

# Giving to the Department of Physics

by Erin McGrath

( JONATHAN ROTHBERG



*Jonathan in front of an image representing the portal he invented between the biological and digital worlds.*

*Supports Professor Max Tegmark's research.*

**What fascinates Jonathan Rothberg** about science is the ability to either learn something no one knew before or to create an instrument that enables the discovery of something new. He is a serial entrepreneur best known for inventing high-speed, massively parallel DNA sequencing. The company he founded, 454 Life Sciences, brought to market a new method for sequencing genomes. After creating the next generation sequencing, he went on to develop the first sequencing on a semiconductor chip, thus enabling the \$1,000 genome. With this discovery he founded Ion Torrent, where they actually sequenced Gordon Moore.

The idea for the high-speed sequencing came to him when his infant son was rushed to intensive care and he realized how critical personal genomes were to human health. That invention is now in use at major pharmaceutical companies, universities, genome centers, and medical centers around the world—and his son, Noah, lived to inspire yet another company.

Rothberg has supported Professor Max Tegmark's research; he decided to get involved because of the tremendous scope of the project and the vision behind it. Tegmark notes that "Jonathan's generous support has been invaluable for our Omniscope project, which is developing technology to help make the largest-ever 3D map of our universe. He is an inspiration to me, with his knack for overcoming daunting challenges through outside-the-box technological innovation." Rothberg says about Tegmark: "he is one of those people who, as Steve Jobs was fond of saying, is actually putting a dent in the universe" and that "he intends to map the universe at a resolution never before obtainable."

Although Rothberg's undergraduate degree in chemical engineering is from Carnegie Mellon University and his PhD in biology from Yale, he encourages others to support science at MIT. "Ultimately, it is research that raises the quality of life, and if you love science and discovery and people, then you should support basic research."

Ion Torrent was acquired in 2010 by Life Technologies. Rothberg also founded CuraGen Corporation, a company dedicated to using genome technologies in drug development; RainDance Technology, a company developing general droplet microfluidic lab-on-chip technologies; and Clarifi Corporation, an analytical software company. Jonathan Rothberg is inspired to create companies that impact the quality of life and he is always looking for like-minded people to join him.

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Professor Max Tegmark

## Giving to the Department of Physics

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