Teaching Evolution at Rutgers - Symposium and Workshop

College Avenue Campus, Wednesday 8 February 2006

PROGRAM

This program is online at: http://evolru.rutgers.edu/Workshop2006.html

Objectives

The goal of the morning symposium is to explore the gap in student’s understanding of evolution from several perspectives, including on a national level (Eugenie Scott), as well as at the level of student’s individual misconceptions (Ebert-May), and at the level of how a university curriculum might be structured in light of a need for providing a solid evolutionary background for students (Goodman).

The goals of the afternoon workshops are to engage faculty members on questions of how best to provide evolutionary content in their classes. The workshops will be structured to provide information as to how evolutionary thinking can be integrated into course work, and to encourage (inter-)action in terms of course and curricular planning.

PROGRAM

9:00-9:15 Self-assessment and coffee

9:15-9:30 Introduction and goals (Jody Hey)

9:30-12:30 INVITED TALKS: Making the case for evolution.

9.30-10.15 “Problem Concepts in Evolution: Chance, Cause, Design, and Purpose” Eugenie Scott, Director of the National Center for Science Education.

10.30-11.15 “Evolution: assessing students' understanding” Diane Ebert-May, Professor of Plant Biology, Michigan State University

11.15-12.00 (TITLE TBA) Robert Goodman, Executive Dean of Cook College, Rutgers University

12:00-1:00 Lunch

1:00-2:30 Workshops (descriptions below, select your workshop when you register)

WORKSHOP 1: “Evolutionary content in courses that are not primarily evolutionary”

WORKSHOP 2: “Placing Evolution in the Curriculum”

WORKSHOP 3: “Pathways to Scientific Teaching about Evolution”

2:30-3:00 Moving forward (summary of workshops), impressions from invited speakers, and workshop evaluation
WORKSHOP 1

“Evolutionary content in courses that are not primarily evolutionary”

Many courses, both inside and outside the life sciences, touch on or rely upon evolutionary concepts. In some situations it can be easy to overlook these connections, or to avoid them. This workshop is intended for faculty who are interested in drawing upon evolutionary concepts to a greater degree in their teaching.

Workshop 1 will be given to several different groups, with groups organized by scholarly area, and with each group having its own moderator. The moderators will be: Chi-hua Chiu, Rebecca Jordan, Karl Kjer, and Lena Struwe.

Attendees are encouraged to bring course syllabi to the workshop. Discussions will focus on folding session content into your course, dealing with difficulties and new issues such as intelligent design, and suggestions for expanding evolutionary thinking and understanding at the University.

Attendees will also receive a ‘toolbox’ with successful examples of incorporation of evolution examples into teaching, web resources, and connections to evolutionary biologists that can help with individual course development questions and customization.

WORKSHOP 2

“Placing Evolution in the Curriculum” (Moderator: Jody Hey)

The purpose of this discussion is to assess faculty members’ ideas on incorporating evolution into the curriculum at three levels. Participants will address three questions:

1. Is there a place for evolution in an arts & science general curriculum? (for example, should evolution be part of a core curriculum, and if so, in what way).

2. What is the best way to incorporate evolution into a life-sciences curriculum? (for example, should it primarily limited to specific courses? or more broadly? In what way should it be incorporated into a life-sciences core?).

3. What is the best way to incorporate evolutionary content into introductory life science courses (such as General Biology 119: 101-102)?

The goal of the workshop is to discuss these questions and to try to reach some consensus. The resulting consensus and diversity of opinion will be made available as a report to organizers of general biology, and of curricula in life science departments in FAS and Cook, as well as to the Deans of Cook College and Arts & Sciences. It is hoped that the summary material will contribute to the ongoing discussions of undergraduate core curricula.

WORKSHOP 3:

“Pathways to Scientific Teaching about Evolution” (Moderator: Diane Ebert-May)

We invite you to participate in a workshop modeling 'scientific teaching', learning, and assessment in undergraduate science courses, with a special focus on evolution. The workshop is based on undergraduate science curriculum reforms, how students learn, and current research about how assessment improves student learning. We will focus on teaching in both large and small courses and address the hows and whys to (1) actively engage students in learning, (2) use cooperative learning, (3) develop multiple kinds of assessments based on goals that provide substantive data about student learning evolution, (4) analyze and use assessment data to improve instruction, and (5) use technology-based tools to improve learning (e.g., Avida-Ed). We also will address the realities of time, student course evaluations, faculty evaluations, and establishment of networks for intellectual and practical support in teaching. To see Dr. Ebert-May’s article in Science on the subject, go to http://www.sciencemag.org/cgi/content/full/sci;304/5670/521