School of MCB
Undergraduate
Research Information Session

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Coordinator Undergraduate Instruction & Advising
February 21, 2018
Agenda

• Special instructions for biochemistry
• What is undergraduate research?
• How to find a lab
• How to enroll in MCB 290/BIOC 290
• Faculty perspective
• Student perspective
• Graduation with Distinction
Jeff Goldberg
Senior Coordinator of Student Academic Affairs

• Instructions for Biochemistry majors
  – BIOC 290, independent laboratory research
  – BIOC 492, senior thesis
  – Email Jeff for additional information, jmgoldbe@illinois.edu
What Is Undergraduate Research?

Undergraduate students participate in scientific research, in a university lab, under the direction of a faculty member (P.I.), post-doc or graduate student.

• Earn course credit (MCB 290 or BIOC 290)
  • Earn a grade for their contributions to the lab

• A few paid positions exist
  • Cannot earn money if earning credit
Why Research?

• Experience cutting edge science
• Make connections with faculty
• Develop skills in *analytical thinking* and *communication*
• Determine if graduate studies may be a viable post-graduate goal
Why Research?

• Gain intensive practical knowledge using modern technology
• Understand how techniques and procedures discussed in lecture and lab are used in the real world
• Practice problem solving
Eligibility for MCB 290/BIOC 290

- Declared major in Biology, MCB, MCB Honors or BIOC
- Research in an approved laboratory at UIUC
- Good academic standing, recommended GPA of 3.0 or higher
  - Cannot receive monetary payment or any other form of academic credit based on the research for which MCB 290 or BIOC 290 credit is earned.
  - Must enroll in the course by the university deadline to add a semester course using the appropriate forms.

http://mcb.illinois.edu/undergrad/opportunities/research/
Typical Workload

- 1 credit MCB 290 = approximately 5 hrs/week in lab
  (8 week summer sessions 1 credit = 10 hrs/week)

- Remember, this is an average. You need to plan to stay until your work is done.

- Make sure that you have a clear understanding of the faculty expectations for credit and how your grade will be assessed.
Limits

• A limit of 10 credit hours of MCB 290 can be applied towards the 120 hours needed for graduation.

• HOWEVER, you are encouraged to continue your research for as many terms as you wish.

• All MCB 290/BIOC 290 semesters and their assigned letter grades will appear on your academic record and count in the calculation of your GPA.
How to Find a Lab

1. Review information on MCB web sites
2. Read about faculty research interests
3. Make a list of faculty with whom you would consider working.
4. Create an online Student Profile
5. Contact faculty via email
   a) Be professional and concise
   b) Follow up, if necessary
How to Find a Lab

1. Review information on MCB web sites
   mcb.illinois.edu/undergrad/opportunities/research/

Forms

Fail and Spring Semester Forms
- MCB 290 Request Form for Research Experience in MCB labs (PDF)
- MCB 290 Request Form for Research Experience in NON-MCB Labs (PDF)
- MCB 492 Request Form for Senior Thesis in MCB or Non-MCB Labs (PDF)
- MCB Intent to Submit Research Thesis Form, see deadlines below.
- MCB 290 Renewal Form Word Document.
- MCB 290 Renewal Form PDF fillable
- Save form as PDF and email to MCB290@mcb.illinois.edu by 8th day of fall/spring or 5th day of summer. We will need 48 hours to process the form.
- Note this form cannot be used for your first semester of MCB 290 research, for MCB 492 requests or for late add requests.

Summer Semester Forms
- MCB 290 Summer Request Form For Research Experience in MCB labs (PDF)
- MCB 290 Summer Request Form For Research Experience in NON-MCB labs (PDF)
- MCB 492 Request Form for Senior Thesis in MCB or Non-MCB Labs (PDF)

Note: All forms must be processed in room 252 Davenport Hall. The deadline to add MCB 290 and MCB 492 is the 10th day of class during fall and spring and 7th day of class during summer. Students may not be allowed to add either of these courses after this deadline.

Using the MCB 290 Student Profile Database

If you plan to contact MCB professors during your search for a research position, we recommend that you submit an electronic resume to the MCB 290 Student Profile Database. Your on-line resume may be completed at the MCB 290 Student Profile Database. Your on-line resume will allow you to provide uniform information to all MCB professors whose research is of interest to you. Non-MCB faculty will not have access to this database, so you will need to send them your information in a Word document. Questions regarding the MCB 290 profile database can be directed to mcb290help@mcb.illinois.edu.

MCB 492 Senior Thesis

Completing at least two semesters of MCB 290 Undergraduate Research for 2 credit hours in each semester under the guidance of the same professor will qualify you to enroll in MCB 492 Senior Thesis in your last semester before graduation. Not every professor who conducts MCB 290 research chooses to advise students for a MCB 492 thesis. Eligible students may choose to complete the research and for dissertation consideration. Students who choose to complete a thesis must be admitted to the thesis program in the Summer Research Opportunities Program. For further instructions regarding the senior thesis please reference Guidelines for Senior Thesis Format.

To earn a grade in MCB 492 a student must:
- Complete 3 semesters of MCB 290 for 2 credit hours or more each semester. In the same lab.
- Submit a form of intent by the latest deadline. This is in addition to registering for MCB 492.
- Submit a Senior Thesis, in the form of a written thesis. This is in addition to the work done during the semester in MCB 290.
- Submit a written thesis, in PDF format. If you are submitting your thesis online, please submit it online by the last day of classes other formats will not be accepted.

Note: the thesis must be submitted in PDF format. No
How to Find a Lab

2. Read about faculty research interests
3. Make a list of those you want to contact

http://mcb.illinois.edu/people
Research Interests
Disease Research Interests
Video Interviews
MCB Schoolwide Directory

PEOPLE BY NAME

Enter the name you wish to find. The beginning letters are sufficient.

PEOPLE A-Z

ABCDEF Ghijklmnopqrstuvwxyz

MCB Faculty Profiles

FACULTY BY KEYWORD

Enter keywords to search publications & research statements.

FACULTY BY DEPARTMENT

Biochemistry | Cell and Developmental Biology | Microbiology
Molecular and Integrative Physiology | Biophysics | Neuroscience

FACULTY BY RESEARCH TOPIC

Research Interests
Disease Research Interests
**Stephanie Ceman**

**ASSOCIATE PROFESSOR OF CELL AND DEVELOPMENTAL BIOLOGY**

**Research Topics**
- Neurobiology, Protein-Nucleic Acid Interactions, Regulation of Gene Expression

**Education**
- B.S., University of Wisconsin-Madison (Bacteriology)
- Ph.D., University of Wisconsin-Madison (Genetics)
- Postdoctoral fellow, University of Chicago
- Postdoctoral fellow, Emory University

**Teaching Interests**
- BMS 603 - Medical Genetics
- MCB 270 - Medical Genetics

**Representative Publications**


How to Find a Lab

4. Create an online Student Profile

Using the MCB 290 Student Profile Database

If you plan to contact MCB professors during your search for a research position, we recommend that you submit an electronic resume to the MCB 290 Student Profile Database. Your on-line resume may be completed at any time and will remain active in the database for six months. During your search, this allows you to provide uniform information to all MCB professors whose research is of interest to you. Non-MCB faculty will not have access to this database, so you will need to send them your information in a Word document. Questions regarding the MCB 290 Profile Database can be directed to mcb290help@life.illinois.edu.
For detailed information about the application process, please refer to: [http://www.mcb.uiuc.edu/undergrad/research.html](http://www.mcb.uiuc.edu/undergrad/research.html). Please contact [mcb290help@life.uiuc.edu](mailto:mcb290help@life.uiuc.edu) with any questions regarding this application.
MCB 290 Undergraduate Research Student Profile

For detailed information about the lab search process, please refer to:
http://www.mcb.uiuc.edu/undergrad/research.html.
Please contact mcb290help@life.uiuc.edu with any questions regarding completion or
use of this profile system. Once submitted, MCB 290 Student Profiles are fact-checked
and approved by the MCB Advising Program on a weekly basis. Notification of approval
or denial will be received by email. Denials will include instructions for corrections
or resubmission of the profile. Once approved, your profile will remain active in the
database for 6 months.

Completion of the profile is restricted to one hour. It is recommended that you enter
your responses for the text boxes in a word processing program, then copy and
paste them into the profile.

Personal Information
First Name / Given name: 
Last Name / Surname: 
Gender: M F 
Net ID: bahughe2
University ID Number (UIN): 
Local Address: 

Research Details
Anticipated duration of research (# of semesters): 
Are you considering a senior thesis (if yes, # of semesters): 
Have you previously conducted undergraduate research or relevant work experience already acquired?
Describe undergraduate research or relevant work experience: Yes No

Campus Experience
Semester in school: 1 3 (NOT year in school)
Current Major: 
Majors: MCB 492, BIOCHEM majors: BIOC 492
Major GPA: 
Math courses taken: Do not use your overall GPA. If you have declared your MCB or Biochemistry major, you can obtain your major GPA via a DARS audit at http://www.ai.uiuc.edu/degphdinfo.php. If you are a freshman and do not have a GPA to report.
Research Courses & Grades: List all MCB, IB, CHEM, PHYS, STAT and MATH courses taken. Include In Progress courses as IP. Transfer courses as TR and AP credit or courses you have proficiency credit in as PS.
Course: 
Grade: 

Add Course: No courses added

Semester Requesting: Summer 2015
How to Find a Lab

• Profile information is checked for accuracy by MCB Advising, typically takes 1 week.
• You will receive an email once your profile has been approved, *includes a link* that you can send to MCB faculty
• Profile is only active for 6 months
• Only available to MCB/BIOC students
• Only viewable by MCB/BIOC Faculty
5. Contact Faculty

- Send introductory email (88% prefer this method)
  - 0% want you to call them
- Be professional (use salutation and signature)
- Be specific to the lab
- Be patient and persistent
  - may have to send more than one email – continue to be professional – wait at least 5 days between emails.
- Work in Batches, contact up to 5 labs at a time
Faculty Feedback

- “prefer students in first or second year, so we can have them around at least one more year after spending a year training them…”

- “They should not think of this as a job where they punch in at a certain time and leave at a specific time. They need to plan to stay as long as the experiment requires.”

- “I don’t answer emails that say “I’m really interested in what you do…” without showing that they really know.”
Faculty Feedback

- “Nobody should be doing research for just a semester.”

- “If the student’s email is not specifically addressed to me, I delete it without further consideration.”

- “We require minimum 12 hrs a week in the lab, preferably with 3 to 4-hr blocks of time.”
Faculty Feedback

- “Students with heavy coursework and/or many extracurricular activities are discouraged to apply.”

- “Students interested in attending graduate school are strongly encouraged to apply.”

- “GPA is not very important.”
Faculty Feedback

- “If you do not get a response from your first email, please send a follow up email ~ 1 week later.”

- “Do not wait until 2 weeks into the semester to contact me.”

- “Research positions are few and competitive. Do not be disappointed if you are not selective for particular lab.”
How to Find a Lab

• Interview Tips
  – Dress nicely (business casual)
  – Come prepared (know about lab projects)
  – Ask about expectations!!!
    • When are you expected to be in lab?
    • How will they assign a grade?
  – Be honest about your availability
    • Academics should come first!
How to Enroll

• For MCB 290 credit you need to:
  – Fill out appropriate form (MCB or Non-MCB)
  – Get form signed by P.I. (faculty)
  – Bring to 252 Davenport for Processing
  – Pay attention to deadlines!

Fall and Spring Semester Forms

- MCB 290 Request Form for Research Experience in MCB labs (PDF)
- MCB 290 Request Form for Research Experience in NON-MCB Labs (PDF)
- MCB 492 Request Form for Senior Thesis in MCB or Non-MCB Labs (PDF)
How to Enroll

• Deadlines
  – 10th day of regular semester, 5 PM
  – 7th day of summer session II, 5 PM

• Renewing for additional semester
  – Must renew every semester by deadline
  – Online renewal form available on web site
## Non-MCB Labs

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<tr>
<th>Integrative Biology</th>
<th>Chemistry</th>
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<tr>
<td>Psychology</td>
<td>Kinesiology</td>
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<td>Neuroscience program</td>
<td>Veterinary Medicine</td>
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<td>Pathobiology</td>
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<td>Physics</td>
<td>Comparative Biosciences</td>
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<td>Crop Sciences</td>
<td>Animal Sciences</td>
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<tr>
<td>Beckman Institute</td>
<td>Institute for Genomic Biology (IGB)</td>
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Non-MCB Labs

• Must sign up under Melissa Michael’s section of MCB 290
  – Need approval of project
    • Short proposal of work YOU will do

• Strict deadlines!
Faculty Perspective

• Dr. Supriya Prasanth
  Assoc. Professor of Cell and Developmental Biology

Research Interests
Eukaryotic DNA replication;
Chromosome structure & maintenance;
Heterochromatin organization;
Cell cycle control

Figure 2. Increased multinucleation on silencing of Orc6 expression in HeLa cells by siRNA. Prasanth et al., 2002. Science 297(5583): 1026-1031.
Student Perspective

- **Sam Joshi**
  - Sophomore, MCB Honors
  - Dr. Supriya Prasanth’s lab (CDB), 2 semesters
- **Mary Casagrande**
  - Senior, MCB
  - Dr. Bruce Fouke’s lab (Micro/Geology), 2 semesters
- **Danielle Yee**
  - Sophomore, MCB Honors
  - Dr. Wenyan Mei’s lab (Comparative Biosci/Vet Med), 2 semesters
Graduation with Distinction

- Eligible if:
  - Spend at least 2 semesters in same lab, earning 2 credit hours or more.
  - Have support of P.I. (faculty)
  - Registered for final semester of degree program

Different levels and requirements
http://mcb.illinois.edu/undergrad/opportunities/distinction/
Take Home Points

• Earn course credit and a grade for research experience.
• Start early – Beware of deadlines.
• Be aware of faculty expectations.
• Treat this as a job, be professional and responsible.
• Have fun and learn as much as you can!
QUESTIONS

Tina Knox
tmknox@illinois.edu

http://mcb.illinois.edu/undergrad/opportunities/research/