FINDING RESEARCH OPPORTUNITIES AT BROWN

What are you interested in?

Talk with your peers, professors & concentration advisor about your interests

Give yourself time to think

What kind of research is happening out there?

Join relevant communications (i.e. Biology listserv) to hear about opportunities

Read Brown News & BioMed News

Keyword searches - Researchers at Brown, read lab webpages!

BrownConnect

Coming.....Research Opportunities in Biology (spring semester)

Identify potential faculty mentors

Introduce yourself in person if you have the opportunity

Otherwise send an email of inquiry using depth and brevity

SAMPLE EMAILS TO FACULTY TO INQUIRE ABOUT RESEARCH OPPORTUNITIES

Dear Dean Smith

I am a sophomore here at Brown who recently declared a concentration in Health & Human Biology. I am writing out of interest in your research on global trends in emerging infectious disease. I was very excited to read about your work on the Brown News page last week.

I am eager to pursue medical or graduate school after Brown and focus my efforts on immunology and global health. As I move toward my junior year I am hoping to line up a research experience, collaborative or independent, focused on similar topics.

I have course work and some voluntary experiences that I believe position me well for more in depth work in the lab. Do you have any opportunities for a student like me in your research group over the summer or following academic year? I have attached my resume and transcript and would be delighted to talk with you if an opportunity for me might exist.

I hope to hear from you soon,
K. Smith Associate Dean of Biology, Undergraduate Education, katherine_smith@brown.edu

Dear Dean Smith,

I am writing to inquire about potential research opportunities in your lab. I am a sophomore intending to pursue a Biology ScB (EEB track). I am specifically interested in your research on New England Cottontail infectious disease dynamics, and Conservation Medicine more broadly. I am available this summer and throughout the fall and spring semesters if you have openings in your lab. My transcript and resume are included. You will see that I have solid grades in relevant courses and experience working in the field.

Please let me know if I can schedule a time to speak with you.

Very best wishes,

xxx

Dean Smith,

Dr. Bungiro recommended that I contact you about potential opportunities to pursue research in your lab. I am entering my senior year and very eager to pursue an independent research project where I can explore the global distribution of infectious diseases using new GIS tools. I have read your work published on disease biogeography and would be very excited to speak with you in person. Could I make an appointment for next week?

xxx

**FUNDING & INDEPENDENT STUDY**

DOC funding: UTRAs (summer and semester), LINK Awards through BrownConnect

BioMed DEANS Awards (summer 2016....look for call in the next few weeks)

Faculty Grants sometimes have support for undergraduates

Independent Study Courses (ie BIOL 1950/1960). *You can’t do these AND get paid at the same time!*
HOW TO FIND A MENTOR
Dean Katherine Smith

- **Freshman year** – is about exploring
  - Expose yourself to a variety of topics but give yourself time to learn what you are excited and passionate about
- **Sophomore year** – “do the rounds”
  - Talk to your peers (juniors and seniors) about what they’re doing
  - Take advantage of the professors in the STEM courses and introduce yourself
  - Find out what you’re interested in
  - Figure out what kind of research is being done at Brown
    - Join some of the more relevant listservs
    - Read Brown and Biomed news where you’ll see engaging stories about who’s doing what at Brown, exposure to cutting-edge science
    - Researchers@Brown, can search for professors and projects based on topics that you’re interested in
    - Brown Connect is another resource for internships on and off campus associated with alumni
    - In Spring, Division of Biology and Medicine will launch research portal where all faculty will post opportunities for research jobs/volunteer positions in their labs
  - Usually students secure independent research opportunities by (1) talking to professors of their courses or (2) thoughtful, courteous, and concise cold-call emails to professors
    - Do your homework about their research! Make that point of connection!
- Many mechanisms through which you can pursue research
  - Dean of College funding through UTRAs, LINK awards through BrownConnect
  - BioMed DEANS Awards for research in summer of 2016
  - Faculty Grants may have support for undergraduates as well
  - Independent study courses (BIOL 1950/1960)
    - *Note that you cannot receive pay for these
SUMMER RESEARCH ASSISTANTSHIPS (for PLME students)
Dr. Cynthia Jackson

List of mentors will come out in December (can also make up own proposal and find a mentor)

Fields:
- Basic sciences
- Humanities
- Social sciences

Tips for finding a mentor:
- Every research group has its own personality
- Want to find a professor that you feel comfortable talking to
- Want to find out if you will be directly reporting to the PI or if you will be working with a postdoc/grad student/research assistant
- Make sure you have clear lines of communication
- Do your homework! (read their research description, look up publications)
- Send an email introducing yourself and expressing an interest in working with them
- Make an appointment to meet with them to discuss their projects

How to write a research proposal:
- Assemble your resources - your mentor will generally give you some literature and possibly a grant proposal to read
- Do a literature search to make sure you understand the projects and methods
- DO NOT cut and paste from your mentor’s proposal into your own proposal

SRA Proposals
- Maximum of 3 page description of the project
- Maximum 1 page statement of your background including relevant courses and any previous research experience. A statement of how this project fits into your educational needs. Do you plan to continue the research during the academic year?
- Outline:
  - Abstract or summary of the project (1 paragraph)
  - Background - what previous research is the project based on, including work by your mentor (½ page)
  - Hypothesis - what is the research questions that you are asking (1 paragraph)
  - Methods - how are you approaching your hypothesis. What techniques are you using? (½ page)
  - Results - what kind of data do you expect and how are you going to analyze that data (½ page)

Remember that you learn a lot from your failures. Research is hard; don’t get discouraged.
Dr. Gregory Jay, Emergency Medicine (SRA-EM)

Article - Rescuing the physician-scientist workforce: the time for action is now

- How many physicians do you think get external funding to do their work and work as researchers?
  - 200,000 physicians in the US
  - 8,000 label themselves as academic scientists and contribute to the literature
  - Fewer people are going into it but it is important to remember that MD physicians can be successful at doing research

Writing Specific Aims

- Science writing is different from other types
- Understanding the problem and present it in a way that the reader will understand how you will attack it
- Aim - what you hope to do
- Hypothesis - what you will try to prove
- Rationale - why will you attack the hypothesis in the way that you plan to

Brown University Emergency Medicine Research Lectures - email Dr. Jay for this list
(Gregory_Jay_MD@brown.edu)
- ex. Study Methodology Design, Human Subject Research Policies and Guidelines