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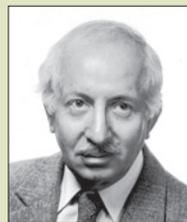
How to Get Involved in K-12 Education

It is unquestionable that there are serious problems with the understanding of science in the U.S. Most of us have anecdotal examples of otherwise intelligent people who are dismayingly misinformed about basic scientific issues such as "cloning," the risks and benefits of vaccination, and the utility of research on model organisms. These observations demonstrate that we as scientists must communicate more effectively with the community at large. To accomplish this goal, we must improve science education for nonmajors in our universities; we also need to engage policy makers aggressively on science-related issues at levels from school boards to senators. A great way for ASCB members (students through faculty) to get involved in these efforts is to participate in the activities of the ASCB Education, Public Information, and Public Policy Committees.

However, while it is imperative that our community takes an active role in informing the public about scientific issues, the problems with science understanding originate in how science is taught to our children. The U.S. Department of Education has reported that as of 2005, 48% of 12th graders were testing at a level below "basic," 35% tested at the basic level, and only 18% qualified as at least proficient (<http://nces.ed.gov/nationsreportcard/science>). This lack of science literacy in American students is frightening given the large number of science-related issues that people will be voting upon in the near future. It also has an impact on the students themselves: As jobs for unskilled laborers become harder to find, it is even more important that K-12 students receive high-quality training in science and related fields.

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In Memoriam Philip Siekevitz, 1918-2009



Philip Siekevitz

Philip Siekevitz, an original member of the ASCB and its first Council as well as the Society's sixth president, died on December 5 at the age of 91. He participated in many significant advances

in the field of modern cell biology.

Siekevitz was born in 1918 in Philadelphia to Joseph and Tillie, garment workers who created their unique last name

Siekevitz, continued on page 9

Appeal for Help: Cell Biologists Hit by Chile Earthquake

Dear ASCB Members,
Cell biology laboratories in the Chilean cities of Concepción, Talca, and Santiago were badly hit by the recent earthquake and the ensuing lack of electric power that lasted up to a week. In addition to losing invaluable tissue samples, DNA constructs, and antibodies that were the fruits of years of hard work, many laboratories lost essential equipment and are now finding it very hard

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Siekevitz, continued from page 1

upon emigrating from Russia. His interest in biology began at Olney High School, where Siekevitz read Paul de Kruif's *Microbe Hunters*. After high school, he worked two years as a picture framer to earn enough money to attend The Philadelphia College of Pharmacy and Science; he earned a BS in biology there in 1942. He served in the U.S. Army Air Force, first in Georgia to learn how to decontaminate U.S. airbases after chemical warfare attacks. Then he continued his service in California as a medical technician, administering the Wasserman test for syphilis to returning troops.

Thanks to the GI Bill, Siekevitz studied biochemistry at the University of California in Berkeley, receiving a PhD in 1949 under David Greenberg. His thesis described the metabolism of the amino acids glycine and serine in liver slices by using the newly discovered tracing technique with the isotope carbon-14. As one of the first National Institutes of Health postdoctoral fellows, he worked in the Harvard University laboratory of Paul C. Zamecnik (1949–1951). He demonstrated for the first time that well-defined subcellular fractions could be used in *in vitro* systems to study protein synthesis. He was also the first to demonstrate that energy in the form of ATP was necessary for incorporation of amino acids. He then joined Van R. Potter's laboratory at the University of Wisconsin–Madison (1951–1954) as an oncology fellow. There he made important contributions studying the control of energy metabolism in mitochondria.

After reading Siekevitz's papers on protein synthesis, Keith Porter and George E. Palade invited him to join their laboratory at The Rockefeller Institute for Medical Research (now University). He moved rapidly from assistant to associate (1959), and then to full professor (1966).

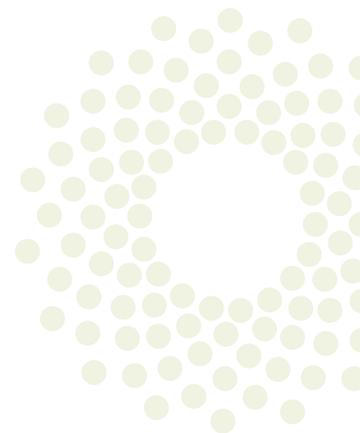
Siekevitz spent the next 20 years working with Palade to pioneer an integrative approach using biochemistry and morphology to study structural and functional properties of subcellular organelles. This work encompassed studies in pancreatic cells as a system for protein synthesis and secretion. It involved the isolation and description of ribosomes (the major sites of protein synthesis in the cell); protein biosynthesis; and the role of the endoplasmic reticulum in the secretory pathway. Siekevitz then became interested in the organization, function, and differentiation of several intracellular membranes in an effort to determine how the many membrane

components function together as a unit, and how they are differentially formed. He developed the concept that cellular membranes are dynamic structures that change during development or environmental stress.

Siekevitz became head of the laboratory of cell biology when Palade left for Yale in 1973. He then changed focus to study membranes from the nervous system and the events occurring at both sides of the neuronal synapse (the junction between nerve cells where chemical signals are transmitted from cell to cell). He identified an important structural element at the synapse called the postsynaptic density (PSD). PSD is a disk or ring of proteins that appears to modulate neuronal transmissions. Siekevitz and his colleagues determined which proteins, such as cytoskeletal elements, neurotransmitter receptors, and ion channels, are attached to the PSD. They then began to unravel interactions among the many protein components of the PSD. This work on the structure and function of synapses led to an understanding of the cell biological basis of plasticity, including learning and memory, in the central nervous system.

He was a member of the National Academy of Sciences, the American Academy of Arts and Sciences, the ASCB (and served as president, 1966–1967), the American Society of Biological Chemists, the Society for Developmental Biology, the American Institute of Biological Sciences, the Federation of American Scientists, Sigma Xi, and the American Association for the Advancement of Science (AAAS). He was president (1976) and honorary fellow of the New York Academy of Sciences and fellow of the AAAS. He received two honorary degrees. The first, in 1971, was from his alma mater, the Philadelphia College of Pharmacy and Science; that institution also honored him with its Alumni Award in 1973. The other was from the Faculty of Sciences of the University of Stockholm, Sweden, in 1974.

Siekevitz was particularly proud of a program he instituted at ASCB that encourages an early interest in science by allowing high school students to attend the Society's annual meetings. In addition, he and Ariel Loewy reached out to the next generation of productive scientists by co-writing the first text of modern cell biology, *Cell Structure and Function* (1963; third edition, 1992). Its goal was to acquaint undergraduates with the biological activities and personality of the cell by describing its range of properties that are associated with all living organisms. It was translated into many languages.





Siekevitz was consultant to numerous scientific organizations, including the Panel on Molecular Biology of the National Science Foundation, the National Research Council, the National Cancer Program of the National Cancer Institute, and the International Cell Research Organization of UNESCO. He was an outspoken advocate for the social and moral responsibilities of scientists engaged in basic research to inform the public about the potential risks involved. A founding member and treasurer of the New York Scientists Committee for Public Information, he wrote extensively on science and public policy, in articles that appeared in *The Nation*, *The New York Times*, and *Nature*.

Siekevitz loved New York City, music, art, architecture, and travel to Italy and Mexico. While at home he enjoyed playing piano, particularly pieces by Mozart and Beethoven.

On retiring from active research, Siekevitz returned to an early love of writing short stories that began during his Army duty. He was quickly successful when two were published in the annual *New Directions* series. During retirement, he wrote a series of 10 impassioned short stories called “The Unknown Mozart.”

On a personal note, Phil’s keen interest in the history of modern cell biology was a great help to me. Not long ago he assisted in recruiting many contributors to, as well as wrote several essays for, a study of the origins of this science provisionally titled *Entering an Unseen World*.

Siekevitz is survived by his wife of 60 years, the former Rebecca Burstein, of New York City, and his daughters Ruth, of New York City, and Miriam, of Redwood City, CA. ■

—Carol L. Moberg, *The Rockefeller University*

The ASCB 2010 Call for Nominations

Norton B. Gilula Memorial Award

Who is Eligible: An outstanding graduate or undergraduate student (at the time of nomination) who has excelled in research or a first-year postdoc whose work was performed while a PhD or MD/PhD student

How to Apply: The student or advisor should submit a one-page research statement, a CV, a list of publications, if any, the abstract submitted to the current year’s Annual Meeting, and the advisor’s letter of recommendation. Duplicate applications from graduate students may be submitted for the Gilula and Bernfield Memorial Awards.

Awards: The winner is presented a plaque and a ribbon for his/her poster board. Expenses to attend the Annual Meeting are paid. Funded by an annual grant from Rockefeller University Press.

Deadline: July 15

Merton Bernfield Memorial Award

Who is Eligible: An outstanding graduate student or postdoctoral fellow (at the time of nomination) who has excelled in research

How to Apply: The student or postdoc or his or her advisor should submit a one-page research statement, a CV, a list of publications, a copy of the abstract submitted to the current year’s Annual Meeting, and the advisor’s letter of recommendation. Postdocs may also submit the recommendation of their graduate student advisor. Duplicate applications from graduate students may be submitted for the Gilula and Bernfield Memorial Awards.

Awards: The winner is presented a plaque and an honorarium and will speak at a Minisymposium at the Annual Meeting. Expenses to attend the Annual Meeting are paid.

Deadline: July 15

All applications and nominations should be submitted to:

The American Society for Cell Biology
8120 Woodmont Avenue, Suite 750
Bethesda, MD 20814-2762, USA
ascbinfo@ascb.org

For names of prior awardees or more information, visit www.ascb.org and click on “Awards/Grants,” or contact the ASCB at 301-347-9300 or ascbinfo@ascb.org.