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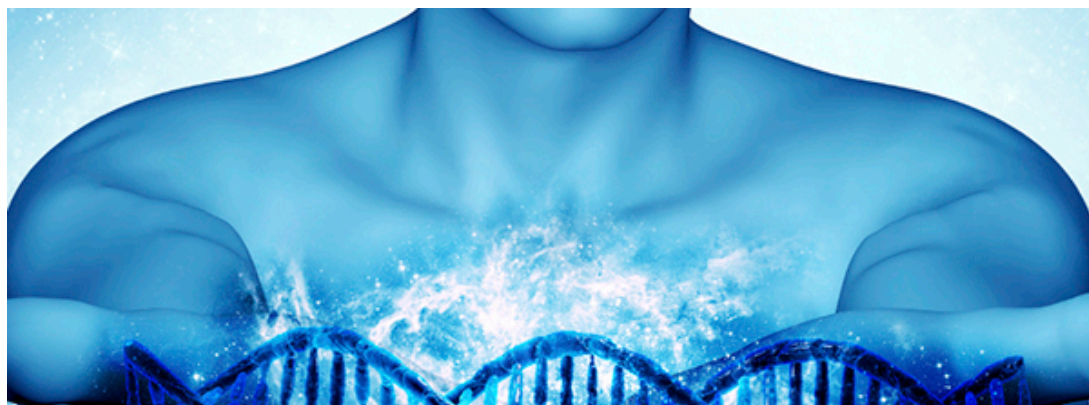
# News & Research

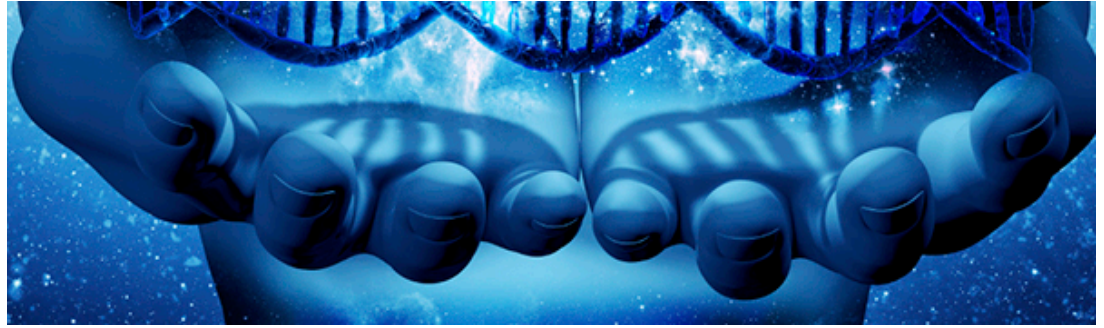
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## Understanding Your Genome

Conference provides insight into genetics research and medicine

By STEPHANIE DUTCHEN | November 20, 2015






Geneticists follow in the footsteps of the three Fates of classical mythology, according to Nathaniel Pearson, senior director of scientific engagement and public outreach at the New York Genome Center. There are those who spin the thread of life, those who measure and read it, and those who seek to discover where the thread leads.

Boston-area academic and industry leaders who attended the “Understand Your Genome” conference on Nov. 17 at Harvard Medical School came to learn about the various threads of current genetics research and gain insight into how they are woven together to advance medicine.

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“We have an amazing number of influential leaders, thinkers, writers, investors, CEOs and generalists here today,” said conference director Robert Green, HMS associate professor of medicine at Brigham and Women’s Hospital and director of the **G2P Research Program**  in translational genomics and health outcomes at HMS, Brigham and Women’s and the Broad Institute of Harvard and MIT.

“This is a very important and timely program,” said Jeffrey S. Flier, dean of the faculty of medicine at Harvard University.

“I relate to the topics of this meeting as a physician-scientist for 40 years or so; as dean of a medical school responsible for training physicians and scientists for the future of this rapidly changing domain; and as an individual, patient, father and grandfather trying to figure out how the kinds of information we’re talking about today get properly transmitted at a time when we don’t know how to transmit much of it,” he said.

### **Learn and challenge**

Sponsored by the Division of Genetics in the Department of Medicine at Brigham and Women’s, the program featured more than a dozen speakers from the Boston genetics community and beyond.

Panel topics ranged from the basics of genetics and genomics to the translation of genetic sequencing research into the clinic, and also touched on the role of academic medical centers in personalized medicine.

Attendees were encouraged not only to learn but to challenge the panelists and one another as they discussed the promises and limitations of genomic research. They also explored controversial topics related to the genetic sequencing of healthy individuals as physicians and scientists attempt to predict and prevent disease.

About 40 participants had undergone whole-genome sequencing before the conference and were able to review their results during a special lunchtime session with genetic counselors and representatives from Illumina, the California-based genetics company that performed the sequencing services.

Flier was among those who had his genome sequenced. In the afternoon session, he shared some of what he learned and speculated about what it might mean for himself and his family.

### **Twist of fate**

“I have one allele of potentially clinical significance, but I still don’t know exactly what that significance is,” he said. “I’m trying to figure out how I discuss that with my children. It may have no effect on their lives, but it’s something I hadn’t expected and now I need to understand it.”

In a twist of fate, Flier also learned that he has three variants “of unknown significance” in an insulin receptor gene he has been studying since 1975.

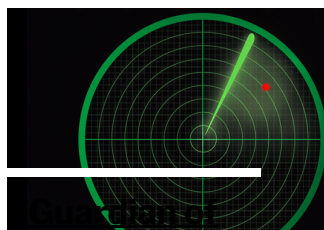
“I would like to know what happens when 1,000, 2,000 or 5,000 people get this [whole-genome] information,” Flier said in conclusion. “Ideally, under the best circumstances, where they’re smart and medically knowledgeable and can get all the information they want, what actually happens as a result of that? Does it make their lives better? Does it make their lives worse? Does it add some dimension to their lives as human beings? At this moment, we don’t know.”

“Understand Your Genome” was one of an ongoing series of worldwide conferences organized by Illumina.

Conference co-sponsors were Brigham Genome Medicine and the Precision Medicine Program and Department of Pathology at Brigham and Women’s, the Partners Personalized Medicine and

Laboratory for Molecular Medicine, the Analytic and Translational Genetics Unit and the Department of Pathology at Massachusetts General Hospital, and the Broad Institute.

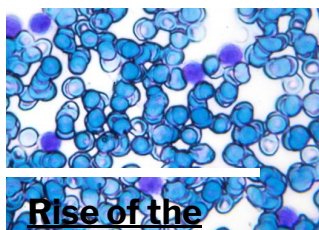
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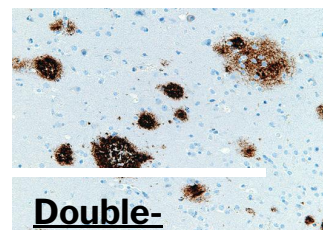
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