

**DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH
NATIONAL ADVISORY COUNCIL FOR
BIOMEDICAL IMAGING AND BIOENGINEERING
STRATEGIC PLAN DEVELOPMENT SUBCOMMITTEE**

Summary of Meeting
January 27, 2005
1:00 p.m – 3:00 p.m.

The fourth meeting of the Strategic Plan Development Subcommittee was convened at 1:00 p.m. on January 27, 2005, in Building 31, Bethesda, Maryland. Dr. Frank Yin served as acting chair of the subcommittee for Dr. Norman J. Pelc who is abroad on sabbatical.

Subcommittee members present:

Dr. Carlo J. De Luca
Dr. Frank C. Yin

Subcommittee members not present:

Dr. Janie M. Fouke
Dr. Robert I. Grossman
Dr. Barbara J. McNeil
Dr. Norbert J. Pelc

Other Council members present:

Dr. Linda C. Lucas
Dr. C. Douglas Maynard

Ex officio members present:

Dr. Bruce Hamilton
Dr. James G. Smiriniotopoulos
Dr. Andrew Watkins

NIBIB staff present:

Dr. Arlene Chiu	Dr. Christine Kelley
Dr. John Haller	Dr. Belinda Seto
Dr. William J. Heetderks	Dr. Meredith Temple-O'Connor

NIBIB consultants present:

Dr. Gary H. Glover	Dr. Robert Nerem
Dr. Donald Harrington	Dr. Richard Swaja

Other NIH employees present:

Dr. Henry Khachaturian

Other Federal Employees Present:

Dr. Sally Amereu, National Institutes of Health/ Center for Scientific Review
Dr. Eileen Bradley, National Institutes of Health/ Center for Scientific Review
Dr. David Brown, Food and Drug Administration
Dr. Mrunal Chapekar, National Institute of Standards and Technology
Dr. Tom Johnson, National Institutes of Health/ Office of the Director
Dr. Kyle Meirs, Food and Drug Administration
Dr. Steven Zullo, National Institutes of Health/Center for Scientific Review

Members of the public present for portions of the open meeting:

Mr. Robert Atcher, Los Alamos National Library
Mr. Phil Bulman, Equals Three
Ms. Wendy Eichorst, Lewis-Burke Association
Mr. Steven Evangelista, SRI International
Ms. Kerry Groome, Constella Group
Mr. Michael Hamm, Biomedical Engineering Society
Mr. Robert Harris, MasiMax Resources Inc.
Ms. Molly Laas, the Blue Sheet
Mr. Troy Nagle, North Carolina State University
Mr. Ed Nagy, Academy of Radiology Research
Ms. Chris Peterson, SRI International
Ms. Michelle Rodrigues, Academy of Radiology Research
Ms. Gloria Romanelli, American College of Radiology
Mr. Peter Schad, Academy of Radiology Research
Mr. Steve Willis, Pfizer, Inc.
Mr. Jeffrey Young, the Blue Sheet

Dr. Frank Yin, Acting Chairman of the Strategic Plan Development Subcommittee of the NACBIB, welcomed members of the subcommittee. Dr. Carlo DeLuca moved to approve the minutes for the last meeting, which was seconded by Dr. Yin, and the minutes were approved unanimously without modification. Dr. Yin brought the Council's attention to the final draft of the strategic plan, which was released for public comment on February 1, 2005, and invited Council members to share their comments on the report. Council members felt that the mission set forth in the strategic plan should place more emphasis on emerging technologies and should delineate short term and long term goals. They also noted that the plan should distinguish between the goals of reducing health disparities between different ethnic groups and increasing service to underserved populations; these two concepts should not be combined into one goal. Dr. Pettigrew agreed that the NIBIB should pay particular attention to emerging and existing technologies. The final plan will reiterate the Institute's support of leading edge technologies.

Status of Strategic Planning Subcommittee

With the release of the final draft of the Strategic Plan, Council members raised questions about the future role of the subcommittee. Dr. Pettigrew responded that the

subcommittee would continue to serve in an advisory capacity to the NIBIB, and will be instrumental in the implementation of the plan, as well as in evaluating the Institute's progress in achieving the identified goals.

Review of the NIBIB Portfolio: Dr. William Heetderks

Dr. Heetderks presented a summary of the portfolio of grants supported by the NIBIB and an overview of the types of grants funded by the Institute. During fiscal year (FY) 2004, 78 percent of the NIBIB budget supported research grants while 9 percent supported center grants. The remainder of the budget went to fund other research (2 percent), training (2 percent), contracts (3 percent), intramural research (1 percent), and management (5 percent). Among funded research grants, 80 percent are non-competing grants, 5 percent are renewals, and 15 percent are new grants. The NIBIB uses five major funding mechanisms: Research Projects (R01); Exploratory/Developmental Grants (R21); Exploratory/Developmental Grants Phase II (R33), Biotechnology Resource Grants (P41), and Bioengineering Research Partnership (BRP) grants.

Dr. Heetderks continued by providing an overview of each type of grant program:

R01 and R21 Grants

The R01 is the most commonly used funding mechanism with an average cost per grant of \$354,000. Currently, there are 382 funded R01 grants supporting research across 21 scientific areas. A significant number of new investigators (13 percent for the NIBIB *versus* 8 percent NIH-wide) are being funded by R01 grants; however new investigators still are not as successful as established investigators. The R21 has an average cost of \$193,000 per grant; 174 R21 awards are being funded. For R21 applications, the success rate for new investigators is close to that of more established investigators. Dr. Heetderks noted that this may be due to the lower emphasis on preliminary data. Medical schools garner the bulk of funding for both mechanisms.

Council members were concerned about the success of new investigators in obtaining funding under these mechanisms. Dr. Yin suggested that the NIBIB establish a separate funding mechanism for new investigators. Dr. Seto explained that this type of funding mechanism once existed at the NIH, but was phased out primarily because of the constraints placed on the researchers. Establishing a new funding mechanism would require approval by the Office of the Director, NIH. In addition to addressing the need to fund new investigators, Dr. Heetderks stressed that there is a need to educate the community about how to achieve this goal. Council members discussed several different scenarios for mentoring by successful grantees. This topic will be discussed in future subcommittee meetings.

Center Grants

Approximately 20 centers are currently funded by the NIBIB at an average annual cost of one million dollars per center. The research conducted at these centers is spread across six major areas: biomaterials, tissue engineering, computational biology, structural biology, cellular imaging, and imaging.

Bioengineering Research Partnership (BRP) Grants

A total of 35 bioengineering research partnership grants are currently funded, at an average annual cost of \$740,000 each. Many of these grants were inherited or transferred from other Institutes. These investigators are conducting research across a variety of areas including magnetic resonance imaging and neurobioimaging.

Quantum Grants

Dr. Pettigrew provided an update on the status of the quantum grants. This remains a major focus of the Institute, and the NIBIB has devoted the last year to developing its structure. Quantum grants are high-impact research projects designed to achieve a “quantum” leap forward in health care. They are characterized by technological innovation and collaborative and interdisciplinary effort, with goals that are expected to be achievable in a 6 to 10 year time period. Potential projects include tissue engineered blood; hemodialysis replacement; nerve regeneration; prostate cancer detection; blood chemistry without needles and non-invasive coronary catheter replacement. The NIBIB is working to promote collaboration between public and private interests. Council members shared their concern about the long timeline and the lack of a clear definition of interdisciplinary research.

At the end of the discussion, Dr. Pettigrew thanked the subcommittee members for their comments and assured all that the Council members’ feedback is appreciated and would be incorporated into the NIBIB’s future planning efforts. The meeting was adjourned at approximately 3:10 P.M.

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

Arlene Y. Chiu, Ph.D.
Executive Secretary
National Advisory Council for Biomedical Imaging
and Bioengineering
Director, Office of Research Administration
National Institute of Biomedical Imaging and
Bioengineering

Roderic I. Pettigrew, Ph.D., M.D.
Chairperson,
National Advisory Council for Biomedical Imaging
and Bioengineering
Director
National Institute of Biomedical Imaging
and Bioengineering
National Institutes of Health