

□ **Harvard's Summa Cum Laude  
Mathematician Proposes to Use Lattice  
Theory to Help Win the War on Terrorism**

*Jonathan Farley is a celebrated young mathematician who in addition to his academic duties has created two entrepreneurial ventures. His Hollywood Math and Science Film Consulting firm advises script writers on technical and scientific issues which are increasingly appearing in films and television shows. Now, Farley has organized a second consulting firm that aims to apply mathematical strategies to help fight the war on terror.*

Jonathan David Farley is not a garden variety mathematics professor. First of all, he is an African American, and that is a rarity in academic mathematics. A recent JBHE survey found that blacks made up less than one half of one percent of the mathematics professors at the nation's highest-ranked universities. Blacks are only about one percent of all scholars who obtain a Ph.D. in mathematics in the United States each year.

Second, and more important, Dr. Farley, a brilliant scholar with a solid track record in advanced mathematics, also looks outside the academic world to make his mark on society. A native of Rochester, New York, Farley is the son of two university professors. His Guyana-born father holds a Ph.D. from the London School of Economics. His mother, a native of Jamaica, has a Ph.D. in American history. Farley and his three brothers all have degrees from Harvard University. During his undergraduate years, Farley received 29 grades of A at Harvard. The only "blemishes" were three grades of A-

At Harvard, Farley graduated in 1991 summa cum laude, second in his class of approximately 1,600 students.

Farley won a Marshall Scholarship to study at Oxford University where he claimed the university's highest mathematical awards. He received his doctorate in mathematics in 1995. His research focuses on what is called "lattice theory," a branch of "abstract algebra" that deals with order and hierarchy. Lattice theory offers a framework for studying ordered sets in mathematics and can be applied to economics, imaging, physics, and computer science.

After conducting research at Oxford as a Fulbright Distinguished Scholar to the United Kingdom in the 2001-02 academic year (one of only four Americans to win the award that year), Farley taught as a visiting professor at MIT. There, Farley solved a mathematical problem posed by renowned MIT professor Richard Stanley which had gone unsolved for

more than two decades. He spent the last academic year as a visiting scholar at Harvard.

Professor Farley will spend the coming academic year as a science fellow at the Center for International Security at Stanford University. He then expects to move overseas permanently to accept an offer as head of the department of mathematics and computer science at another university.

**Ventures Outside the Academic World**

Professor Farley is also a former stand-up comedian who performed professionally under the moniker, "The Notorious Ph.D." He is also the founder of two entrepreneurial companies. His Hollywood Math and Science Film Consulting firm offers film and television companies help with their scripts to make sure that they are accurate. In describing the mission of the company to potential clients, Farley says, "We will ensure that the technical details and jargon in your script sound believable, whether they be mathematical, scientific, or medical. We will ensure that the backdrops in your scenes — the writing on the blackboards, the equipment in the labs — look realistic; that your universities look like universities and your academics act like academics."

This past year Farley was used as a consultant to read over scripts and make comments for the CBS hit television series *Numb3rs*. On the show a mathematician helps his brother, who is an FBI agent, solve crimes. Farley and his associates have also consulted on other feature films, and the company is currently in negotiations to work on a British film based on a best-selling crime novel where mathematics plays a major role.



*Professor Jonathan Farley*

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Dr. Farley's second venture is called Phoenix Mathematical Systems Modeling, Inc. Here he offers consulting services to government and corporate interests seeking to use mathematical techniques to help fight terrorism. Farley believes mathematics can be used to analyze the hierarchies of not only terrorist networks but also the organizational resources used to fight terrorism. Phoenix Mathematical Systems Modeling is currently a semifinalist for the Christopher Columbus Fellowship Foundation's Homeland Security Award, which will be presented this coming October.