MD/Special Training in Research: Enhancing your medical education through research

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1. Medical research—From bench to bedside
2. How can you get involved in research?
3. Why should you get involved in research?
4. Ask the experts—former MD/STIR students
How can you get involved in research?

• What research interests you?
  – Identify your topic and technique
How can you get involved in research?

- Explore those research areas that interest you
How do you find a research supervisor?
How do you find a research supervisor?

1. Read papers and look at a lot of websites
2. Make a list of potential supervisors
   1. Research that person’s research
      1. Pubmed searches
      2. Internet searches
      3. Look at their websites
   2. Evidence of a good training environment
      1. Are trainees (graduate students, post-doctoral fellows) listed on their website?
      2. Publications? Where is the name positioned? (last and first position usually indicates lead role)
      3. Ask your colleagues, upper-level classmates
   3. Small labs vs large groups
      1. Pros and cons for both
3. Contact potential supervisors by e-mail
   1. Express your interests
   2. Respect their time
• When can you participate in research?
  – Any time!
  – Undergraduate—MD/Special Training in Research (STIR)
  – MD/PhD
  – CIP

• What is MD/STIR?
  – Program of requirements that oversees and recognizes research training of undergraduate medical education (UME) students
  – Think of it as an “MD with honors”
  – “MD with Special Training in Research” on diploma and transcript
MD/STIR requirements

• Research component:
  – ~24 weeks of active research conducted under the supervision of a research-intensive faculty member
  – Produce and analyze data that tests a research hypothesis

• Written component:
  – Final report

• Presentation component:
  – 3 minute overview to MD/STIR cohorts at early research stage
  – 15-45 minute oral seminar to audience determined by your supervisor
  – Poster presentation at mid-point of research stage
    • To MD/STIR cohort
    • To judges at Faculty of Medicine Research Day
  – Oral presentation
    • 10 minute final seminar followed by oral defense
MD/STIR research timeline options

- How do you fit research into your schedule?

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<th>Year 1</th>
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Option 1: FT Summer 1; FT 8wk of Summer 2
Option 2: FT Summer 1; PT yr2; FT 4wk of Summer 2
Option 3: FT Summer 1; PT yr2; PT yr 3

* 2 oral presentations in Summer 1
** 1 oral presentation at time chosen by supervisor
*** Poster presentation in year 2 in FoMD Summer student research day
The benefits of participating in MD/STIR

- **Research skills:**
  - Hands-on research experience in your field of interest
  - Be involved in research that may one day change clinical practice
  - Critical thinking skills
    - Learn how to pose and test a research question
    - Take note of the unexpected and think about what it might mean
  - Learn cutting-edge technologies, analysis tools
  - Trouble-shooting skills
    - Make mistakes and learn from them
  - Live the research experience by immersing yourself in an active research group. Go to group meetings, journal clubs etc. Ask questions. Be curious.
MD/STIR benefits

• Written component:
  – Scientific writing skills
  – Practical experience in writing scientific proposals and reports
  – Feedback from colleagues, supervisor and faculty

• Presentation component:
  – Oral presentation skills
  – Practical experience in giving oral presentations in multiple formats
MD/STIR benefits

• Compete for a chance to present your research at an international conference
  – Top 2 UME students who win Poster Award at FoMD Research Day are chosen to present their research at the National Student Research Forum in Galveston, TX
How to participate in MD/STIR program

• Submit an application to the program by March 1, 2018
• Obtain:
  – Approval of your application
  – Acquisition of funding support for your stipend(s) in the summer
• Application and details can be found at the MD/STIR website (will be up and running soon!)
MD/STIR application consists of:

- Research proposal
- Student CV
  - 1pg, previous research experience not required
- Supervisor CV
  - List grant support in last 5 yrs
  - List top 3 papers in last 5 yrs with trainees underlined
  - List of trainees in last 5 yrs
- Answer to the question: “What arrangements are there for supervision by the supervisor in person? If supervisor’s lab members are involved in the day-to-day supervision of the student, please indicate name and position”
- Proof of human or animal ethics attached
Funding support for your stipend:

• You must obtain summer stipend support for your summer research stage(s) in the form of:
  – External summer studentship award
    • You apply for and are awarded AI-HS, WCHRI, CRINA etc.
  – FoMD/Supervisor combined support
    • 10 MD/STIR applicants who were unsuccessful in the AI-HS summer studentship competition are eligible for FoMD/Supervisor combined support in agreement with your supervisor (FoMD and your supervisor each contribute 50% of your stipend)
  – Supervisor support
    • Your supervisor agrees to support 100% of your summer stipends
How to participate in MD/STIR program

- Identify a research field and supervisor
- Make arrangements for a program of research with your supervisor (Options 1-3)
- Apply for summer stipend funding
- Apply to the MD/STIR program
  - March 1, 2018

- Application and details can be found at the MD/STIR website (will be up and running soon!)
- https://www.ualberta.ca/medicine/programs/mdstir
FAQs

• What is the advantage of enrolling in this program since I already have research experience?
  – MD/STIR designation acknowledges your participation in a Faculty-approved structured research program
  – *Take your research to “the next level”*
  – → submit a research proposal
    • Under the guidance of your Supervisor, you write a research proposal (driver/passenger)
  – → work in a research lab
    • This is now YOUR project (motivated to learn from team members, propose methodology or analytical improvements etc.)
  – → write up your final data in a research report
    • By writing a formal report, you really get to “know your study”.
  – → give an oral presentation and defend your data
    • Improve your presentation and critical thinking skills and receive constructive feedback from a panel of experts
    • A chance to present your data in a scientific conference
FAQs

• Can I participate if I already have a post-graduate degree in research?
  – Absolutely!
  – This is a great opportunity to engage in different research and remain engaged with the research community. Your MD/STIR project must be distinct and independent from any of your previous research work.

• Will I be able to publish my results?
  – Absolutely!
  – Some undergraduate research students can and do publish their results. Almost always, their research contributes to a larger study so there are multiple authors and the publications is usually a few years later. For this to happen, you need a good training environment with a good study design, robust data, meaningful results, and often—luck!
Comments from former MD STIR students

• The program benefits clinical training and development
  – Practice with verbal and written communication
  – Learning to be a medical expert in one area
  – Practice searching research medical databases for new research

• The best part of the program was getting to officially take part in research during medical school.
  – The program allowed me to take a larger role in performing a research project that I many not have had without the program’s endorsement

• My research experience helped me develop research skills, technology development skills, complex problem solving skills and it gave me multiple awesome interpersonal relationships with my research colleagues
Comments from former MD STIR students

- I thought that the program was well structured and didn't require a massive commitment on top of the research I was already planning to do. I figured that if I was going to be doing research in the summer anyways, I may as well challenge myself a bit more and do the MD STIR program. Moreover, the MD STIR certification was appealing. I obviously can't comment on how this will benefit me in my future, but I have always had an interest in research, and I thought it was great that I was given an opportunity to have a training designation to show for it.

- I think the most important thing I gained from this program is further experience in presenting and defending my research. I have given presentations before, but never had to defend my work. I also liked how the program mandated a certain number of presentations during the summer, as this provided motivation for me to give more presentations than I otherwise would have. I think if I had not already produced a manuscript, this program would have been beneficial in that I would have gained further experience in writing up my research.
Questions?

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• [https://www.med.ualberta.ca/programs/mdstir](https://www.med.ualberta.ca/programs/mdstir)

• Summer job database,  
[https://www.ualberta.ca/medicine/research/studentships/job](https://www.ualberta.ca/medicine/research/studentships/job)

• Summer studentships,  
[http://www.uri.ualberta.ca/ApplyForFunding/](http://www.uri.ualberta.ca/ApplyForFunding/)


• [https://www.wchri.org/summer-studentship-program](https://www.wchri.org/summer-studentship-program)

• [https://www.ualberta.ca/cancer-institute/research/funding-opportunities](https://www.ualberta.ca/cancer-institute/research/funding-opportunities)