

Letter from the Director

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Welcome to the inaugural issue of the University of Michigan Medical School Student Biomedical Research Program (SBRP) *Newsletter*. The purpose of the *Newsletter* is to provide an electronic means of communication among all the participants in the SBRP including students, faculty, and staff. For over fifty years, the SBRP has provided an important opportunity for medical students to participate in biomedical research either during the summer research program (usually between the M1 and M2 years) or in year-long research training initiatives either here at the University of Michigan or elsewhere (including the NIH, the Howard Hughes Medical Institute, or other academic medical centers either in the US or abroad). For the last twenty-six years, the summer program has had significant funding support from the National Institutes of Health, National Heart, Lung and Blood Institute (NHLBI) which has provided funding for 741 medical students pursuing summer research programs related to cardiovascular, pulmonary, and hematology-related research. This year in 2007, the SBRP consists of 146 faculty mentors, of whom 49% are full Profes-

sors, 32% are Associate Professors, and 18% are Assistant Professors in 6 basic science and 18 clinical departments within the medical school. All of these individuals have substantial extramural funding for research (98% have extramural funding from the NIH). To assist me in the direction of the SBRP are two Associate Directors, **Drs. Elizabeth Petty** (Associate Dean for Student Programs and Associate Professor of Internal Medicine and Genetics) and **David Engelke** (Director of the Program in Biomedical Sciences [PIBS] and Professor of Biological Chemistry) along with a 27 member **Committee on Student Biomedical Research** which helps to select the student participants in the summer program. Finally, and most importantly, are the student participants. Each year for the last several years approximately 80-90 students have applied for summer fellowships and 60-80 students are selected for participation each year. This is a large number of faculty and students who participate in the SBRP and the creation of the *Newsletter* is designed as mechanism of sharing information among all of the participants. In this first issue of the *Newsletter*, we highlight

the goals of the SBRP, provide background information about the SBRP leadership, describe the process by which students can apply to the SBRP, indicate the composition of the Committee for Student Biomedical Research, provide links to the list of faculty mentors and, for the faculty, outline the responsibilities of mentorship. Future issues of the *Newsletter* (which will appear at least quarterly with additional issues sent when we have important news to communicate!) will include the list of student participants for the 2007 summer program, the curriculum for the SBRP didactic sessions in June and July, highlights of student research, and announcements of other summer and year long research opportunities. Stay tuned!



Goals of the Student Biomedical Research Program



The goals of the SBRP are to:

- Provide medical students with the opportunity to learn research concepts and methodology from experienced investigators, and to assess their desires to pursue careers in research.
- Expand the scholarly and research experiences of medical students as part of an overall career development strategy aimed at increasing the number of talented students choosing careers as physician-scientists.

- Promote high quality and intensive research opportunities for those students who are already on a path towards academic medicine.
- Provide students who elect not to go into academic medicine with an understanding of the scientific method and critical analysis of literature through their research experience.
- Promote research experiences which can develop into longer-term student-faculty mentoring relationships.

- Provide trainees with experience in scientific presentation and publication of research through the annual Student Biomedical Research Fall forum, and other scientific meetings at a regional or national level.
- Provide students with a high quality didactic program in research with an emphasis on the ethical and responsible conduct of research.

About the Director



In May 2006, **Dr. Robert Todd** was appointed as the SBRP Director. He received his PhD (immunology) and MD degrees from Duke University in 1975 and 1976, respectively. He then completed an internship and residency in Internal Medicine at the Peter Bent Brigham Hospital (Harvard Medical School) and then pursued subspecialty training in Medical Oncology

at the Sidney Farber Cancer Institute. With a research interest in the membrane receptor glycoproteins expressed by human inflammatory and neoplastic cells, he joined the faculty of Harvard Medical School as Assistant Professor in 1981. In 1984, he moved to the University of Michigan where he is currently the Frances and Victor Ginsberg Professor of Medicine and Chief of the Division of Hematology/Oncology. He previously served as the Associate Vice President for Research, Health Affairs (1999-2005). He has a long-standing interest in career development of students at all levels. In addition to his role as Director of the SBRP, he also serves as the Associate Director of the Medical Scientist Training (MD, PhD) Program, and directs a National Cancer Institute-funded research program for subspecialty fellows with an interest in oncology

research. At the national level he has been a particularly active in the career development activities of the American Society of Hematology (ASH), having served as the Chair of the Committee on Training Programs, and currently serves as Co-Director of the Clinical Research Training Institute which supports the career development of hematology subspecialty trainees and junior faculty.

To assist him in the direction of SBRP, Dr. Todd has enlisted the efforts of **Dr. Elizabeth Petty** and **Dr. David Engelke**, each as Associate Program Director.

About the Associate Directors



Dr. Petty is the Associate Dean for Student Programs (including the SBRP) and is Associate Professor in the Departments of Internal Medicine and Human Genetics. She is an MD graduate of the University of Wisconsin Medical School, and completed post-graduate Pediatric training at the same school. She pursued post-doctoral

clinical and scientific training in genetics at Yale, and in 1994 was appointed to the faculty of the University of Michigan as Assistant Professor in the Departments of Internal Medicine and Genetics. Since coming to Michigan, Dr. Petty has served in several academic and clinical leadership roles including the Medical Director of the Genetics Counselor Training Program (Department of Human Genetics), Associate Director of the Molecular Diagnostic Laboratory (Department of Pathology), Director of the Medical Genetics Clinic (Department of Internal Medicine), and Chief of Service of the Division of Molecular Medicine and Genetics (Department of Internal Medicine). The focus of Dr. Petty's NIH-funded research is the characterization of genetic mutations responsible for the development of breast and other forms of cancer.

She has extensive experience in medical education having served as a lecturer/research mentor (including the BSRP) and as course director. Her skills as a teacher have been recognized by her receipt of a "Teaching Award of Excellence". As Associate Dean for Student Programs, she provides oversight and coordination of all non-curricular initiatives affecting medical students (from admissions to student counseling). In particular, she is dedicated to counseling medical students and making them aware of biomedical research opportunities both at Michigan and elsewhere to prepare them for academic careers in medicine.



Dr. David Engelke is a Professor in the Department of Biological Chemistry and, since 1998, has served as Director of the Medical School's Program in Biological Science (PIBS). Since 2006, he has also served as Assistant Dean for Graduate Programs. He is a PhD graduate (molecular biology) of Washington University, and

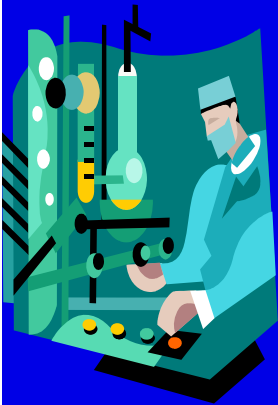
completed post-doctoral fellowship training at the University of California San Diego. He was appointed to the faculty at the University of Michigan as Assistant Professor in the Department of Biological Chemistry in 1983, with subsequent promotions to Associate and full Professor. He is recognized for his pioneering research in the biosynthesis of small RNAs including gene silencing and pre-tRNA processing. Since coming to Michigan, Dr Engelke has served and continues to serve in several key educational leadership roles including his appointment as Director of the NIH-Supported Cellular and Molecular Biology Graduate Program (1996-1999), Interim Director of the Medical Science Training Program (1995), and since 1998,

Director of PIBS which represents the single portal of entry of all students pursuing doctoral research in the biomedical sciences at the University of Michigan.

Responsibilities of SBRP Faculty Mentorship

To be a faculty mentor for the Student Biomedical Research Program, faculty members must agree to:

- Meet with students who desire information about research opportunities in their laboratory or research setting.
- Assist selected students with the development of a research proposal for submission to the SBRP, including providing relevant background information.
- For students selected to participate in the ten week SBRP mentored research experience:
 - Assist the student in refining the goals of the summer research project.
 - Assist the student in the preparation of any relevant applications to the IRB or other regulatory review committees, and counsel him/her in the ethical principles of research conduct.
 - Provide the resources and guidance for the student to pursue his/her research project which may include an intensive introduction to the laboratory or research training environment, at least weekly one-on-one meetings with the student to review progress and address questions or concerns (the student should also have access to other laboratory/training environment personnel on a daily basis).
 - Assist the student in the analysis of results of the summer research experience, and the preparation of a descriptive abstract.
 - Involve the student in the preparation of research results (arising from the SBRP experience) for publication and/or presentation at regional or national meetings, including authorship on manuscript(s) where appropriate.
 - Provide an opportunity for on-going participation in research (as feasible) and career counseling.



Committee for Student Biomedical Research

CHAIR:

Robert F. Todd III, MD, PhD Professor, Internal Medicine

DEPARTMENTAL

REPRESENTATIVES:

Thomas H. Gest, PhD

Associate Professor,
Anatomy & Cell Biol.

Jill Mhyre, MD

Clinical Lecturer,
Anesthesiology

Roland Kwok, PhD Assistant

Professor, Biological
Chemistry

Cheryl Moyer, MPH Research

Investigator, Medical Education

Sewon Kang, MD Professor,

Dermatology

Robert Gilbergleit, MD

Assistant Professor,
Emergency Medicine

Michael Fetters, MD, MPH

Assistant Professor, Family
Medicine

Elizabeth Petty, MD Associate

Professor, Human Genetics

Lawrence Holzman, MD

Associate Professor,
Internal Medicine

Thomas H. Sisson, MD

Assistant Professor
Internal Medicine-Pul

Michelle Swanson, PhD

Associate Professor,
Microbiol. & Immunol.

Michael Wang, MD, PhD

Assistant Professor, Neurology

Gregory Christman, MD

Associate Professor, Ob/Gyn

Monte Delmonte, MD

Professor, Ophthalmology

Bryan Pfingst, PhD

Professor,
Otolaryngology

Cory Hogaboam, PhD

Associate Professor,
Pathology

Barbara Felt, MD,

Associate Professor,
Pediatrics

Anne Hartigan, MD

Clinical Instructor,
Phys. Med & Rehabil.

Robert Thompson, PhD

Assistant Professor,
Psychiatry

Melanie Urbanchek,

MS, PhD

Research Investigator,
Surgery

Committee for Student Biomedical Research con't

SENIOR ADVISORS:

Elizabeth Petty, MD Associate Professor, Int. Med/Genetics

David Engelke, PhD Professor, Biological Chemistry

R. Alexander Blackwood, MD, PhD Associate Professor, Pediatrics

Louis D'Alecy, PhD Professor, Physiology

Benedict Lucchesi, PhD Professor Pharmacology

Dean Brenner, MD Professor, Internal Med/Pharm

Application and Instructions for SBRP

INTRODUCTION

The University of Michigan Medical School Summer Medical Student Biomedical Research Programs provides a mentored, funded 10 week research experience for medical students. Interested students should identify a faculty research mentor and submit a proposal prior to the deadline. The proposed research can be basic science, clinical, or a combination. Medical education projects which include a hypothesis and research plan are also eligible. A stipend of approximately \$4,328 for a 10 week period is paid to the student by SBRP. Applications are reviewed by the Committee for Student Biomedical Research. Applicants will be notified by early April as to whether their proposal has been approved.

DEADLINE FOR SUBMISSION:

Deadline for submission of the completed application is 4:00 p.m. on Friday, February 2, 2007. Applications must be hand delivered (not faxed) to 5101C Med Sci I. Please submit five (5) copies of the application and proposal (collated and stapled). Applications received after the deadline can not be processed.

AUTHOR INSTRUCTIONS:

The proposal must be two pages (maximum), single-spaced, 12-point font and typed on 8 ½" by 11" paper using normal margins. Cited literature may be referenced on a third page if necessary. The proposal should be written by the student applicant with close supervision by the faculty research mentor. Any use of, or reference to, the faculty mentor's previous work should be cited in the references at the end of the proposal. The applicant's name must appear in the upper right-hand corner of each page.

RESEARCH PROPOSAL:

The proposal must include the following sections, in the order as indicated:

1. Title (20 words maximum)
2. Hypothesis
3. Background, Previous Literature, Previous Work
4. Research Plan including:
 - a) materials and methods
 - b) experimental protocol or design, and
 - c) plan for statistical analysis
5. Significance of proposed research

ELIGIBILITY GUIDELINES:

The following students ARE ELIGIBLE to apply:

- University of Michigan Medical students in good standing who are not currently enrolled in a Ph.D. program (e.g. MSTP).
- Students formally accepted to the University of Michigan Medical School (UMMS) and who have formally agreed to matriculate in the UMMS.

REQUIREMENTS FOR FACULTY MENTORS, PROJECTS AND LOCATION OF RESEARCH:

- All faculty mentors must have an appointment at the University of Michigan Medical School.
- All research proposals must be conducted with an existing or new approval from the IRB for clinical research and the UCUCA for animal research.
- All research is to be performed in or in conjunction with the UMMS or its affiliated hospitals.

Link to 2007 Application, Mentor List, and other Research Opportunities

<http://www.med.umich.edu/medschool/osp/research/>

Application and Instructions

Faculty Mentor list

Database for Medical Research Opportunities



Calendar of Events

February 2007

2/02 – Deadline for Submission of SBRP Applications from students

2/12 – SBRP Applications to Committee Members

2/26 – Committee members return Score Sheets to OSP

March 2007

Committee Members will meet to review scores of SBRP Applicants

April 2007

Acknowledgment Form Letters out to SBRP Applicants

4/30 – Acknowledgment Form back from SBRP Applicants

May 2007

5/28 – Summer Research Experience Begins

June 2007

SBRP Research Seminar

July 2007

SBRP Research Seminar

August 2007

8/03 – SBRP Research Experience Ends

October 2007

All final paperwork to be turned in from SBRP participants

November 2007

11/01 – Fall Research Forum