Graduate Training in Medical Science

GTMS Program Directors
John P. Lynch, M.D., Ph.D.
Associate Professor of Medicine
lynchj@mail.med.upenn.edu

Hao Shen, Ph.D.
Associate Professor of Microbiology
hshen@mail.med.upenn.edu

GTMS Program Administrator
Anne-Cara Apple
annecara@mail.med.upenn.edu
Graduate Training in Medical Sciences

- Philosophy and Goals of the program
- Originally an HHMI program designed to encourage translational research careers in traditionally-trained PhD biomedical research candidates
- It was recognized that having a textbook understanding of biology is not enough for successful translational scientists.
  - Also relies on an understanding of how to work effectively with clinicians
  - How to identify what problems matter most to medical professionals.
  - An understanding of the language and art of medicine
Graduate Training in Medical Sciences

- Four primary components of the certificate program
- Suggested curriculum that is complimentary to the CAMB requirements
- Monthly Seminar series covering topics not routinely discussed in graduate training programs
- A clinical/translational experience (40 hours)
- Annual multi-center symposium
Graduate Training in Medical Sciences

- Suggested curriculum that is complimentary to the CAMB requirements

- GTMS program currently consists of 6 courses (4 required and 2 electives)

- [http://www.med.upenn.edu/gtms/curriculum.html](http://www.med.upenn.edu/gtms/curriculum.html)
  - BIOM 600: Cell Biology
  - CAMB 510: Immunology for CAMB – OR – GCB 535: Bioinformatics
  - CAMB 532: Human Physiology
  - CAMB 502: Molecular Basis of Disease
Graduate Training in Medical Sciences

- Monthly Seminar series covering topics not routinely discussed in graduate training programs
  - Biotech start-ups
  - Bioethics and human subjects research
  - Medical case conferences
  - Technology transfer and intellectual property
  - How Pharma conducts large trials
Graduate Training in Medical Sciences

- A clinical/translational experience (40 hours)
  - Student designed
  - Broad range of opportunities

- Annual multi-center symposium
  - Originally a HHMI program, and most centers have continued on supporting similar certificate programs
  - Annual symposium run by students at one of four centers (Cornell, Yale, Harvard, and Penn)
Questions?

- [http://www.med.upenn.edu(gtms/index.html](http://www.med.upenn.edu/gtms/index.html)

### Current Students

<table>
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<tr>
<th>Name</th>
<th>Graduate Group</th>
<th>Year</th>
<th>Email</th>
<th>Thesis Topic or Interest</th>
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<tbody>
<tr>
<td>Dirk Auman</td>
<td>BMB</td>
<td>1</td>
<td><a href="mailto:auman@mail.med.upenn.edu">auman@mail.med.upenn.edu</a></td>
<td>Protein engineering and targeted therapeutics</td>
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<tr>
<td>Analise</td>
<td>NGG</td>
<td>1</td>
<td><a href="mailto:agruen@mail.med.upenn.edu">agruen@mail.med.upenn.edu</a></td>
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<td>Grunewald</td>
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<tr>
<td>Claudia Lanza</td>
<td>CAMB CBG</td>
<td>1</td>
<td><a href="mailto:clana@mail.med.upenn.edu">clana@mail.med.upenn.edu</a></td>
<td>Pharmacogenetics and psychiatry</td>
</tr>
<tr>
<td>Dylan Marchione</td>
<td>PHRM</td>
<td>1</td>
<td><a href="mailto:dyma@mail.med.upenn.edu">dyma@mail.med.upenn.edu</a></td>
<td>Tumor microenvironment</td>
</tr>
<tr>
<td>Robert Norgard</td>
<td>CAMB CBG</td>
<td>1</td>
<td><a href="mailto:morgard@mail.med.upenn.edu">morgard@mail.med.upenn.edu</a></td>
<td>Targeted drug delivery</td>
</tr>
<tr>
<td>Izmarie</td>
<td>PHRM</td>
<td>1</td>
<td><a href="mailto:ipov@mail.med.upenn.edu">ipov@mail.med.upenn.edu</a></td>
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<td>Poventud-Fuentes</td>
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<tr>
<td>Emily Fernandez</td>
<td>NGG</td>
<td>1</td>
<td><a href="mailto:femi@mail.med.upenn.edu">femi@mail.med.upenn.edu</a></td>
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<td>Garcia</td>
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<td>Kevin Alicea</td>
<td>CAMB-GTV</td>
<td>1</td>
<td><a href="mailto:kevinali@mail.med.upenn.edu">kevinali@mail.med.upenn.edu</a></td>
<td>Tumor metabolism and immunotherapy</td>
</tr>
<tr>
<td>Zoe Chen</td>
<td>CAMB CBG</td>
<td>1</td>
<td><a href="mailto:zouchen@mail.med.upenn.edu">zouchen@mail.med.upenn.edu</a></td>
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**Featured Alumni**

- **Ellen DeObaldia**
  - IGG, 2014

- **Erin Graf**
  - MVP, 2013

- **Steven Tuyishime**
  - GTV, 2013

- **Ben Walters**
  - BMB, 2013

- **Rachel Leskowitz**
  - GTV, 2014