became extraordinarily high. One of the key players was the University of Michigan geneticist James V. Neel (1915-2000) who led the program to study the genetic effects of radiation in the atomic bomb survivors in Japan, under the Atomic Bomb Casualty Commission. Neel was an influential field researcher who also played an important role in studies of isolated populations, twins, and consanguinity. He is best remembered today, Lindee pointed out, for his work on the “thrifty gene hypothesis,” a possible evolutionary explanation for worldwide obesity rates, but in his own lifetime he was a critical player in debates about radiation risk. Much of his research was supported by the Atomic Energy Commission.



In this, he was joined by many other biologists, geneticists, and scientists of all kind: Radiation justified significant public support for science.

Many geneticists who studied radiation risk worked on flies or mice, and it was in this context that Neel sparred with Nobelist and fly geneticist H.J. Muller (1890-1967). Muller believed that

HSS AT AAAS

AAAS Sarton Memorial Lecture, *cont.*

results with flies showed much higher risks than could be detected in human populations. Neel knew that human populations posed difficulties of method, access, and ascertainment, but still believed that international standards for acceptable radiation exposure should be based on what was known about human risk, rather than mice or flies. It was a classic problem of extrapolation.

Geneticists tried to calculate a “doubling” dose for mutations, but in practice they did not know what was being doubled. The effort to assess the natural mutation rate in human populations led to the work with the Xavante and the Yanomami that Neel undertook in South America. It also led, quite directly, to the Human Genome Project.

In the 1980s, a series of meetings oriented around mapping an entire human genome—through which it might finally be possible to track the natural mutation rate—led to discussions at the Atomic Bomb Casualty Commission in Hiroshima (it had been renamed and reorganized as the Radiation Effects Research Foundation in 1975) about possible Department of Energy support for a complete mapping project. The computing capabilities developed for the nuclear arms race, and ready for use in DOE

labs, became a resource for biological research. And while the DOE plan was taken over by the National Institutes of Health, it began with the atomic bomb, and the frustrations of trying to find genetic effects, effects that all concerned believed to be there, but indecipherable. In 1988 the NIH created an Office of Genome Research and hired James Watson to run it. The genome began to be sold to Congress and the public as a 15-year project that would have tremendous medical benefits and that deserved significant public funding.

Despite decades of research—including significant molecular studies—statistically significant genetic effects in the atomic bomb survivors have never been found.

As Lindee suggested, the atomic bomb made genetics a risk-assessment science. The risk of mutation made sense of large-scale studies of the genome. The importance of atomic energy to economic development justified the research costs. And the technologies developed to carry out genomic mapping were embraced by the biotech industry, leading to a new era of genomic testing. Testing was the low-hanging fruit for the profit sector, and access to the genome produced a new era of genomic testing, rather than an era of genomic healing. Today DNA is often a

resource for testing, and not for cures—as in the new race sciences, ancestry testing, the selling of DNA for leisure consumption (“genotainment”) and so on.

What becomes clear in this story of genetics is that the history of path-breaking science is not just about technical details, but also about human lives, that what we know about heredity is as historical as it is technical.

[The Sarton Lectures, which began in 1961, are sponsored by the AAAS, by Section L the History and Philosophy of Science in AAAS, and by the HSS. The lectures honor the memory of George Sarton, one of the founders of our profession.]



Plan Ahead Future HSS Meetings

Toronto, Ontario: 2017, 9-12 Nov.

Seattle: 2018, 1-4 Nov.
Joint meeting with PSA

**Utrecht, The Netherlands: 2019,
Early August!**

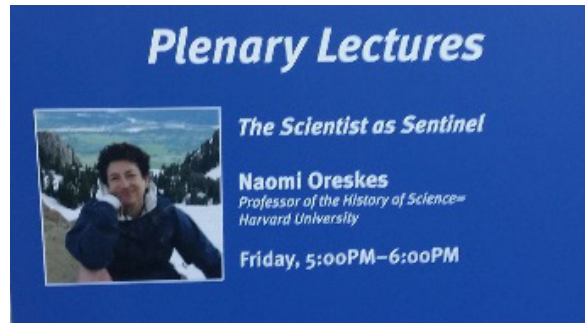
HSS AT AAAS

Naomi Oreskes Delivers Plenary Lecture

In her well-attended talk at the annual meeting of AAAS, Naomi Oreskes told the hundreds of members in the audience that scientists have a responsibility to share their findings with the public. She

recognized that many scientists are uncomfortable with extreme activism—Jim Hansen’s civil disobedience being one example—but for those who believe that they should maintain a low profile and engage in pure research (the pure science ideal) should realize that if their results are at odds with a partisan group, they will be dragged into the fray. She encouraged scientists to take a middle ground, what she called the Responsible Scientist, a space that operates on the principle that facts do not speak for themselves and it is our duty to explain our research. A video of her talk can be found here:

<https://www.aaas.org/page/scientist-sentinel>.



History of Science in the AAAS Exhibit Hall

Those who happened to visit the University of Chicago exhibit would have seen several of HSS’s prize-winning books on display.



HSS AT AAAS

RNA Splicing at 40: Reflections on Scientific Progress, Policy, and Social Justice

Lessons from our session at AAAS-2017¹

by Dr. Pnina G. Abir-Am, Resident Scholar, WSRC, Brandeis University, (pninaga@brandeis.edu)

The discovery of RNA splicing (1977), a landmark in the history of molecular biology and just as important as the announcement of DNA's structure (1953) and messenger-RNA function (1961), marks its 40th anniversary this year. The discovery poses major challenges for historians of science, as the session's subtitle suggests, on the interaction of scientific progress, social justice, and science policy. Scientific anniversaries have already engaged historians of science due to their unique ways of illuminating the nexus of "history and memory."² Since previous sessions on anniversaries of the discovery of DNA structure did very well at the HSS Annual Meetings in 2003 and **2013**; it seemed

worthwhile to plan a session at AAAS on the 40th anniversary of RNA splicing, and to make it a collaboration between scientists, especially those whose perspectives are not well known, and historians of science.

Co-sponsored by Section L (History and Philosophy of Science) of AAAS, our session consisted of three speakers (Pnina Abir-Am, Louise Chow, and Ruth Sperling), a moderator (William Summers), and a discussant (Thomas Broker). Summers opened the session by explaining the nature of the discovery of RNA splicing.³ The discovery, which came as a much emphasized "surprise," (note 3) opened a new vista not only in basic molecular biology, but also in its far-reaching applications for the Human Genome Project and the biotech industry. The discovery culminated

with recent achievements of uncovering high resolution structures of intermediates of the biomolecular assembly in charge of splicing: the spliceosome. The structural and functional studies of the endogenous spliceosome—the supraspliceosome—a huge (21Mda) stand-alone biomolecular machine in nature (bigger than the ribosome!) were also presented in our session.

Prior to introducing the speakers, Summers further emphasized scientific, historical, philosophical, and sociological issues converging around the theme of scientific credit, further elaborating on why the discovery of RNA splicing is an excellent example of a problematic allocation of credit. For example, as Summers reminded the audience, most of the discovery's co-authors, including the first authors, received no significant credit for their innovative work.⁴ In some cases, the names, let alone the career trajectories of the first authors, are barely

¹ <https://aaas.confex.com/aaas/2017/webprogram/Session15440.html>, held on 2-18-2017; Session organizer: Pnina G. Abir-Am/WSRC-Brandeis; Session co-organizer: William C. Summers/Yale.

² For example, two dozen historians of science from several countries contributed to *Commemorative Practices in Science: Historical Perspectives on the Politics of Collective Memory*. (University of Chicago Press, 2000; vol. 14 of *Osiris*, annual publication of the History of Science Society) Eds.: Pnina G. Abir-Am & Clark A. Elliott; *La Mise en Memoire de la Science*, (Paris: Editions des Archives Contemporaines, 1998) sous la direction de Pnina G. Abir-Am. Contrary to "received wisdom" these volumes are not a translation of each other (i.e. the authors are different in each volume except for three who wrote different essays for each volume).

³ By showing that many eukaryotic messenger-RNAs are not co-linear with DNA but rather are products of (multiple) splicing of non-contiguous segments of a primary transcript of the genome, the discovery not only challenged the universality of RNA-DNA co-linearity but led to a new paradigm of genetic regulation. Complex RNA processing mechanisms, such as splicing but especially "alternative splicing" enable a relatively small number of genes (~20K) to code for a much larger diversity of functional proteins. (>150K) For further details see M. Fry, (2016) *Landmark Experiments in Molecular Biology*, Elsevier; especially ch. 11, "The Surprising Discovery of Split Genes or RNA Splicing," 481-521.

⁴ The Nobel Prize was given in 1993 to two lab directors, Richard Roberts & Philip Sharp; as a result, scientists widely assume that those two were the primary and only discoverers. (e.g. Fry 2016 in note 3) However, recent interviews with scientists revealed that they are aware that the clinching work was done by those who "did not get the Nobel" (see details in note 6).

HSS AT AAAS

RNA Splicing at 40, *cont.*

known. Our session's aim, as the first effort by scientists and historians to shed light on this discovery, was therefore to explore whether the role of some scientist-discoverers may have been obscured, as the canonical account of this key discovery has evolved during the preceding four decades. (Note 3)

The connection between the moderator's introduction of the challenges surrounding scientific credit for discoveries in general—and for RNA splicing in particular—and the speakers, thus became obvious. Louise T. Chow, Professor of Molecular Biology at the University of Alabama in Birmingham, explained in stunning detail—further captured by superb slides—her training in advanced electron microscopy of viruses and nucleic acids as a graduate student and as a post-doc, working with Norman Davidson⁵ at

Caltech. To that training, contained in a particularly sophisticated PhD thesis, she added method improvements devised during her time as a junior staff scientist in the Electron Microscopy (EM) lab at the Cold Spring Harbor Laboratory (hereafter CSHL), as well as her special flair for the EM technology. Such an edge enabled her to convert the EM technology, which many scientists at the time (including her would-be collaborators) regarded as a mere “service” or confirmation tool, into a discovery tool. Chow thus redefined the discovery (from its initial origins as an effort to clarify findings from other fields, such as the chemistry of oligonucleotides, RNA-DNA hybridization, and gene transcription) into an EM discovery, the centerpiece and proof of RNA splicing as a “surprise” discovery.⁶ Chow went on to

discover “alternative splicing,” a process of even greater importance than ordinary splicing. However, she remains unrecognized for either discovery.

Session discussant Thomas R. Broker, also of the University of Alabama in Birmingham, who is the 3rd co-author of the “discovery paper” from CSHL, was at the time (1977) the Electron Microscopy (EM) Lab Chief at CSHL and worked closely with Chow on the challenge of accurately mapping the DNA loops formed whenever RNA-DNA hybridization included non-hybridizing segments (under certain conditions, RNA-DNA hybrids are more stable than double stranded DNA, so non-hybridizing DNA segments form loops visible in the EM). These two arrived at CSHL in February 1975, shortly after they had met and married during their time as post-docs in Davidson's lab at Caltech.

At the organizers' request, Broker elaborated on how Chow's role as discoverer has been

⁵ On Davidson, see his biographical memoir as a member of the US National Academy of Science, <https://www.nap.edu/read/11429/chapter/5>; though well known in his own right, Davidson was a key collaborator of Linus Pauling's, as evident from his role as co-custodian of Pauling's public memory. See A. Rich & N. Davidson, eds. *Structural Chemistry and Molecular Biology* (honoring Pauling's 65th birthday, San Francisco: Freeman, 1968. On Pauling's students who contributed to molecular biology see P.G. Abir-Am, “Pauling's Boys and the Mystery of DNA Structure,” in M. Kaji, Y. Furukawa, H. Tanaka, and Y. Kikuchi, eds. *The Transformation of Chemistry from the 1920 to the 1960s*, (Tokyo: The Japanese Society for the History of Chemistry, 2016) 99-112. Online version at <http://kagakushi.org/iwhc-2015>.

⁶ Chow, L.T., Gelinas, R.E., Broker, T.R., Roberts, R.J. (1977) “An amazing sequence arrangement at the 5' ends of adenovirus 2 messenger RNA”, *Cel* 12(1): 1-8. The paper was a collaboration between two labs, the Electron Microscopy Lab (Broker & Chow) and the Nucleic Acids Chemistry Lab (Gelinas & Roberts). Broker & Roberts had been Chiefs of their respective labs for the preceding two & five years, respectively. Chow was a staff scientist in Broker's EM lab and Gelinas was a 2nd year post-doc in Roberts' Nucleic Acid Chemistry lab. Chow's inventiveness in applying advanced electron microscopy techniques to the precise mapping of several loops on the adenovirus genome away from the sites which code for the main mRNA, was documented by her in great detail. Chow et al. 1977 is cited in the scientific literature as one of two “discovery papers.” The other cited paper is Berget,

S.M., C. Moore, P.A. Sharp, (1977) “Spliced segments at the 5' terminus of adenovirus 2 late mRNA,” *PNAS*, 74, August 1977, 3171-5. Roberts and Sharp shared the 1993 Nobel Prize (note 5). Other CSHL authors published a total of three supportive papers, which directly followed Chow's et al. in the same issue. The role of the other teams remains the subject of parallel historical research. One of my students who participates in such research as part of a Student-Scholar Partnership (SSP) at Brandeis University also attended our session.

HSS AT AAAS

RNA Splicing at 40, *cont.*

overshadowed. He suggested that the position of one of their two collaborators, Richard Roberts, as the last co-author (a position often associated with lab directors), his pre-publication disclosures of Chow's "amazing" findings to selected colleagues outside CSHL,⁷ and, one might add, Roberts' initial understanding of the discovery as a "mere" outcome of his and Gelinás' efforts to confirm an hypothesis on the origins of an unusual "cap" structure uncovered by Gelinás, helped obscure the key role of the EM scientists in general, and that of first author Louise Chow, in particular (notes 6 & 4). Indeed, many scientists still believe that all four co-authors (note 6) worked in a lab headed by Roberts and were his subordinates.⁸ In reality, Broker and Chow were independent scientists from another lab who brought unique and definitive expertise to the collaboration. In fact, Gelinás & Roberts approached Broker and Chow in the first place because they needed new input

to solve their problem. To sum up, Broker and Chow were equal partners in a collaboration that needed different forms of expertise from different labs,⁹ yet their key role became blurred, especially outside CSHL, where Roberts had more opportunities to share his own perspective on this collaboration.

Speaker (and session organizer) Pnina G. Abir-Am then argued that the problematic allocation of scientific credit in the case of the discovery of RNA splicing stemmed from an even wider range of factors, both scientific and social-political, extending well beyond communication and publication issues. She suggested that the power relations prevailing in science at the time may have also been responsible for overlooking Chow's role as discoverer. Having studied research schools of molecular biology in the US, UK, and France¹⁰ as transgenerational and transnational arenas,

⁷ Among them a disclosure at a Gordon conference in 1977, as shown in Abir-Am's presentation that quoted a scientist who attended that conference.

⁸ This confusion persists even though Roberts and Gelinás never worked in electron microscopy at that time. At a meeting held at CSHL on 10 Aug 2014, Roberts acknowledged before an audience, which included RNA splicing workers, as well as several historians, myself included, that the discovery revolved around its electron microscopy findings, which were presented there by Louise Chow.

⁹ Richard Gelinás, a post-doc in Roberts' lab, prepared the nucleic acid fragments used in Louise Chow's sophisticated electron microscopy experiments, and it was he who suggested to Roberts that they seek Broker's and Chow's help with the EM. As Chow emphasized, yet another CSHL scientist, J. Lewis, provided them with "leftover" mRNA without seeking co-authorship.

¹⁰ Pnina G. Abir-Am, "Molecular biology in the context of British, French, and American cultures" in *Sciences and Cultures*, issue, no. 168, of *International Social Science Journal*, Ed. H. Vessuri, June 2001, 187-199, (translated by UNESCO into its official languages including French, Spanish, & Chinese).

1978 CSH Symposium



Louise Chow & Thomas Broker at a Cold Spring Harbor Laboratory Meeting in 1978; Franklin Stahl of the "Meselson-Stahl experiment" can be seen in the background.

Abir-Am drew attention to the vulnerability of some scientists (in particular junior, women, and foreign scientists) when scientific credit is awarded. She further highlighted the role of intersectionality in magnifying such a vulnerability in the specific case of Louise Chow for whom gender, ethnicity, and rank, (i.e. being a junior Chinese immigrant woman scientist) converged to obscure her role as discoverer. In this case, the role of ethnicity is not limited to Chow's East Asian looks but also to her cultural heritage in Confucian philosophy, which instilled in her the belief that one's work should speak for itself.

HSS AT AAAS

RNA Splicing at 40, *cont.*

Despite significant improvements in the position of junior, women, and foreign scientists in the last four decades, there is still reluctance to accept these individuals as discoverers, as if somehow such categories remain particularistic and therefore less suitable than the traditional category of senior men, who seem to represent the much emphasized universality of science.¹¹ Abir-Am also raised the issue of how “science policy in the service of society”—the theme of the AAAS-2017 meeting—might be deployed to secure social justice in the allocation of scientific credit. For example, accepted practices in the scientific community could be reframed so as to require that prize committees consult all co-authors of discovery papers, not only lab directors, especially those who enjoy the patronage of power brokers.¹²

Abir-Am also dwelled on the parallel predicaments of junior and foreign scientists, whether male or female. As evidence that some junior scientists are perfectly capable of

contributing to discoveries, she pointed out that in the last decade or so, several junior scientists were included in Nobel Prizes (e.g. Aaron Chehanover in 2004; Carol Greider in 2009).

Abir-Am then raised the issue of the invisibility of foreign scientists working outside the US, to the effect that groups from France (Breathnach, Mandel & Chambon) and Israel (Aloni, Bratosin, Horowitz, & Laub; and Lavi & Groner) which also published on RNA splicing in 1977, are almost unknown in the US.¹³ Given the condensed session format, this issue could not receive the attention it deserves, though luckily it was highlighted by the President of the Royal Society at another AAAS event that day (see below).

¹³ Aloni, Y., R Dhar, O Laub, M. Horowitz, G. Khoury, “Novel mechanism of RNA maturation: The leader sequences of SV40 mRNA are not transcribed adjacent to the coding sequences,” *PNAS*, v. 74 (9) September 1977, 3686-9; Aloni, Y., S. Bratosin, R. Dhar, O. Laub, G. Khoury, (1978) *Cold Spring Harbor Laboratory Annual Symposium* (this team includes three Israeli scientists as authors 1, 3, & 4, and a technician as author 2 in the second paper, all from the Weizmann Institute in Rehovot). Breathnach, R., Mandell, J-L, and P. Chambon, (1977) “Ovalbumin gene is split in chicken DNA,” *Nature*, 270, 314-319; (24 November) this team is composed of French scientists from the University of Strasbourg; Lavi, S. and Y. Groner (1997) “5' Terminal Sequences and coding region of late SV40 mRNAs are derived from non-contiguous segments of the viral genome,” *PNAS*, 74, 12, 5323-7. (This team is made of two Israeli scientists working at the time at the Weizmann Institute.)

The final speaker, Ruth Sperling of the Hebrew University in Jerusalem, a former Chair of its Genetics Department, faced a dual task. On the one hand she described the above mentioned two teams of Israeli scientists (note 13), whom she knew at the Weizmann Institute in the 1970s, and situated this discussion in the context of a “journal club on chromatin and gene expression” she herself had organized there. The discovery of split genes inspired her to shift her own research from chromatin to the RNA splicing machinery. She then detailed the significance of alternative splicing and the recent achievements in the field in uncovering high resolution structures of spliceosome intermediates by cryo-EM. She further presented functional and structural studies of the endogenous spliceosome—the supraspliceosome—in her own work, recently published in January 2017, and featured on the cover of *WIRES RNA* journal.¹⁴

¹⁴ Sperling, R. (2017) “The Nuts and Bolts of the Endogenous Spliceosome,” *WIRES RNA*, vol. 8, no. 1, January/February 2017. DOI: [10.1002/wrna.1377](https://doi.org/10.1002/wrna.1377). In 1979, Ruth and her partner Yossi Sperling left for a sabbatical at Stanford (in the lab of Roger Kornberg, a 2006 Nobel Laureate who solved the structure of RNA polymerase at high resolution) so as to switch their efforts to the RNA splicing machinery. We were delighted that Ruth was able to join our session from far away Jerusalem, especially in view of Yossi's recent death. HSS members familiar with *Creative Couples in the Sciences* would be particularly gratified to learn of these amazing collaborative couples in our session.

¹¹ For the complex discourse of particularism and universalism in democratic polities see M. Samuels, *The Right to Difference*, (University of Chicago Press, 2016).

¹² For example, the literature on RNA splicing suggests that the Nobel co-laureates Roberts and Sharp (notes 4 and 6) benefitted from lobbying by J.D. Watson and D. Baltimore, respectively, who were among the most powerful scientists in the US and elsewhere.

HSS AT AAAS

RNA Splicing at 40, *cont.*

The supraspliceosome, composed of four spliceosomes connected by the pre-mRNA, is a general stand-alone complete macromolecular machine capable of performing splicing, alternative splicing, and all the nuclear-processing activities that the pre-mRNA has to undergo before it can exit from the nucleus to the cytoplasm to encode for proteins. Sperling's team is seeking to achieve high resolution of the supraspliceosome structure, taking advantage of the most recent revolution in cryo-EM.

Our session was well attended by a diverse audience of scientists (junior and senior), women and men, outsiders to Boston, local fixtures (among them a former President of MIT and a current Harvard University Press Editor), a hard working AAAS photographer, and one of my SSP students who benefitted from AAAS's graciousness with guest badges. As befits a "lucky" session, (i.e. one that required a great deal of work!) even the weather rose to the occasion changing from snowy & freezing two days earlier to 50 degrees on February 18!

When the lively Q&A ended, our absorbing conversations continued unabated, first at a Legal Seafood lunch, and later at the

UK Research Councils' reception on the Prudential's Skywalk. Against a great view of Boston at night, and the taste of New England chowder, lobster mini-sandwiches, and a decent choice of drinks, we finally concluded our long day with a moving speech by the President of the Royal Society. An Indian-born US citizen and a 2009 Nobel co-laureate for his share in the solution of the ribosome structure, Venki Ramakrishnan's presence exemplified the centrality of both women and foreign scientists: one of his Nobel co-laureates, Ada Yonath, was a classmate of Ruth Sperling; Ramakrishnan and Yonath played a key role in solving the structure of a very large element of the biomolecular machinery, the ribosome; Sperling is working on the structure of an even larger biomolecular machine: the supraspliceosome.

This AAAS meeting provided a welcome opportunity for historians of science to interact with scientists to discuss topics of mutual interest, especially contemporary issues related to social justice in the practice of science and the important contributions that historians of science can provide. As historians of science, we use our archival and other skills not only for illuminating the intellectual origins of scientific discoveries, but also in the service

of restoring social justice in the allocation of scientific credit. As our session has amply demonstrated, the time has come to abandon a trio of outdated biases—paternalism, sexism, and chauvinism—which have long obscured the key role of junior, women, and foreign scientists in scientific discovery. It is hoped that the case of RNA splicing, with its similarities to the better-known cases of DNA's structure and HIV, (where it took decades to recognize the key roles of Rosalind Franklin and Françoise Barre-Sinoussi, respectively) those who have long encountered epistemic injustice will be given proper credit for their critical roles in scientific discovery.

MEMBER NEWS

Roland Boucher's work on ancient standards of measure, "The Pendulum and Standards of Measure in the Ancient World," has been published by CAL LAB. **The article can be found here.**

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Glen van Brummelen (Quest University, British Columbia) has been named as one of Canada's 10 best university teachers. The 3M National Teaching Fellowship was founded 31 years ago by the Society for Teaching and Learning in Higher Education to recognize exceptional teachers in post-secondary education. Van Brummelen, who teaches mathematics, is a founding tutor at Quest and is an advocate for discovery-based learning.

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Ron Callinger's book *Leonhard Euler: Mathematical Genius in the Enlightenment* (Princeton, 2015) was chosen by Choice as one of its Outstanding Academic Titles for 2016.

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Thomas Drucker (University of Wisconsin - Whitewater) has been appointed to the Jewish Studies Advisory Council at Princeton University.

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Pascal Duris (Université de Bordeaux) announces his new book *La fabrique de*

l'entomologie. Léon Dufour (1780-1865), co-authored with Elvire Diaz. The book was published by Presses Universitaires de Bordeaux in March 2017.

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Donald Forsdyke (Queen's University, Canada) is encouraged by recent Bookmetrix data. The April 2016 *Newsletter* suggested that those who liked the works of Michel Morange, Matthew Cobb, and Michael Ruse, might—despite its forbidding title—appreciate his just released *Evolutionary Bioinformatics*. Expounding a history somewhat different from that of these distinguished authors, the 3rd edition has a section on brain informatics and is backed by online videos for those new to the field. Bookmetrix now records 9733 chapter downloads in the ten months since publication (see: <http://post.queensu.ca/~forsdyke/book06.htm>).

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Robert Goulding (University of Notre Dame) has been appointed as the Director of Notre Dame's History and Philosophy of Science Program for a three-year term, beginning 1 July 2017. Goulding teaches in Notre Dame's Program of Liberal Studies.

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Kristine C. Harper (Florida State University) has just published her new book *Make it Rain:*

State Control of the Atmosphere in Twentieth-Century America. The book was published by the University of Chicago Press in March 2017.

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At the request of Harvard's Widener Library, most of the books of **Gerald Holton** (Harvard University) have been placed online, with the rest in process. Last year, Mr. Holton was elected to the Austrian Academy of Science.

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Henk Kubbinga (University of Groningen) published *Making molecularism II. Selected papers II. Abstracts*, the second volume of a series on the coming of age of the actual molecular picture of the world (Groningen University Press). This volume features 35 papers on the history of the (atomic and) molecular theory, privileging philosophy, chemistry, and the life sciences. Apart from these there are the abstracts of lectures, talks, classes, congress papers, and posters which paved the way, all in English translation. The riddle of Planck's calculation of the constant called after him is finally solved. That calculation sheds a new light on the (molecular) roots of Quantum Physics.

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Kathryn M. Olesko (Georgetown University) received Georgetown's College Dean's Award for Excellence in Teaching in January 2017.

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MEMBER NEWS, CONT.

Erik Peterson's (University of Alabama) book *The Life Organic: The Theoretical Biology Club and the Roots of Epigenetics* has been published by the University of Pittsburgh Press.

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Voula Saridakis recently accepted the position of Curator in the Collections Department at the Museum of Science and Industry in Chicago, Illinois.

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Martina Schneider (Johannes Gutenberg University Mainz, Germany) has three new publications. She has co-edited the monograph *Historiography of Mathematics in the 19th and 20th Centuries* (part of the series *Trends in the History of Science*, Birkhäuser, Cham 2016) together with Volkler R. Remmert and Henrik Kragh Sorensen; she published a paper in the monograph *Contextualizing Unguru's 1975 Attack on the Historiography of Ancient Greek Mathematics* p.245-267; and she also published a review: "Koreuber, Mechthild: Emmy Noether, die Noether-Schule und die moderne Algebra. Zur Geschichte einer kulturellen Bewegung." Berlin, Heidelberg (Springer Spektrum). 2015. In: *Historia Mathematica* 44(1), February 2017, S. 79-82.

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Mary Jo Nye Awarded 2017 Pais Prize

Mary Jo Nye (Oregon State University) has won the 2017 Abraham Pais Prize for the History of Physics. The Pais Prize is given annually by the American Physical Society (APS), with the American Institute of Physics, to recognize outstanding scholarly achievements in the history of physics. **In the citation by Richard Staley**, we are reminded that, for decades, Dr. Nye has "produced path-breaking and enduring studies of the physical sciences that are distinguished equally by their attention to the coherence and integrity of the approaches taken by individual scientists..."

She is the past president of the HSS (1988-1989), a Fellow of the American Academy of Arts and Sciences and of the American Association for the Advancement of Science, and a Member of the International Academy of the History of Science. She delivered the HSS Distinguished Lecture in 2000 and won the Society's Sarton Medal in 2006. She received the Pais Prize at the March 2017 meeting of the APS.



In Memoriam: Michele La Clergue Aldrich

Michele La Clergue Aldrich

6 October 1942 – 23 November 2016

Michele La Clergue Aldrich, historian of geology, died 23 November 2016, after a short illness. Michele was born in Seattle, Washington on 6 October 1942, the daughter of Marion and Jean La Clergue. She was



educated at Tustin High School, received her BA in Geology in 1964 from the University of California at Berkeley, where she met her future husband, Mark, whom she married in 1965. She was awarded a National Science Foundation fellowship and received her PhD in the history of science from the University of Texas at Austin in 1974. In 1989 she was certified by the American Society of Archivists.

At Texas, Michele matured as a scholar under the guidance of William H. Goetzmann, a winner of the Pulitzer Prize and her advisor, mentor, and lifelong friend. Under his guidance, she blossomed.

First employed as a research assistant at the Smithsonian Institution and the United States Geological Survey in 1965–1966, she was then a Lecturer in the Smith College History Department from 1969–1970. She became Assistant Editor for the Joseph Henry Papers at the Smithsonian in 1974, and a consultant for the Aaron Burr Papers of the New York Historical Society. Michele also was a field worker for the Women's History Sources Survey in 1976–1977. She then became Project Director of the Women in Science Program of the American Association for the Advancement of Science (AAAS), and later the Archivist and Director of Information Services at that institution, altogether working at AAAS from 1977–1995.

Readers of this *Newsletter* will know Michele primarily from her work as a scholar and as one who held several positions in HSS, not the least of which were Publicity Officer (1978–1983), member of the Women's Committee (1979–1982), HSS representative to the General and Interdisciplinary Section of AAAS (1981–1984), member of the Committee on Diversity (1994–1997), and Book Review Editor of *Isis* (1996–2003). In what follows, we will take only brief note of some important aspects of her scholarly career, which we cover in more detail

in a forthcoming eulogy in *Earth Science History*, because here we want to emphasize aspects of her worklife as well, the more so because they may be less well known to readers of this *Newsletter*.

At AAAS, as Michele's supervisor and colleague Shirley Malcolm, head of the AAAS Office of Opportunities in Science, observed (2017, personal communication), "in an 'all hands on deck mode' Michele focused in and played a huge role in producing 'Equity and Excellence: Compatible Goals,' a critical piece of work that framed the efforts of the Office of Opportunities in Science for decades to come. Michele was also passionate and analytical and brought to all of us her sense of the importance of historical context. As archivist of AAAS, she understood the importance of preserving the record of the AAAS's role within the science community. And of course she was passionately committed to the Pacific Division. Whereas some saw the divisions as appendages (and perhaps now anachronisms) Michele understood their historical roots as well as their present day relevance in bringing science to people and people to science."

Michele's involvement with the AAAS Pacific Division dated from 1979 to the time of her passing. In June 1979, she was appointed to serve as the AAAS liaison to the Division, which

In Memoriam, *cont.*

she did for the next two decades. In 1998, Alan Leviton, the Division's Executive Director since 1975, stepped down, and for the next several years, another person served as the Division head until, in 2002, Roger Christianson assumed that responsibility. As Roger observed (2017, personal communication), ". . . Michele was always a very strong supporter of the Division. She was always to the point and had good things to add to our discussions, whether we wanted to hear them or not! I always appreciated her input, seasoned by her time at AAAS. She was an ever-present figure at annual meetings and continued to sit in on Executive Committee and Council meetings as time allowed, always willing to provide excellent advice when called upon. She was also keen on helping students and was always willing to give a hand in judging student presentations. Michele was also a stalwart friend, someone who could be counted on regardless of the task. She especially seemed to enjoy editing written works and provided much needed feedback to improve the writings of many a person."

In any assessment of Michele's scholarship it is worth noting that she did not hold a long-term academic position, which remunerates individuals for their ongoing scholarship across the years through salary adjustments and promotions. She

was instead a scholar's scholar who engaged in the activity because of her innate love for knowledge and dedication to helping others. Here we wish to stress two themes that were central to her work: the importance of biography in the history of science and the extent of Michele's commitment to writing the history of women.

For Michele, the history of earth sciences involved the interplay of people and ideas and she disliked social history that was sometimes bloodless. Her PhD thesis on the New York Natural History Survey intertwines the sciences with the lives of its individual practitioners. Much of her later work—on Charles Thomas Jackson, William Barton Rogers, Winifred Goldring, James Blake, John Boardman Trask, Ora White Hitchcock, and others continued in this vein. The history of geology only came alive, she believed, through the thought and actions of these men and women, and in this context one need only look at one or two of her major publications to appreciate how deftly she managed to integrate people and programs: *The New York Natural History Survey, 1836-1845*, published by the Paleontological Research Institute, Ithaca, New York, in 2000, and *Theodore Henry Hittell's The California Academy of Sciences, 1853-1907* (coeditor/coauthor; 1997).

A second theme reflected her commitment to bring women scientists out of the shadows and it too began early in her career. When Michele entered graduate school in 1964 academia was as male dominated as coal mining and at times no more welcoming of women. She encountered some faculty who believed women had no place in higher education. Perhaps adversity was the spur, but a booklet in her files entitled "Research Ideas—1964" contains "Women in Science" [her emphasis] and her PhD thesis highlighted the shabby treatment John Torrey of the New York Survey meted out to his illustrator Agnes Mitchell. She also stood up for other women in her work life. Shirley Malcom tells the following story:

when we sat in a senior management meeting together in the... [1980s] I had made a suggestion about which there was little comment.... Five minutes later one of the men in the meeting made the same suggestion which everyone praised.... At that point Michele spoke up and said "Yes it's a good idea. It was even a good idea five minutes ago when Shirley said it!" I have never forgotten that moment when she stepped into the conversation to make another woman's ideas visible. Her courage gave me courage.

Michele's commitment to telling women scientists' stories was lifelong. Her last talk delivered to the Geological Society of America

In Memoriam, *cont.*

a month before her death was an effort to make visible the ideas of Mount Holyoke geologist Mignon Talbot. But we would be negligent if we did not mention at least two or three of her publications relating to advancing the stature and knowledge of women in science, among them being *Report on the Participation of Women in Scientific Research* (coauthor; 1978), *Women in Paleontology in the United States, 1840-1960* (1982), and *Women of Science: Righting the Record* (author; 1990).

As all who knew Michele can attest, there was a playful quality to her intellect. The final version of her master's thesis delivered to William Goetzmann in 1964 was entitled "Fourth Goddamn Draft." Goetzmann shared the same playfulness, replying: "Dear Mrs. Aldrich: Here [in return] is the 'Fourth Goddamn Draft' of your master's paper; turn it in for one master's certificate or a box of soap flakes." Michele was also a sharp and perceptive critic—as both current authors can attest—and not least of her own work. A graduate paper she wrote in the philosophy of history had a note on the front "If you don't like this paper that makes two of us."

Although Michele never held a tenure-track teaching position, many readers will recall how much they learned from her. And whereas she

believed that historians ought to master the science, she emphasized that scientists needed to appreciate and employ historians' research skills as well. These concerns led her, in conjunction with Mott Greene and Cliff Nelson to create a short course on "Writing History of Geology" for the GSA meetings in 1987. The course essentially boiled a semester of historical methods into a day's work and must have seemed like boot camp to the recipients. It included a review of general reference works, how to do biographical and manuscript searches and examples of how to read historical documents with care, as well as material on illustrations and portraits, all complete with thick handouts. The course reflected not only her commitment to teaching others but the high standards she set for her own scholarship. Indeed, in the acknowledgments section of their book *Looking Far North: The Harriman Expedition to Alaska, 1899* (Viking Press, New York, 1982), William Goetzmann and his coauthor Kay Sloan, observed (10), "Michele Aldrich . . . ranks as one of this or any other generation's outstanding researchers, and over the years she has set a new standard for scholarly friendship."

Michele was a member of the Geological Society of America, the History of Science Society,

the History of Earth Sciences Society, and the Forum for the History of Geology in America (founding member). She held numerous offices in several of these societies including the Chair of the Geological Society of America's History of Geology Division (1979–1980), for which she also served as Secretary-Treasurer of the Division (1984–1992) and editor of its Newsletter (1984–1992, and on occasion thereafter filling in for others). She twice received honorary awards from that organization, including the prestigious Mary C. Rabbitt Award for Scholarly Achievements in the History of Geology and the Division's Gerald & Sue Friedman Award for distinguished service. She was a Senior Fellow of the Geological Society of America, a Fellow of the California Academy of Sciences, and a Fellow of the American Association for the Advancement of Science. She was a visiting Fellow at Cornell University, Book Review Editor for the History of Science Society journal *Isis*, from 1996–2003, and from 1998–2003, Archivist of Otis Elevator Company, and a Research Associate and a Consulting Editor for Scientific Publications at the California Academy of Sciences from 1995–2016. She was one of the founders of the Northampton Valley Women's Center, and also was a member of the Academy of Certified Archivists, the New England Archivists, the Organization of

In Memoriam, *cont.*

American Historians, as well as INHIGEO (the International Commission on the History of the Geological Sciences).

Michele was a generous donor to charities, and she was devoted to her family and friends, including two cats. She loved to travel, read mystery stories, and was an avid gardener who

especially enjoyed roses and loud, red zinnias. She leaves her husband of 51 years, Mark Aldrich, her sister Marijean Piorkowski, and brothers, Richard and Ronald La Clergue, along with two nieces and one nephew, and many friends and colleagues. She was a bright star to all who passed within her orbit.

By Mark Aldrich, Marilyn Carlson Nelson Professor of Economics Emeritus, Smith College, Northampton, MA 01060 (maldrich@smith.edu) and Alan E. Leviton, Curator Emeritus & Editor, Scientific Publications, Institute of Biodiversity Science and Sustainability, California Academy of Sciences, 55 Music Concourse Drive, San Francisco, CA 94118 (aleviton@calacademy.org)

HSS NEWS

2017 *Osiris* Call for Proposals

The Editorial Board of *Osiris* solicits proposals for Volume 36 which will appear in 2021. *Osiris* is an international research journal devoted to the history of science and its cultural influences and is a publication of the History of Science Society and the University of Chicago Press.

Osiris aims to connect the history of science with other areas of historical scholarship. Volumes of the journal are designed to explore how, where, and why science draws upon and contributes to society, culture, and politics. The journal's editors and board members strongly encourage proposals that engage with and examine broad themes while aiming for diversity across time and space. The journal is also very interested in receiving proposals that assess the state of the history of

science as a field, broadly construed, in both established and emerging areas of scholarship. Possible future issues, for example, might consider themes such as: Sexuality; Disability and Mobility; Science, Risk, and Disaster; Science in the Global South and/or Africa; Environments and Populations; Time, Temporality, and Periodization; Ontology and Materiality; and Integrating Histories of Science & Technology.

Proposals should include the following items:

1. A description of the topic and its significance (approximately 2000 words)
2. A list of 12 to 15 contributors along with a title and paragraph describing each contributor's individual essay
3. A two-page c.v. of the guest editor(s)

The guest editor(s) and their contributors must be prepared to meet the *Osiris* publication schedule. Volume 36 (2021) will go to press—after refereeing, authors' revisions, and copy-editing—in the fall of 2020. The guest editor(s) must therefore choose contributors who are able to submit their completed essays by the summer of 2019.

Proposals will be reviewed by the *Osiris* Editorial Board at the annual meeting of the History of Science Society in November 2017. The announcement of the next volume of *Osiris* will be made in January 2018.

Proposals and all supporting material should be sent in paper or electronic copy by **15 October 2017** to both:

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W. Patrick McCray

Department of History
University of California, Santa Barbara
Santa Barbara, CA 93106-9410
pmccray@history.ucsb.edu

Suman Seth

321 Morrill Hall
Department of Science and Technology Studies
Cornell University
Ithaca, NY 14853
ss536@cornell.edu

Come to Toronto

HSS's 2017 annual meeting will be in Toronto, Ontario **9-12 November**. We are especially pleased that Alice Dreger will deliver the Elizabeth Paris Lecture for Social Engagement at the meeting. This promises to be an exciting event that you will not want to miss.



Photo courtesy of
Jenny Stevenson
Photography)

New PhDs Receive a Free Membership to HSS

The HSS would like to celebrate recent graduates' significant achievement and also encourage them to maintain (or begin) their membership in the HSS. The Society has thus

created a free e-membership for those who received their PhD in the prior year and who are no longer eligible for student memberships. To claim your free membership, go to <https://subfill.uchicago.edu/JournalPUBS/HSSpromotion.aspx>. You will receive all of the regular benefits, including discounted meeting registration, and if you are already a member, your membership (electronic only) will be extended by one year at no cost.

JSTOR for HSS Members

In its strategic plan, HSS identified professional development as one of our six goals. Specifically, the Society is focusing on supporting the "professional development of emerging history of science scholars in and outside the academy." One of the ways in which the HSS can help our members advance their research and teaching is to facilitate access to the literature, and we are pleased to work with JSTOR to offer a 50% savings on a one year JPASS subscription for members. JPASS, available as monthly or yearly plans, allows you to read whatever journal article you like and enjoy up to 120 PDF downloads a year from the JSTOR archive, an archive with over 7 million articles from 2 thousand journals (including *Isis* and *Osiris*), representing some 50 academic disciplines.

In addition to past issues of *Isis* and *Osiris* (HSS members have access to the full run of both journals through the University of Chicago

Press), members may find the following journals of particular interest:

- *The British Journal for the History of Science*
- *Journal of the History of Medicine and Allied Sciences*
- *Science Progress*
- *Science, Technology, & Human Values*

JSTOR adds new titles to JPASS every month so you'll have a growing collection of the world's leading scholarly journals only a click away.

HSS members save 50% on a yearly JPASS here: <http://jpass.jstor.org/?soc=HSS&mc=6kiy5hIv99>

Travel Note

Air travel in the US may become a bit more difficult in January 2018. This is when the Transportation and Security Administration (TSA) will start requiring REAL IDs from states. Most states are already in compliance with these regulations, with only four states (Montana, Minnesota, Maine, and Missouri) currently not in compliance (Minnesota offers enhanced drivers licenses, which can be used). TSA does accept other forms of identification, such as passports. For up to date information, go to <https://www.dhs.gov/real-id-enforcement-brief>.

Going to Brazil?

If you are planning to attend the ISHPSSB in São Paulo and/or the ICHST in Rio de Janeiro,

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those travelling from the US will need a visa. If applying by mail, please be sure to apply at least 2 months prior to the conference. The fee for tourist visas is \$160 US typically in the form of USPS money orders. Please check your local consulate for details.

New Reference Resource: IsisCB Cumulative

Members are reminded of a new open-access reference resource that was launched earlier this year: **IsisCB Cumulative**. This powerful research tool is a digitized version of the *Isis Cumulative Bibliography of the History of Science*, spanning sixty years from 1913 to 1975. The full text is available as seven large HTML files corresponding to the seven volumes of the *Isis Cumulative Bibliography* covering that period.

- **IsisCB Cumulative** is a companion to **IsisCB Explore**, a research tool launched last year that includes data from the *Isis Bibliographies* from 1974 to the present.
- **IsisCB Cumulative** is the result of two years of effort that included scanning, transcribing, and encoding 5000 pages of text. The files contain nearly 154,000 citation records to works in the history of science, all of which are classified by historians of science and subject bibliographers. These include citations to about 83,000 articles, 44,000 books, 20,000 reviews, and 6,000 chapters.

- The current release of these volumes as individual HTML files is meant to provide temporary access to the digitized data, which will eventually be added to the **IsisCB Explore**.

- **IsisCB Cumulative** and **IsisCB Explore** contain data accumulated and published annually and semi-annually in the journal *Isis* since its founding. Established by George Sarton, this bibliography has been continued by various scholars and librarians, including John Neu, Magda Whitrow, Joy Harvey, and, currently, Stephen Weldon.

- The online publication of **IsisCB Cumulative** was made possible by the Alfred P. Sloan Foundation, the History of Science Society, the University of Oklahoma Libraries, and the University of Oklahoma History of Science Department. The digitization efforts were overseen by Stephen Weldon, Sylwester Ratowt, and Conal Tuohy. Tuohy parsed the transcribed text and created the HTML file (gitHub for the project). For more information about the *Isis* bibliographies see the project's website: <http://isiscb.org/>. Individuals can also contact Stephen Weldon, editor of *IsisCB*, directly at spweldon@ou.edu.

Gift Card Winners

Four lucky meeting attendees who filled out the post-meeting survey for Atlanta received \$25 gift cards for their efforts. Congratulations to Ann Robinson, Josh Eisenthal, Crystal Lee, and

Jonathan Grunert. We are grateful for everyone who completed the survey, which helps us improve the annual meeting.

Update from the Forum for the History of Human Science (FHHS)

On 7 November 2016, the Forum elected officers and thanked its outgoing officers for their service. Laura Stark (Vanderbilt University) was elected chair, replacing Jill Morawski. Deborah Weinstein (Brown University) was elected vice-chair, replacing Laura Stark. Dana Simmons (University of California-Riverside) was elected Representative One, and Jeremy Blatter (NYU) was elected Representative Three. Earlier in the year, Jacy Young (York University) accepted the position of Treasurer-Secretary, filling the enormous shoes left by Nadine Weidman (Harvard University), who transitioned out after years of steadfast service.

The Forum announced its call for prize nominations. FHHS and the *Journal of the History of the Behavioral Science* (JHBS) encourage researchers in their early careers to submit unpublished manuscripts for the annual John C. Burnham Early Career Award, named in honor of this prominent historian of the human sciences and past-editor of JHBS. The publisher provides the author of the paper an honorarium of US \$500 (see details below).

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The Forum also awards a biennial prize (a nonmonetary honor) for the best article published recently on some aspect of the history of the human sciences. The article prize is awarded in odd-numbered years, and the winner of the prize is announced at the annual History of Science Society meeting. Entries are encouraged from authors in any discipline, as long as the work is related to the history of the human sciences, broadly construed, and is in English. To be eligible, the article must have been published within the three years previous to the year of the award. Preference will be given to authors who have not won the award previously.

On the subject of prizes, the Forum celebrated Whitney Laemmli, who recently finished a PhD at the University of Pennsylvania and who won the Forum's 2016 Dissertation Prize for her submission, "The Choreography of Everyday Life: Rudolf Laban and the Making of Modern Movement." Prize Committee members Joy Rohde (chair), Dennis Bryson, and Susan Lamb shared their admiration for Laemmli's work with audience members in Atlanta. In her work, Laemmli follows Labanotation—an inscription technology originally designed to record bodily movements in dance—from its origins in Weimar Germany through its surprising manifestations in the US human sciences in the second half of the twentieth century. Developed by Hungarian choreographer Rudolf Laban in the 1920s, Labanotation was originally created to

record and preserve the ephemeral movements of dancers in a standardized symbolic language. But because it promised to use the visible movement of bodies to reveal the invisible content of human psyches, scholars from fields ranging from corporate management to psychology to folklore found it a valuable research tool. In the hands of management consultants, Labanotation became a device for reading prospective employees' body language and identifying the ideal corporate citizen. Psychologists drew on the method to lay bare the maladies of damaged, uncommunicative minds, and rehabilitate them through movement therapy. And anthropologists and folklorists used Labanotation to reveal the traces of human migration and cultural origins hidden in the dance movements of ethnic minorities endangered by the culturally oppressive modern world. The committee was particularly impressed by the scope and depth of Laemmli's analysis. As she ranges across Labanotation's unexpected multi-disciplinary career, she attends carefully to its sociopolitical implications. In particular, she explores the tensions between individual agency and social harmony, autonomy and surveillance, and the freedom and control that Labanotation's users sought to reconcile through their efforts to choreograph modern life. The result is an insightful and strikingly original dissertation that calls attention to the persistence of the body and embodiment as salient factors in the twentieth century human sciences.



**Just earned your PhD in
the history of science?
Congratulations! Here's a
free e-membership to HSS.**

Making the transition from the student world to a post-doctoral existence can present challenges.

The HSS would like to recognize your signal achievement by providing a **free electronic membership (one year)** to those who graduated in 2015 or in 2016.

Please go to <https://subfill.uchicago.edu/JournalPUBS/HSSpromotion.aspx> for details.

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HSS, the Humanities, and Washington DC

HSS Executive Director Jay Malone represented the Society at the annual meeting of the National Humanities Alliance (NHA) on 13 March 2017. The NHA, of which HSS is a member, was formed in the 1980s to advocate on behalf of the National Endowment for the Humanities (NEH) and other humanities efforts funded by the federal government. The keynote speaker was American Association for the Advancement of Science Director Rush Holt. Dr. Holt began by saying that he treasures the saying “History: Now More than Ever,” and recognizes the importance of a historical understanding of science. He spoke of the Flexner Report and the usefulness of “useless” knowledge and that legislators need to hear arguments that emphasize hope, the future, and the respect for evidence. He encouraged those in the audience to relay to government officials and the public the narrative of evidence, rather than making simple assertions. He pointed out that the US is an empirical culture and that the word “experiment” appears in the Federalist Papers more often than the word “democracy.” Our task, he claimed, is to show the public the origins of evidence, how it has been subjected to review, and what it means to have reliable knowledge.

Taking these ideas to heart, scholars and directors from 45 states descended on Capitol Hill the

following day, undeterred by forecasts of heavy snowfall to make these arguments in legislators’ offices. Malone, who is based at the University of Notre Dame in Indiana, visited the offices of both of Indiana’s senators and most of the offices for the congressional districts (the storm called Stella affected most of the morning appointments). He was pleased that the aides with whom he met were receptive and positive about the value of the humanities and the work done by the NEH, by Title VI and Fulbright-Hays, by the National Historical Publications and Records Commission, and by the Institute of Museum and Library Services (Congress, rather than the Executive Branch, controls the purse strings in the US).

Such advocacy would not be possible without our members, and such advocacy is a little noticed

but important byproduct of your membership in the HSS. Thank you!

Friday Harbor 2017

True to its long-standing custom, the Columbia History of Science Group met at the Friday Harbor Marine Lab in the beautiful San Juan Islands, Washington, US (a meeting venue that is unsurpassed in its beauty). HSS President Janet Browne gave the Nancy and Norman Benson keynote lecture on 3 March: “Rethinking the Darwinian Revolution.” The talk was followed by a full day of papers, good food, and great camaraderie. The Friday Harbor meeting should be on every historian of science’s bucket list.



Attendees at the 2017 Columbia History of Science Group.

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Human Genome Research Opportunity

The Library & Archives at Cold Spring Harbor Laboratory (CSHL), New York, (on the North Shore of Long Island) would like to draw your attention to an important new resource for anyone studying the history and philosophy of modern science.

The Human Genome Project: An Annotated & Interactive Scholarly Guide to the Project in the United States is a comprehensive reference e-book on the history of sequencing human DNA. The *Scholarly Guide*, in both its Wiki and e-book formats, is available at this link: <http://library.cshl.edu/Guide-to-HGP/>

CSHL invites you to share the *Scholarly Guide* with colleagues or students whom it might benefit. To make this resource more widely available, CSHL also invites you to post a link to the *Guide* on any website, newsletter, or directory of links.

Produced by the CSHL Library & Archives, the *Scholarly Guide* will prove to be a critical research tool for historians and other scholars of the biological sciences who wish to learn more about this watershed event for scientific discovery.

The *Guide* contains historical information on the people, places, and institutions that contributed to the Human Genome Project in the United States, which lasted from 1990 to 2003. This information

is organized in an easily navigable format, with extensive interlinking for ease of reference.

For further information, contact Robert Wargas, rwargas@csHL.edu.

ACLS Collaborative Research Fellowships

The American Council of Learned Societies (ACLS) is pleased to announce the recipients of the 2017 Collaborative Research Fellowships. The program, which is funded by The Andrew W. Mellon Foundation, supports small teams of scholars as they research and coauthor a major scholarly product. The nine teams funded this year represent a broad range of institutions and include scholars at different stages of their careers working together as well as collaborations across disciplines.

“The teams that make up this year’s cohort of Collaborative Research Fellows exemplify the program’s aim of supporting scholars whose collaborations produce knowledge that their individual research would not,” said ACLS Director of Fellowship Programs Matthew Goldfeder. “These collaborations transcend disciplines, institutions, time periods, or geographic regions (and, in some cases, all four) to shape new understandings of our world.”

This year’s projects combine expertise in a broad array of fields such as music, geography,

philosophy, literature, and history. Each team plans to take advantage of the collaboration to employ more diverse research methodologies, examine larger bodies of evidence than would be possible for a single scholar, and analyze their evidence from multiple perspectives. The following project in the philosophy of science was one of the awardees:

In *The Problem of Bodies from Newton to Kant*, philosophers **Katherine Brading** (University of Notre Dame) and **Marius Stan** (Boston College) identify a lacuna: by 1700 neither metaphysics nor mathematical physics were able to produce a coherent and robust notion of the body. By assessing the various attempts of philosophers and scientific theory builders to address this issue, this project shows why philosophy and physics diverged during the Enlightenment.

More information on this year's nine funded projects and research teams is available. Contact: Matthew Goldfeder, mgoldfeder@acLS.org, 212-697-1505 x124

Nominations Sought for SHOT Dibner Award

The Society for the History of Technology (SHOT) seeks nominations for the 2017 Dibner Award to recognize excellence in museums and museum exhibits that interpret the history of technology, industry, and engineering to

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the general public. Nominations are due by **1 May 2017**, and exhibits must have been open to the public for no more than 24 months before that date. Complete information is available at: http://www.historyoftechnology.org/about_us/awards/dibner.html

Frederick Burkhardt Residential Fellowships for Recently Tenured Scholars

The American Council of Learned Societies is pleased to announce the 2017 Frederick Burkhardt Residential Fellows. With these awards, the Burkhardt Fellowship program now has supported more than 200 recently tenured faculty as they pursue ambitious scholarship at a consequential stage of their careers. The program is made possible by the generous assistance of The Andrew W. Mellon Foundation. The fellowships are named for the late Frederick Burkhardt, president emeritus of ACLS, whose decades of work on *The Correspondence of Charles Darwin* constitute a signal example of dedication to a demanding and ambitious scholarly enterprise.

Burkhardt Fellowships, which carry a \$95,000 stipend and a \$7,500 research budget, allow awardees to take up year-long residencies at institutions whose resources and scholarly communities are ideally suited to facilitate the proposed research project. One set of awards,

which is open to recently tenured faculty at all US-based colleges and universities, supports residencies at 13 national and international research centers that partner with ACLS for this program. Another set of awards, reserved for faculty from liberal arts colleges, enables fellows to carry out their residencies at any research university-based humanities center or academic department in the United States. Fellows may take up their award in any of the next three academic years.

The 2017 Fellows whose work may be of interest to HSS members include the following:

Renee Lynn Beard (Associate Professor of Sociology and Anthropology, College of the Holy Cross) *Listening to Early Alzheimer's Disease (LEAD): Experiences over Time* - Gerontology Institute at the University of Massachusetts, Boston in 2017-2018

Daniela Bleichmar (Associate Professor of Art History and History, University of Southern California) *The Itinerant Lives of Painted Books: Mexican Codices and Transatlantic Knowledge in the Early Modern World* - Huntington Library in 2018-2019

Tait Keller (Associate Professor of History, Rhodes College) *Green and Grim: A Global Environmental History of the First World War* - National Humanities Center in 2017-2018

Julia B. Rosenbaum (Associate Professor of History of Art, Bard College) *Unruly Bodies?: Portraying Science and Citizenry in Post-Civil War America* - Charles Warren Center for American History at Harvard University in 2019-2020

Tamara Venit-Shelton (Associate Professor of History, Claremont McKenna College) *Herbs and Roots: A History of Chinese Medicine in the United States* - Huntington-USC Institute on California and the West at the University of Southern California in 2017-2018

National Academy of Sciences' New Publication

The National Academy has launched a new series titled *From Research to Reward*. Focusing on the history of scientific discovery, *From Research to Reward* uses articles and videos to provide examples of how advances in our understanding of natural processes often lead to remarkable benefits for society. The series focuses on how support of scientific research is vital to improving the world. As historians of science know better than most, not all research will have practical implications at first glance, but such research can produce benefits that no one predicted. And those benefits can pay for the initial investment many times over.

You can see the *From Research to Reward* series at www.nasonline.org/r2r.

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EASTM: New Special Issue #43 Published

The first volume of a special issue on “Numerical Tables and Tabular Layouts in Chinese Scholarly Documents—Part I: On the Work to Produce Tables and the Meaning of their Format” #43 of the *Journal of East Asian Science, Technology, and Medicine* is published and available online at www.eastm.org.

Summer School: “Borders and Crises in European Past and Present”

The **Tensions of Europe Early Career Scholars’ Group** organizes the summer school “Borders and Crises in European Past and Present—Angles from the history of technology” in connection with the 8th Tensions of Europe Conference (Athens, 7-10 September 2017; see <http://8toe2017.phs.uoa.gr/>).

The summer school introduces PhDs and early career scholars to the Tensions of Europe network, as well as facilitates and encourages networks between young scholars across borders, while building their academic skills. The summer school further relates to the overall conference theme, problematizing how history of technology contributes to the study of border-related phenomena. It aims at revisiting the close

connections between borders and technology by focusing at another keyword, which is related to the **on-going discussion of the Tensions of Europe future research agenda: crises**.

Following the main objective of the Tensions of Europe Early Career Scholars’ Group, the event focuses on network-building through workshops, discussions, and informal events.

Schedule and Structure

In order to promote network building, the summer school is organized to a large extent around workshops and group discussion. The expected schedule of the summer school will include one lecture, one session for introductions, one workshop on writing and publication, one session on funding, one session co-organized with the “Borders, Technology, Peace” Pre-Conference Meeting (to be confirmed), one workshop on the topic of crises, and two sessions connecting these activities and discussions to the Tensions network and its research agenda ([see link above](#)).

How to Apply

In order to participate, we invite applicants to submit a short bio (no more than one page) and a short text (300-500 words) explaining their interest in the topics of the summer school and how their work would benefit from these discussions.

Proposals should be sent until **30 April 2017** to len.kochetkova@gmail.com (Elena Kochetkova).

In the beginning of the summer, participants will be asked to read texts and write short contributions for the workshops. The deadline for submitting these contributions will also be communicated to the participants at that time.

Location and Other Practicalities

The summer school will take place in Athens, on the 5th and the 7th of September, in the seminar room in the Department of History and Philosophy of Science of the National and Kapodistrian University of Athens, and on the 6th of September it is expected to take place in Delphi, as part of the “Borders, Technology, Peace” Pre-Conference Meeting (see <http://8toe2017.phs.uoa.gr/affiliated-events.html>) (to be confirmed).

Participants are expected to be on-site, but in some of the sessions, we might also be able to include a few on-line participants. Those who apply for that option should include that in their application. As usual, the Tensions of Europe network will offer travel grants to participants. To apply for these travel grants, the summer school participants will also have to attend the conference. See more on travel grants at <http://8toe2017.phs.uoa.gr/travel-grants.html>

Anna Åberg, Elena Kochetkova, M. Luísa Sousa and Elitsa Stoilova, on behalf of the Tensions of Europe Early Career Scholars’ Group

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Center for Oral History Training Institute

12-16 June 2017

The Center for Oral History (COH) at the Chemical Heritage Foundation is proud to provide training to individuals interested in learning oral history and research interview methodologies. For one week, the director and the staff of the COH work with scholars and researchers who are planning or have started research that has interviewing as a core component.

The Chemical Heritage Foundation has been conducting interviews for over thirty years, and is one of the only institutions in the United States to focus its work on oral histories of scientists. During this week individuals are introduced to all aspects of the interview process, including general oral history theory and methodology; interviewing techniques and performing mock interviews; legal and ethical issues; transcription practices; archiving; recording equipment and its use; data management; and other relevant topics. Interested participants are encouraged to bring their research ideas to the workshop. While the scope of the training workshop will be viewed through a STEM lens, this workshop is open to all researchers interested in oral history and preserving the unwritten past.

Our summer training institute will start on **12 June 2017**. There is no cost to attend the

training workshop, however, registration is required. Please visit www.chemheritage.org/OHtraining for more information or contact:

Samantha Blatt

Program Assistant, Center for Oral History

Chemical Heritage Foundation

315 Chestnut Street

Philadelphia, PA. 19106

(215) 873-8242

sblatt@chemheritage.org

“Quantum Leap” – An Indiana Humanities Program

Indiana Humanities has launched a new multi-year initiative called *Quantum Leap*. “Together we’ll explore the spirit of possibility and problem-solving when we bridge the humanities with STEM.” Find out more at <http://quantumleap.indianahumanities.org/>.

Call for Proposals: Interdisciplinary Science Reviews (1976–)

<http://www.tandfonline.com/loi/yisr20>

Interdisciplinary Science Reviews (ISR) is a quarterly journal that aims to set contemporary and historical developments in the natural and social sciences, engineering, and technology in their social and cultural contexts and

to illuminate their interrelations with the humanities and arts. Much more is said about *ISR*’s intellectual project in an editorial that appeared in the journal at the beginning of last year.

Most of *ISR*’s issues are devoted to specific though wide-ranging themes; approximately one issue per year is for unsolicited essays. Examples of the thematic issues from the recent past are the Two Cultures Debate (41.2-3), Software and Scholarship (40.4), Theatre and Science (39.3), Master and Servant in Technoscience (37.4), and Computational Picturing (37.1). In 2010 *ISR* devoted a double-issue to the work of the historian of ancient science G.E.R Lloyd (35.3-4, freely downloadable). It included an essay by Lloyd, “History and human nature,” to which 15 colleagues responded. For 2018 a similar double-issue on the work of anthropologist Tim Ingold is currently underway.

The thematic issues are guest-edited; some of them take on a life of their own and become reference points in the fields they address.

The call: Interdisciplinary Engineering

On behalf of *ISR* allow me to issue this call for proposals, on the topic of engineering with the emphasis on knowing through making and on world-building. Computationally-orientated contributions would be welcome, but the aim should be to include a wide

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range of philosophical, historical, biological, and anthropological disciplines. Hands-on, embodied, motile, experimental, and exploratory perspectives would be most welcome.

Whatever our academic paymasters may say, editing such an issue offers a significant opportunity—as well as a not insignificant amount of work. Experience suggests, however, that such burdens are light.

ISR is completely booked until late 2019, so there is time to find contributors, negotiate with them, and manage their submissions. If you are interested please write to Willard McCarty (willard.mccarty@mccarty.org.uk). A proposal should be no more than 2 pages in length. Kindly include a c.v. or URL.

Workshop: Race, Sex, and Reproduction in the Global South, c.1800-2000 (Sydney, 18-19 April 2017)

An international workshop at the University of Sydney, 18-19 April 2017

Conveners: Warwick Anderson (Sydney), Chiara Beccalossi (Lincoln), Hans Pols (Sydney)

Sponsored by Race and Ethnicity in the Global South, an ARC Laureate Research Program, and the Sydney Centre for the Foundations of Science.

Biomedical scientists grew preoccupied with the size of the population and patterns of reproduction at the beginning of the nineteenth century. By its close, sexology, a science devoted to the study of human sexual behavior, emerged, and at the beginning of the twentieth century the eugenics movement advocated active social engineering and state intervention in citizens' reproductive sexuality. This medical attention to reproduction and sexual behavior has been closely intertwined with interest in evolutionary theories, the improvement of hereditary traits and racial differences. Scientific and pseudo-scientific inquiries into race and sexuality increasingly informed national policies in the modern period. The medical and scientific knowledge on race and sexuality has moved across countries and continents to become global through processes of translation, hybridization, and transculturation. However, historical accounts of how science and medicine have shaped modern ideas of race and sexuality in a global context often refer only to developments in the Global North. Recent histories of the Global South have shown that debates on race and reproduction in the southern hemisphere have their own history. Biomedical scientists in the southern hemisphere, for instance, showed greater interest in racial plasticity, environmental adaptation, mixing or miscegenation, and blurring of racial boundaries; sexologists in the Global South were

more likely to cross disciplinary boundaries, incorporating criminal anthropology, psychiatry, biology, endocrinology, and psychoanalysis in their studies until well into the 1970s.

Keynote speakers: Alison Bashford (Cambridge), Margaret Jolly (ANU)

Presenters: Ellen Amster (McMaster), Chiara Beccalossi (Lincoln), Shrikant Botre (Warwick), Nicole Bourbonnais (Graduate Institute Geneva), Eve Buckley (Delaware), Sarah Ferber (Wollongong), Vera Mackie (Wollongong), Daksha Parmar (Jawaharlal Nehru), Yolana Pringle (Cambridge), Lisa Todd (New Brunswick), Rebecca Williams (Exeter)

Dr. James Dunk, james.dunk@sydney.edu.au, T +61 2 9351 2809

Science and Religion Summer School

The Institute of Historical Research of the National Hellenic Research Foundation is pleased to announce the organization of the Summer School on "Science and Religion" from **5 to 10 June 2017** in collaboration with the Orthodox Academy of Crete.

The one-week intensive Summer School will take place on the island of Crete in Greece and aims to provide participants with knowledge of the history

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of the relations between Christianity and science as well as with an in-depth knowledge of the relations between Orthodox Christianity and science.

The school is intended for undergraduates, postgraduate students, and PhD candidates, as well as researchers in the fields of Religion, Science, History, Philosophy, Technology, Didactics, Theology, and anyone having a scientific interest in the interconnection between religion and science.

http://www.eie.gr/nhrf/educational_activities/2017_science_religion/NHRF_Schools2017_ScienceReligion.html

Technology's Stories: New Issue on Reproductive Technologies

The Society for the History of Technology (SHOT) has an open-access project called *Technology's Stories*. They've just done a major redesign and are launching a new issue on reproductive technologies. You can find the site here: www.technologystories.org.

NEH Grants in the History of Science

The National Endowment for the Humanities (NEH) has awarded \$16.3 million in grants for 290 projects around the country that will support

humanities-based research and programs. Eight of these grants will support projects in the history of science.

Fellowships for University Teachers

Florida State University

Outright Grant: \$50,400

Project Director: Meegan Kennedy Hanson

Project Title: The Microscope and the Language of Wonder in Victorian Literature

University of Notre Dame

Outright Grant: \$50,400

Project Director: Sean Kelsey

Project Title: Aristotle's Soul: Essays on the Classical Scientific Treatise, *De Anima*

Northeastern University

Outright Grant: \$50,400

Project Director: Benjamin Schmidt

Project Title: Creating Data: The Invention of Information in the 19th-Century American State

Miami University, Oxford

Outright Grant: \$50,400

Project Director: Michele Navakas

Project Title: 19th-century Literary and Scientific Inquiry on the Nature of Marine Life

University of Pennsylvania

Outright Grant: \$50,400

Project Director: John Tresch

Project Title: Poet Edgar Allan Poe and the Forging of American Science

University of Washington

Outright Grant: \$50,400

Project Director: Linda Nash

Project Title: American Engineers and Hydroelectric Development Projects in the U.S. and Afghanistan

Cooperative Agreements and Special Projects (Public Programs)

WGBH Educational Foundation

Outright Grant: \$800,000

Project Director: Mark Samels

Project Title: American Experience: Documentary Films on Science

WNET

Outright Grant: \$800,000

Project Director: Michael Kantor

Project Title: American Masters of Science: Two Documentaries on James Watson and Oliver Sacks

First Issue *Transversal: International Journal for the Historiography of Science*

From Ana Carolina Vimieiro Gomes, Department of History, UFMG, Brazil

We are pleased to announce the first issue of the new journal *Transversal: International Journal for the Historiography of Science*.

This first publication is titled "Ludwik Fleck's

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Theory of Thought Styles and Thought Collectives: Translations and Receptions.”

Please view or download the full issue at: <http://www.historiographyofscience.org/index.php/transversal/issue/view/5>

Seeking Encyclopedia Entrees: “Inventions and Technology in World History”

On behalf of ABC-CLIO, I am editing *Inventions and Technology in World History: An Encyclopedia of Technological Developments from Prehistory to the Space Age*. At the moment I have about 40 unassigned entries for which I seek contributors. Entries, focusing on an invention or inventor, total 1000 to 2000 words with an average length of 1500 words. I offer a small honorarium for contributions. Interested parties should send a CV to Chris Cumo, PhD, at ccumo@juno.com.

Article on Fake Scholar Meetings and Journals

Those in academia may be interested in the 29 Dec 2016 *New York Times* article on fake scholarly meetings and journals by Kevin Carey: <https://www.nytimes.com/2016/12/29/upshot/fake-academe-looking-much-like-the-real-thing.html>.

Submit a Proposal for the 2018 AAAS Annual Meeting

Propose a session for the **2018 AAAS Annual Meeting** in Austin, Texas. Scientific session and career development workshop proposals are now being accepted.

Deadline for Scientific Session Proposals:
20 April 2017

Deadline for Career Development Workshop Proposals: **27 April 2017**

ONLINE SUBMISSION

The American Association for the Advancement of Science (AAAS) Annual Meeting brings together thousands of leading scientists, engineers, educators, policymakers, and science communicators from around the world to discuss recent developments in science and technology.

The 2018 meeting theme—**Advancing Science: Discovery to Application**—highlights the critical roles of academia, government, and industry in moving ideas into innovations. How can we encourage broader collaboration across the scientific enterprise to meet today’s needs and to help invent the future?

Please consider **submitting a proposal** to present your research to the multidisciplinary community of AAAS Annual Meeting attendees. This is a unique opportunity to speak across sectors and disciplines, and amplify the impact of your work.

If you have any questions, please contact us at meetings@aaas.org or (202) 326-6450.

Students NB:

The AAAS Section L for the History and Philosophy of Science is pleased to announce travel support for graduate students who present at the 2018 annual meeting. Graduate students who are on the program of the 2018 AAAS annual meeting are eligible for \$300-\$400 in travel support. Graduate students are to contact the Section L Secretary Melinda Gormley at mgormley@uci.edu with requests and questions.

Proposals for sessions and flash talks are due **20 April 2017**. The AAAS meeting hosts a **student poster competition** and the portal will open on **13 July 2017**.

HPS&ST Note

HPS&ST Note is the monthly newsletter of the Inter-divisional Teaching Commission of the International Union for the History and Philosophy of Science and Technology. The latest issue (along with earlier editions) can be found at: <http://www.idtc-iuhps.com/hpsst-note.html>

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The commission sends the *Note* to about 7,300 individuals who directly or indirectly have an interest in the connections of history and philosophy of science with theoretical, curricular, and pedagogical issues in science teaching, and/or interests in the promotion of more engaging and effective teaching of the history and philosophy of science. The *Note* is also sent to different HPS lists and to science education lists.

The *Note* seeks to serve the diverse international community of HPS&ST scholars and teachers by disseminating information about events and publications that connect to HPS&ST concerns. It is an information list, not a discussion list.

Contributions to the *Note* (publications, conferences, Opinion Page, etc.) are welcome and should be sent to the editor: Michael R. Matthews, UNSW, m.matthews@unsw.edu.au.