GRADUATE TRAINING IN MEDICAL SCIENCE (GTMS)

DIRECTORS: JONATHAN KATZ, MD
JENNI PUNT, VMD, PHD
ADMINISTRATOR: ANNE-CARA APPLE
WHAT IS GTMS ABOUT?

Bridging the gap between the lab and the clinic

Bringing together a diverse range of medical research fields

Providing a greater depth of medical education for our PhD candidates
OUR GTMS PROGRAM

- 40+ students from almost all BGS grad groups
- 10-15 students admitted each year
PROGRAM OVERVIEW

- Clinical/Translational Coursework
- Clinical Clerkship
- Monthly GTMS Seminar Series
- Annual Multi-School Symposium

- Annual Penn GTMS Capstone Colloquium - proposed
CURRENT CURRICULUM

https://www.med.upenn.edu/gtms/

Year 1:

BIOM 600: Cell Biology (Fall)
IMUN 506: Immune Mechanisms (Fall)
-OR-
CAMB 510/IMUN 510: Immunology for CAMB (Spring)
-OR-
GCB 535: Bioinformatics (Spring)
-OR-
GCB 536: Computational Biology (Fall)

Year 2:

CAMB 532: Human Physiology (Fall)
BIOM 502: Molecular Basis of Disease (Spring)

"Bench to Bedside" Electives

Students may choose from a list of approximately 25 courses or may suggest a course with clinical relevance that are of interest to them but not currently on the list (subject to approval by GTMS directors). You may take these electives at any time and must take at least two "Bench to Bedside" electives.

Lab Rotation:

Students will have an opportunity to do a rotation in a lab doing translational research.

Clinical Clerkship Experience:

Students will be required to do a 40-hour clinical or translational (biotech or pharma) clerkship experience related to their area of research interest. The clerkship may be completed as fits the student’s schedule and the nature of the clerkship (eight hours a day for five days, four hours a week for 10 weeks, etc.).

Develop curricular plan with your GTMS mentors

BIOM 502: Molecular Basis of Disease
Bench to bedside electives can include:
- Topics in Molecular Medicine (TIMM)
- Intro to Clinical and Translational research
- Translational Therapeutics
- Introduction to Drug Development

PENN GTMS CAPSTONE COLLOQUIUM
CLINICAL CLERKSHIP

• Goal: Gain insight into medical care delivery and patient oriented research. Expand professional network.

• 40 hours in a clinical setting: Flexible and based on your interests
  • Attend medical rounds
  • Shadow physicians and veterinarians
  • Observe autopsies, necropsies
  • Observe surgeries
  • Gain familiarity with clinical laboratory diagnostics
  • Gain exposure to Penn’s global health clinics

• Keep a journal of your clinical experiences
• Present your experience at the GTMS Capstone Colloquium
GTMS MONTHLY SEMINAR

An informal monthly gathering of GTMS students who identify topics and speakers of interest.

Topics will be selected by second year students and can include:

- Case-based problem solving
- Medical terminology
- Technology Transfer
- Startup and Entrepreneurship
- Attorney in Patent and Intellectual Property
- IRB: Human Research Protocols
- Clinical Trials: design, monitoring and data analysis
ANNUAL MULTI-SCHOOL STUDENT SYMPOSIUM
GTMS aka Med into Grad

Rotating symposium with Harvard, Yale, Memorial Sloan Kettering, Columbia, and Penn PhD students

• 2018-19 Yale
• 2019-20 Penn
WHAT ARE OUR GRADUATES DOING?

• Principal Scientist and Director of Scientific Licensing, Janssen Pharmaceuticals
• Associate Director of Research and Senior Scientific Advisor, Castleman Disease Collaborative Network
• Cancer Prevention Fellow, National Cancer Institute
• Assistant Professor of Pathology, Virginia Commonwealth University
• Postdoctoral Fellow, Salk Institute
• Senior Analyst for Corporate Development, ACADIA Pharmaceuticals
WHY JOIN GTMS?

The future of biomedical research depends upon: You!

- The involvement of the basic science community in addressing important, unmet clinical needs to improve human health
- Communication and collaboration among physicians, veterinarians and basic scientists
SOUNDS GREAT, BUT CAN I STILL APPLY?

Accepting applications until September 10

https://pixabay.com/
KEY DATES

September 6th, 9:30-10:30am, Welcome doughnuts/coffee for first years
Hill 132

September 9th, 4-5pm. First GTMS Seminar of the year.

November 15-16. Multi-School GTMS/Med into Grad Symposium!
Hosted by Penn!
CONTACT US

- Website: [http://www.med.upenn.edu/gtms](http://www.med.upenn.edu/gtms)
- Administrator: Anne-Cara Apple, annecara@upenn.edu
- Directors:
  - Jonathan Katz, jpkatz@upenn.edu
  - Jenni Punt, punt@vet.upenn.edu
Thanks to our GTMS students

and former

https://www.med.upenn.edu/gtms/current-students.html

https://www.med.upenn.edu/gtms/former-students.html