MCB Undergraduate Research Information Session, March 2017

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Jeff Goldberg, Advisor & Senior Coordinator
Dr. Stephanie Ceman, CDB faculty

Student Researchers:
Andy Wu, Connor Forsyth, Kinan Sawar
Agenda

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

• Specific 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
- Get to know faculty on campus
- Hone skills in *analytical thinking* and *communication*
- Determine whether graduate studies may be a viable postgraduate goal
- Gain intensive practical knowledge using state-of-the-art technology
- Gain an understanding of how the 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)

• 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
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How to Find a Lab

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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

ABCDEFGHIJKLMNOPQRSTUVWXYZ

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

Molecular basis of disease, post-translational modifications, regulation of RNA expression, RNA-protein interactions

The fragile X mental retardation protein FMRP is required for normal cognition: when it is absent, the most common form of inherited mental retardation, fragile X syndrome (FXS) results. Thus, FMRP is a molecular entry point for understanding normal neuronal function. FMRP is an RNA binding protein that binds ~4% of brain mRNAs and regulates their expression—either enhancing or suppressing translation by an unknown mechanism. Many of the mRNAs that bind FMRP have been identified; however, it is still unknown how FMRP regulates their translation. Our long-term goal is to uncover the mechanism of FMRP-mediated translation regulation, exploring both associated proteins and microRNAs.

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.
Student Profile

The MCB 290 Research Profile allows undergraduate students to apply for laboratory research experiences.

> Select Terms

**MCB 290 Undergraduate Research Student Application**

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 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-check
and approved by the MCB Advising Program on a weekly basis. Notification of appro
or denial will be received by email. Denials will include instructions for correction.
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 to
your responses for the text boxes in a word processing program, then
into the profile.

Personal Information

First Name / Given name:

Last Name / Surname:

Gender: M F

Net ID: bahughe2

University ID Number (UIN):

Local Address:

(650 555 5555)
How to Find a Lab

- Profile information is checked for accuracy by MCB Advising
- 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
How to Find a Lab

5. Contact Faculty
   – Send introductory email
   – 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 3 days between emails.
   – Work in Batches, contact up to 5 labs at a time
How to Find a Lab

• Interview Tips
  – Dress nicely (business casual)
  – Come prepared (know about lab projects)
  – Ask about expectations!!!
    • How will they assign a grade?
    • When are you expected to be in lab?
  – 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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<th>Integrative Biology</th>
<th>Chemistry</th>
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<td>Psychology</td>
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<td>Beckman Institute</td>
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Non-MCB Labs

• Must sign up under Melissa Michael’s section of MCB 290
  – Need approval of project
• Strict deadlines!
Faculty Perspective

• Dr. Stephanie Ceman
  – Associate Professor Cell & Developmental Biology (CDB)
  – Researches mechanism of fragile X mental retardation protein-mediated translation regulation
Student Perspective

- Andy Wu
  - Senior, MCB Honors
  - Dr. James Slauch’s lab (Microbio), 5 semesters
- Connor Forsyth
  - Junior, MCB Honors
  - Dr. Susan Martinis’ lab (Biochem), 2 semesters
- Kinan Sawar
  - Sophomore, MCB Honors
  - Dr. Wenyan Mei’s lab (non-MCB, Comparative Bioscience), 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