

PhD Program in Molecular Medicine HHMI Med into Grad



3/10/2009
Martha K. Cathcart
Program Director

Ph.D. in Molecular Medicine

- Newly created Ph.D. Program
- Joint program between Cleveland Clinic and Case Western Reserve University
- Program planned since 2003. First class entered in July 2007



Central Program Features

- Clinically integrated core curriculum designed specifically for this program and taught at Cleveland Clinic
- Comprehensive biomedical statistics and clinical epidemiology in a new course entitled: Principles of Clinical and Translational Research
- Twice weekly autopsy conferences (optional)
- All students have a Clinical Mentor in addition to their Thesis Research Advisor
- Individually tailored clinical experience to complement thesis research
- Grant-based qualifying exam with at least one translational aim
- Year 2: Weekly theme-based, interactive grant design with medical students.



Central Program Features

- Clinically integrated core curriculum designed specifically for this program and taught at Cleveland Clinic
- Comprehensive biomedical statistics and clinical epidemiology in a new course entitled: Principles of Clinical and Translational Research
- Twice weekly autopsy conferences (optional)
- All students have a Clinical Mentor in addition to their Thesis Research Advisor
- Individually tailored clinical experience to complement thesis research
- Grant-based qualifying exam with at least one translational aim
- Year 2: Weekly theme-based, interactive grant design with medical students.



Clinical Mentor and Clinical Experience

- Students, together with their research advisor, select a Clinical Mentor who will co-advise the student throughout their graduate experience.
- The Clinical Mentor will develop an individualized curriculum to expose the student to patient/clinician interactions and introduce them to relevant diagnostic and therapeutic procedures.
- The Clinical Mentor serves on the Thesis Committee and on the Qualifying Exam Committee



What are the goals for this interaction?

- Create a long-standing, comfortable relationship with a medical specialist and a multi-disciplinary team
- Expose the student to a broad spectrum of clinically-relevant experiences
- Offer critical input from another perspective
- Making connections between clinicians and the laboratory investigation community



What are the goals for this interaction?

- Create a long-standing, comfortable relationship with a medical specialist and a multi-disciplinary team
- Expose the student to a broad spectrum of clinically-relevant experiences
- Offer critical input from another **perspective**
- Making connections between clinicians and the laboratory investigation community



What is the coolest thing about the program?



“...the perspective. The research is fascinating, but being able to connect with the clinical side and see the patients' views provides inspiration to focus in the laboratory.” *Susan Westerfield, second year student*



How long does the relationship last?

How many clinical mentors are required?

- Begins with the first thesis committee meeting followed by a Clinical Experience (a three credit course, spread over two semesters), ideally lasting throughout the graduate training period and beyond.
- The laboratory's relationship with the mentor will endure beyond the tenure of the graduate student.
- At optimal enrollment, 10 mentors are required each year.



What are the characteristics of an effective clinical mentor?

- A clinical mentor must understand graduate education and the research perspective.
- The clinical mentor must value the opportunity and receive recognition from their Department Chair.



When and how is a clinical mentor identified?

- The clinical mentor is chosen by consultation between the student and thesis advisor after the thesis laboratory has been selected.
- There is a Clinical Experience Oversight Committee that can facilitate Mentor identification as well as approving the Clinical Experience.



How is the effectiveness of the Clinical Mentor evaluated?

Outcomes from:

- Student evaluation of the Clinical Mentor
- Student evaluation of the Clinical Experience
- Executive Committee member assessment of the role of the Clinical Mentor during the Qualifying Exam
- Continued student engagement in clinical activities
- Continued Clinical Mentor engagement in research activities



Challenges/Strategies

Challenge

Choosing the best clinicians to serve as mentors.

Strategy

Warning by peer cluster group! Select faculty who “get” graduate education and Ph.D. training.



Challenges

Assuring that all Clinical Mentors understand their role in the program and their importance for student development.

Strategies

- Created a Faculty Handbook and a Student Handbook to clearly define the roles of the Clinical Mentor. This material is used to orient both.
- Executive Committee member chairs the Qualifying Exam
- Creation of a Clinical Experience Oversight Committee
- Require a 'Clinical Experience Log' with signatures



Other Observations

First batch of mentors have been enthusiastic and grateful for participating.

The MIG program has fostered discussions between parties that likely would not have happened without the program.

The MIG program has facilitated a greater appreciation for the depth and breadth of graduate education and the importance of research at our institution.



From one of our Clinical Mentors

“as a clinical research oriented clinician, it has been great to share in the mentorship of a PhD student. I am fairly certain this will open up some doors for bedside to bench collaboration between my clinical group and this lab.”



Heather Gornik, M.D.

Medical Director, Non-Invasive Vascular Laboratory
Sections of Vascular Medicine and Clinical Cardiology
Department of Cardiovascular Medicine

