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BioScience

American Institute of Biological Sciences

Biocomplexity and the Future: The Need to Unite Disciplines

We are living in challenging and exciting times, when biological scientists, social scientists, and others are breaking away from their traditional paradigms to embrace alternative approaches for addressing complex problems. Enter the concept of biocomplexity, for which concepts from natural and social sciences are being integrated to make environmental and evolutionary issues clearer for policymakers, the public, and, yes, even ourselves.

"Integrative biology" was the theme of the 2000 AIBS annual meeting. The March 2001 annual meeting, bringing numerous disciplines together to address the topic "From Biodiversity to Biocomplexity," will illustrate the urgent need for interdisciplinary cross-training and cooperation in science. As scientists, we strive to keep up with the newest developments in our fields and to interact with colleagues who share interests and specific goals. Many of us have commitments as members of other discipline-based societies or organizations. In other words, we are busy. How do we find time to explore new developments and ever-changing frontiers? How do we synthesize concepts from natural and social sciences to meet policymakers' needs? How can we incorporate these perspectives into more comprehensive curricula and define new career paths for our students?

The mission of AIBS is to help us answer these questions, to seek new ways to enhance communication within and across disciplines, and to encourage new perspectives in solving complex problems. AIBS reduces intellectual fragmentation by publishing stimulating articles in *BioScience*; organizing roundtable discussions and town meetings; cosponsoring events initiated by member societies; and, recently, introducing the Presidents' Summit, an event at which the presidents of nearly all AIBS member groups met to discuss common professional interests, challenges, and concerns. AIBS is also providing leadership to develop and launch BioOne, an aggregation of electronic journals. This unique partnership between the scientific and library communities will facilitate rapid, global access to biological studies and thereby stimulate interdisciplinary thinking.

Our exploration of biocomplexity at the 2001 AIBS annual meeting will emphasize exchanges among researchers, teachers, students, policymakers, and others who need to know more about how this new perspective crosses traditional boundaries and helps manage biodiversity. Examining the self-organization, hierarchical structure, and dynamics of communities and ecosystems over time and space requires new approaches and a new generation of nonlinear modeling, designed by collaborators in the natural, social, and computational sciences. Plenary speakers, panel discussions, poster sessions, and town meetings will explore new approaches to bringing scientists together and encouraging students to better integrate their knowledge.

We cannot ensure environmental literacy and present our best science for discussion in the public policy arena unless innovation across conventional disciplines continues and grows. Although interdisciplinary thinking will help us meet many new challenges in the years ahead—and AIBS will foster that discussion—your continued active participation is essential. If we are to achieve greater understanding and better communication, we all must participate and share our best ideas.

The challenges of biodiversity and biocomplexity may explain why membership in AIBS, the umbrella organization for biological societies, has grown in the last 28 months from 42 to 77 member societies and organizations. As president of AIBS this past year, I came to realize that no other organization so effectively represents so many groups of biologists.

—ALAN COVICH
President, AIBS