

Welcome to the AAAS/AIBS Education Summit

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Thanks to:

NSF

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SPEAKERS

YOU AND YOUR SCIENTIFIC SOCIETY



Why you were invited

- We wanted people who were actively engaged in their scientific society's education activities—people who can make things happen
- We invited two people from each organization so that you could work together to help your society



Why do we need a face-to-face meeting?

- **Make contacts and build relationships**
- **Forge synergistic collaborations**
- **Meet people who know “stuff” and “pick their brains”**
- **Get instant feedback on ideas**
- **Help clarify ideas**
- **Learn about resources/projects we might not know about and what’s happening on the front lines**

(Can this be replicated electronically?)



New resources....for instance...

Do you know about.....?

- iPlant Collaborative
- ASM's Biology Scholars Research Residency
- NRC's new publication, *The Role of Theory in Advancing 21st Century Biology*
- AIBS' new *Communicating Science: a primer for working with the media*
- Jim Collins (AD, Bio, NSF) Position paper—*One Biology, One Science*
- You and your society's activities



Main Questions

What can we do at the national level to speed systemic science education reform?

What is our visionary statement about biology education of the future?

We have a pretty good idea of what the main problems and issues are.

We recognize “localized” best practices from you or your scientific society.

How do we put them together--effectively?



Challenges

How do we hit a moving target?

(curriculum development in a world of changing biology and changing students)



Moving Target

- What are the great unanswered questions in biology, and how do we prepare students to answer them?
- How do we prepare students for inter-disciplinary studies (synthetic biology): e.g., bio-engineering, bio-physics, bio-informatics, bio-chemistry
- How do we teach a different generation of students who may learn in a different way?
- How do we **infuse** mathematics, etc. into biology courses?



Challenges

How do we know best practices work?

(what's the evidence?)

How do we implement broadly practices that really work? (faculty development)

How do we make these efforts “count?” (rewards systems)

How do we communicate to the broader community? (broader impacts)

How do we prepare the next generation of leaders? (mentoring)



From Collins Based on NSF Conversations

Vision

Broad Career Horizons

Experiential Learning

Concept Literacy

Change

Institutions

Faculty Development

Reward Systems

Tools

Critical Thinking

Curriculum

Communication



What's next? (For you and for “us”)

- **Help people find the right “wheel” to fit their needs**
 - **How to best promote best practices (inwardly toward your members and outwardly toward others)**
 - **help them adapt/adopt**
- **Create New Collaborative Projects/Partnerships**
- **Establish a Communication Network**



During this meeting, I would like you to identify the best ideas to solve a problem or meet a challenge for you, for your society, and for biology education in general.



How do we implement and disseminate those best ideas?

What could another meeting accomplish that focuses on the best ideas to meet our challenges?

What help do you or your society need to implement an idea/activity/strategy or changes?

Should we have an “uber” portal to and communication network about biology education resources?



BIOLOGICAL EDUCATION and COMMUNICATION NETWORK (BEACON)

*Connecting People with Questions to People
with Answers*

**Online Learning Community (social network)
comprised of organizations, individuals, and
projects with the goal of connecting people to
stimulate collaborations and solve problems.**

**Building on and sustaining existing activities (COPUS,
Action Bioscience, and the AIBS organizations and
members)**



BEACON

- **Online interactive meeting place where people post their science education activities (not as a static library)**
- **Hosting online Biology Education Conferences**
- **Communication network---dating service (connecting people)**
- **People post their questions/problems/needs related to biology/science education**
- **Someone answers and makes connections to people with answers---science ed reform is an iterative process**
 - **Online mentors (all of you), Webinars, chats, blogs, podcasts, SWAT teams, professional development, alerts, distance learning, self-assessment tool for instructors**



We need to:

- **identify current and emerging issues in biology and biology education**
- **consider how we prepare future biologists and future citizens who are interested in and knowledgeable about biology**
- **develop new ways to solve old problems**
- **implement and disseminate the best**
- **integrate research and education**

