

## **Sharing and Disseminating Innovative Approaches to Teaching Neuroscience in a Liberal Arts College**

We propose a collaborative initiative to support faculty teaching about neuroscience within a liberal arts college. Neuroscience stimulates creative approaches to teaching in that it is a science that addresses questions fundamental to the humanities, "What is it to be human?" most centrally. We propose to bring together faculty members from the Mellon 23 who are approaching neuroscience in creative ways within their classrooms, reaching more broadly across their institution to forge ties with faculty across other areas of science and also with faculty outside of the sciences. We will also highlight faculty-designed laboratory exercises that bring our students directly to the exhilarating experience of scientific discovery in an innovative manner. Bringing faculty together from many institutions will provide synergy and excitement as we share our individual innovations, and a webcast of the presentations will provide a more lasting resource for new faculty interested in building upon these innovations. We propose to post these informative sessions on the Mellon NERD (Mellon Neuroscience Education and Research Directory) site proposed by the Denison-sponsored Mellon Inter-institutional Faculty Development Grant 2007 "Creating a faculty learning community in neuroscience".

### **Workshop Description**

This workshop will be held at Macalester College July 17-18, 2008. This is scheduled to coincide with the planned workshop sponsored by the national organization, Faculty for Undergraduate Neuroscience "The Undergraduate Neuroscience Education: Interactions, Interdisciplines, and Curricular Best Practices" to be held at Macalester College, (St. Paul, Minnesota) July 18-20.

In planning this workshop, a group of Mellon 23 faculty, with several other faculty members teaching neuroscience in similar settings, met for an hour during the Society for Neuroscience meeting in Fall 2007 and brainstormed about our long-term priorities for faculty development. Top priorities agreed upon by these 21 faculty members were to build a strong community among educators dedicated to teaching neuroscience, to provide resources and mentoring to junior faculty attempting to balance quality teaching with productive research in a liberal arts setting, and to build electronic resources attractive to younger faculty members. The Faculty for Undergraduate Neuroscience workshop provides a setting that could allow building and maintaining these strong ties of community – the meeting planned this coming summer at Macalester will be followed in several years by a meeting at Pomona College. Thus we propose to bring faculty from the Mellon 23 together for a day prior to the meeting this July 2008, with the expectation that the same faculty will continue to interact as their talks are posted on the web and electronic discussion ensues, and eventually we hope that the same group will intersect in several years at the meeting in Pomona, further building upon this collaboration started via the Mellon funding.

Faculty will join in the evening of July 17 for dinner and conversation. Following dinner, Jan Serie from the Macalester Center for Scholarship and Teaching will lead role-playing exercises to stimulate discussion about difficulties and approaches for success in innovating within a liberal arts institution and building ties across disciplinary boundaries. The following day, faculty representatives from each institution will speak on innovative approaches to teaching neuroscience at their own institution. Our workshops will be led by a speaker who will first

present their course and/or laboratory, followed by small group discussions. In the afternoon, faculty will have the opportunity to experience one of the laboratory exercises. We have found that the best way to disseminate a laboratory exercise is to take faculty through the lab in a hands-on manner. Our evening speaker will be Paul Zak from Claremont Graduate University, a leader in the new field of Neuroeconomics.

#### **Plans for the evaluation of the workshop**

We will poll participants immediately after each session with a detailed feedback form requesting ratings of each speaker both in aspects of their success in achieving their learning objectives and also in terms of the interest evoked by the content and delivery. When lectures are posted on the web, we will track use and will solicit comments via linked discussion boards. We will poll all participants a year after the meeting to determine tangible effects of the meeting such as adopting a new lab exercise or proposing a new course.

#### **Faculty members who will be invited to be workshop leaders:**

Linking neuroscience to other areas of the liberal arts:

Art and Neuroscience: Betty Zimmerberg, Williams College

Neuroscience and Gender: Sarah Turgeon, Amherst College

Origins of Knowledge: Hillary Barth, Wesleyan University

First Year Seminar on Mind-Brain Relationship: Larry Wichlinski, Carleton College

Innovative laboratory exercises:

Hippocampal slice laboratory: Denison Smith, Oberlin College

Cognitive Neuroscience laboratory: Rebecca Compton, Haverford College

Neuroendocrinology laboratory: Marc Tetel, Wellesley College

#### **Other faculty members who will assist in the detailed planning of the workshop:**

Eric Wiertelak (Macalester College)

Kristina Mead (Denison University)

Karen Parfitt (Pomona College)

Mary Harrington (Smith College)