

# **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 21<sup>st</sup> 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**

