

DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH
NATIONAL ADVISORY COUNCIL FOR
BIOMEDICAL IMAGING AND BIOENGINEERING
TRAINING AND CAREER DEVELOPMENT SUBCOMMITTEE

Summary of Meeting
September 13, 2004
4:00 p.m.-5:30p.m.

The fifth meeting of the Training and Career Development Subcommittee was convened at 4:00 p.m. on September 13, 2004, in the Neuroscience Center, Bethesda, Maryland. Dr. Douglas Maynard served as Chairperson.

Subcommittee members present:

Dr. Linda C. Lucas
Dr. Rebecca R. Richards-Kortum
Dr. Stephen A. Williams

Other Council members present:

Dr. Carlo J. DeLuca
Dr. Robert I. Grossman
Dr. Norbert J. Pelc
Dr. James A. Zagzebski

Ex official members present:

Dr. Bruce Hamilton
Dr. Vincent L. Vilker
Dr. James G. Smirniotopoulos
Dr. Andrew Watkins
Dr. Michael Wiener

NIBIB employees present:

Ms. Lillian Ashley
Dr. Prabha Atreya
Ms. Brenda Borden
Dr. Arlene Chiu
Mr. Lawrence Clark
Ms. Nancy Curling
Dr. Bonnie Dunn
Ms. Angel Eldridge
Ms. Cheryl Fee
Dr. David George
Ms. Casey Goode
Ms. Colleen Guay-Broder
Dr. John Haller
Dr. Joan Harmon
Dr. Albert Lee
Dr. Alan McLaughlin
Mr. Todd Merchak
Mr. Nicholas Mitrano
Dr. Peter Moy
Dr. Grace Peng
Dr. Roderic Pettigrew
Dr. Belinda Seto
Ms. Theresa Smith
Dr. Richard Swaja
Ms. Carol Torgan
Ms. Lynda Toussaint
Ms. Florence Turska
Ms. Stacy Wallick

Dr. Bill Heetderks	Dr. Fei Wang
Ms. Christine Hollingsworth	Mr. Elijah Weisberg
Dr. Christine Kelley	Dr. Anthony Wolbarst
Ms. Mary Beth Kester	Dr. Yantian Zhang
Dr. Brenda Korte	
Dr. Peter Kirchner	

Dr. Douglas Maynard, Subcommittee Chairperson, introduced Dr. Henry Khachaturian who presented the latest developments in the Division of Inter-Disciplinary Training, and also initiatives for Council discussion.

Report on Training and Career Development – Dr. Henry Khachaturian

Training and Career Development Award Portfolio

The training portfolio of NIBIB is growing rapidly, with increasing numbers of both applications and awards. This is especially true for institutional National Research Service Awards (NRSA). Applications for individual pre- and post-doctoral NRSA fellowships are also increasing. Overall, the number of trainees has more than doubled from fiscal year (FY) 2003 to 2004. Approximately two-thirds of trainees are at the pre-doctoral level. The success rate of training grant applications ranges from 20 to 30 percent. The NIBIB should further examine the balance of trainees between individual *versus* institutional training grants and the balance between pre-doctoral and post-doctoral trainees.

The career development portfolio of NIBIB is also growing, but less rapidly than the training portfolio. The number of applications for career development awards (K award) has tripled from FY 2003 to FY 2004, with a doubling in the number of awards for the same period. The success rate of career development awards ranges from 20 to 30 percent. Dr Khachaturian discussed several types of career development awards currently supported by NIBIB. Future considerations of further growth of this program should include both the number and mechanism of the awards as well as the balance between basic and clinical research.

Overall, in both the training and career development areas, the vast majority of trainees are PhDs, with few MDs and MD/PhDs.

NIBIB Research Supplement to Promote Clinical Research Experiences

This is a major new initiative to provide a period of intensive research experience for clinical residents. The program will provide up to \$100,000 in supplemental funding to existing NIBIB grants to support 1 to 2 years of research during residency and fellowship. Eligibility is limited to health professional degrees (MD and equivalent), who can devote at least 75 percent effort to research activities during the support period. This initiative was developed in response to recommendations of several NIBIB workshops, and is also relevant to the NIH road map theme of reengineering the clinical research enterprise.

Council discussion focused on several issues including: eligibility criteria, the requirement for a pre-existing NIBIB award, and restricting the awards to those who can devote 75 percent effort for a minimum of 1 year. Several Council members expressed concern that these restrictions are likely to remove from consideration many outstanding, otherwise eligible candidates.

HHMI-NIBIB Interfaces Initiative for Interdisciplinary Graduate Research Training

NIBIB and the Howard Hughes Medical Institute (HHMI) have collaborated to provide start-up funds and sustaining support for graduate training programs that integrate the biomedical sciences with the physical sciences and engineering. HHMI will award up to ten 3-year grants of as much as \$1 million each to support the development and early phases of the interdisciplinary programs from FY 2005 through FY 2008. NIBIB will provide five additional years of support from FY 2009 through FY 2014 through peer-reviewed institutional training grants. The first phase will support activities such as hiring of new faculty, administrative staff, building modifications, and recruitment activities, while phase two will support a more traditional NRSA training program.

Council discussion centered on both the program focus and structure of the review process.

Training Workshop

The Directors of all NIBIB-supported T32 institutional training grants and several of their graduate students and post-doctoral fellows attended a workshop in June 2004. Dr. Jack Linehan presented the keynote address. A poster session showcased the work of the graduate students and the postdoctoral fellows. Workshops topics included grantsmanship, career development and employment opportunities.

Training Needs Assessment and the Future

NIBIB has received \$50,000 from NIH evaluation funds to survey the current status of the biomedical imaging and bioengineering fields. A recommendation of the NIBIB training workshop of October 2002, the study is designed to assess training needs for tomorrow. As reflected in the draft strategic plan, the training goals of NIBIB include: providing improved training opportunities for basic and clinical researchers; flexibility in the creation and fostering of new and innovative training programs; and improved communication with the extramural community. The study will address the following questions:

- How many biomedical imaging and bioengineering researchers are currently working in our mission areas?
- How many researchers are in other disciplines?
- What is the source of support?
- What kinds of funding mechanisms are being used for support, especially for young investigators?
- Are current researchers working more in academia or industry?
- What is the distribution across employment sectors, and how has it changed over time?

- What is the current participation from underrepresented groups?

The results of the study will be shared with Council and will be posted on the NIBIB website for public comment. A workshop will be held in early 2005 to consider the data and the comments, and to provide specific recommendations to the Council and to Dr. Pettigrew. It is expected that the recommendations will provide a blueprint for NIBIB training over the next 5 to 10 years.

We certify that, to the best of our knowledge, the foregoing minutes and attachments are accurate and complete.

Arlene Y. Chiu, Ph.D.
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National Advisory Council for Biomedical
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The Council will consider these minutes at its next meeting. Corrections or notations will be incorporated in the minutes of that meeting.