

*Robert Aitken views the sky through a 12-inch telescope. Credit: AIP Emilio Segrè Visual Archives, Douglas Aitken Collection.*

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### **Change and Continuity: The Niels Bohr Library & Archives and the Center for History of Physics**

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Greg Good's article in this issue of the newsletter describes transition and change. I want to tell you about another side of the equation—the Niels Bohr Library & Archives' ongoing programs (along with some new projects) and invite your feedback. Creating successful research programs requires a balancing act, building on existing resources and collections while taking advantage of new opportunities and technologies. Maintaining the right mix is one of our critical concerns as the Library and the Center continue to reinforce and support one another in a new era.

When I arrived at AIP's newly completed College Park headquarters in November of 1993, the Library was a much different place. The book catalog was still on cards, our International Catalog of Sources contained records for only about 2,500 archival collections, and every photo request was handled manually. Now, 15 years later, all that and much more has changed. However, our philosophy—doing what we can do best in a single location while helping other organizations preserve the archival papers and records of their physicists

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### **Documenting Patent Litigation Records**

*By Alison Oswald*

The Lemelson Center for the Study of Invention and Innovation at the Smithsonian's National Museum of American History began a preliminary study of patent attorney records in 2002. This was part of a larger framework for studying and analyzing existing collections, and setting goals and action steps. These together enabled the Center's staff to engage in more strategic and focused documentation activity. By studying the process of patent filing, litigation, and other categories of invention work undertaken by patent attorneys, we began to understand better what these records reveal about how inventors articulate and document their ideas.

Additionally, we hoped to contribute to the preservation of significant invention documentation created in the process of the inventor/attorney relationship and how these two parties interact. In 2005, the Archives Center acquired the first of three collections of independent inventors containing significant patent litigation documentation—the Eisler Engineering Company Records, the Serge A. Scherbatskoy Papers, and the Arthur Ehrat Papers.

The Eisler Engineering Company Records document Charles Eisler, a Hungarian immigrant who was a skilled mechanic and engineer and his company, Eisler Engineering Company of Newark, New Jersey, which manufactured equipment for producing electric lamps, television and radio tubes, welding equipment, and laboratory equipment. The company's Litigation and Patent Records, 1897–1953 (bulk 1926–1929) consist primarily of briefs (for the defendant, Eisler, and plaintiff, General Electric) and the transcript of record in the case General Electric vs. Charles Eisler and Eisler Engineering Company, 1926–1929. The company was sued at least four times by G.E. between 1923 and 1928 for alleged patent infringement, but won each case. The cases involved four U.S. patents owned by G.E. The published brief, transcripts, and other materials, when assembled together, provide a comprehensive overview of the litigation and are an important resource for interpreting claims.

The Serge A. Scherbatskoy Papers provide insight into the relationship between inventors and the United States oil industry between the 1930s and 1990s, the evolution of applied geophysics, and the development of technological innovation in oil prospecting. One of the strengths of the collection is the patents he pursued, renewed, or impeded. As sole proprietor of his own company, Geophysical Measurements Corp., Scherbatskoy meticulously constructed an international patenting program, which made him a successful player among the giants of the oil industry. Legal files illustrating litigation over the infringement of his patents

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*(Change and Continuity, continued from page 1)*

and allied scientists—hasn't changed and our mission remains the same: to preserve and make known the history of physics and allied sciences.

In fact, in some ways we haven't changed at all. If you call the Library (301-209-3177) 8:30–5:00, Monday through Friday, the phone will still be answered by a librarian or archivist instead of a recording, and the reading room remains a quiet, friendly place to do research. In other ways, however, things are completely different. All of our catalogs are online and accessible through commercial search engines, ICOS contains about 9,000 records for collections from over 900 repositories worldwide, and over half of our 30,000 photos can be viewed and ordered on the Web. We've done many other things—for example, conducting major projects to preserve our unique and often-fragile book collection; creating a consortial, cross-searchable database that contains over 370 finding aids from 49 different repositories; and developing a grants program that helps other archives preserve the papers of important physicists/allied scientists and report them to our ICOS catalog—that we couldn't imagine 15 years ago.

At the same time, the Library and Center have pioneered a new approach to identifying hard-to-document areas of physics through two long-term studies of the records of Multi-Institutional Collaborations and Industrial Physicists. Both studies have produced reports (the industry study, published in November 2008, is online at [www.aip.org/history/pubs/](http://www.aip.org/history/pubs/)

[HOPI\\_Final\\_report.pdf](#)) that provide detailed advice and recommendations on how to preserve historical records essential to documenting these once largely unexplored areas.

Today, some of our newest initiatives include:

- An NEH-funded project to put 500 of our oral history transcripts online, along with photographs and audio clips for some of the interviews. Over 250 are already on the Web at [www.aip.org/history/ohilist/transcripts.html](http://www.aip.org/history/ohilist/transcripts.html).
- An NHPRC-funded project to put the full text of the 30 linear feet of Samuel Goudsmit's papers on the Web, including his Project Alsos files and correspondence as APS editor-in-chief.
- A new archival/historical documentation project, the NSF-funded three-year study of Physics Entrepreneurship.
- And perhaps most important of all, a redesign of our Web site to make all of the Library's resources more intuitive and easier to use.

We welcome your feedback, and we've launched an online survey to get responses from those of you who use our Web resources. Please feel free to email or call me ([janderso@aip.org](mailto:janderso@aip.org); 301-209-3183) with ideas, suggestions, and questions. ■

**Joe Anderson**

*Director, Niels Bohr Library & Archives  
Associate Director, Center for History of Physics  
American Institute of Physics*



*Niels Bohr Library & Archives staff, from left to right: Nancy Honeyford, Joe Anderson, Jennifer Sullivan, Scott Prouty, Glynnis Gilbert, Rachel Carter, Mary Romanelli, Andrea Shahmohammadi, Julie Gass, Amanda Nelson, Melanie Brown, Barbara Allen, Orville Butler, Meghan Petersen, and Stephanie Jankowski.*

*(Patent Records, continued from page 1)*

are also found in the collection. The papers demonstrate how the oil prospecting industry worked from scientific, commercial, and legal perspectives. It is one of the most comprehensive collections we have acquired where patent and litigation records comprise the bulk of the collection. Scherbatskoy's collection also reveals his intimate involvement in the patenting process—from assisting in writing the patent itself to tracking infringement. It is important to note that his expertise and subject knowledge was a critical aspect of his working relationship with his attorney(s).

Arthur Ehrat was an Illinois inventor who patented a breakaway basketball rim, fashioning his prototypes from bolts, metal braces, and one key part: a piece of the heavy-duty coil spring from a John Deere cultivator. His invention helped to revolutionize the way basketball is played because players could slam dunk the ball with fewer injuries and without bending the rims or breaking backboards. The bulk of the collection is made up of attorney correspondence, patent infringement documents, and patent licensing documents. The collection also contains handwritten notes by Arthur Ehrat and his attorneys, sketches of his inventions, an oral history interview, and photographs. While processing this collection we learned that the correspondence found throughout the collection is key to understanding the legal documents. It provides insight into the legal negotiations behind the settlement and licensing process, and the diligence necessary to protect a viable patent from infringement. The correspondence, when read in conjunction with litigation and licensing documents, provides a better sense of the negotiations between attorneys and how and why the legal documents were created.

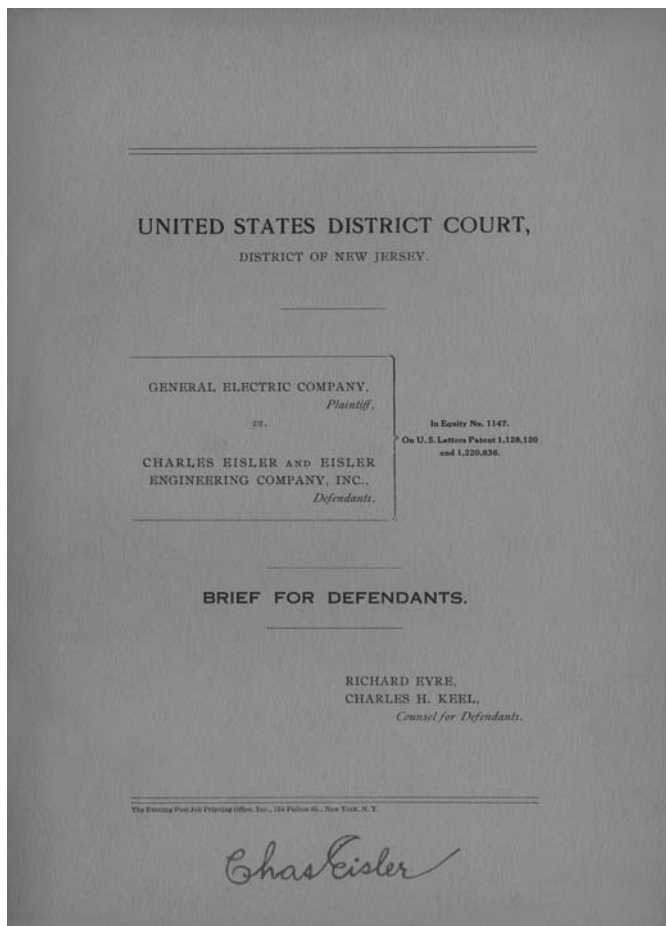
The collection also helped us define more clearly several legal terms. A patent file history/file wrapper contains all of the documents filed by an applicant and examiner, and Bates numbers. Bates numbers—named after the Bates Automatic Numbering Machine and patented in the late 1800s—are unique numbers used to identify documents. The parties to a lawsuit use these numbers to keep papers in order when they are sent to the other party during discovery.

Patent attorneys' records are a potentially valuable resource for historians of science and technology. The more we learn about this aspect of the process of invention and the documentary record created, the better able archivists will be to assist scholars. ■

*For more information about the Lemelson Center and its work documenting invention, contact Archivist Alison Oswald at [oswald@si.edu](mailto:oswald@si.edu).*

*“Whatever a scientist is doing—reading, cooking, talking, playing—science thoughts are always there at the edge of the mind. They are the way the world is taken in; all that is seen is filtered through an ever-present scientific musing.”*

*—Vivian Gornick, Women in Science, p. 39*



*A 1920s legal brief from the patent files in the Eisler Engineering Company Records. Credit: the Smithsonian Institution Archives.*

## Under Construction: The Array of Contemporary American Physicists

*By Will Thomas*

Last year the Center for History of Physics received a grant from the National Science Foundation to construct a web-based project that is currently being called the “Array of Contemporary American Physicists” (ACAP). The idea behind the project is to create a sort of “map” of the American physics community from 1945 to the present. We are doing this by collecting and interconnecting career data on approximately 800 physicists, chosen according to a preliminary set of selection criteria. These criteria include winners of major physics prizes, including several American Physical Society prizes; leaders of major organizations such as national laboratories and major physics departments; and high-level advisers. Limited time and resources, as well as the difficulty of fitting criteria across national borders, means that for the time being we are restricting ACAP to physicists who have worked in the United States, though we realize this is highly artificial in this age of extensive international collaboration.

We have chosen our criteria with an eye toward obtaining an outline of what kinds of careers it has been possible for talented physicists to lead, what kinds of institutions they can

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## Mystery Photo Explained! Vivian Leroy Chrisler is in the Box



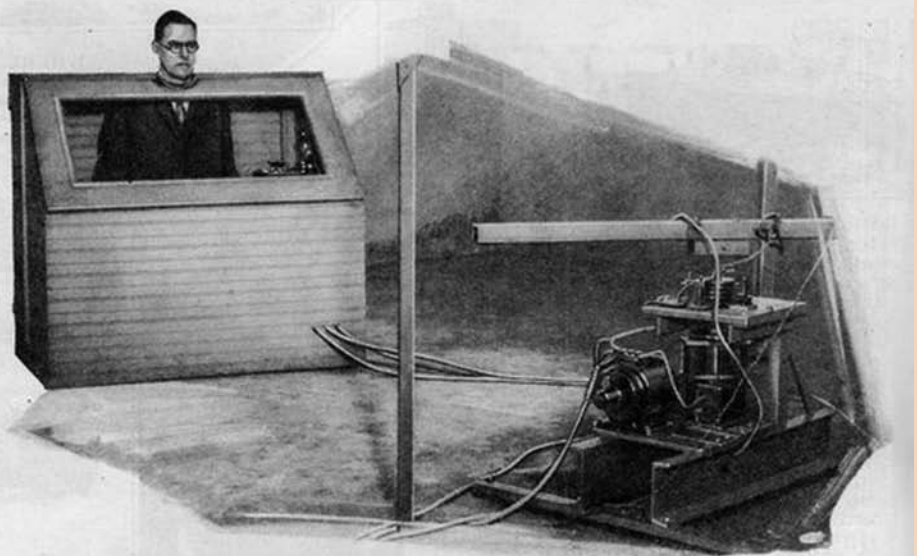
In our Fall 2008 issue, we asked our readers for help in identifying this mystery photo. The description is: “Vivian Leroy Chrisler is in the Box.” We received quite a few responses (see below), and we are very grateful to all who wrote in and helped us finally identify this photograph. Image courtesy of American Institute of Physics’ Emilio Segrè Visual Archives.

### SITS IN A CABINET FOR SOUNDPROOF TESTS

BECAUSE his clothing might deaden the sounds of voices just a little, an engineer at the United States Bureau of Standards’ new sound laboratory sits in a box.

The laboratory is a miniature theater, where the acoustics of “talking movie” installations may be tested. The audience is made up of technicians of the Bureau. They hope to discover means of reducing the “echo effects” which many theater managers have had to combat since the advent of the talkies. It has already been found that not only the construction and the material of a theater’s walls, but even the upholstery of the seats and the clothing of the audience have an influence on the reception of sound. So would the clothing of the experimenter if he were not inclosed in his self-imposed prison.

Most of the existing motion picture theaters cannot be readily and inexpensively altered to give them the sound-absorbing qualities demanded by the talkies. Hence, correcting echo effects through the use of upholstered seats may be one of the methods adopted. The Bureau workers have discovered a certain lime plaster which shows promise of being an effectual absorber of sound.



V. L. Chrisler, of the Bureau of Standards, sits in a box in the sound laboratory while studying the echo-producing properties of conditions found in talking picture theaters.

(Source: *Popular Science*, May, 1930. Our thanks to John Philip Downing, who sent us the link: <http://blog.modernmechanix.com/2008/03/02/sits-in-a-cabinet-for-soundproof-tests/>.)

Vivian Leroy Chrisler, born in Minden, Nebraska, 1885—the man “in the box”—enjoyed a varied career after graduating with a B.S. in physics from the University of Nebraska in 1903 and with an A.M. degree in 1909. He taught physics at North Carolina (1910–1916), Iowa State College (1916–1918), Wabash College (1918–1919), and Southwest Presbyterian College (1919–1920). He then shifted to the National Bureau of Standards in 1923, where he gradually rose to become Head Physicist at the David Taylor Model Basin.

An acoustics researcher, he specialized in building acoustics and underwater sound. He acted as the acoustical consultant for the U.S. Capitol. In the 1920s he used the box in the picture to investigate several topics in building acoustics, including both the acoustics of “talking” motion pictures and those of the courtroom. In addition, Chrisler studied sound abatement in apartment buildings and in airplanes, and published texts and research monographs. He was a Fellow of the American Physical Society and a Fellow and Vice President of the Acoustical Society of America. He died in 1953, aged 68.

Our thanks to C. Stewart Gillmor, John Philip Downing, and Peter Broughton for biographical information and for highlighting several of the uses of Chrisler’s acoustic box.

*(Under Construction, continued from page 3)*

work for, and what kinds of research they might undertake in recent history. We do not imagine that we can derive any statistically meaningful conclusions or firm historical judgments about the physics community based on this sample. Rather, it is our hope that by expanding the scope of our historical palette from a few dozen “big names”, we can at least start to develop a sense of the ways in which we lack coherent understanding of the history of physics, taken holistically. ACAP is being designed in such a way that once we have developed this understanding, we can easily expand the resource in ways that make the most sense.

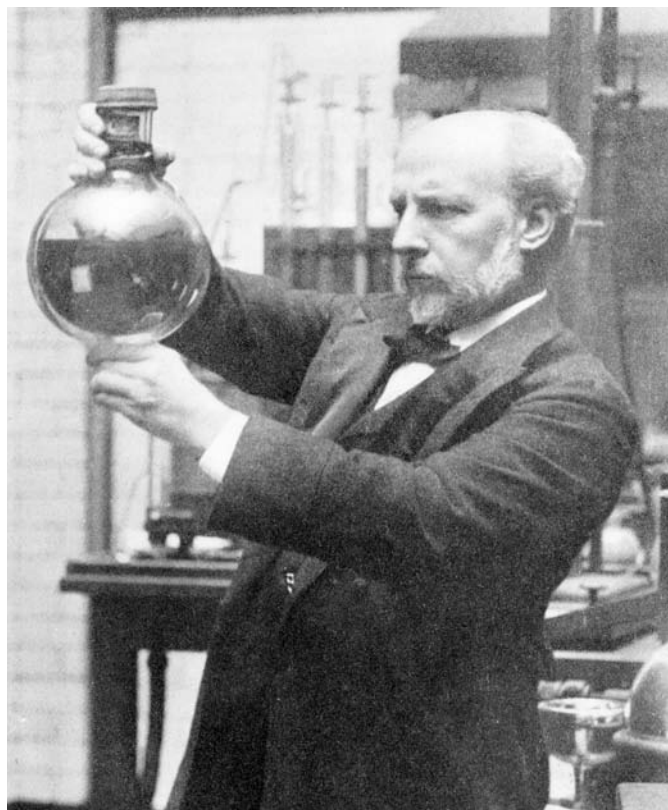
Once online, ACAP will be easily accessible via the History Center’s web site. It will be searchable, but perhaps the best way of using the resource will be by browsing through the three different kinds of pages we will have: biographies, institutions, and lines of research. The biographical pages will feature a photograph of the physicist, where available, as well as skeletal information sorted according to date, including date and place of birth, educational history, major appointments, and auxiliary posts such as service on committees or visiting professorships. Information has not been uniformly available, but we find that at least basic information is available for nearly everyone. Institutional pages will be constructed automatically from biographical entries, and will include information on institutional officers, people employed by the institution, and, in the case of academic departments, people who received PhDs there. Research line pages, which will feature major milestones and literature references, will be constructed manually based on extant historical and review literature as well as guidance from historians and physicists. Records will be fully interlinked so users can explore the community institutionally and intellectually in an intuitive and fluid way.

We imagine that ACAP will have different uses for different audiences. Primarily, we hope that professional historians of physics will be able to use the resource as a highly accessible source of information on people they might encounter in their research. In addition, we hope that the information in the resource will offer historians tantalizing hints of areas they can start unraveling but about which we still know remarkably little. We also hope that physics enthusiasts, physicists, and physics students will enjoy exploring the resource, and gain a keener appreciation for how all of physics has a history to which even the most recent work is connected. The idea is to communicate to this audience that history is not merely retrospective, but is being produced constantly. Finally, entries will have links to other resources held at the Niels Bohr Library and Archives, meaning that ACAP can function as a promotional tool for those resources, and serve as a portal to guide users from the wider internet into them.

As the History Center’s postdoctoral historian, I originally conceived of this project as a way of using the information technology at our disposal to expand the ways that historians can understand history, and communicate their knowledge and understanding to others. Because conference talks, journal articles, and books can rarely be burdened by overwhelming

detail, the background knowledge historians must collect to write intelligently is usually kept private. Yet, if a complex knowledge of history can be easily shared in public, I believe that entirely new possibilities for preserving, communicating, and analyzing history will surface.

As of March 1, I have assembled a reasonably complete list of physicists we wish to include, although information on who occupied departmental chairs since 1945 remains difficult to obtain remotely. The History Center has used grant money to hire a project assistant, University of Maryland history graduate student Christopher Donohue, to help gather biographical data and to input it into our database, which is being coded in XML. We are retrieving data primarily from physicists’ home pages, and from resources such as American Men and Women of Science and the Niels Bohr Library & Archives’ biographical dossiers. The History Center’s Web Specialist, Ada Uzoma, is designing the project’s interface, with an emphasis on attractiveness and navigability, and Assistant Archivist Meghan Petersen has been assisting us in finding more efficient ways to code. Thanks to the efforts of everyone working on this project, we hope to launch ACAP this spring, and to expand and improve it steadily thereafter. ■



*James Dewar with laboratory equipment. Credit: AIP Emilio Segrè Visual Archives, W.F. Meggers Collection.*

**CORRECTION:**

On page 4 of the Fall 2008 issue, the date for the photo of Robert Andrews Millikan and Greta Millikan was incorrectly listed as “circa 1950”. The correct date is 1920. Special thanks to Gerhard Hahne, Leo Baggerly, and Bert E. Brown for pointing out the error.

## Final Report of the History of Physicists in Industry Study is Published

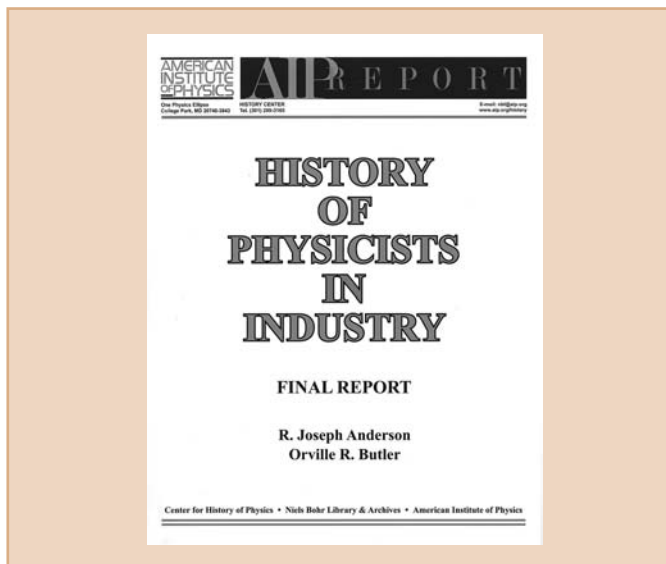
The History Center's five-year study of the work that physicists do in industry today and the records that they create was completed in 2007, and the final report is now available online and in print. This is the first systematic study of the organizational structure, communications patterns, and archival records of industrial physicists in the U.S., and it provides general guidelines for understanding and documenting their work. The study confirms that the organization and management of industrial research and development is volatile, changing in response to economic cycles, new managers and management philosophies, and a variety of other factors. It also confirms that historically valuable records that document R&D are at risk and, in fact, are often scattered and lost.

The report is divided into two parts. Part I describes the recent history of research and development at the 15 companies in the study. Part II describes the archival findings of the study, including communication patterns and organizational structure relating to records and documentation. It briefly describes information management programs at the R&D labs at 3M, Agilent Technologies, Corning, Eastman Kodak, Exxon Mobil, Ford, General Atomics, General Electric, Honeywell, IBM, Lockheed Martin, Lucent Technologies Bell Laboratories, Raytheon, Texas Instruments, and Xerox.

Part I traces the shifting funding and organizational structures of industrial research at the 15 corporations since World War II. The funding and organizational structure of R&D have undergone radical changes, mainly since the 1980s. Those changes include shorter research time frames, shifts in the nature and source of R&D funding, and sometimes a shift from knowledge creation to knowledge evaluation and acquisition. At the same time, industry has not yet, and may never, arrive at a consensus on how to conduct R&D or even the appropriate relationships



*Charles Steinmetz preferred to work out deep mathematical calculations in solitude near his camp on the Mohawk River near Schenectady, New York. His fair-weather office consisted of some paper, a box of pencils, a paddle, and a board balanced across his canoe. Credit: Courtesy AIP Emilio Segre Visual Archives.*



*The American Institute of Physics' HOPI report is available as a hard copy and also online in PDF format.*

among science, technology, and business interests. Companies are struggling to find the best mix of centralized long-term research focused on developing new basic and disruptive technologies, and distributed short-term research programs tied closely to current product improvements. Many remain unsure of the relative benefits and risks of government research and university collaboration. Others are forming research alliances similar to patent pooling programs that became widespread in the late nineteenth and early twentieth centuries.

Part II surveys the extent of record preservation and the changing nature of records used in industrial research. Company policies regarding research records vary widely. The project particularly documents a decline in use of the lab notebook and the absence of an electronic replacement. The Sarbanes-Oxley Act of 2002 standardized financial and related business records that public companies must retain, but it does not cover records that document the R&D process or the resulting intellectual capital. As a result, the preservation of these records remains haphazard. The report analyzes the differing roles of corporate technical libraries and archives and describes academic and public archives where some companies preserve important records. Part II concludes with a list of best practices and recommendations. ■

*The final report is online at [http://www.aip.org/history/pubs/HOPI\\_Final\\_report.pdf](http://www.aip.org/history/pubs/HOPI_Final_report.pdf). Write to [nbl@aip.org](mailto:nbl@aip.org) for a print copy.*

### Website Q&A

**Can I find any voice clips of Einstein on the History Center and Library Website?**

*Yes. On the Center/Library main page, click on image of Einstein, Marie Curie, and Andrei Sakharov, select "Einstein: Image and Impact" web exhibit, select "More Einstein Info and Links," and lastly, click on an audio file link.*

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## Whither the Center for History of Physics?

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Whither, indeed? The Center for History of Physics has been around since the mid-1960s. In that time, it has been led by three directors. In January, the long-term director (since 1974) of the Center, Spencer Weart, retired. Under Weart, the Center built its reputation for **preserving and making known the history of physics and allied sciences**. He did this by building an unparalleled library of classic physics publications, organizing the collection of hundreds of oral history interviews with physicists and closely allied scientists such as astronomers and geoscientists, and making sure that archival collections of scientists' private papers found "appropriate homes." That is, the Center did not accept archival collections unless a better home could not be found.

These activities produced two great outcomes: the Center connected to both scientists and historians of science by promoting historical writing and, second, it connected to other libraries and archives and helped them promote the Center's preservation goals. Indeed, the library and archival programs succeeded so well that this part of the Center's activities was renamed the Niels Bohr Library & Archives. Archivist Joan Warnow-Blewett certainly was a power behind that growing importance. In 2006 the Center and the Niels Bohr Library & Archives became separate divisions of AIP, providing flexibility and an opportunity for both to grow and develop complementary programs. The Niels Bohr Library & Archives is now directed by Joe Anderson, who is also associate director of the Center.

The new kid on the block is me, Greg Good. I became director of the Center at the start of 2009. I come off of a stint of almost 30 years teaching history of science: as a graduate teaching

assistant at the Institute for History and Philosophy of Science and Technology at the University of Toronto, Canada; a year as a faculty member at the University of Winnipeg; and then 26 years at West Virginia University. My first contact with the Center was through its newsletter, which I started reading in the 1970s, scanning it for tales of historical discovery, new oral histories, new archives. In the 1980s I graduated to visiting the Center and Library in New York, applying for grants-in-aid, and conducting oral history interviews. In 2004 Spencer asked me to chair the Center's Advisory Committee. I felt honored and challenged. But I persevered, learned ever more about the professionalism of the staff, and now, here I am, taking over the helm.

Spencer Weart's accomplishments over his 34 years as director have put me in a wonderful position. Beyond the strength of the Niels Bohr Library, the Center has built some of the best "web exhibits" online on topics in history of science. Last year these web exhibits registered over 39 million page views! Moreover, through Weart's own books, articles, and conference presentations, he has built the Center's scholarly reputation. Through the post-doctoral fellowship for "Associate Historians," the Center has helped form a generation of younger historians of physics: Ron Doel, Patrick McCray, Alexei Kojevnikov, Babak Ashrafi, and Will Thomas, the current post-doc. To recognize Weart's contributions to the history of physics, the Avenir Foundation announced in early 2008 its endowment of the Spencer Weart Directorship of the Center for History of Physics with a bequest of \$3,000,000. The income from this endowment is designated to support the activities of the Center,

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### *Center for History of Physics and Niels Bohr Library & Archives Grants*

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#### *Grants-in-Aid*

The AIP Center for History of Physics has a program of grants-in-aid for research in the history of modern physics and allied sciences (such as astronomy, geophysics, and optics) and their social interactions. Grants can be up to \$2,500 each. They can be used only to reimburse direct expenses connected with the work. **Deadlines for receipt of applications: April 15 and November 15 of each year.**

#### *Grants to Archives*

These grants are intended to make accessible records, papers, and other primary sources which document the history of modern physics and allied fields (such as astronomy, geophysics, and optics). Grants can be used only to cover direct expenses connected with preserving, inventorying, arranging, describing, or cataloging appropriate collections. **Deadline for receipt of applications is August 14, 2009.**

*For more information, visit [www.aip.org/history/grants.html](http://www.aip.org/history/grants.html)*

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## Recent Publications of Interest

Compiled by Will Thomas

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*This is our usual compilation of some (by no means all) recently published articles on the history of modern physics, astronomy, geophysics and allied fields. Note that these bibliographies have been posted on our Web site since 1994, and you can search the full text of all of them (along with our annual book bibliography, recent Catalog of Sources entries, exhibit materials, etc.) by using the "Search" icon on our site index: [www.aip.org/history/s-index.htm](http://www.aip.org/history/s-index.htm).*

*To restrict your search to the bibliographies, enter in the box: [YOUR SEARCH TERM (S)] AND "RECENT PUBLICATIONS"*

**Historical Studies in the Natural Sciences**, Vol. 38, No. 4 is a special issue on the topic "Surviving the Squeeze: National Laboratories in the 1970s and 1980s," featuring the articles: Robert Seidel, "From Factory to Farm: Dissemination of Computing in High Energy Physics;" Mark Bodnarczuk and Lillian Hoddeson, "Megascience in Particle Physics: The Birth of an Experiment String at Fermilab;" Robert Crease, "Recombinant Science: The Birth of the Relativistic Heavy Ion Collider (RHIC);" and Catherine Westfall, "Retooling for the Future: Launching the Advanced Light Source at Lawrence's Laboratory, 1980–1986." Vol. 39, No. 1 includes Buhm Soon Park, "Between Accuracy and Manageability: Computational Imperatives in Quantum Chemistry," on calculating solutions to the Schrödinger equation; and Cristina Olivotto, "The G-Stack Collaboration (1954): An Experiment of Transition" on the study of cosmic rays.

**Centaurus**, Vol. 50, No. 3 features Olivier Darrigol, "Empirical Challenges and Concept Formation in the History of Hydrodynamics;" Michael Eckert, "Theory from Wind Tunnels: Empirical Roots of Twentieth-century Fluid Dynamics;" Art Jonkers, "The Pursuit of Magnetic Shadows: The Formal-Empirical Dipole Field of Early-Modern Geomagnetism;" and Gregory Good, "Between Data, Mathematical Analysis, and Physical Theory: Research on Earth's Magnetism in the 19th Century." No. 4 contains Patrick Boner, "Kepler's Early Astrological Calendars: Matter, Methodology, and Multidisciplinarity." Vol. 51, No. 1 is dedicated to "Gender and Networking in Twentieth-century Physical Sciences," with the physics-related articles: Staffan Wennerholm, "On the Outskirts of Physics: Eva von Bahr as an Outsider Within Early 20th-Century Swedish Experimental Physics;" and Maria Rentetzi, "Gender, Science, and Politics: Queen Frederika and Nuclear Research in Post-war Greece."

**Physics in Perspective**, Vol. 10, No. 3 includes Christopher Graney, "But Still, It Moves: Tides, Stellar Parallax, and Galileo's Commitment to the Copernican Theory;" Jeremy Bernstein, "John Bell and the Identical Twins;" Sidney Borowitz, "The Norwegian and the Englishman" on Kristian Birkeland and Sydney Chapman; and Dwight Neuenschwander and Sallie Watkins, "Professional and Personal Coherence: The Life and Work of Melba Newell Phillips." No. 4 includes Helge Kragh, "Pierre Duhem, Entropy, and Christian Faith;" Gary Weisel, "Properties and Phenomena: Basic Plasma Physics and Fusion Research in Postwar America;" Robert Crease, "The National Synchrotron Light Source, Part I: Bright Idea;" and the Physical Tourist, written by Michael Berry and Brian Pollard, explores "Physics in Bristol."

**Studies in the History and Philosophy of Modern Physics**, Vol. 39, No. 3 contains Aitor Anduaga, "The Realist Interpretation of the Atmosphere;" Amit Hagar, "Length Matters: The Einstein-Swann Correspondence and the Constructive Approach to the Special Theory of Relativity;" Anthony Duncan and Michel Janssen, "Pascual Jordan's Resolution of the Conundrum of the Wave-Particle Duality of Light;" No. 4 contains Giovanni Valente, "John von Neumann's Mathematical 'Utopia' in Quantum Theory." Vol. 40, No. 1 contains Alexander Afriat, "How Weyl Stumbled Across Electricity while Pursuing Mathematical Justice;" and Ben Almassi, "Trust in Expert Testimony: Eddington's 1919 Eclipse Expedition and the British Response to General Relativity."

**Studies in the History and Philosophy of Science, Part A**, Vol. 39, No. 2 includes Francis Lucian Reid, "William Wales (ca. 1734–1798): Playing the Astronomer;" and the discussion by Darrell Rowbottom, "N-rays and the Semantic View of Scientific Progress." No. 3 includes Richard Staley, "Worldviews and Physicists' Experience of Disciplinary Change: On the Uses of 'Classical' Physics;" Charlotte Bigg, "Evident Atoms: Visuality in John Perrin's Brownian Motion Research;" Suman Seth, "Crafting the Quantum: Arnold Sommerfeld and the Older Quantum Theory;" David Bloor, "*Sichtbarmachung*, Common Sense, and the Construction of Fluid Mechanics: The Cases of Hele-Shaw and Ludwig Prandtl;" and Cristina Chimento, "From Phenomenology to *Phenomenotechnique*: The Role of Early Twentieth-century Physics in Gaston Bachelard's Philosophy."

**Archive for History of Exact Sciences**, Vol. 63, No. 1 features Enric Pérez, "Ehrenfest's Adiabatic Hypothesis and the Old Quantum Theory." No. 2 features Bruce Pourciau, "Proposition II (Book I) of Newton's *Principia*."

**British Journal for the History of Science**, Vol. 41, No. 3 features Simone Turchetti, Katrina Dean, Simon Naylor, and Martin Siegart, "Accidents and Opportunities: A History of the

*“The greatest event in the world today is not the awakening of Asia, nor the rise of communism—vast and portentous as those events are. It is the advent of a new way of living, due to science, a change in the conditions of work and the structure of society which began not so very long ago in the West, and is now reaching out over all mankind.”*

—Vannevar Bush

Radio Echo-sounding of Antarctica, 1958–79.” No. 4 has Frank James, “The Janus Face of Modernity: Michael Faraday in the Twentieth Century.”

In **Science in Context**, Vol. 21, No. 3, Alejandro Gangui and Eduardo Ortiz present and offer commentary on “Einstein’s Unpublished Opening Lecture for His Course on Relativity Theory in Argentina, 1925.”

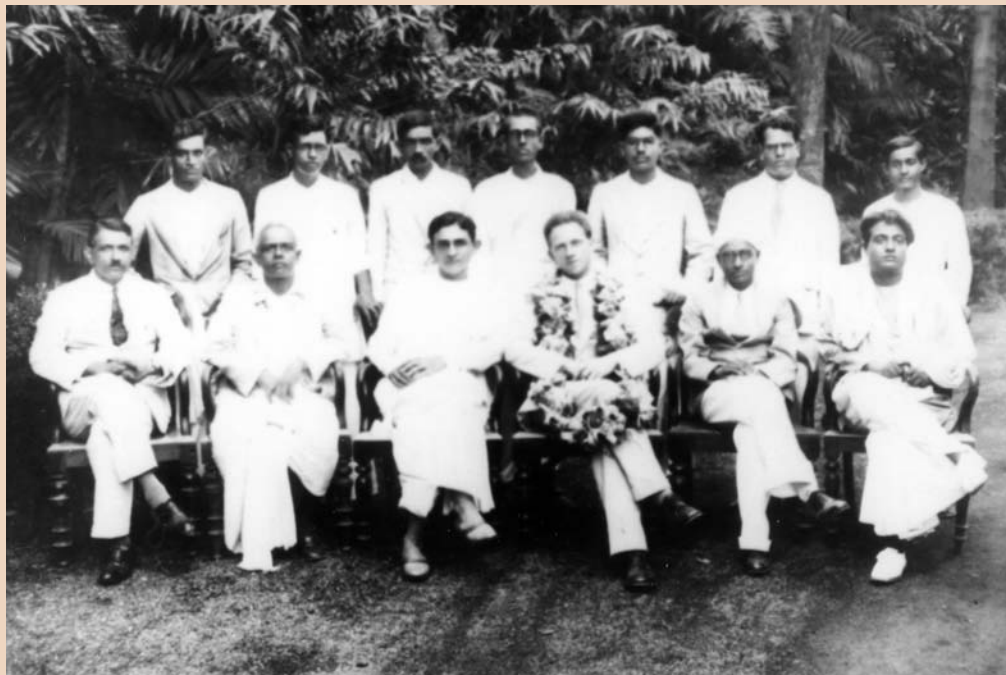
**Historia Scientarum**, Vol. 18, No. 2 features David Wittner, “Practice Makes Perfect: Foreign Knowledge and the Kamaishi Experiment;” and Kim Boumsoung, “Terrains of Practice: Geophysical Investigations in Japan in the 1880s.”

**Perspectives on Science** Vol. 16, No. 4 is a special issue on optics, and includes Fokko Jan Dijksterhuis, “Reading up on the *Opticks*: Refashioning Newton’s Theories of Light and Colors in Eighteenth-century Textbooks;” Sven Dupré, “Newton’s Telescope in Print: The Role of Images in the Reception of Newton’s Instrument;” John Gage, “Signs of Disharmony: Newton’s *Opticks* and the Artists;” Myles Jackson, “Putting the Subject back into Color: Accessibility in Goethe’s *Zur Farbenlehre*;” Kurt Møller Pedersen, “Leonhard Euler’s Wave Theory of Light;” and Alan Shapiro, “Twenty-Nine Years in the Making: Newton’s *Opticks*.” Vol. 17, No. 1 contains Kristian Camilleri, “Constructing the Myth of the Copenhagen Interpretation.”

**Notes and Records of the Royal Society** Vol. 62, No. 3 contains Milo Keynes, “Balancing Newton’s Mind: His Singular Behavior and His Madness of 1692–93;” while No. 4 contains Jean-Pierre Martin and Anita McConnell, “Joining the Observatories of Paris and Greenwich” about late eighteenth-century international astronomical collaboration.

**Annals of Science**, Vol. 66, No. 1 has N. M. Swerdlow, “The Lunar Theories of Tycho Brahe and Christian Longomontanus in *Progymnasmata* and *Astronomia Danica*.”

**History of Science**, Vol. 46, No. 3 includes Patrick Boner, “Life in the Liquid Fields: Kepler, Tycho, and Gilbert on the Nature of the Heavens and Earth;” while No. 4 includes Stephen Clucas, “Galileo, Bruno, and the Rhetoric of Dialogue in Seventeenth-Century Natural Philosophy;” and Hannah Gay, “Science, Scientific Careers, and Social Exchange in London: The Diary of Herbert McLeod, 1885–1900.”



*Seated from left to right: S.S. Rao, Abhijit Dey, Devendramohan Bose, Werner Heisenberg, Krishnan Kariamanikkam, and Satyendranath Bose at the Indian Association for the Cultivation of Science in Calcutta, India. October 8, 1929. Credit: Max-Planck Institute, courtesy of AIP Emilio Segrè Visual Archives.*

**Berichte zur Wissenschaftsgeschichte**, Vol. 31, No. 3 features Matthias Rieger, “Unterscheidung und Synthese: Receptionsformen akustischer Forschung in der Musikkultur des 19. Jahrhunderts;” Sebastian Klotz, “Tonpsychologie und Musikforschung als Katalysatoren wissenschaftlich-experimenteller Praxis und der Methodenlehre im Kreis von Carl Stumpf;” and Tobias Jung, “Albert Einstein: Revolutionär oder ‘Bewahrer des Alten?’” No. 4 is dedicated to the topic “The Cultural Alchemy of the Exact Sciences: Revisiting the Forman Thesis,” reflecting on the relationship between physics and its intellectual environment in Germany. It features the following articles in German: Helmuth Trischler, Cathryn Carson, and Alexei Kojevnikov, “Beyond *Weimar Culture*—Die Bedeutung der Forman-These für eine Wissenschaftsgeschichte in kulturhistorischer Perspektive;” Arne Schirmacher, “Kosmos, Koralle, und Kultur-Milieu: Zur Bedeutung der populären Wissenschaftsvermittlung im späten Kaiserreich und in der Weimarer Republik;” and Stefan Wolff, “Die Konstituierung eines Netzwerkes reaktionärer Physiker in der Weimarer Republik.” It also features the following articles in English: Richard Staley, “The Fin de Siècle Thesis;” Suman Seth, “Mystik and Technik: Arnold Sommerfeld and Early-Weimar Quantum Theory;” and Richard Beyler, “Hostile Environmental Intellectuals? Critiques and Counter-Critiques of Science and Technology in West Germany after 1945.”

In the **American Journal of Physics** Vol. 77, No. 2, William Fedak and Jeffrey Prentis discuss “The 1925 Born and Jordan Paper ‘On Quantum Mechanics’.”

The Vol. 48, No. 8 issue of the **CERN Courier** is devoted to “The LHC: From Dream to Reality,” featuring articles looking

*(continued on page 10)*

*(Recent Publications, continued from page 9)*

back at the development of CERN's Large Hadron Collider. In No. 10 Giovanni Battimelli and Luciano Maiani look back at the career of "Edoardo Amaldi: A True Statesman of Science," and Cecilia Jarlskog reflects on "Rutherford's Nobel Prize and the One He Didn't Get."

The October 2008 **Physics Today** features Lawrence Krauss reflecting on a spoof article he submitted to *Physics Review Letters* in the 1980s in "A Fifth Force Farce." In the January 2009 issue, John David Jackson presents, "Panofsky Agonistes: The 1950 Loyalty Oath at Berkeley." In the February 2009 issue William Carter and Merri Sue Carter discuss "Simon Newcomb, America's First Great Astronomer." The March 2009 issue has Daniel Kennefick, "Testing Relativity from the 1919 Eclipse—A Question of Bias."

The September 11, 2009 **Nature** (Vol. 455, No. 7210) features François de Rose's essay, "Meetings that Changed the World: Paris 1951: The Birth of CERN." The February 26, 2009 issue (Vol. 457, No. 7233) looks back to a World War II-era paper in "In Retrospect: The Physics of Sand Dunes."

In the September 2008 issue of **Physics World**, Ugo Amaldi remembers his father Edoardo in "Renaissance Man." In the

October 2008 issue, John Barrow charts the rise of popular science, focusing on Hawking's *A Brief History of Time*, in "Pop Science's Big Bang." The January 2009 issue features Sidney Perkowitz's "Castles in the Air," recounting ideas for finding antigravity.

**Journal for the History of Astronomy**, Vol. 39, No. 3 includes Michael Nauenberg, "Edmund C. Stoner and the Discovery of the Maximum Mass of White Dwarfs;" Luís Miguel Carolino, "The Making of a Tychoic Cosmology: Cristoforo Borri and the Development of Tycho Brahe's Astronomical System;" and Michael Hoskin's review, "Nebulae, Star Clusters, and the Milky Way: From Galileo to William Herschel." No. 4 includes Paolo Palmieri, "Galileus Deceptus, Non Minime Deceperit: A Re-appraisal of a Counter-argument in Dialogo to the Extrusion Effect of a Rotating Earth;" Curtis Wilson, "The Nub of the Lunar Problem: From Euler to G. W. Hill;" Miguel Granada, "Kepler and Bruno on the Infinity of the Universe and of Solar Systems."

The November 2008 **Sky and Telescope** has an article on the Mount Wilson 60-inch telescope by Tony Misch and Bill Sheehan called "Pioneering Telescope Turns 100." ■

## Grant-in-Aid Supports Research in History of Decoherence

*In November 2008 Fábio Freitas, a doctoral candidate in the history of physics at the Universidade Federal da Bahia, Brazil, received a grant-in-aid from the History Center for research on his dissertation topic: "From Everett to Decoherence: The Multiple Ways of an Interpretation." The grant helped to fund a research trip to the U.S. where he did oral history interviews and research at the Niels Bohr Library & Archives. The following is a brief report on his work:*

Our project focuses on the history of the appearance of decoherence as physical effect. As important as decoherence is nowadays in physics, especially related to the burgeoning field of quantum information and the promise of the development of a quantum computer, decoherence has not yet received a comprehensive historical treatment. It has, however, been the focus of several philosophical studies. Within this project, we are trying to understand the diverse historical origins of the earlier studies on open quantum systems, especially those studies which directly influenced the basis of contemporary studies, and its relations with the field of foundations of quantum mechanics.

Supported by a grant-in-aid from the American Institute of Physics' Center for History of Physics, we performed two oral interviews this winter—with Professor Anthony Leggett, 2003 Nobel Laureate, at the University of Illinois at Urbana-Champaign, and Dr. Wojciech Zurek, at Los Alamos National Laboratory. We also used the archival and bibliographical resources of AIP's

Niels Bohr Library & Archives. Other interviews already performed that are being transcribed/revised include Professor Dieter Zeh, emeritus at Heidelberg University, and Professor Amir Caldeira, from State University of Campinas, Brazil.

We are working with oral history along with archival research, which includes John Wheeler's Papers (American Philosophical Society and University of Texas, Austin), Eugene Wigner's Papers (Princeton University), Bryce DeWitt's Papers (University of Austin, TX), and Leon Rosenfeld's papers (Niels Bohr Institute). We expect not only to understand the multiple historical ways of the appearance of decoherence, but also how the physics environment of the 1970s and 1980s in different countries influenced researchers' decisions and affected their careers when they decided to work on foundational issues.

This project has grown out of my Master's degree, which was dedicated to the origins of Hugh Everett's dissertation. It is being developed as my Ph.D. dissertation project, advised by Professor Olival Freire, Jr., at Federal University of Bahia, which hosts a group on History and Philosophy of the Foundations of Quantum Mechanics. In addition to support from the American Institute of Physics and the Max Planck Institute for History of Science, Berlin, research of this team has been funded by Brazilian CNPQ, CAPES, and FAPESB. For more info on this project and for a list of publications, go to [www.controversia.fis.ufba.br](http://www.controversia.fis.ufba.br).

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*(Whither the Center, continued from page 7)*

beyond the Center's support from AIP. Hence the question I started with, "Whither the Center?"

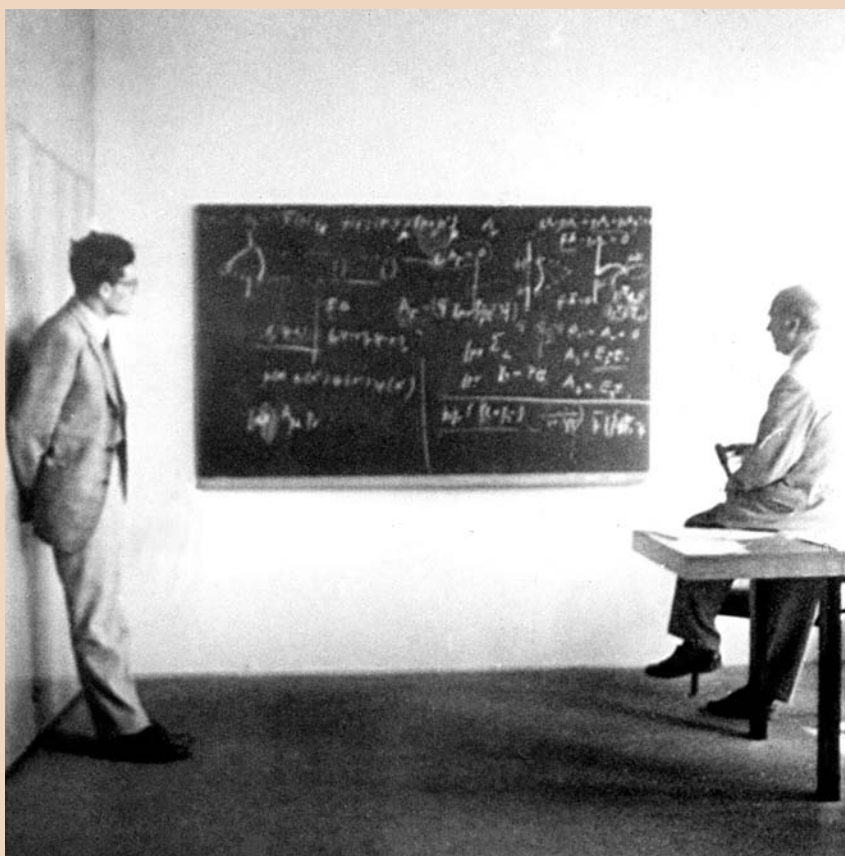
I guess I don't have to mention today's economic problems and their inevitable effect on endowments, but even before that series of unfortunate events began to unfold, Spencer and I agreed that a conservative course of expenditure was the best plan. I only budgeted to use part of the income in 2009. That seems prescient now! So 2009 is mainly a year for reflection, planning, and conversation. No big new programs will begin this year. As a friend of mine in local government says, a town gets in trouble by over-committing in good times to things that can't be sustained in bad times.

So here, in general language, is what I am thinking about this year. I want the Center for History of Physics to become more of a physical meeting place for historians of science, as a balance to our exemplary web presence. I hope to do this in several ways. The Niels Bohr Library & Archives has long hosted undergraduate and graduate interns in library science and archives management. The Center should also host interns from science and humanities programs to promote the humanistic study of science, and not incidentally, to spur some young people to move into history of physics or to incorporate history in their physics activities. We take our first step in this direction this summer with one intern from AIP's program for members of the Society of Physics Students. The intern will research and build a mini-web exhibit, "Physics at the Edge of Space: Exploration of the Magnetosphere," based on photos, oral history interviews, and other materials in the Niels Bohr Library & Archives. As the economy bounces back and the endowment grows, the summer internship program should grow into a group workshop, perhaps involving K-12 teachers or faculty of universities and liberal arts colleges, along with the undergraduate students.

Another dream of mine is to have a better-funded, broader fellowship program replace or supplement the current grants-in-aid program. This broader program would maintain the goal of preserving and making known the history of physics and allied sciences, through oral history interviews, bringing scholars to the Center, etc. An equally important goal, though, is to work towards bringing a critical mass of scholars and scientists here for thematic conferences and workshops. By promoting meetings at the Center, we can foster a stronger sense of community, something the internet can't fully accomplish.

Lastly, public outreach is important, too, if the Center for History of Physics is to become a physical meeting place. In the last few years journalists, historians of physics, and historians of science

[www.aip.org/history](http://www.aip.org/history)



*Left to right: Hans-Peter Dürr and Werner Heisenberg at a blackboard in Munich. Credit: Max-Planck Institute, courtesy of AIP Emilio Segrè Visual Archives.*

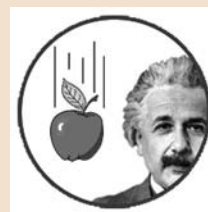
more broadly have presented their work to the public here: Walter Isaacson, Dan Kevles, John Heilbron, Nancy Greenspan, and more. I intend to continue this and, if possible, to expand the offerings.

For now, though, it's time to go slowly. As the Zen master says, don't just do something, sit there. It's time to reflect to assure that the action can be sustained and that it takes the Center for History of Physics in an interesting and useful direction. ■

**Greg Good**

*Director, Center for History of Physics,  
American Institute of Physics*

*This piece was taken from Einstein's Apple, the new blog of the Center for History of Physics and the Niels Bohr Library & Archives.*



*The blog can be found online at  
[einsteinsapple.blogspot.com](http://einsteinsapple.blogspot.com)*

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## Documentation Preserved

Compiled by Jennifer S. Sullivan

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Our report of new collections or new finding aids is based on our regular survey of archives and other repositories. Many of the collections are new accessions, which may not be processed, and we also include previously reported collections that now have an online finding aid available.

To learn more about any of the collections listed below, use the International Catalog of Sources for History of Physics and Allied Sciences at [www.aip.org/history/icos](http://www.aip.org/history/icos). You can search in a variety of ways including by author, or by repository.

Please contact the repository for information on restrictions and access to the collections.

### NEW COLLECTIONS

**Simon Fraser University. University Archives. Burnaby, British Columbia V5A 1S6, Canada.**

*Gordon Shrum papers.* Collection Dates: 1962–1971.

**Carnegie Institution of Washington. Department of Terrestrial Magnetism. Library and Archives. 5241 Broad Branch Road, NW, Washington, DC 20015, USA.**

*Carnegie Institution of Washington Department of Terrestrial Archives Seismology Program records.* Collection Dates: 1932–2001 (bulk 1947–1965). Size: 20.5 linear feet; 2 oversize records center cartons, 10 records center cartons, 4 document boxes, 1 half document box, 4 flat boxes, 4 shoeboxes, 4 film boxes, 1 map case drawer.

*Carnegie Institution of Washington Department of Terrestrial Magnetism Land Magnetic Survey records.* Collection Dates: 1905–1945. Size: 75 linear feet (34 records center boxes, 10 map folders).

*Carnegie Institution of Washington Department of Terrestrial Magnetism general files.* Collection Dates: 1904–present. Size: 50 linear feet (29 file drawers, 14 map case folders).

*Carnegie Institution of Washington Department of Terrestrial Magnetism instrument and equipment records.* Collection Dates: 1892–1970 (bulk 1905–1945). Size: 23 linear feet (9 records center cartons, 11 shoeboxes, 15 map folders).

**Hoover Institution on War, Revolution and Peace. Archives. Stanford University. Stanford, CA 94305, USA.**

*Robert S. Norris papers.* Collection Dates: 1898–2003. Size: 90 manuscript boxes.

**New Mexico State University. Archives and Special Collections Dept. P.O. Box 30006, Las Cruces, New Mexico 88003, USA.**

*Ernst August Steinhoff papers.* Collection Dates: 1943–1982. Size: 11 cubic feet.

*Robert Golden papers.* Collection Dates: 1956–1996, (bulk 1968–1988). Size: 116 boxes.

**Pennsylvania State University. Libraries. Special Collections Division. University Park, PA 16802, USA.**

*Pennsylvania State University Physics Department records.*



Left to right: Boris S. Dzelepov (in dark suit), Hans Bethe, and Werner Heisenberg outdoors at the International Conference in Geneva, Switzerland, July 4–11, 1962. Photo credit: Michael J. Moravcsik, courtesy of AIP Emilio Segrè Visual Archives.

Collection Dates: 1958–1971. Size: 2 cubic feet.  
Restrictions: Non-public university records are restricted from public use for 20 years after the date of their creation. Any student records and/or personnel files are restricted for 72 years or until the death of the person concerned. These materials are stored offsite. Allow three days advance notice to use the materials.

**Rockefeller Archive Center. 15 Dayton Ave, Pocantico Hills, North Tarrytown, NY 10591, USA.**

*E. G. D. Cohen papers.* Size: 15 Cubic feet. Restrictions: Collection closed pending processing.

*Frederick Seitz papers.* Size: 308 cubic feet. Restrictions: Record groups 304-U and A450 Se450-U are closed pending processing.

**Stanford University. Department of Special Collections and University Archives. Stanford, CA 94305, USA.**

*United States of America v. American Telephone & Telegraph legal documents.* Collection Dates: 1974–1982. Size: 6 volumes (3 linear feet).

*Steven Chu papers.* Collection Dates: 1949–2004 (bulk 1975–2004). Size: 4 linear feet.

*Lydik S. Jacobsen papers.* Collection Dates: 1948–1958. Size: .5 linear feet.

*National management of high-energy physics facilities papers.* Collection Dates: 1964–1965. Size: 1 folder.

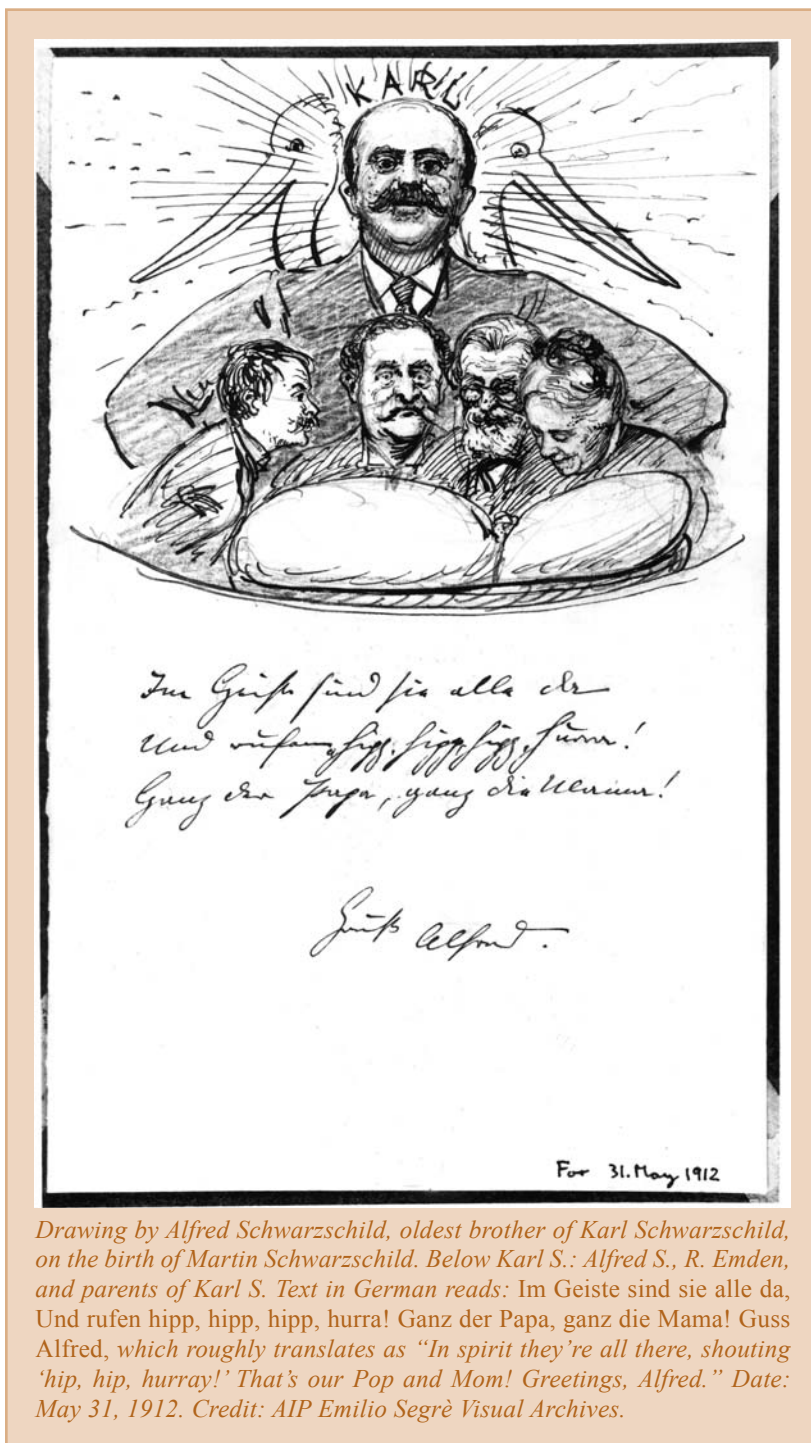
*John Dirk Walecka notebooks.* Collection Dates: 1960–1986 Size: 3 linear feet.

**University of California, Irvine. University Libraries. Dept. of Special Collections. P.O. Box 19557, Irvine, CA 92623, USA.**

*Westinghouse Electric Corporation Nuclear Training Center manuals.* Collection Dates: 1982–1983. Size: 1.1 linear feet. Restrictions: The collection is open for research.

**Virginia Polytechnic Institute and State University. Carol M. Newman Library. Special Collections Department. P. O. Box 90001, Blacksburg, VA 24062, USA.**

*Richard Zallen papers.* Collection Dates: 1957–2006. Size: 36 boxes 17.4 cubic feet.



*Drawing by Alfred Schwarzschild, oldest brother of Karl Schwarzschild, on the birth of Martin Schwarzschild. Below Karl S.: Alfred S., R. Emden, and parents of Karl S. Text in German reads: Im Geiste sind sie alle da, Und rufen hipp, hipp, hipp, hurra! Ganz der Papa, ganz die Mama! Guss Alfred, which roughly translates as "In spirit they're all there, shouting 'hip, hip, hurray!'" That's our Pop and Mom! Greetings, Alfred." Date: May 31, 1912. Credit: AIP Emilio Segrè Visual Archives.*

## NEW FINDING AIDS

**American Philosophical Society. Library 105 South Fifth Street, Philadelphia, PA 19106, USA.**

*Walter S. Adams papers.* Collection Dates: 1881–1939. Size: 0.25 linear feet.

*Benjamin Smith Barton miscellaneous papers.* Collection Dates: 1788–1815. Size: 2 linear feet.

*Giambattista Beccaria papers.* Collection Dates: 1766–1779. Size: 64 items (0.75 linear feet).

*W. Mansfield Clark papers.* Collection Dates: 1903–1964. Size: 17 boxes (7.5 linear feet)

*Edward Condon papers.* Collection Dates: circa 1920–1974. Size: circa 75,000 items (75 linear feet).

*Walter B. Goad papers.* Collection Dates: 1942–2000. Size: 6 linear feet.

*Edward G. Ramberg papers.* Collection Dates: 1921–1994 (bulk 1940–1994). Size: 11 linear feet.

*John Clarke Slater papers.* Collection Dates: 1908–1976. Size: circa 50,000 items (81 linear feet).

*Henry De Wolf Smyth papers.* Collection Dates: [circa 1939]–1986. Size: circa 55 linear feet.

*Elihu Thomson papers.* Collection Dates: 1853–1955. Size: 18.5 linear feet.

*John Howard Wurts lectures on natural history and natural philosophy.* Collection Dates: 1858. Size: 1 volume (323 pages).

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**California Institute of Technology. Institute Archives. 1201 East California Blvd. (Mail Code 015A–74), Pasadena, CA 91125, USA.**

*Ira Sprague Bowen papers.* Collection Dates: 1916–1961. Size: 2.5 linear feet (6 boxes).

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**Cornell University. Carl A. Kroch Library. Division of Rare and Manuscript Collections. 2B Carl A Kroch**

**Library, Ithaca, NY 14853, USA.**

*Paul Hartman papers.* Collection Dates: 1944–1993. Size: 2 cubic feet.

*John DeWire papers.* Collection Dates: 1945–1982. Size: 1 cubic foot.

*Douglas Fitchen papers.* Collection Dates: 1962–2008. Size: 8 cubic feet. Restrictions: Collection closed for processing; contact repository for more information.

*David M. Lee papers.* Collection Dates: 1935–1996. Size: 11 items.

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**Dartmouth College. Rauner Special Collections Library. Hanover, NH 03755, USA.**

*Sanborn Conner Brown papers.* Collection Dates: circa 1818–1982. Size: 42 linear feet (28 boxes).

*Eye Institute records.* Collection Dates: 1928–1952. Size: 57 boxes and 1 portfolio (45 linear feet).

*Allen L. King papers.* Collection Dates: 1863–2003. Size: 31 boxes (47 linear feet).

*Walter Stockmayer papers.* Collection Dates: 1901–2004. Size: 29 boxes, 44 linear feet.

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**Library of Congress. Manuscript Division. James Madison Memorial Building, First Street and Independence Avenue, SE, Washington, DC 20540, USA.**



*James Dewar lecturing at the Royal Institution, London, England, in 1904. Credit: AIP Emilio Segrè Visual Archives, Physics Today Collection.*

**Thomas O. Paine papers.**

Collection Dates: 1931–1992 (bulk 1960–1982). Size: 64,050 items. 185 containers. 73.2 linear feet. Restrictions: Classified, in part.

**Kaj Strand.** Collection Dates: 1895–1999 (bulk 1947–1977). Size: 16 linear feet.

**University of Chicago. The Joseph Regenstein Library. Department of Special Collections. 1100 East 57th Street, Chicago, IL 60637, USA.**

**Atomic Scientists of Chicago records.** Collection Dates: 1945–1955 bulk 1945–1949. Size: 17 feet.

**Walter Bartky papers.** Collection Dates: 1940–1957. Size: 1 linear foot.

**Ugo Fano papers.** Collection Dates: circa 1960s–1980s. Size: 10 linear feet. Restrictions: Contact repository for information on access.

**Paul S. Henshaw papers.** Collection Dates: 1945–1949. Size: 1.5 linear feet.

**Lawrence H. Lanzl papers.** Collection Dates: circa 1940s–1990s. Size: 34.25 linear feet. Restrictions: Contact repository for information on access.

**James O’Flaherty papers.** Restrictions: Box 4 contains photocopied material related to an editorial review of Isaiah Berlin’s *The Magus of the North: J. G. Hamann and the Origins of Modern Irrationalism*. The originals of this material are located at the University of Muenster, Germany. Any citation, quotation, or publication of this material requires the prior permission of the University of Muenster. The remainder of the collection is open for research, with no restrictions.

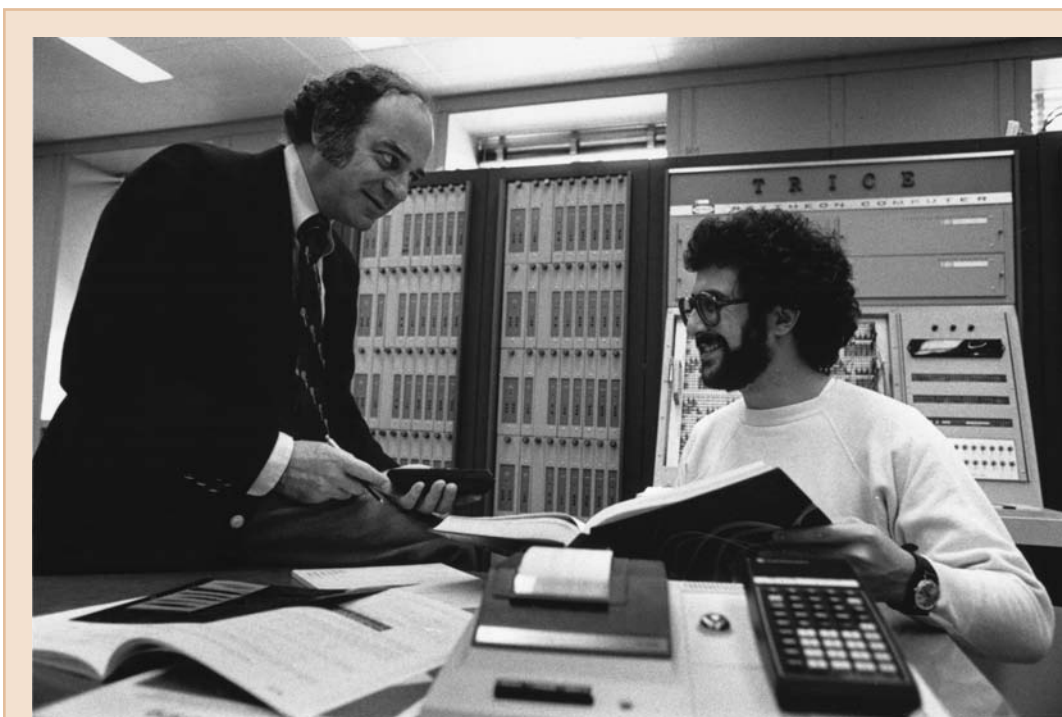
**William Fielding Ogburn papers.** Collection Dates: 1915–1959.

**Robert L. Platzman papers.** Collection Dates: 1944–1952. Size: .1 linear feet. Restrictions: No restrictions.

**Eugene Rabinowitch papers.** Collection Dates: 1954–1964. Size: circa 10 feet.

**Marcel Schein papers.** Collection Dates: 1938–1960. Size: 4 linear feet.

**John A. Simpson papers.** Collection Dates: 1940–1988. Size: 195 linear feet. 432 linear feet (additions). Restrictions: Contact repository for information on access.



*Robert Resnick (left) with a graduate student in the Learning Center at Rensselaer Polytechnic Institute, ca. 1977. Credit: AIP Emilio Segrè Visual Archives, Resnick Collection.*

**Albion Woodbury Small papers.** Collection Dates: 1904–1924. Size: 2 boxes.

**University of Chicago, Physical Sciences Division papers.** Collection Dates: 1937–1949. Size: 13.5 feet.

**Washington Association of Scientists records.** Collection Dates: 1947–1957. Size: 31 folders.

**M. Wilkening papers.** Collection Dates: 1940–1992. Size: .5 linear feet. Restrictions: No restrictions.

**Yerkes Observatory, Office of the Director records.** Collection Dates: 1891–1946.

**Edwin Brant Frost papers.** Collection Dates: 1899–1904; 1908, 1923–1924. Size: 2 linear feet (4 boxes). Restrictions: The collection is open for research. ■

“Fields of learning are surrounded ultimately only by illusory boundaries, like the ‘rooms’ in a hall of mirrors. It is when the illusion is penetrated that progress takes place. . . . Likewise science cannot be regarded as a thing apart, to be studied, admired or ignored. It is a vital part of our culture, our culture is part of it, it permeates our thinking, and its continued separateness from what is fondly called ‘the humanities’ is a preposterous practical joke on all thinking men.”

—William S. Beck, *Modern Science and the Nature of Life*, 1957

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## Fame and the Forgotten Physicist

by Greg Good

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I recently did a little seat-of-the-pants research on Facebook. Thinking of Einstein and Bohr, Oppenheimer and Feynman, I asked all my friends: who is the current “face of physics?” The most common response—well, three people—suggested Stephen Hawking. One friend thought of Steven Chu, who has been in the news as President Obama’s nominee for Secretary of Energy. No one suggested any of the last ten Nobel Laureates. Even Nobel Prize winners are forgotten.

This result does not surprise me. Physics and physicists do not appear much in the public eye these days. Fame tends to be tied to a small number of individual scientists, and then only for one idea or accomplishment. Newton is famous for gravity, Einstein for relativity, Bohr for his atom, Oppenheimer for the bomb, and Feynman for his diagrams. For most people—even for most educated people—knowledge of these scientists and their work goes no further. It’s an act of symbolic association, and I don’t deplore it. My knowledge of people in sports and economics is just as superficial.

Why am I bringing this up? I think to an extent we all do a disservice to physics by concentrating on heroic figures. Physics is more than Einstein, just as Einstein is more than relativity. Similarly, biology is more than Darwin and Darwin is more than evolution. If Einstein had been the only physicist and Darwin the only biologist, if there had not been many others, the world

today would be much different than it is. To focus more closely: the forgotten physicist is legion. A goal of the Center and the Niels Bohr Library is to capture the stories of those forgotten physicists and make them known.

To document the history of physics broadly conceived requires imagination and cooperation. One project here at AIP in the 1970s and 80s documented the history of twentieth-century astrophysics. This project produced over one hundred oral history interviews, some with luminaries like S. Chandrasekhar and Martin Schwarzschild, but many with much less well-known astronomers. The project promoted the preservation and cataloging of historical records at Lick Observatory, Mt. Wilson and Palomar Observatories, Lowell Observatory, and others.

Another Center and Library project around 1990, the Multi-Institutional Collaborations Study, concentrated on the question: How can we document the innovative, large-scale collaborations that characterize post-World War II science and technology? The study’s first phase examined experimental programs at five large accelerator labs, such as Brookhaven National Laboratory and the European Center for Nuclear Research (CERN). Project members interviewed over 300 scientists and surveyed record-keeping practices at the labs.

In a second phase of this project, the Center and Library worked in the early 1990s to preserve the records of twentieth-century geophysics and space science. Geophysicists submitted autobiographical memoirs, answered questionnaires, and allowed oral history interviews. During the project, researchers found homes for several geophysicists’ archival collections. The American Geophysical Union was a very helpful partner in this project. A final stage of the project studied documentation policies and practices in these sciences.

The Center and Library continue to seek out new opportunities to broaden their shared vision “to preserve and make known the historical record of modern physics and allied sciences.” The recently completed project “History of Physicists in Industry” is reported on elsewhere in this newsletter. Moreover, we anticipate beginning a new project “History of Physics Entrepreneurs” this year, which will delve into the documentation norms of start-up “dot coms” of recent decades.

Perhaps our single, most important project is the International Catalog of Sources (ICOS) ([www.aip.org/history/icos](http://www.aip.org/history/icos)), which contains over 9,000 records of personal papers, oral histories, and other resources



*Spano, the Segrè group at Los Alamos in late 1943. Left to right: Clyde Wiegand, G.A. Linenberger, M. Kahn, Owen Chamberlain, George Farwell, J. Miskel, Ann Kahn, Bill Nobles, John Jungerman, Emilio Segrè, and Martin Deutsch. Credit: AIP Emilio Segrè Visual Archives, Segrè Collection.*

for both famous and less known physicists, astronomers, geophysicists, and industrial and government scientists. This started on index cards in the 1970s and has migrated ultimately to the web. Our newly re-designed web site calls it the “International Archival Catalog (ICOS),” because we didn’t think the original name was clear enough for the many new viewers who find us via Google and other search engines. We’ve kept the acronym since old-time users (like me) look for ICOS. The Library staff constantly reaches out to other institutions to make this catalog as comprehensive and global as possible.

Many similar, smaller scale projects are always on-going. The Center and Library collaborate with AIP’s member societies—the American Physical Society, American Geophysical Union, Acoustical Society of America, and seven others—regarding records retention, oral history interviews, photograph preservation, and many other ways of preserving history of physics.

At last May’s symposium honoring Spencer Weart, historian of science John L. Heilbron called attention to the importance of “Biographies of People who were not Einsteins.” (The program of this symposium and several PowerPoint shows are at: [www.aip.org/history/symp\\_program.html](http://www.aip.org/history/symp_program.html)). Dr. Heilbron highlighted especially a forgotten ‘physicist’ of ca. 1800, Jean-André Deluc, but he made the point that much physics research is done by the broad base of physics.

The Center for History of Physics and the Niels Bohr Library & Archives will continue to “preserve and make known” the physics and lives of Einstein, Bohr, and other famous physicists. But we also encourage historians, archivists, and physicists to remember and to make known the “forgotten physicists”: in the early years, in multi-institutional laboratories, in the back rows of conference photos, in industry, in astronomy, geophysics, acoustics, medical physics, crystallography, optics, fluid flow, materials science, in classrooms—wherever physicists work, whatever their ethnicity or gender. They all participate in the fabric of history. ■

*“The astonishing successes of western science have not been gained by answering every kind of question, but precisely by refusing to. Science has deliberately set narrow limits to the kinds of questions that belong to it, and further limits to the questions peculiar to each branch. It has practiced an austere modesty, a rejection of claims to universal authority.”*

—Mary Midgley, “Can Science Save Its Soul?”  
New Scientist, August 1, 1992



*Left to right: Margaret Geller, Steve Shechtman, and Vera Rubin sitting outdoors at Keystone College, 1992. Credit: Max-Planck Institute, courtesy of AIP Emilio Segrè Visual Archives.*

## APS Helps Expand Our Institutional Histories Collection

George Zimmerman and Bob Arns of the APS Forum on the History of Physics are contacting physics departments and industrial research and development labs nationwide to encourage them to add their histories to the Niels Bohr Library & Archives’ Institutional Histories Collection. Thanks to their work, we’re expanding the collection, which now consists of 338 locally-published histories, ranging from typescripts to newsletter articles and pamphlets, plus an equal number of published books.

These resources tell an important story about the history of our field, but they are usually hard to find and are often lost over time. Departmental and laboratories’ histories are often “gray” literature: mimeographed or carbon copies of speeches, locally-published pamphlets, articles in alumni magazines, and today in PowerPoint, Word files, and other transient formats.

The Niels Bohr Library & Archives preserves and catalogs these materials online so that interested researchers can find them. To search for all of our institutional histories, users should check both in our Book catalog and in ICOS ([www.aip.org/history/icos](http://www.aip.org/history/icos)), doing a “Subject” search under the name of the institution and limiting it to “Institutional Histories held at AIP.”

The hundreds of histories of institutions in our collection—most from the U.S., but some from abroad as well—offer revealing snapshots of the organizational development of science and changing educational philosophies and represent an invaluable resource for historians. We always welcome new additions to the collection. ■

## 2008 Annual Fund

We gratefully acknowledge the support of many Friends whose contributions have helped to preserve and make known the history of physics and allied sciences. This list is our public acknowledgment of Friends who contributed in 2008 to the Center for History of Physics. Leaders contributed \$5,000 or more; Benefactors contributed \$2,500 to \$4,999; Patrons contributed \$1,000 to \$2,499; Sponsors contributed \$500 to \$999; Colleagues contributed \$250 to \$499; Associates contributed \$100 to \$249; and Members up to \$99. Bookplate Donations honor or memorialize a colleague while supporting the purchase or conservation of rare books.

★ Designates our Physics Heritage Donors, who have given each year for the past seven years or more. † Designates a recently-deceased donor. If you would like to join the Friends in supporting the Center for History of Physics, please write to us at: One Physics Ellipse, College Park, MD 20740-3843, call 301-209-3006, e-mail [historyfriends@aip.org](mailto:historyfriends@aip.org), or visit our Web page at [www.aip.org/history/historymatters](http://www.aip.org/history/historymatters).

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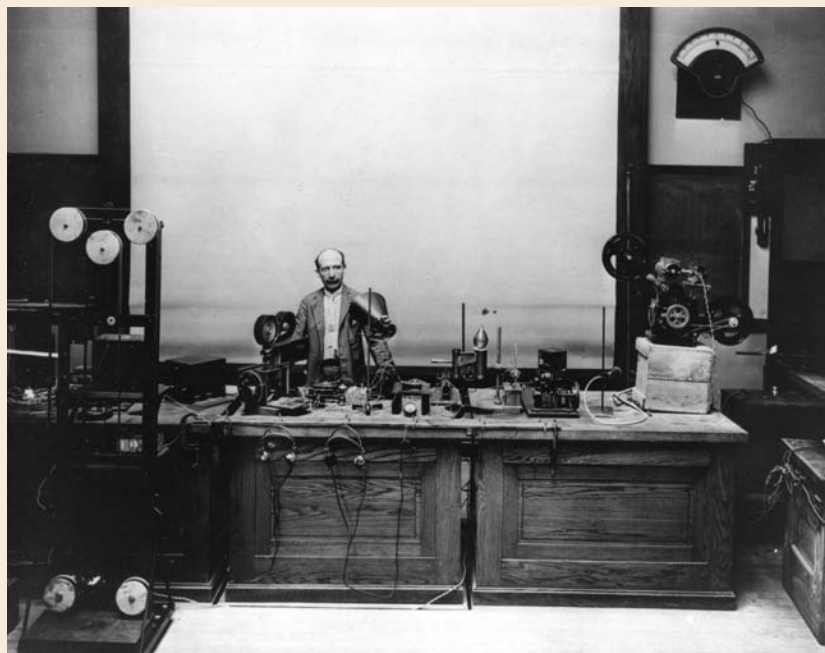
Left to right: Hendrik Casimir (kneeling), Bart Bok, George Uhlenbeck, Samuel Goudsmit, Paul Ehrenfest, Mrs. Jaantje Logher Goudsmit, Enrico Fermi and Mrs. Else Uhlenbeck (sitting in front of Casimir). Credit: AIP Emilio Segrè Visual Archives.

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*University of Illinois Urbana-Champaign; Birth of Sound of Film. Scene on June 9, 1922, in lecture room 100 of the Physics laboratory, when Professor Joseph T. Tykociner gave the world's first public demonstration of sound-on-film movies. His work caused the old system of "pictures on film, sound on phonograph discs," to be discarded. Tykociner is behind the desk, looking at the horn microphone. Beside him is the first sound-picture camera. At far right of the table is the first sound-picture projector. Headphones hanging from the table or a loudspeaker were used to hear the sound. Credit: Department of Physics, University of Illinois at Urbana-Champaign, courtesy AIP Emilio Segrè Visual Archives.*

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#### **How many editions of James Clerk Maxwell's watershed work *Treatise on Electricity and Magnetism* are in the Niels Bohr Library?**

*Four: 1873, 1881, 1892, and 1883, plus an authorized German translation, a 20th-century edited edition, and J.J. Thomson's Notes on recent researches in electricity and magnetism, intended as a sequel to Professor Clerk-Maxwell's Treatise on Electricity and Magnetism (1893). How to find: On the Center/Library's main page, click on Books in the left-hand menu. Search for Maxwell as author and Treatise on Electricity and Magnetism as title.*

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*Niels Bohr and grandson Christian Bohr*

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Each year we add more and more content to the Library & Archives and History Center Website. Our site now showcases more than 300 oral history transcripts, 15,000 photos, 12 exhibits, catalog records for over 9,000 archival collections, and a whole lot more. All this information makes [www.aip.org/history](http://www.aip.org/history) a great resource, but it can also make the site a little overwhelming. We've started a multi-year project to update the site and make it more attractive and easier to use. Now we want you to tell us how we're doing—and how we can do better.

We've recently launched an online survey, using Survey Monkey, to get feedback on users' understanding of—and interactions with—our online resources, particularly the International Catalog of Sources (ICOS), our online catalog of archival collections of physicists' papers in many collections around the world. We're also starting a regular feature in the *AIP History Newsletter* containing tips on how to search the site more effectively. We want to hear from you if you see something you don't understand or have suggestions for improvements. Please send us an email at [nbl@aip.org](mailto:nbl@aip.org), using the subject line "Website feedback," or give us a call at 301-209-3177.

### Website Q&A

#### How can I find photos for a class presentation? Say, of one of the first satellites put up by the United States in 1958?

On the History Center home page ([www.aip.org/history](http://www.aip.org/history)), click on "Emilio Segrè Visual Archives," then execute an advanced search with terms like "Explorer" (one of those first satellites) and maybe a name of a famous person involved in the early satellite program, such as Werner von Braun or James Van Allen. You can also search for "Satellite" and see what you get, but it's a broader term and yields other kinds of items, too.

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## Center for History of Physics Newsletter

*Vol. 41, No. 1*

*Spring 2009*

This *Newsletter* is a biannual publication of the Center for History of Physics, American Institute of Physics, One Physics Ellipse, College Park, MD 20740; phone: 301-209-3165; fax: 301-209-0882; e-mail: [chp@aip.org](mailto:chp@aip.org) or [nbl@aip.org](mailto:nbl@aip.org). Editor: Gregory A. Good. The *Newsletter* reports activities of the Center for History of Physics and Niels Bohr Library & Archives, and other information on work in the history of physics and allied fields. Any opinions expressed herein do not necessarily represent the views of the American Institute of Physics or its Member Societies. This *Newsletter* is available on request without charge, but we welcome donations (tax-deductible) to the Friends of the AIP Center for History of Physics ([www.aip.org/history/historymatters](http://www.aip.org/history/historymatters)). The *Newsletter* is posted on the Web at <http://www.aip.org/history/newsletter>.

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