

Table of Contents

Letter from the
Director

Goals of the Student
Biomedical Research
Program

Highlights of the
2007 Fall Research
Forum

2008 Application
Process

SBRP Application
and Instructions

SBRP Review
Process

Link to SBRP
Web Site
Application and
Mentor List

Year-Long Research
Opportunities

Dean's Letter of
Support for Year
Long Research

Link to Medical
Research
Opportunities

Calendar of Events

University of Michigan Medical School

Student Biomedical Research Program Newsletter

VOLUME I, ISSUE III

QUARTERLY—NOVEMBER 2007

Letter from the Director



In this third issue of the University of Michigan Student Biomedical Research Program Newsletter, we highlight the achievements of our 2007 SBRP participants who presented their research results on November 1, at the 2007 Fall Research Forum. A total of 125 posters were presented, featuring the work of 91 medical students whose summer research experience was supported by the SBRP (60 students), MCRiT (8 students), a National Institutes of Aging Award (23 students), as well as 34 UM undergraduate student participants in the Undergraduate Research Opportunity Program (UROP).

The Forum was a great opportunity for a Campus-wide group of student researchers to celebrate their scientific experiences with each other and with mentors and peers.

In this issue, we also want to highlight opportunities for current M1 students to participate in the 2008 summer SBRP program (as a follow-up reminder to the informational session I conducted on October 18). This year we are fortunate to have renewed NIH support for the Program: the competing renewal of our National Heart, Lung, and Blood Institute (NHLBI) Training Grant was funded for the next 5 years with support for approximately 38 students per summer. These extramural funds will be supplemented by the income from endowment gifts held by the Office of Student Programs such that we anticipate having total funding sufficient to support all or most of the meritorious applications submitted (as reviewed by our Committee for Student Biomedical Research). Please see below for additional information for submitting applications for the 2008 Program.

Finally, we want to encourage M2 and M3 students to consider pursuing one-year research experiences conducted either here on site or elsewhere (again, as a follow-up reminder to the informational session held on October 22). Last year, we had a record number of 20 students take a one-year leave of absence to take part in a variety of competitive research opportunities at the NIH, other academic centers, and here. For students who want to firmly establish their interest in biomedical research as part of their future career plans, these year-long programs represent a unique experience (see Volume I, Issue II of this Newsletter for a list of students who have taken advantage of these opportunities). Please also see inside this newsletter for useful links to year-long programs and what you need to do to apply.

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.

HIGHLIGHTS FROM THE 2007 FALL RESEARCH FORUM

On Thursday, November 1, 2007, the 53rd Annual Fall Research Forum was held in the Michigan League. In attendance were 125 medical, graduate, and undergraduates who presented posters featuring the results of their 2007 summer research experiences. Among the participants were 91 M2 students whose summer research was supported by the SBRP, MCRiT, and the National Institute of Aging training grant. Dr. Todd, BSPR Director, started the event by welcoming all the participants, their mentors, fellow students, and members of the faculty, and thanking the leaders of the programs who provided support for the research experiences. Denise Brennan, the lead staff for the BSPR, showed off her talent as a photographer, as reflected by the photographs on the following page.



2007 Fall Research Forum



Ryan Orizondo, UROP & Carissa Orizondo, SBRP
Brother & Sister

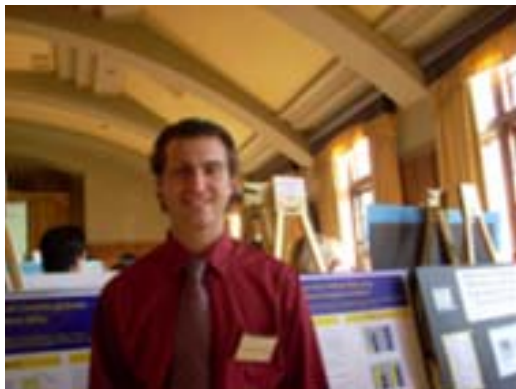
PHOTOS OF THE 2007 FALL RESEARCH FORUM



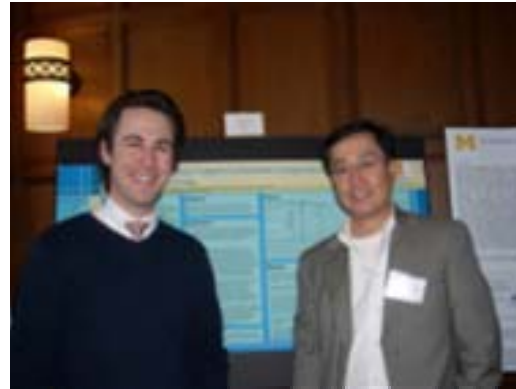
Lauren Heise, SBRP



Denise Kim, SBRP



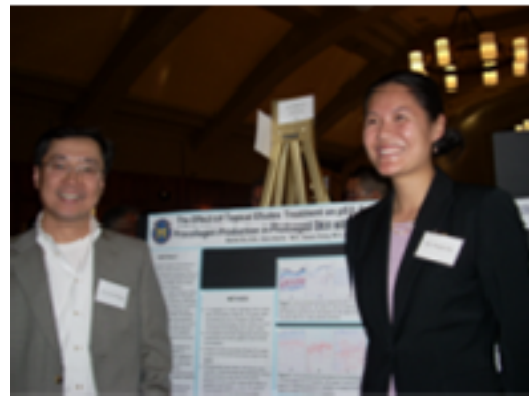
Robert Schuck, MCRiT



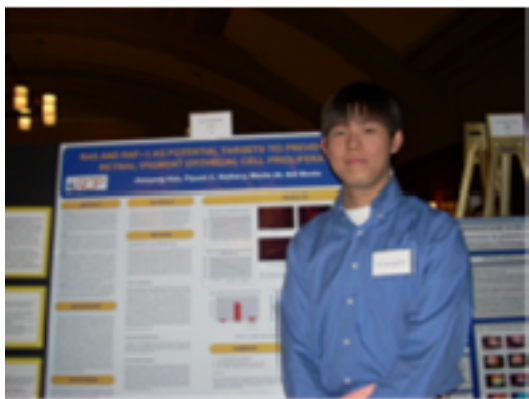
John Yost, MCRiT, Dr. Sewon Kang, Mentor



Michael Kingsley, UM-MSTAR



Wenfei, Xie, UM-MSTAR, Dr. Sewon Kang, Mentor



Jeeyoung Kim, UROP



Bridget O'Connor - UROP

2008 Application Process for the SBRP Program

February 1, 2008, is the deadline for submitting applications for the 2008 Summer Student Biomedical Research Program. This is a 10 week mentored research training experience to be conducted onsite at the Medical School (with rare exceptions for field work elsewhere) between June 2, 2008 and August 8, 2008. The focus of the research project can be basic laboratory, translational (bench-to-bedside), or patient-oriented clinical research. Select from over 200 potential mentors (link to SBRP mentor list: [http://www.med.umich.edu/medschool/osp/research/ Faculty Mentor list](http://www.med.umich.edu/medschool/osp/research/Faculty_Mentor_list)) who include UMMS faculty in all basic and clinical departments and who are representative of nearly all medical (sub)disciplines. **Who should consider this opportunity:** (1) anyone with a pre-existing interest in biomedical research; (2) anyone who would like to "take a test drive" to see what biomedical research is like; (3) anyone who wants to get a better idea of whether biomedical research will fit into his/her future career plans. The application process is simple (link to SBRP application: [http://www.med.umich.edu/medschool/osp/research/ Application and Instructions](http://www.med.umich.edu/medschool/osp/research/ Application_and_Instructions)) and includes a two page research proposal which describes the hypothesis to be tested, the background and rationale for the research, the methods for addressing the research question, and the metrics to be assessed. The research proposal will be reviewed by the Committee on Student Biomedical Research and scored on the basis of the criteria indicated in Table 1, on page 6. It is likely that all meritorious proposals will be approved for funding. Some proposals may be initially disapproved, but the submitters may be given an opportunity to submit a revised proposal based upon the reviewers' comments. We are fortunate this year (and for the next 5 years) to have our National Institutes of Health (NIH, NHLBI) Training Grant renewed at full funding. This federal award will provide support for 38 trainees whose research is in the areas of cardiovascular, pulmonary, and blood diseases. Proposals in other areas of research will be funded by endowment income from gifts provided by Medical School donors, held by the Office of Student Programs. **WHAT TO DO NOW** (don't wait until January!!): (1) review the mentor list and decide which areas of research sound appealing or overlap with your pre-existing area of interest; (2) select one or more potential mentors and schedule one-on-one meetings to determine if there is a good "match" between your interests and their focus of research. If you have a specific project that you wish to propose, be prepared to discuss in some detail. If you don't have a specific project in mind, you can see if the mentor has an idea for a project which you can develop under her/his mentorship. Most ideas for projects are a collaboration between the student and the mentor, with the student taking the lead in fleshing out the actual proposal with the mentor's guidance. **THIS TAKES SOME TIME**, so this is why you should start the process now and not wait until January.



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 1, 2008. 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 UCUC for animal research.
- All research is to be performed in or in conjunction with the UMMS or its affiliated hospitals.

Table I 2008 SBRP Summer Program Proposal Review

The applications are scored in the following categories using the (3) point scale as follows:

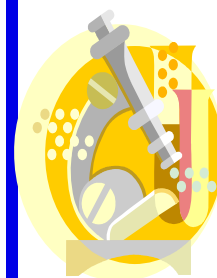
- 0 = None - application does not demonstrate
- 1 = Somewhat - application demonstrates to some extent
- 2 = Satisfactory - application demonstrates

Circle Only One

1. Clear statement of problem, research question and hypothesis.	0	1	2
2. Evidence of scholarly and critical literature review.	0	1	2
3. Research design and methodology are appropriate to answer the research question/hypothesis.	0	1	2
4. Proposed research training environment and student/mentor relationship is strong.	0	1	2
5. Student applicant has contributed significantly to the proposal application and has the ability and enthusiasm to complete the project.	0	1	2

TOTAL SCORE

For applications with a total score ≤ 5 , a brief comment on how the proposal could be improved is provided from the reviewer.



Student Biomedical Research Web Site

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

[Application and Instructions](#)

[Faculty Mentor list](#)

[Database for Medical Research Opportunities](#)

Year-Long Research Opportunities

Participation of SBRP Graduates in Year-Long Research Fellowships

A major goal of the Student Biomedical Research Program is to stimulate and enhance the interest of student participants in the conduct of *more biomedical research* as a spring board to a career in academic medicine. Accordingly, one of the measures of the success of the summer program is the number of students who elect to pursue additional research training during medical school in the form of year-long (or additional summer) research fellowships sponsored by federal and non-federal funding agencies. shown in Table IV, in Issue II of this Newsletter, a significant number of University of Michigan medical students have successfully competed for these national fellowship opportunities

For those students who are considering taking a leave of absence for a year-long research experience here or elsewhere, IT IS TIME TO PLAN AND PREPARE FOR YOUR APPLICATION. **Who should consider a year-long research experience:** (1) anyone who has a genuine desire to pursue an academic career which includes biomedical research, (2) anyone who had fun during a shorter (SBRP) summer experience and wants to confirm an interest in biomedical science. You should NOT consider a year-long research experience if you are not in good academic standing, are wavering about pursuing a career in medicine, or just need a break. There are multiple opportunities from which to choose, including well-established national programs which have a selective review process and have a great "track record" in providing an ideal mentored basic science or clinical research experience. These include the HHMI Research Scholars Program (Cloister Program) at the NIH, the HHMI Research Training Fellowships which provide support to pursue research at UM or other US academic centers, the NIH Clinical Research Program at the NIH, the Doris Duke Clinical Research Fellowship which provides support to do clinical research at any one of 10 academic centers in the US (but not UM, yet), and the Sarnoff Endowment Research Fellowship which supports cardiovascular research at any US center APART from the home medical school. For students interested in global health research, the Fogarty International Center provides a research training experience at multiple sites in the Third World.

In addition to these national programs, you may wish to consider one of several local initiatives including the Multidisciplinary Clinical Researchers in Training Program (MCRiT) which provides both a didactic learning experience and mentored research leading to an M.S. in clinical research; the Kahn Fellowship in neuroscience research; the AOA Ruth Medical Student Research Fellowship; among several others. Please see the year-long research website ([http://www.med.umich.edu/medschool/osp/research/ Database for Medical Research Opportunities](http://www.med.umich.edu/medschool/osp/research/Database%20for%20Medical%20Research%20Opportunities)) for a complete listing of programs and deadlines for application (most have January, 2008 deadlines, but several have deadlines in December, SO ACT QUICKLY to make adequate preparation. Several programs require no advance preparation of a specific research proposal (this is done onsite after acceptance), but several (eg. the HHMI Research Training Fellowship) requires that you identify a mentor and develop a project as part of the application process.

For those students seriously considering applying to one of these programs, you will need to notify Denise Brennan well in advance of the application deadline. She will assist me in scheduling a one-on-one meeting with you so I am best prepared to draft a "Dean's Letter" of recommendation (to be co-signed by Dean Petty). Materials to have for this meeting should include your updated resume (highlighting your relevant research experiences), an outline of your project aims (if required as part of the application), and be prepared to discuss how the research experience will facilitate your future career plans.

Calendar of Events

February 2008

2/01 – Deadline for Submission of SBRP Applications from students

2/11 – SBRP Applications to Committee Members
2/25 – Committee members return Score Sheets to OSP

March 2008

Committee Members will meet to review scores of SBRP Applicants

April 2008

Acknowledgment Form Letters out to SBRP Applicants
4/30 – Acknowledgment Form back from SBRP Applicants

June 2008

6/02 Summer Research Experience Begins
SBRP Research Seminar

July 2008

SBRP Research Seminar

August 2008

8/08 — SBRP Research Experience Ends

October 2008

All final paperwork to be turned in from SBRP participants

November 2008

11/05 — Fall Research Forum