AIBSnews

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AIBS*news*

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Date, Theme Set for 2007 AIBS Annual Meeting

The 2007 AIBS annual meeting, "Evolutionary Biology and Human Health," will be held 14–15 May at the Capital Hilton Hotel in Washington, DC. The program chair is 2007 AIBS President Douglas Futuyma, professor of ecology and evolution at the State University of New York at Stony Brook. The meeting will be held in conjunction with the annual meeting of the Natural Science Collections Alliance.

The annual meeting will be followed by a meeting of the AIBS Council of member societies and organizations, 15–16 May.

Further information about the meetings will be posted online at *www.aibs.org.*

AIBS, BSCS, and NESCent Cosponsor Evolution Symposium

The American Institute of Biological Science is cosponsoring, along with the Biological Sciences Curriculum Study (BSCS) and the National Evolutionary Synthesis Center (NESCent), the third annual evolution science and education symposium, "Macroevolution: Evolution above the Species Level." The one-day symposium will take place on 14 October 2006 from 8:30 a.m. through 4:00 p.m. in Albuquerque, New Mexico, at the annual meeting of the National Association of Biology Teachers (NABT). The AIBS/BSCS/NESCent evolution symposium provides classroom teachers with an opportunity to learn about the latest developments in evolution science from leading evolution scholars. The speakers are

- Philip Gingerich, professor of geological sciences and director of the Museum of Paleontology at the University of Michigan, will speak about "Fossils and the Origin of Whales."
- Scott Hodges, associate professor in the Department of Ecology, Evolution, and Marine Biology at the University of California, Santa Barbara, will speak about "The Generation of Plant Biodiversity: Linking Historical Patterns with Evolutionary Processes."
- David Jablonski, chairman of the Committee on Evolutionary Biology and a professor in the Department of Geophysical Sciences at the University of Chicago, will speak about the "Evolutionary Role of Extinctions and Recoveries in the History of Life."
- Nicole King, assistant professor of genetics and development in the Department of Molecular and Cell Biology at the University of California, Berkeley, will present "From Protozoa to Metazoa: The Origin of Animal Multicellularity."
- Jeffrey S. Levinton, professor in the Department of Ecology and Evolution at the State University of New York at Stony Brook, will speak about "The Cambrian Explosion and the Nature of Evidence."
- Nipam Patel, professor in the Department of Integrative Biology and the Department of Molecular and Cell Biology at the University of California, Berkeley, will speak about "The Developmental Basis of Animal Diversity."

The BSCS—a nonprofit organization that works to improve all students' understanding of science and technology by developing exemplary curricular materials, supporting their widespread and effective use, providing professional development, and conducting research and evaluation studies—will provide teachers with hands-on exercises and resources.

For complete program information about the AIBS/BSCS/NESCent evolution symposium, please go to *www.aibs.org/special-symposia/2006_macroevolution.html.*

You must register for the NABT conference to participate in the symposium. The advance registration deadline was 11 September, but on-site registration is available. For more information about the NABT conference, go to *www.nabt2006.org.*

AIBS 2006 Board Elections Under Way; Polls Close 27 October

Ballots for the AIBS Board elections have been mailed; members can also vote online at www.aibs.org/vote.

At the end of 2006, the following positions become vacant on the 13-person AIBS Board of Directors for individual members to vote on: (1) president-elect; (2) treasurer; and (3) one Board member at large. (Board elections by the AIBS

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Council of Member Societies and Organizations will take place through a separate ballot.) 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. Board members serve a three-year term, as does the treasurer.

To cast your vote, please go to the online ballot at *www.aibs.org/vote* and sign in with your last name and six-digit AIBS membership number (as it appears on your AIBS membership card and *BioScience* mailing label; for assistance, contact AIBS at admin@aibs.org, 703-790-1745, or 800-992-2427). A paper ballot is also being mailed to all members; if you prefer to use that ballot, complete it and mail it to AIBS. Only the online vote will be counted if we receive duplicate votes. The polls close on 27 October 2006. All terms start January 2007.

AIBS thanks all of the candidates for their dedication and willingness to run for these voluntary positions. Biographical sketches and election statements are presented below.

Candidates for President-Elect

The two candidates are listed alphabetically below; vote for one.

Rita R. Colwell

Rita R. Colwell is Distinguished University Professor at the University of Maryland, College Park, and an adjunct professor at the Johns Hopkins Bloomberg School of Public Health. Her interests include biocomplexity and molecular microbial systematics and ecology. Her research, involving interaction of climate and infectious disease, showed that the causative agent of cholera, *Vibrio cholerae,* is an environmental bacterium that, between epidemics, exists in the environment in a dormant stage. Her work catalyzed the development of predictive modeling for cholera epidemics worldwide through satellite remote sensing technology. Since 1976 she has done extensive research on cholera in Bangladesh and India; she developed an effective and simple filtration method for water treatment that continues to be employed in the villages of Bangladesh, where it was first introduced.

Colwell served as the 11th director of the National Science Foundation (NSF) and cochair of the Committee on Science of the National Science and Technology Council. Her major interests at NSF included K–12 science and mathematics education, graduate science and engineering education, and greater participation of women and minorities in science, engineering, and technology, in addition to development of initiatives in biocomplexity, information technology, nanotechnology, mathematics, and the social and behavioral sciences.

Colwell has held advisory positions in the US government and in nonprofit science policy organizations, industry, and private foundations, as well as in the international scientific research community. She has written or coauthored more than 700 scientific publications and 17 books (the most recent, *Oceans and Health,* coauthored with Shimshon Belkin), and produced the award-winning film *Invisible Seas.*

Before going to NSF, Colwell was president of the University of Maryland Biotechnology Institute and a professor of cell biology and molecular genetics at the University of Maryland. She served as a member of the National Science Board, chairman of the Board of Governors of the American Academy of Microbiology, and president of the American Association for the Advancement of Science, Washington Academy of Sciences, American Society for Microbiology, Sigma Xi National Science Honorary Society, and International Union of Microbiological Societies. Colwell is a member of the National Academy of Sciences; Royal Swedish Academy of Sciences, Stockholm; Royal Society of Canada; American Academy of Arts and Sciences; and American Philosophical Society.

Colwell is the recipient of 47 honorary degrees from institutions of higher education (including her alma mater, Purdue University); in 2005, the emperor of Japan awarded her the Order of the Rising Sun, Gold and Silver Star. She is an honorary member of the microbiological societies of the United Kingdom, Australia, France,

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Israel, Bangladesh, and the United States, and has held several honorary professorships, including one at the University of Queensland, Australia. She received the AIBS Outstanding Service Award, the AAAS Carey Award, the Bergey Medal for Bacterial Taxonomy, and the Explorers Club Lowell Thomas Award. A geological site in Antarctica, Colwell Massif, was named in recognition of her work in the polar regions.

Born in Beverly, Massachusetts, Colwell holds a BS in bacteriology and an MS in genetics from Purdue University and a PhD in oceanography from the University of Washington.

Colwell's statement: *As is widely acknowledged, the twenty-first century is the Century of Biology, one in which the complexity of biological systems is being studied in ways that were not possible in the past. With the confluence of information technology, biotechnology, nanotechnology, mathematics, and the physical, chemical and cognitive sciences, major strides in biological knowledge are being made. The "hyphenated sciences" have become the focus of intense research and education. The confluence of science and engineering, in particular, has provided insight into biological systems that is without precedent. The biosciences are moving from the reductionist approach, employed during most of the past century, to a more holistic, integrative understanding of living systems. As biologists today, we enjoy the advantages of molecular tools that allow integration of developmental biology, cell biology, neural biology, molecular biology, fundamental mathematics, and the physical, chemical, and engineering sciences. Most reassuring is that ecology, systematics, and evolutionary biology are proving to be the beneficial recipients of this knowledge largesse. This is a timely development, since the major issues facing society today are complex and largely environmental: declining biodiversity, increasing ocean pollution, a warming climate, and expansion of human populations into previously uninhabited areas of the planet. Today, the attention of scientists and engineers is focused on these larger problems of modern society that are more complex, highly interdisciplinary, and infinitely more challenging.*

AIBS has matured significantly over the last half-century, becoming a powerful voice for the developmental, integrative, and systematic biological sciences. The attention of AIBS can now rightfully be focused on precisely those issues that concern society because of its broad coverage of the biological sciences. Concerted actions with other societies representing physics, chemistry, mathematics, and the medical disciplines can be powerful and influential in the policy arena.

Because AIBS represents biology as a whole, it is, therefore, the most logical society to focus on complex issues appropriate to the life sciences. It is, in fact and by its actions, an umbrella organization for a multitude of biological societies and it brings together an impressive range of disciplines. AIBS, therefore, has a responsibility to continue to support vigorously individual investigator-driven research, the foundation of American science and engineering, and to address, as well, the new, integrated biology that requires teamwork and coordination, especially with other scientific disciplines. For AIBS, it is both logical and feasible that it attend to helping solve the difficult problems of modern society and do so through analysis of those complex systems that comprise the web of life on this planet. AIBS is a suitable platform for translational research in which the many ideas advanced through basic and applied research may reach society more rapidly and effectively to save lives and contribute to the betterment of the human condition. In today's competitive world of information technology and rapid communication, shortening the time for translation of research findings from the laboratory to application has become a critical goal for many nations.

Another important responsibility for AIBS is that it must also represent biology to the public and play a key role in explaining the complexities of modern biological research to the layperson. This is not an easy task at a time when mistrust of science and an atmosphere of anti-intellectualism prevails. K–12 education must become more effectively linked with both higher education and informal education carried out in museums, aquaria, science centers, and zoological gardens. In the twenty-first century, AIBS must be a leader in shaping the teaching of modern biology in the classroom. By interfacing with the National Association of Biology Teachers, especially in the teaching of evolution, and reinforcing and encouraging the efforts of elementary, middle, and high school teachers, AIBS will serve as a countervailing force in today's increasingly antiscientific environment. To achieve its goals, broadly defined, AIBS must focus on biological education, but also work with other societies to enhance and improve science and math education, overall, at the K–12 level. The biosciences are intriguing and attractive to youngsters, and the AIBS is in a prime position to develop educational programs that nurture curiosity in children and encourage them to pursue careers in science, engineering, and mathematics. Obviously, the quality of science and mathematics education is a national issue, but AIBS can, and must, play a significant role in this national challenge. It can advise agencies and provide a strong voice in the halls of Congress and to the administration. As president, I will work forcefully to serve AIBS in these responsibilities and as an advocate for the biosciences and for a scientifically literate society.

Massimo Pigliucci

Massimo Pigliucci is a professor in the ecology and evolution department at the State University of New York at Stony Brook. He has a doctorate in genetics from the University of Ferrara (Italy), a PhD in botany from the University of Connecticut, and a PhD in philosophy of science from the University of Tennessee. He did his postdoctoral fellowship at Brown University. Pigliucci has been awarded the Dobzhansky Prize by the Society for the Study of Evolution, and has served as the executive vice-president of that society for three years. He has been elected a fellow of the American Association for the Advancement of Science in recognition of his "fundamental studies of genotype by environment interactions and for public defense of evolutionary biology from pseudo-

scientific attack." Pigliucci has published 76 research papers in evolutionary biology and four technical books: *Phenotypic Evolution* (Sinauer, with Carl Schlichting), *Phenotypic Plasticity: Beyond Nature and Nurture* (Johns Hopkins University Press), *Phenotypic Integration: Studying the Ecology and Evolution of Complex Phenotypes* (Oxford University Press, edited with Katherine Preston), and the forthcoming *Making Sense of Evolution: Toward a Coherent Picture of Evolutionary Theory* (Chicago University Press, with Jonathan Kaplan). He is an associate editor of the *Quarterly Review of Biology* and of *Biology and Philosophy,* and has been an associate editor of the *Journal of Evolutionary Biology.* Pigliucci has also written extensively for the general public, including two books *(Tales of the Rational: Skeptical Essays about Nature and Science,* Freethought Press; and *Denying Evolution: Creationism, Scientism and the Nature of Science,* Sinauer) and two regular columns about critical thinking and the nature of science, published in *Skeptical Inquirer* and *Philosophy Now.* Pigliucci is one of the initiators of the international Darwin Day events that celebrate science and foster public understanding of science across the world. He is also currently chairing a standing committee of three evolution societies (the Society for the Study of Evolution, the American Society of Naturalists, and the Society of Systematic Biologists) to engage in a long-term, multipronged strategy to combat pseudoscience and creationism and to improve public understanding of evolutionary biology in particular and science in general.

Pigliucci's statement: *Physics is often still referred to as the queen of sciences, but there is little doubt in the minds of philosophers of science, journalists, politicians and the public at large that biology is the discipline that has most shaped the latter part of the twentieth century. Moreover, at the beginning of the new millennium biology is not only poised to dramatically increase our knowledge of the natural world, but to affect human life in countless and perhaps dramatic ways. The conceptual unification of the biological sciences has been underway ever since the beginning of the molecular biology revolution. Currently it is undergoing an intense and challenging phase, during which scientists interested in how organisms work at the most detailed level are increasingly aware of the historicity of biological systems, while researchers in ecology and evolutionary biology keep forging novel collaborations across fields to augment the already vast arsenal of techniques and ideas that comprise their intellectual bread and butter. While it is still true, as Theodosius Dobzhansky eloquently put it, that nothing in biology makes sense except in the light of evolution, it is equally true that everything else we are learning from all disciplines of biological research is helping us make more and more sense of evolution itself.*

And yet, science has been under increasing attack over the past few years. The traditional creationist assault has gotten bolder and has re-invented itself under the guise of scientific-sounding "intelligent design theory." We have seen a blatant disregard for scientific advice on matters of public policy and health, with politicians and demagogues either belittling the scientific enterprise or actively falsifying reports issued by scientists working for crucial federal agencies such as the USDA and the EPA.

While the greatest challenge that currently faces humanity may be global warming, biologists will have to play a prominent role not only in the research arena, but equally importantly in the areas of public education and public policy, on issues ranging from biotechnologies to the use and misuse of genomic information, to the evolutionary ecology of lethal diseases. This will require us to be fully engaged not only in academic research and scholarship, but also in the much less familiar and comfortable territories of public outreach and political debate, because if we don't do it, nobody will do it for us, and both science and society at large will suffer greatly.

AIBS has always vigorously pursued both the continuation of a rigorous academic discourse and the engagement of scientists with educators, policy makers and the general public. We must redouble and expand our efforts now, because the stakes are so high and because the scientific community has been complacent for too long, either waiting for creationists and other pseudoscientists to go away, or for somebody else to do what morally and intellectually is our job. Society, directly or indirectly, pays our salaries and our research grants, and it is crucially important for the survival of science itself, as well as because it is the decent thing to do, that we give back to society as scientists and citizens. Clearly, AIBS cannot do it all by itself, but it is a powerful and respected player that can bring together scientific, educational, and even religious organizations to embark on a long-term effort aimed at increasing scientific literacy and the quality and effectiveness of the influence that the scientific community exercises in policy matters.

As president of AIBS, I would work toward these general goals from the vantage point of an academic who has been at the forefront of the battle against pseudoscience, and has set aside a significant amount of professional and personal time to be engaged in this arena. We can, and ought to, step up to the challenge posed by the cultural and political complexities of the early twenty-first century, and I am looking forward to whatever opportunities I will have to continue to do my part.

Treasurer

Richard B. Norgaard, the incumbent treasurer, is unopposed for the position.

Richard B. Norgaard

Richard B. Norgaard is professor of energy and resources at the University of California, Berkeley, where he has been a member of the faculty since 1970. He is trained in economics (PhD, University of Chicago, 1971) but prefers the company of biologists. He is among the founders of the field of ecological economics and served (1998–2001) as the president of the International Society for Ecological Economics. He cofounded and continues to serve on the board of Redefining Progress, an NGO promoting ecological economic approaches to ecological sustainability and social equity. He has served on the Science Advisory Board of the USEPA and on numerous advisory com-

mittees, and currently serves on the Independent Science Board of the California Bay-Delta Authority. His writing spans the more traditional and applied field of environmental economics to postmodern critiques of development to the sociology of science (see his November 2005 *BioScience* special section entitled "Collectively Seeing Complex Systems"). The author of several books and hundreds of shorter publications, he is currently writing on the Millennium Ecosystem Assessment as a process of collective learning.

Norgaard's statement: *I have served on the AIBS board since 2001, am completing my first term as treasurer, and am willing to serve another term. The scope of activities and budget of AIBS expanded dramatically over the past three years and overwhelmed the way AIBS had been doing its accounting and financial control. I argued for a better accounting system years ago and aided in the transition. AIBS is now making the shift to a much more sophisticated system that will aid staff, the executive office, and the board as well as suit the different needs of diverse funding agencies. I would be pleased to see this transition through to completion and experience the benefits of the new system.*

I do not have an agenda beyond sustaining a vibrant umbrella organization. I am a participant–observer within AIBS, but I do apply what I observe in my writing and teaching. For example, I am teaching a new course on "Religion, Science, and the Ecological Crisis in Postmodern America" that is partly informed by board discussions on the politics of science and religion. As a scholar who bridges the social and biological sciences, I bring a unique perspective to board discussions on policy and priorities.

American Institute of Biological Sciences

Candidates for Board Member Elected by the Membership at Large

The two candidates are listed alphabetically below; vote for one.

Janet R. Keough

Janet Keough is the associate director for science with the USEPA Office of Research and Development's Mid-Continent Ecology Division of the National Health and Environmental Effects Research Laboratory. Keough guides research at this EPA division, in concert with its partners, in areas of assessment and diagnosis of stressors in freshwater ecosystems and on predictive toxicology for freshwater aquatic life (see *www.epa.gov/med/*). She oversees the postdoctoral associates program, which is supported by a partnership between USEPA and the National Research Council. She currently holds membership in Graduate Faculties for the University of Minnesota's Water Resources Science Program and the Integrated Biological Sciences Program. She serves on the Science Advisory Board for the Minnesota Sea Grant, the Lake Superior Workgroup of the Binational Executive Committee for the Great Lakes Water Quality Agreement between the United States and Canada, the Council of Great Lakes Research Managers, and the National Advisory Team for Water on the Web; she has also served on the AIBS work group to support NSF's NEON program. She served on the National Research Council's Committee to Review the Lake Ontario–St. Lawrence River Studies. Keough served as the president of the Society of Wetland Scientists (1999–2000) and represented the society on the AIBS Council during that period. Her research background is as a wetland ecologist. Keough holds a BS from Cornell University (1971), an MA from Western Michigan University (1979), and a PhD from the University of Wisconsin (1987). Most of her career was spent conducting studies within the Department of Interior, with the US Fish and Wildlife Service, National Biological Service, and US Geological Survey. Her research has focused on the functions of primary producers in wetland habitats and food webs in studies in the Great Lakes and Chesapeake Bay. Additional research dealt with the relationships between wetland plant communities and environmental gradients and how to manage and restore wetland plant communities in coastal wetlands of the Great Lakes and intermountain wetlands of the American West.

Keough's statement: *For me, AIBS represents the most important and effective forum for promoting biological and ecosystem science in the US. I am very excited that the AIBS Board and Council have chosen to make 2009 the "Year of Public Understanding of Science." No other entity has the backing of so many scientific societies and their biological scientists to make this happen. AIBS has been in the business of promoting public understanding of science since its inception and has a track record of success, especially in recent years. Between now and 2009, ongoing and new programs in AIBS will crank up to continually make a difference, culminating in products and events aimed at educators and decision-makers. I am eager to be part of the acceleration of outreach and visibility that the Board and Council have set in motion!*

When I was contacted to run for Board member at large, I readily accepted because of my respect for the mission and operational strength of the AIBS. AIBS has proven to be a powerful force in advocating science education, science as a frontier, and science in decision-making. The biological sciences—and I include everything from molecular to cellular to physiological to organismal to population to ecosystem science—have been in the crosshairs of the evolution debate and the innuendo of "sound science." AIBS has served to champion the depth, breadth, and quality of biological sciences as no other organization has been able to do. The chemical–physical sciences and medical sciences have champions and advocates; AIBS uniquely represents the rest of us (see the long list of scientific society members within the AIBS umbrella). I have been impressed and proud to be an AIBS member during the discussions and information exchange associated with the Dover, Pennsylvania,

evolution case, as well as ongoing situations in Kansas and elsewhere. The AIBS Board and Council have not been content with sending letters; whole programs for evolution science curricula and outreach have been developed by AIBS and member societies. AIBS supported thoughtful debate about the facts of science, the role of evolution research, and the compatibility of science and faith. In recent years, the AIBS Board has partnered with NSF and other funding institutions and with scientific societies to support activities to bring researchers together to synthesize knowledge of evolution science for educators and decisionmakers. AIBS as an umbrella for so many organizations and their members has played a powerful role in the national debate on evolution as a science.

I am excited about the way that AIBS has embraced the internet to bring science knowledge to the world. The "Seven Bioscience Challenges" format of its www.ActionBioscience.org *Web page, accompanied by a number of thoughtful articles, is a marvelous way to highlight the frontier. Nowhere else can one find such a quality collection of literature on these topics. I am pleased that AIBS has been active in promoting the use of the latest science knowledge in a series of successful position papers. ActionBioscience.org is a wonderful addition to the internet.*

During my tenure as president of the Society of Wetland Scientists, I was part of the beginning of BioOne. This online publication outlet provided a timely entry into e-publishing for SWS, and we signed on WETLANDS as one of the first journals. BioOne, as a quasi-nonprofit publishing outlet, has been very successful and is now available in most university and government libraries. I felt at the time and still feel that BioOne is a creative approach to partner scientific societies with publishers and libraries to offer this outlet.

I am eager to support the visionary and yet practical mission of AIBS to promote the use of modern science in decisionmaking and in education. Decisionmakers alter policy and programs that affect each of us for years to come; we, as scientists, must make scientific knowledge accessible and understandable to them for their use, and we must be willing to work with decisionmakers to translate technical information to inform policy. Educators, especially those who teach the critical and formative age groups (K–12), need to have scientific knowledge translated in ways that will inspire upcoming generations of citizens, scientists, and especially voters. The partnerships that AIBS creates have shown to be effective and skillful in addressing curricula and education tools. As a Board member, I hope to lend my support to the creativity and energy within AIBS to promote science as a necessity for society. I also want to bring an awareness of and connectivity with the research community within the federal agencies to the AIBS; there is a tremendous energy and talent within government ranks that often goes unnoticed, but can be brought into AIBS programs.

AIBS has established a unique and important niche as a natural sciences advocate in the United States. I would work to strengthen the effectiveness of this niche by bringing my ecosystem orientation and perspective as a governmental researcher to the AIBS Board. I will work to build stronger and broader bridges between the AIBS member societies to mine their talents, energies and interests and help the member societies more effectively use the AIBS umbrella to advance their science areas.

Steward T. A. Pickett

Steward T. A. Pickett received a BS from the University of Kentucky in 1972 and a PhD in 1977 from the University of Illinois at Urbana-Champaign. He served on the faculty of Rutgers University until 1987, where he taught ecology and participated in the honors and the minority affairs programs. In 1987, Pickett joined the staff of the Institute of Ecosystem Studies, where he is currently Distinguished Senior Scientist. His research interests include spatial heterogeneity and temporal dynamics in ecological systems. Specific research has studied mechanisms of postagricultural succession and the role of disturbance in primary forest. His research in landscape ecology includes pioneering experiments on the function of forest edges; studies of the riparian zones in Kruger National Park, South Africa; and the structure and dynamics of cities as ecological systems. He is director of the Baltimore Ecosystem Study, an urban Long Term Ecological Research site.

He has coedited five books, including the classic *The Ecology of Patch Dynamics and Natural Disturbance* (1985, with P. S. White), *Ecological Heterogeneity* (1991, with Jurek Kolasa), and *Humans as Components of Ecosystems* (1993, with M. J. McDonnell). An ecological perspective on philosophy of science, *Ecological Understanding* (with Clive G. Jones and Jurek Kolasa), appeared in 1994, and *The Ecological Basis of Conservation: Heterogeneity, Ecosystems, and Biodiversity* (with Richard S. Ostfeld, Moshe Shachak, and Gene E. Likens) was published in 1997. He is currently working on a revision of *Ecological Understanding*, and, with Baltimore colleagues, on a new book about the linked social and ecological patchiness in urban ecosystems. His approximately 160 scientific papers range from concerns with the structure of ecological theory, to the application of ecology to conservation, to the development of ecological approaches for studying urban areas. Pickett has traveled widely, giving distinguished lectureships in US institutions as well as in Latin America, Indonesia, Israel, Australia, New Zealand, and South Africa. He was elected a fellow of the American Association for the Advancement of Science in 1992, and of the American Academy of Arts and Sciences in 1993.

Contributions to the profession of ecology include service as the inaugural vice president for science, chair of the Membership Committee, and member of the Council of the Ecological Society of America. He has also been a member of the Council of the International Association for Vegetation Science, the Science Advisory Board of the National Center for Ecological Synthesis and Analysis, and the Biology Advisory Committee of the National Science Foundation. He served as a member of the National Design Committee for the National Ecological Observatory Network. He also served as a board member of Defenders of Wildlife from 1996 to 2005, and as a

member of the National Research Council's Board on Environmental Sciences and Toxicology. Editorial service includes membership on the inaugural boards of the *Journal of Vegetation Science* and *Community Ecology.*

Pickett's statement: *The American Institute of Biological Sciences is without doubt one of the most important organizations acting on behalf of biology today. Its mission is well honed and focused on both the scientific and social realities of the times. It is tempting, as a Board candidate, to look for something that has been left out, or some new initiative. However, the breadth and experience of the organization, and the large number of people who have contributed to the vision and mission, make the likelihood of a newcomer identifying "the" missing piece quite low. What I can offer is some sense of the areas of activity and concern in AIBS that resonate particularly with my experience and perspectives, and give an indication of those areas where I might be especially well prepared to contribute.*

One of the major overlaps between the mission of AIBS and my own interests is in the realm of synthesis and integration. As an institution that represents and brings together the perspectives of a large number of professional biological organizations, AIBS is preeminently about integration. I believe that this is one of the most important—and difficult—tasks within the sciences. The project of identifying the "hooks" for integration, and the nurturing the networks required to achieve synthesis, requires both insight and commitment. AIBS is ideally structured and situated to promote synthesis across the biological sciences. I have devoted scholarly and practical effort to the project of integration, and would be pleased to help promote these components of the AIBS mission.

The vision of AIBS to be relevant to issues affecting people and nature also resonates with my interest and experience. I believe that one of biology's important frontiers is the one it shares with the social sciences and with communities concerned with their own relationships with the environment. How to identify and articulate the principles of biological science that facilitate the link with people and society is a crucial problem. Learning to share information, approaches, and models with social sciences is an important aspect of the people–nature linkage. This is followed closely by the issue of explaining and promoting the processes of science in the context of community and social problem solving. In particular, the science behind environmental justice can be extremely well served by the broad and integrative scope of AIBS. There is an opportunity to increase the breadth and weight of scientific data, from molecular through landscape, that can be used by the environmental justice community.

The third aspect of science that I am concerned with is the complex layering of the program of science. The "onion" of science has at its core the discovery of new knowledge about the structure and function of the natural world. The next layer attends to the health and well-being of the scientific community. This second layer deals with effectiveness of education and training, diversification of the scientific community, and civil functioning of the scientific community. One particular feature of the middle layer—the diversification of the scientific community—is especially important to me. Gender and ethnic diversity at all career levels of science is crucial for the success of the science. This is because the power of the scientific community to create and evaluate theories and hypotheses is based on the existence of an open dialog in a diverse community. This is the tool by which bias is revealed and countered, rather than by a set of sterile rules. Diversity is important to what science tackles, as well as how it tackles it. Furthermore, diversification is a tool to increase the fit between science and a changing society. The benefits of diversity to science are therefore both internal and external.

The final layer, enveloping the other two, is the nurturing of the connection of science with the larger society that supports and uses it. The adoption by AIBS of 2009 as the Year of Public Understanding of Science is exciting to me. In addition to its ongoing and important work of communicating the need to understand and teach evolution, there are other scientific topics that can be excellent candidates for communicating with the public and with policy makers. Natural disturbance and hazard, the environmental aspects of disease, and indeed a critique of the models by which science is reported in the media are but three examples.

Science is in reality a complex structure that relies on all three of these concerns and pursuits—discovery, community, and society. AIBS is well practiced in seeing the connections and importance of all three layers of the scientific enterprise. Attention to all three is something that, through both scholarship and experience, I am convinced is crucial. I look forward to supporting the efforts of AIBS in all three realms of science.

Candidates for Board Member Elected by the Council

Note: Council votes are cast by a separate mail ballot, not through the *www.aibs.org/vote* interface.

Sunny K. Boyd

Sunny K. Boyd received an AB (1981) from Princeton University and an MS (1984) and PhD (1987) from Oregon State University. She is an associate professor in the Department of Biological Sciences at the University of Notre Dame (1987 to present). Boyd is the chair of the AIBS Public Policy Committee; a member of the editorial boards of *General and Comparative Endocrinology, Hormones and Behavior, Brain, Behavior and Evolution,* and *American Midland Naturalist;* chair of the Education Committee of the Society for Behavioral Neuroendocrinology; and co–principal investigator for the NSF-funded initiative "Integrative and Cellular Physiology." Her research interests focus on the interactions of the endocrine system and the central nervous system in the control of reproduction and behavior in vertebrates.

Boyd's statement: *These are both perilous and exciting times for the biological sciences. The peril comes from assaults on good science from many segments of society—from grade school education on evolution to use of stem cells in research.*

The excitement, of course, comes from the true leaps in understanding of biological phenomena, which occur on an almost daily basis. Use of this newfound knowledge and further advances in science, however, require our engagement with the breadth of society. AIBS is unique in its ability to bring together such diverse groups as scientists, K–12 teachers, members of Congress, and the general public. Individual scientists and AIBS member societies still remain rather tentative in their outreach efforts, however. As an AIBS Board member, I would seek to increase the involvement of scientist members and their societies in the education and public policy efforts of AIBS. In a reciprocal fashion, I believe the expertise of AIBS could be used to strengthen the message of its members, as they broadcast their unique missions to the public at large.

Alan H. Savitzky

Alan Savitzky is a professor of biological sciences at Old Dominion University in Virginia. He received his BA (1972) from the University of Colorado and his MA (1974) and PhD (1979) from the University of Kansas. His dissertation research was conducted at the US National Museum of Natural History, where he held a Smithsonian predoctoral fellowship. He served as lecturer at Cornell University for over three years before arriving at Old Dominion. His research interests focus on the evolutionary morphology, development, and ecology of amphibians and reptiles, especially snakes. Research topics of special interest have included the evolution and development of specialized feeding, defensive, and sensory structures. He also has pursued conservation projects, including a long-term study of an endangered rattlesnake in southeastern Virginia. Most recently his research has concentrated on the chemical ecology of an Asian snake that sequesters defensive compounds from its toxic prey. That work has taken him to Japan on several occasions for collaborative laboratory and field studies. He is a coauthor of the textbook *Herpetology,* now in its third edition. Professional service has included terms as president of the American Society of Ichthyologists and Herpetologists (1998) and the Society for the Study of Amphibians and Reptiles (1995), and terms on the governing boards of those societies and the Herpetologists' League and the World Congress of Herpetology. He also serves on the Publishers' Advisory Council of BioOne, a nonprofit electronic publishing consortium. He has represented several herpetological societies on the AIBS Council.

Savitzky's statement: *Organismal biologists and ecologists are served by a rich diversity of professional organizations, each with a mission closely attuned to the specialty of its members. There are times, however, when our broader community must be heard to speak with one voice, and AIBS is the sole organization serving that important function. As a consortium of over 175 professional societies, organizations, and institutions, AIBS represents a cumulative membership of roughly a quarter-million scientists with expertise in environmental and integrative biology. That collective membership constitutes the unique strength of AIBS. For many member societies, such as those I have represented on the AIBS Council, AIBS provides the most effective and sustained access to the politicians and policymakers whose decisions often directly affect our lives as scientists, not to mention our welfare as citizens.*

For issues where collective action is desirable, and those issues are many, AIBS provides strong and effective leadership. The Public Policy Office of AIBS provides timely news of important issues through its biweekly electronic reports to designated representatives of member societies. That office also organizes frequent meetings between AIBS representatives and congressional offices and supports an intern who assists with policy initiatives. Collective effort is also desirable in the area of education, where AIBS has been especially active in promoting best practices of science education in the public schools. In that regard probably no chasm is greater than that between practicing biologists and a large proportion of the general public over the acceptance and understanding of evolutionary principles. In recent years AIBS has organized regular workshops on evolution at the annual meetings of the National Association of Biology Teachers, a response to the clear need to provide authoritative information on evolutionary biology to the nation's public school teachers. At its 2006 meeting the AIBS Council approved a proposal to join with other professional organizations to designate 2009 the Year of Public Understanding of Science, another initiative intended to narrow the gap between practitioners of science and the general public.

AIBS also has played a substantial role in helping many member organizations to maintain an electronic publishing program. AIBS was one of the founding organizations of BioOne, a nonprofit electronic publisher of scholarly journals in organismal, evolutionary, and environmental biology that provides a community-based alternative to the rapacious business practices of the major commercial publishers of scientific journals.

Despite important gains in the representation of women in many of our disciplines, organismal biology and ecology have yet to see full representation by minority scientists. AIBS maintains an active office for diversity programs, designed to promote full participation by women, minorities, and disabled individuals. From early science education through graduate school and the formative years of a professional career, young scientists of all backgrounds deserve the support that a large and respected organization such as AIBS is especially well suited to provide.

In its varied roles, AIBS serves the needs of both professional biologists and the public by supporting the work of its member societies and their constituencies and by improving public understanding of the work we do as scientists. By maintaining a strong, active, and diversified AIBS, we can ensure that the organization is capable of responding quickly and positively to the challenges facing the biological sciences. In a world of declining biodiversity, increasing demand for environmental services, and a burgeoning human population, the need for a strong community of scientists focused on integrative and ecological

approaches to organisms has never been greater.

Public Policy Office Welcomes Science Policy Intern

For the second consecutive year, the American Society for Mammalogy (ASM), an AIBS member society, is sponsoring a graduate student's internship in the AIBS Public Policy Office in Washington, DC. The 2006 ASM/AIBS intern is Natalie Dawson, a PhD student in biology at the University of New Mexico. The internship runs from September to December 2006.

During her time in Washington, Dawson will have an opportunity to learn about science policy by participating in various public policy events, activities, and initiatives of interest to ASM and AIBS.

Originally from Michigan, Dawson received her undergraduate degree in biology/environmental science from Central Michigan University. Her doctoral research focuses on the mammals of the Alexander Archipelago (within the Tongass National Forest in Alaska). She is using genetic techniques to define endemic species on islands; these species will in turn serve as models for redefining the management techniques currently employed on this island system. For several years Dawson has also worked with her graduate adviser, Joseph Cook, to conduct a specimen-based inventory of mammals in the national parks of Alaska for new museum collections.

Dawson reports that she is "excited about the chance to work with AIBS. My research on the Tongass has given me a small taste of the political side of science, and I have enjoyed that aspect of my work immensely. This will be a great opportunity for me to apply the skills I have learned from working with government agencies in Alaska and to learn much more about the broader applications of public policy on a national level."

Recent Highlights from NEON

Ten NEON representatives were among 63 participants at a Modeling and Environmental Observatories Workshop held 16–17 May 2006 in Tuscon, Arizona. The event focused on cross-cutting modeling issues relevant to the environmental observatory programs of the National Science Foundation (NSF), including the three MREFC (major research equipment and facilities construction) observatory initiatives: NEON, the Ocean Observatories Initiative, and the WATERS Network. Workshop attendees made presentations on a variety of modeling approaches, explored models as educational tools, discussed connections between modeling and cyberinfrastructure activities, and addressed management issues. The workshop also helped to establish links between NSF and modeling groups in federal agencies. A summary of the workshop is posted at *http://neoninc.org*. The final workshop report is forthcoming.

From 6 to 11 August, NEON staff and board members took part in the Ecological Society of America's 91st annual meeting in Memphis, Tennessee. NEON and NSF representatives met with the ecological community at two sessions during the conference.

In the first session, organized by biologists Laurel J. Anderson (Ohio Wesleyan University) and Kerry D. Woods (Bennington College), participants discussed ways in which scientists at undergraduate institutions can interact with NEON and prepare themselves to use observatory data in their teaching. Elizabeth Blood (NSF), Carol Brewer (NEON board member), Bruce Hayden (NEON senior advisor), and Jim MacMahon (NEON board chairman) were available to answer questions.

In the second session, "NEON at the Starting Line," Blood and MacMahon were joined by James P. Collins (NSF assistant director for biological sciences) to brief members of the ecological community in detail on the status and schedule of the NEON design process and to answer numerous questions from the audience, many of which focused on the pending release of an RFI (request for information) to the community and issues connected to regional management within NEON domains. Throughout the conference, staffers at the NEON exhibit disseminated information about the project's science, design, cyberinfrastructure, and education plans, and unveiled an interactive graphics display depicting ecological data, the result of a collaboration between Google Earth and the James Reserve.

In September 2006, a select committee of ecological scientists completed a review of the NEON Integrated Science and Education Plan (ISEP). The review committee, led by Chris Field (chair; Stanford University) and Ruth DeFries (cochair; University of Maryland), included David Foster (Harvard University), Morgan Grove (USDA Forest Service), Rob Jackson (Duke University), Beverly Law (Oregon State University), David Lodge (University of Notre Dame), Debra Peters (USDA Agricultural Research Service, Jornada Experimental Range), and David Schimel (National Center for Atmospheric Research). NEON thanks the committee for completing its work under an extremely tight deadline, which enabled the NEON Project Office to receive public comments on the revised ISEP in advance of additional NSF/NEON, Inc., decisions about the design of the observatory.

A New Staffer for the NEON Project Office

NEON welcomes Cheryl Solomon as a science associate with the project office in Washington, DC. Her initial task will be to assist in defining the linkages between NEON science questions and remote sensing, GIS, and bioinformatics applications.

Solomon holds a master's degree in environmental science from Johns Hopkins University and a bachelor's with dual majors in earth sciences and Russian from the University of Pittsburgh. She has worked for various government agencies, including NASA and the USGS Biological Resources Division.

While at NASA, Solomon worked on the Global Change Master Directory, serving as the biology coordinator responsible for creating metadata for biological and ecological data sets. She also assisted in keyword and source and sensor definitions. Solomon is familiar with a variety of standards, including the Bio-

logical Data Profile, Ecological Metadata Language, NASA Directory Interchange Format, and International Standards Organization (ISO) metadata. Her assignments from the USGS Biological Resources Division included work on the National Biological Information Infrastructure databases and documentation of data sets for a variety of science centers.

In addition to her work for NEON, Cheryl is putting her multilingual skills in French, Spanish, and Portuguese to good use as a volunteer with the International Environmental Data Rescue Organization, an organization that digitizes historical environmental data for use by scientists, engineers, and planners.

Executive Director's Recent Blog Entries Online at *http://blogs.aibs.org/richardogrady*

- 2006 ASM–AIBS graduate student policy intern
- Nine AIBS activities from the summer of '06
- Plans afoot for 2009 as the Year of Public Understanding of Science
- Common-sense science

American Institute of Biological Sciences

Recent Articles Online at *www.actionbioscience.org*

Original article in English

- "Protecting Madagascar's Plants and Animals," by Mary-Russell Roberson, for the National Evolutionary Synthesis Center in Durham, North Carolina

Spanish translations of previously posted articles

- "Bebés de Diseño: Consideraciones Éticas" [Designer Babies: Ethical Considerations], by Nicholas Agar, Victoria University of Wellington, New Zealand
- "Un Manual sobre la Ética y el Cruce de los Límites de las Especies" [Primer on Ethics and Crossing Species Boundaries], by Françoise Baylis, Dalhousie University, Canada, and Jason Scott Robert, Arizona State University

Recent AIBS Public Policy Reports Online at *www.aibs.org*

Public Policy Report for 11 September 2006

- Governors to advance innovation
- Congress ends summer recess, returns to Washington, DC
- Public Policy Office welcomes science policy intern
- Public comments sought on future of ocean research
- Alaska governor's primary election loss could signal change for Alaska environment
- New in *BioScience:* "Where Are All the State Science Advisers?"
- From the *Federal Register*

Public Policy Report for 29 August 2006

- Education gets SMART about science?
- AIBS 2007 annual meeting announcement: Evolution and Human Health
- From the *Federal Register*

Public Policy Report for 14 August 2006

- Congressional update
- NSTC ocean subcommittee issues new report
- Kansas primary voters send message, again
- From the *Federal Register*