



AIBSnews

Source: BioScience, 55(1) : 84-89

Published By: American Institute of Biological Sciences

URL: [https://doi.org/10.1641/0006-3568\(2005\)055\[0084:A\]2.0.CO;2](https://doi.org/10.1641/0006-3568(2005)055[0084:A]2.0.CO;2)

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AIBS*news*

JANUARY 2005/VOLUME 55 NUMBER 1

AIBS Board of Directors for 2005

AIBS welcomes its Board of Directors for 2005. Six of the 13 seats on the board were open for election this year. The president-elect serves a one-year term and automatically succeeds to a one-year term as president, then a one-year term as immediate past-president. All other seats on the board have three-year terms.

Officers elected

President-elect for 2005

Kent E. Holsinger (University of Connecticut, Storrs)

Secretary

Dan L. Johnson (University of Lethbridge, Alberta)

Board members elected by the AIBS individual membership

Barbara A. Schaal (Washington University)

Geraldine W. Twitty (Howard University)

Board members elected by the AIBS Council

Charles Berry (South Dakota State University)

Gordon E. Uno (University of Oklahoma)

AIBS thanks the returning AIBS officers and board members for their ongoing service to AIBS: Marvalee H. Wake (University of California, Berkeley), 2005 president; Joel Cracraft (American Museum of Natural History), 2005 immediate past-president; Richard B. Norgaard (University of California, Berkeley), treasurer; and board members Arturo Gómez-Pompa (University of California, Riverside), Christopher Haufler (University of Kansas), Mary A. McKenna (Howard University), and J. Michael Scott (University of Idaho). We also thank Gary S. Hartshorn (World Forestry Center), 2003 AIBS president, and board member David Pimentel (Cornell University), who are retiring from the board this year.

Biographical data for the new officers and members, and their election statements, follow.

Charles Berry

Charles Berry, adjunct professor and leader of the South Dakota Cooperative Fish and Wildlife Research Unit (USGS) at South Dakota State University, received degrees from Randolph-Macon College (1967), Fordham University (1970), and Virginia Polytechnic Institute (1975). He was assistant leader of the Utah Coop Unit (Utah State University, 1975–1985) before moving to South Dakota. His river research emphasizes fishes; he has supervised the research of 38 graduate students. A Berg Fellow (Soil and Water Conservation Society), he serves all levels of the American Fisheries Society (AFS), including as AIBS Council representative (2001–present). He received the AFS Dakota Chapter Distinguished Service Award as well as education and communication awards from the South Dakota Wildlife Federation.

Berry statement: AIBS is an important institution and serves as a voice for biological science in the nation. I fully support AIBS efforts to facilitate interdisciplinary communication, publish *BioScience*, offer a comprehensive and user-friendly Web page (particularly the Virtual Library), influence federal policy, improve education (ActionBioscience.org is a wonderful tool), help foreign scientists through BioOne, champion small science (student research) and big science (NEON), and organize other activities to promote biology. AIBS annual meetings are a welcome change from the usual society meetings because of the presence of widely varied expertise and the opportunity to engage and interact with extraordinary scientists.

In my view, AIBS must act as biology's primary advocate and lobby group because AIBS delivers broad environ-

mental and educational views that synthesize views of member societies. As advocates for biological sciences, we must propose solutions to problems, not just list the problems. AIBS has the power and influence to do just that. The need for good biological information is great because of issues such as environmental quality, invasive species, genetically modified organisms, and the elusive human dimension to these issues.

It speaks well for AIBS that the number of member societies under the AIBS umbrella has grown. Now let us sustain the organization and continue that dynamic growth. Because the officers and Board of Directors are a dedicated, innovative, hardworking group, I think that AIBS is serving its constituency well. The Public Policy Office staff knows the methods of the Federal City.

If elected, I will encourage information flow from council members to society members, which might increase support for AIBS and subscriptions to *BioScience*. For example, I published information on AIBS activities in the AFS journal and presented information on NEON at AFS chapter meetings. I extended new information to AFS members who were not fully aware of AIBS activities. Perhaps such efforts will result in emergent properties for the biological sciences. We also

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need to increase the understanding of biological science among nonscientists and should revisit how best to address this goal.

If elected, I will be mindful that AIBS should honor our budget and select those activities in which we excel. I would work to improve attendance and interest in our excellent annual meetings, and I would be open to changes in format and venue, perhaps practicing “adaptive meeting.” We should find exciting and productive ways to emphasize the services of biological infrastructure to the world. We might form new coalitions to advance biological science—perhaps partnerships with the many corporations that depend on biological information?

Let’s keep BioOne growing as a way to offer scientific information from our country to the world. I’d like to move beyond our initial steps at sponsoring internships in the AIBS Public Policy Office and solidify that program for academic credit. We strive for interaction among member societies, but we must also develop a cadre of professionals who are comfortable with science and policy interactions. Above all, AIBS must main-

tain the high quality of our “products” and endeavor to find ways to lead to a future where biological sciences are honored and respected.

Kent E. Holsinger

Kent E. Holsinger is a professor in the Department of Ecology and Evolutionary Biology at the University of Connecticut. He received his PhD from Stanford University in 1982 and was awarded a postdoctoral fellowship from the Miller Institute for Basic Research in Science at the University of California, Berkeley. He has been at the University of Connecticut since 1986. His research involves the analysis of mathematical models for the evolution of plant mating systems, the development of statistical methods for analysis of genetic diversity, and the application of basic biological principles to biodiversity conservation. He has served as president of the American Genetic Association, as executive vice president of the Society for the Study of Evolution, and as a member of the Board of Directors for AIBS. He was a member and vice-chair of the Board of Directors of The Nature Conservancy,

Connecticut chapter, for 10 years, and he represents AIBS on the Board of Directors of BioOne, serving as chair of the BioOne board since 2001. He was elected treasurer of the Botanical Society of America in 2004.

Holsinger statement: Advances in biology have enormous potential to improve human welfare, and a deep understanding of biology is essential to resolve many of the challenges we will face in the coming century. New foods, new fibers, new pharmaceuticals—all have emerged from basic research in biology. Arresting the decline of biological diversity, managing agricultural pests and human pathogens, producing food and fiber—each will require new insights gleaned from basic biological research. At the same time, the teaching of evolution seems to suffer new challenges every month in the United States. As the professional society representing all biologists, AIBS has a central role to play in ensuring that we continue to develop the potential of our field, that public policy is informed by the best available biological knowledge, and that evolution continues to play a central role in biological

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education. With more than 85 member societies and a combined membership of more than 250,000 individual biologists, AIBS is already the strongest and most effective voice for biology in the United States. If elected president, I will seek to increase that effectiveness with focused efforts in two areas:

1. *Infrastructure for biological research and education.* AIBS was a founding member of BioOne, a project designed to enhance scholarly communication by protecting the financial interests of non-profit journal publishers and ensuring affordable library access. Similarly, AIBS coordination of an NSF-funded evaluation of national needs for infrastructure supporting biological research contributed to a recommendation from the House Appropriations Committee to fund planning and design of the National Ecological Observatory Network (NEON). As president, I will work with the board, the council, and the staff of AIBS to ensure adequate funding for biological research and education through national and international agencies, to diagnose research and educational infrastructure needs that are not being met, and to identify opportunities for new funding that will allow biologists to make research and educational contributions even greater than those we have already made.

2. *An international community of biologists.* Biologists traditionally and appropriately have their strongest ties with disciplinary societies, societies that publish the leading scholarly journals in their fields and organize the most important disciplinary meetings. But our disciplines transcend national boundaries, and our interests transcend our disciplines. As the professional society representing all of biology, AIBS should serve as a focal point for addressing national and international concerns common to all biologists and for organizing educational and research responses to problems that transcend disciplinary boundaries, including those that transcend the boundaries of biology. As president, I will work with the board, the council, and the staff of AIBS to enhance communication among all members of the AIBS community on issues of concern to all biologists, to develop mechanisms that allow the bio-

logical community to develop coherent responses to problems that cross disciplinary boundaries, and to foster coordinated international initiatives for biological education and research.

Dan L. Johnson

Dan L. Johnson holds a BSc, *magnis cum honoribus* (biology), from the University of Saskatchewan (1978); an MSc (plant science) from the University of British Columbia (1980); and a PhD from the Institute of Animal Resource Ecology, University of British Columbia (1984). A winner of NSERC and Killam scholarships, he was a research scientist (ecological pest management, biodiversity, invertebrate pathology) at Agriculture and Agri-Food Canada, 1983–2001, and a project monitor at CIDA, 1990–1996. He received the C. Gordon Hewitt Award for Outstanding Achievement by an individual under 40 from the Entomological Society of Canada in 1992, and his team received the Government of Canada Distinction Gold Medal in 2000. Other career highlights include his work as a reviewer and consultant for CAB International and USAID, and his appointment in 2003 as a Canada Research Chair Professor, Department of Geography, University of Lethbridge. He was president of the Entomological Society of Canada (ESC), 1999–2000; AIBS Council Representative, 1999–2000; and editor of ESC's *Bulletin*.

Johnson statement: While president of the Entomological Society of Canada, I campaigned with ESC members to join the American Institute of Biological Sciences. I consider AIBS to have a broad mandate representing biological sciences in the Americas. ESC was the first scientific society based outside the United States to join, and I have encouraged other societies to become members as well.

Although I am a long-time reader of *BioScience*, my first up-close views of AIBS were in November 1999, when I attended the first-ever Presidents' Summit, held in Virginia, and then attended the March 2000 meeting in Washington, DC. The presidents of more than 80 member organizations (representing 250,000 biologists) meeting in one place

presented a marvelous opportunity to make progress on issues of common concern. The integrative theme and progressive tones of the meeting were invigorating. I came away from the Presidents' Summit excited about AIBS and convinced of its long and important roles of providing leadership in policy, government, and education, as well as providing valuable information for conducting the business of biological research. I am honored to commit my time and resources to AIBS.

Barbara A. Schaal

Barbara A. Schaal holds a BS in biology (1969) from the University of Illinois, Chicago, and an MPhil (1971) and PhD in biology (1974) from Yale University. She is currently Spencer T. Olin Professor of Biology, Washington University. A member of the US National Academy of Sciences, she has won a Guggenheim Fellowship; a Merit Award from the Botanical Society of America; a fellowship with the American Association for the Advancement of Science and with the St. Louis Academy of Sciences; and the Washington University Distinguished Faculty Award. She was president of the Botanical Society of America (1995) and executive vice president of the Society for the Study of Evolution (1988–1991). Current activities include service on the Scientific Advisory Council, Center for Plant Conservation, and in the following positions: associate editor, *American Journal of Botany*; chair, National Research Council Standing Committee on Agricultural Biotechnology, Health and the Environment; member, National Research Council Board on Life Sciences; vice president, St. Louis Academy of Sciences; and president, Society for the Study of Evolution.

Schaal statement: The American Institute of Biological Sciences has long served as an umbrella organization for the biological sciences, now with over 80 affiliated professional organizations. The role of AIBS has recently altered somewhat, with greater emphasis on policy and education and with a visible presence in Washington. These are timely and appropriate changes, given the central role of biology in the issues that con-

front our society. In the United States and elsewhere, citizens, governments, universities, and corporations are required to make decisions that are based on application of basic biological principles. The public is confronted with a difficult array of issues—stem cell research, loss of global biodiversity, cloning, and the development and use of transgenic organisms, among others. We need a clear voice that speaks for the biological sciences and informs the public and government on underlying biological principles. Although issues such as stem cell research and the use of transgenic organisms for agriculture are complex and involve many non-science-based considerations such as philosophy, economics, globalization, and religion, there is still much confusion about the biology underlying these current issues. AIBS's willingness to address and clarify such issues provides a much-needed voice for the biological sciences. I am particularly interested in contributing to AIBS's work in addressing the biological questions that impinge on societal concerns.

One of the changes in the biological sciences over the past years is the increasing specialization of the various subdisciplines of biology. The trend has been for fields to become isolated because of technological advances, differences in approach, or specific research organisms. This trend presents a challenge. AIBS can play a strong role in advocating a balance among fields. The biological sciences need to actively and aggressively address new frontiers and develop new paradigms. Moreover, biological sciences have expanded tremendously in scope; the central role of biology is reflected in the large number of universities where chemistry, physics, and engineering now all have a biological emphasis. At the same time, I feel it is essential to maintain and foster traditional areas of biology, which so often provide the underpinnings for new directions in biological research. AIBS as an organization can do much to further a balanced approach to biology as a whole.

Another important role of AIBS is in education, particularly through its journal, *BioScience*. *BioScience* provides clear and accessible articles on major scien-

tific developments and is an important resource for high school teachers, university educators, students, and scientists alike. AIBS could play an even greater role in education. Because of the diversity of the biological sciences, there are vastly different approaches to education at the university level. Little consensus exists about the undergraduate curriculum, or even what topics should be covered. AIBS could develop a set of standards for an undergraduate biology curriculum. Such standards would do much to solidify undergraduate study in the life sciences and assure that new biologists have both depth and range in their education.

Geraldine W. Twitty

Geraldine W. Twitty holds a PhD from Howard University (1978). A professor in the Department of Biology at Howard University in Washington, DC, her interests include biochemical genetics, biology education, and environmental justice. She also serves on the Sigma Xi Committee on Nominations and the Committee on Diversity, and she is secretary of the Howard University Chapter. She has served as the Association of Southeastern Biologists representative to AIBS since 1987, and has been a Gene Families and Isozyme Conference co-organizer and a Johns Hopkins Colloquium panelist. A member of the AAAS Minority Women in Science, she is a former member of the Sigma Xi board and various committees, the Association of Southeastern Biologists' Executive Committee, and the EPA Coalition for Environmental Justice; she also chairs the Comprehensive Sciences Program at Howard University and is a member of the Oklahoma Teacher Education Collaborative and the National Association of Biology Teachers (NABT).

Twitty statement: It is indeed an honor to be nominated for a position on the AIBS Board. The present board has excelled in maintaining the record of fostering collaborative activities among diverse disciplines and aggressively addressing issues of significant impact on biological communities. Its record of interacting with the congressional community and the NEON initiative clearly

support this position. AIBS has a sustained record of active participation in biology education, as evidenced by its 1990 publication of "The State of the Biology Major," its review of biology texts, and its joint symposium with NABT and BSCS on the teaching of evolution.

Technology and science are intimately entwined in our present society. However, the biology accompanying these advancements has not been incorporated into the public domain. Biology as a way of knowing and living has not found its way into the daily lives of most of our population. The biology exposures provided by our elementary and secondary schools do not provide our youth with the real incentives and foundation necessary to support careers in biology and to make biology an integral part of their daily lives. Only an informed citizenry can be a politically responsible citizenry. It is within this arena that I consider myself most able to make a real contribution. The recently instituted initiatives to expand the presence of AIBS on the college campuses represent a responsible step in the right direction. I would welcome the opportunity to work with the membership in developing strategies to broaden the AIBS educational agenda to the wider community. If biology is to continue its phenomenal growth and impact on humankind, it is essential that the discipline benefit from the best-informed and most highly motivated biologists. This might involve a dual approach—a stepped-up agenda directed at the younger student, as well as a parallel approach intended to provide the freshman major with skills and initiatives to ensure the successful completion of the freshman year and a sustaining platform for a career in the biological sciences.

Gordon E. Uno

Gordon E. Uno, currently department chair and David Ross Boyd Professor of Botany, Department of Botany and Microbiology, University of Oklahoma, holds a BA from the University of Colorado, Boulder (1973), and a PhD in botany from the University of California, Berkeley (1979). His fields of interest include plant reproductive biology and

science education (especially scientific literacy). He has served on the editorial board of *BioScience* (since 1994) and those of three other journals; as AIBS Organizational Council Representative (NABT); on the AIBS Education Committee (current chair); as president, National Association of Biology Teachers (1995); as program director, NSF Division of Undergraduate Education (1998–2000); and on several committees of the Botanical Society of America. He received the Charles Bessey Award for Botanical Education in 1991 and is an AAAS fellow.

Uno statement: Through recent activities of the Education Committee and the appointment of Susan Musante as manager of the Education and Outreach Program, AIBS has dramatically increased its efforts to become a leader in biology education at the undergraduate level and to have a major impact on the quality of biology teaching at the pre-college level. The influence of AIBS continues to grow because of the increasing use of *BioScience* in classrooms; the concern of AIBS members; the developing relationships between pre-college instructors and postsecondary members of AIBS; and the existing efforts within AIBS to promote quality science education. Among these efforts are several collaborative activities between AIBS and the National Research Council, the two-day symposium (12–13 November 2004) on evolution education at the annual National Association of Biology Teachers (NABT) convention in Chicago, and the participation of AIBS in the AAAS National Digital Library (BEN) project. There are many more educational opportunities that AIBS could initiate for its members, such as organizing workshops for young faculty, addressing concerns about the future of nonmedical biology education and research, and helping to keep intelligent design and pseudoscience out of the classroom.

While president of NABT, a group consisting of instructors of biology at all levels, I worked to increase collaborations between that organization and AIBS because the missions and main issues important to both organizations are highly complementary. More and more high school biology teachers, college and

university faculty, and their students are using *BioScience* as an important learning resource. In addition, the annual AIBS meetings have become an important conduit for cutting-edge research to enter biology curricula. I think such efforts are crucial to the future success of AIBS and its members because they help quality students enter the pipeline to our undergraduate and graduate programs. In addition, these efforts help improve the scientific literacy of the general public and ensure that future voters receive contemporary instruction and training in biology. Scientific literacy is important to the future funding of basic and applied research as well as to the funding of educational efforts; we can certainly see the importance of literacy, and of increased vigilance and efforts by AIBS members, when it comes to such issues as the teaching of evolution.

But it is not just scientific and biological information that instructors need; instructors need greater communication between those who practice science and those who teach it, and political, financial, and material support for teaching quality science courses. I think it is critical that AIBS members focus on what is happening in our own classrooms as well as what is occurring at our field sites and in our laboratories because, whether we like it or not, we are models for future teachers as well as future scientists. Thus, I think it is important to advance both the scholarship of teaching and the scholarship of research. It is my intention to continue to promote *BioScience* as an important research and educational tool and to see that AIBS remains at the forefront of science education efforts at both the undergraduate and pre-college levels.

NEON Gathers Momentum

In September 2004, AIBS finalized a cooperative agreement with the National Science Foundation to develop a detailed planning document for the National Ecological Observatory Network (NEON) by June 2006. Now the NEON planning process is on a fast track: More than 150 scientists, engineers, and educators have been selected to serve on committees that will help to create the blueprint for NEON's implementation.

The NEON Design Consortium will begin its work with meetings in January, March, and June of 2005. The committee reports will identify which continental-scale science questions NEON will address, what kinds of cyber-infrastructure and sensor technology will be required, and how to fulfill NEON's potential for educating new generations of scientists. The names and affiliations of the NEON committee members are available at www.neoninc.org, along with information about the five postdoctoral associates who have joined the NEON Project Office and will contribute to NEON's design.

Also available on the NEON Web site are five reports generated by a series of workshops that AIBS hosted from March through September 2004. Each report focuses on one of the scientific objectives of NEON, a broad ecological theme, or a challenge of national importance: invasive species; ecological aspects of biogeochemical cycles; ecological implications of climate change; land use and habitat alteration; and ecology and evolution of infectious disease. (A sixth report on biodiversity and ecosystem functioning is forthcoming.)

Recent Articles Online at www.actionbioscience.org

Original articles in English

- "The Dose Makes the Poison—Or Does It?" by Nancy Trautmann, director of Cornell University's Environmental Inquiry program
- "Plant Content in the National Science Education Standards," by David Hershey, a biology education consultant and author who also answers botany questions for madsci.org, an "ask a science expert" Web site
- "Science and Religion" interview with Kenneth R. Miller, professor of biology, Brown University, Rhode Island

Spanish translation of a previously posted article

- "El Ecoturismo y su Impacto en la Conservación" [Ecotourism and Its Impact on Forest Conservation], by Margaret (Meg) Dalzell Lowman,

professor of biology and environmental studies at New College, Florida

Recent Public Policy Reports Online at www.aibs.org

Public Policy Report for 6 December 2004

- Report recommends strengthening role of federal science advisors
- Secretary of the Interior Norton nominates new assistant secretary for water and science
- Dover (Pennsylvania) latest anti-evolution education hotspot
- New in *BioScience*: "New ESA Amendments: Sound Science or Political Shell Game?"
- From the *Federal Register*

Public Policy Report for 22 November 2004

- Congress approves large cuts, including \$100M cut to NSF, in federal research funding
- USGS considers a national initiative for FY 2007 budget cycle
- NAS releases report on presidential and federal science and technology appointments
- Cobb County, Georgia, school district defends antievolution textbook disclaimer
- Secretary of education resigns; architect of "No Child Left Behind" nominated as replacement
- College quality survey findings released
- From the *Federal Register*

Recent AIBS Education Reports Online at www.aibs.org

Education Report for November– December 2004

- Teaching the value of gardens
- American Association for Higher Education—upcoming conferences and workshops
- Scientists and students with disabilities in *SACNAS News*
- NSF program solicitation and job opportunities
- AIBS expands membership, lowers dues, welcomes societies, institutions, academic departments, corporations
- PKAL 2005 Roundtable on the Future: Linking learning theory and institutional transformation