



# Explore! Investigate! Invent!

## *How Science Inspires Engineering*

**July 9- 20, 2012**

*(10 Days, Monday - Friday)*

*For Elementary & Middle School Educators*

How does the natural world inspire engineering design? We will engage in science inquiry investigations to examine ingenious designs in the natural world, and then use our newly acquired knowledge to explore design dilemmas in the human world. Discover how animals, plants and natural systems influence much of our technology and engineering and inspire the design and development of products you use in daily life. Investigate how simple human-made tools are built to mimic the form and function of fish, birds, insects and other animals. Immerse yourself in the engineering methods and structures of nature's ultimate engineer, the beaver. Apply the engineering design process to the problems of rain runoff, soil erosion and non-point pollution. Tour the Amoskeag hydroelectric station and fish passage facility on the Merrimack River. Solve a water flow problem by studying how the river flows. Using models and other inquiry methods, explore, play, invent and have fun with us! Through our investigations you will develop a deeper understanding of the connections between science, engineering and technology.

### **A Unique Professional Development Opportunity**

- Participate in a balance of classroom and outdoor field experiences.
- Learn to use inquiry-based, hands-on methods in your classroom.
- Visit each site for 2 days and participate in both content and skill development sessions.
- Learn about educational resources in your community.
- Experience inquiry-based investigations linked to the New Hampshire and Massachusetts Curriculum Frameworks.
- Earn PDPs or PDPs *and* 4 graduate credits (for an additional cost).
- Take home a resource kit containing investigations and materials for your classroom.

For a full brochure  
or to register:

*Visit our website*

**www.mits.org**

*Email*

**mits@mits.org**

*Call*

**617-328-1515**

Registration Deadline:

June 6th

*Call for availability after deadline*

### **Partners:**



**AMOSKEAG  
FISHWAYS**  
LEARNING & VISITORS CENTER  
*Amoskeag Fishways  
Learning and Visitor Center*



*Beaver Brook Association*



*New Hampshire  
Fish & Game*

**Cost: \$300/1 educator; \$275 each/team of 2 educators; \$250 each/team of 3 or more educators**

Graduate Credit will be offered from Keene State University (3 credits/\$570) and Framingham State University (4 credits/\$300)

*Summer Institutes are offered in six regions of Massachusetts and Southern New Hampshire*