

St. Mark's School

Miller Honored at ACEC/MA Engineering Excellence Awards Gala

April 3, 2010

Science teacher Carol Miller spent her summer vacation last year in the trenches. As an extern with the engineering firm Vanasse Hanzen Brusten, Inc. (VHB), Miller spent time surveying land in Southborough, conducting on-site visits with project managers in Springfield, inspecting fencing for snake holes during construction of two covered water tanks at the Black Hills Reservation, and helping to examine the environmental impacts of the cooling system at UMass Boston. Through it all, Miller recorded her experiences and shared them with her school community in blog form.

Returning to the classroom this past fall fired up and ready to ignite her students' passion for science and technology, Miller designed an introduction to engineering course called Structures and Materials Science. In this experiential learning class, students are assigned problems based on Miller's conversations with engineers at VHB. Last term, for example, they were asked to design a drainage system for a fictitious housing development and to analyze load distribution and size the beams needed for a steel girder bridge. Using computer aided drafting (CAD) software, students designed balsa bridges in 3D, then built and tested them.

Miller was recently selected to speak in front of the state's top engineers at the ACEC/MA Engineering Excellence Awards Gala Presentation in Cambridge, MA on March 24. Miller, whose background is in engineering, was awarded the externship through a program sponsored by Leadership Initiatives for Teaching and Technology (LIFT2), a professional learning program for middle and high school science, technology, engineering, and math teachers.

In an effort to both prepare and inspire young students to pursue careers in the fields of science, engineering, and technology, the LIFT2 program takes teachers out of the classroom and places them in the field, where they gain knowledge of some of the practical applications being used in industries today, with the hope that they will bring that knowledge back to the classroom. The objective of LIFT2 is to allow teachers to relate classroom materials to "authentic and relevant applications in the 21st century workplace." (From the website: <http://www.lift2.org/>).

In her address to members of ACEC, Miller described the projects she had worked on at VHB and the innovative course she was inspired to design for St. Mark's after her externship. She spoke also about her vision for teaching science to young students and the importance of using a project based curriculum, looking for ways to effectively integrate technology into the classroom, and "making sure that real life concepts are tied into lesson plans."

Head of School John Warren praised Miller's work, both in the field and in the classroom, as a "fabulous example of the depth, accomplishment, and intellectual spark that typifies the faculty at St. Mark's School."

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Photo by Frank Monkiewicz



Photo by John Warren

Jim Stanton, Director of Lift2Program with Carol Miller and her husband, Peter



Photo by Frank Monkiewicz

Carol speaking to a packed house