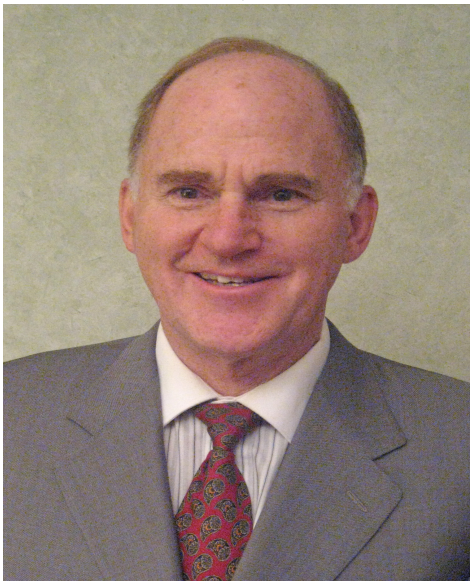
STEM Superstars By Isa Kaftal Zimmerman ON DECEMBER 7, 2009

These professionals are proven leaders in promoting science, technology, engineering and math (**STEM**) education in Massachusetts. These educators, former educators and politicians make STEM education a priority in their everyday lives; read on to see who they are, where they came from, and why they see STEM education as vital to our nation's success.

Mathematics Superstar
Thomas E. Fortmann
Board member, Massachusetts Board of Elementary and Secondary Education



Thomas Fortmann serves on the Massachusett's Board of Elementary and Secondary Education. After four years teaching at a university in Australia, he spent 24 years as a high-tech engineer and executive at BBN Technologies (the company that developed the Internet). After retiring, he volunteered to teach **mathematics** in two Boston high schools.

From this experience, he realized that the root of math achievement deficit lies in teachers' **lack of basic mathematics knowledge**. He found the Massachusetts Mathematics Institute in 2003, an intensive professional development program in mathematics content for K-6 teachers. He also developed new regulations requiring a math test for elementary licensure. His interest in policy led him to his current position on the Board. He said that education needs to attract a broader group of young people to the profession such as those who sign up for Teach for America.
— Isa Kaftal Zimmerman

Engineering Superstar

Dr. Ioannis Miaoulis
President, **Museum of Science, Boston**

From his humble beginnings in Greece, Dr. Ioannis Miaoulis worked his way up to the presidency of the Museum of Science, Boston, and has been building **engineering** as an attractive learning choice for young people throughout his career. When speaking in public, he regularly asks, “Look around you and tell me what you would see if there was no engineering.” There would be nothing that is made by humans!

At Tufts University, Ioannis was dean of the School of Engineering and professor of Mechanical Engineering, to name a few positions he has held. During his time at Tufts, he greatly increased the number of female students and faculty, and designed collaborative programs with industry. He championed the introduction of engineering into the Massachusetts science and technology public school curriculum.

In 2001, this made the Commonwealth first in the nation to develop a K-12 curriculum framework and assessments for technology/engineering. At Tufts, he originated practical courses based on students’ passions, as well as his own passions for fishing and cooking: a fluid mechanics course from the fish’s point of view and Gourmet Engineering, where students cook in a test kitchen, learn about concepts such as heat transfer, and then eat their experiments.

His dream is to make everyone scientifically and technologically **literate**. He advocates to ensure the 'T' and 'E' in STEM are as significant as the other two letters. He has seized the opportunity as the Museum of Science’s president to achieve his vision. Ioannis is convinced that science museums can bring interested parties in government, industry and education together to foster a scientifically and technologically literate citizenry.

— Isa Kaftal Zimmerman

Technology Superstar
Marie St. Fleur
Massachusetts House of Representatives

First elected to serve in the Massachusetts House of Representatives in July 1999, Marie St. Fleur has been an active, generous and eloquent supporter of **technology in schools**, especially in Boston's Dorchester, a historically challenged neighborhood.

In 2002, St. Fleur co-chaired the Special Commission on Educational Technology, an experience that reinforced her belief in using technology as an educational tool. The special commission's report noted that "Personal learning technology (laptops and associated software) is a powerful tool and leverage point to motivate students by **individualizing learning** opportunities around their interests."

In 2005, St. Fleur led the establishment of and helped secure funding for the one-to-one wireless pilot program at the Lilla G. Frederick Pilot Middle School in Dorchester. This program, launched in early 2007, is the first of its kind in a Massachusetts urban setting.

"The Frederick Wireless Learning Initiative tells the children that we trust them — not only with this piece of equipment, but that we trust them to take charge of their education," St. Fleur said, adding that she is pushing the program with two additional schools. She is hoping to eliminate the digital divide in Dorchester, or as she smilingly refers to it, "the Dorchester divide."

— Isa Kaftal Zimmerman

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