

Therapeutics News



Program in
Regulatory Sciences



Therapeutics
Technology Cluster



Therapeutics
Graduate Program

Therapeutics Internships Link Industry and HMS



The new Therapeutics Graduate Program is kicking into high gear this year after securing an important training grant from the National Institutes of Health and new participation from industry partners.

The rationale behind the new Certificate Program in Therapeutics is to offer Harvard Ph.D. students a rigorous multidisciplinary training in the sciences relevant to identifying and developing new diagnostics and therapeutics. The ultimate goal: train the next generation of pioneers in therapeutic science.

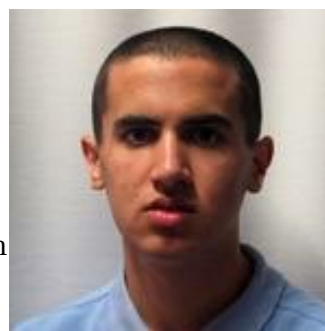
In its first year, nine students were admitted to the certificate program. Thanks to a training grant from the NIH, there are 13 matriculants this year, slightly exceeding the program target because of high demand. Catherine Dubreuil, HiTS Director of Training and Education, runs the program alongside Prof. David Golan, Dean for Basic Science and Graduate Education. Catherine noted that the program is open to all Harvard graduate students and that applications have come in from across the University. To Catherine and to the students, the most exciting part of the program is the internships, which help students experience the nuts-and-bolts of therapeutics development in the real world. The internship is meant to be an educational, inspirational, and collaboration-building experience for students, faculty, and partners in industrial, clinical, and regulatory settings. This year several industry partners are participating including Biogen, Merck, Merrimack, Novartis and Pfizer. Students also have the option of staying in academia or working in government.

HiTS has big plans for the future of therapeutics education. While the curriculum is already on the cutting edge of science, it is constantly being updated. Plans are now rolling to build in new concepts in drug evaluation, regulatory review, and systems toxicology. But no matter how far the program advances, it's the students that breath life into the experience. As Catherine mentioned: "We have a great community of students... They are very cohesive and friendly. But they are also very dedicated to the program." Perhaps that is the real key to any successful education initiative.

Fellow Profile: Peter Koch

Peter Koch is the first graduate student in the Therapeutics Program to have a collaborative internship with the Novartis Institutes for Biomedical Research (NIBR), attaining an exciting milestone for HiTS and the Therapeutics Graduate Program. Peter's background is in Theoretical Physics and he enjoys using quantitative methods in his work. This makes him a natural fit for projects in systems pharmacology.

For the past two months, he has been working in the Developmental and Molecular Pathways (DMP) division at NIBR, focusing on high throughput screening. His experiences in NIBR and the Therapeutics Program have allowed him to appreciate the power of quantitative methods for analyzing large datasets and to begin exploring a new interest in chemical genetics - the science of using small molecules to probe biological signaling pathways. In the future, he would like to apply these methods to new problems in chemical biology. Having enjoyed his experience with Novartis, he says that he is impressed with the people there and their outstanding level of expertise. Peter's internship exemplifies the kind of cutting edge work and expert colleagues that students can tap into through the Therapeutics Graduate Program.



Upcoming Events

- **Understanding Biomarker Science: From Molecules to Images, March 16-19, 2015.** The course will provide four intensive days of learning about the science and industry of biomarkers. Organized by Vishal Vaidya, HiTS Head of Toxicology. Register online at: <http://catalyst.harvard.edu/services/biomarkers/>
- **Rethinking Clinical Translation, May 18-19, 2015:** Scholars from HiTS and the Kennedy School will host a workshop at the Brocher Foundation in Geneva to explore the ethical, regulatory, and policy challenges to clinical translation.
- **The International Conference on the Systems Biology of Human Disease, July 6-8, 2015** will be held in Heidelberg, Germany. Register online at: <http://www.sbhd2015.org/sbhd2015/>

News from HiTS

- **The First Article from the LSP is published in Nature Genetics:** Mohammed AlQuraishi is lead author on: *A multiscale statistical mechanical framework integrates biophysical and genomic data to assemble cancer networks.*
- **LSP Launch Event is a huge success** - Remarks were given by Dean Flier and representatives from the Massachusetts Life Sciences Center attended.
- **LSP Team Hits Second Phase of DARPA Project** - The Big Mechanism Consortium has reached the "Deep Reading" phase where teams will assemble structured representations of biological systems using machine learning algorithms that read the scientific literature.
- **Four New Fellows Join the LSP** - A warm welcome to: Mira Pavkovic, Mariana Cardenas-Gonzalez, Sarah Hopp, and Jui-Hsia Weng.
- **Big Names Attended the HiTS Informatics Workshop** - Speakers came from HMS, Novartis, Genospace, Dana Farber, IDAC, HSPH, and Google.

Regulation and Policy News

FDA releases draft guidance on the regulation of "Laboratory Developed Tests." This will affect many independent and hospital laboratories. The public comment period will last until Feb. 2, 2015.

Draft Legislation Expected from 21st Century Cures - The House Energy & Commerce Committee is expected to release draft legislation in January as part of the 21st Century Cures Initiative. Some possible elements include more funding for science and changes in how drugs are regulated and approved.

