



## From the President

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NABT President-2012

### Time for Homework on Vision & Change

With conference at the end of the month, I can feel the excitement building. Conference is a time for professional development with a personal touch – we have the opportunity to visit face-to-face with colleagues whom we have known for years or have just met in an environment rich in new ideas about the theory and practice of biology education. Through both formal and informal discussions inspired by presentations and workshops, we exchange and challenge ideas, build networks, formulate new questions, and acquire some tentative answers. We receive reinforcement for our ideas, are bolstered by the knowledge that colleagues in similar situations face similar challenges, and gain new perspectives as we learn about the challenges and solutions faced by those who teach in environments very different from ours. We learn about students from those who taught them before us and from those who may teach them after us, and we adjust our expectations and reflect on our expected outcomes. We learn about instructional techniques, assessment techniques, curricula, content, research, and policy. We also learn firsthand about our association and, finally, we build our networks (and, sadly, sometimes learn that we have to prune them).

Last summer, I expanded my network when I attended a two-and-a-half-day meeting associated with an NSF-sponsored Research Coordination Network on the Undergraduate Biology Education (UCN-UBE) track. The focus of the meeting was introductory biology, and it included researchers, practitioners, and directors spanning the range of higher-education institutions and years of experience, starting with graduate students. It also included representatives of professional scientific and science-education societies. I was there representing NABT, but I was not alone – about 30% of the attendees were NABT members. The questions asked: What should introductory biology look like? What research needs to be done on introductory biology? What are the needs that must be addressed to facilitate the (continued) reform of introductory biology that is systemic rather than piecemeal? What are the roles of professional societies in transforming the introductory biology experience?

I think we all have a view and a stake in answering those questions. In fact, I think you already started forming answers as you read those questions. College introductory biology is taught in two-year colleges, in four-year colleges and universities, and as AP Biology. It is taught to high school students who are concurrently enrolled in college classes, which may even be offered at the high schools themselves. It is taught by tenured and tenure-track faculty, renewable-term faculty, adjunct faculty, and graduate students at those different levels. It is required for most preservice teachers, so its outcomes affect the science-teacher educators; when the preservice teachers who assist in teaching my introductory biology labs

observe the students, they remark on how they plan to teach their high school biology classes to better prepare students for the college one. If so many of us have a stake in it, what should NABT be doing?

To answer that question, NABT's Board of Directors established an introductory biology task force. Its tasks include developing suitable position statements and formulating recommendations with regard to actions or activities that NABT should undertake to improve the quality of introductory biology instruction and the position of NABT as a lead organization in this regard. The goal is not to transform NABT or change its direction, but to position what we do and who we are so as to help the greater biology-education community improve the introductory biology experience for teachers and students. NABT members have been considering the need for introductory biology reform for years; consider Gregory et al. (2011) as just one example. The reason for requesting position statements is that one role for professional societies is advocacy. Taking a position indicates our values and helps those who use them formulate decisions and persuade others. We have seen this in action for our other statements and hope to for these. However, we should do more, and we do. By attending conference, you will see how that is true, but before you do, I have some homework for you.

First you need to finish reading this issue of the *ABT* (engaging my students with an enjoyable and thought-provoking task has proved effective, so I will start similarly here). Among them is Rodger Bybee's article on the Next Generation Science Standards and what they will mean to biology teachers. Then read (most likely *ABT* readers will be reviewing) the recent reports on biology education, *Vision and Change* for undergraduates (AAAS, 2010), the *Framework for K–12* (National Research Council, 2012), and the *AP Curriculum* (College Board, 2011). When you do, you will see the similarities in the approaches to cross-cutting and core concepts and pedagogy and the need for professional development. These all play a role in the conceptual landscape that surrounds reform of introductory biology. The next stage involves checking the program schedule online to plan your time. There are planned events and presentations on *Vision and Change*, on research about teaching and learning, and about implementation of *Vision and Change* (sometimes explicitly, sometimes implicitly). There will be tough decisions because you will want to be in two places at once. I have a suggestion for that, too – bring a colleague. Professional developers have learned that if you want those who have attended a professional development event to sustain their efforts at reform, it helps a lot if they have a partner. Transforming introductory biology means involving

more biology educators, and our conference is a welcoming place to get them involved.

With your homework complete, you will see the conference as NABT in action. To learn about future actions, I invite you to attend Town Hall. It will be my pleasure to update you on the deliberations and recommendations of the introductory biology task force, answer your questions, listen to your comments, and take your suggestions. These will all help NABT play its, which is our, leadership role in introductory biology reform. I look forward to visiting with you.



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