

# iTECH 2009

Students attend **two (2)** SIT/SIM Modules, one during each breakout session. **Please indicate the four modules you are most interested in attending. Rank your top selection #1 and continue through #4.** Every effort is made to honor your first two choices. Module assignments will be distributed on the day of the event.

**Fun in the Sun** (Solar-Powered Electronics) – Students use digital electronics circuitry to design, build, and test a model solar-powered vehicle.

**Light Fantastic** (Crime Forensics) – Students explore forensic light sources and their application at crime scenes. Learn how photon sources are used to search for and examine glues in carpet samples, fibers, bone fragments, drug residue, combustible residue, and hidden messages.

**Traveling Light** (Math) – Explore the principles of “combinatorial optimization” in this workshop inspired by the popular CBS-TV show, *NUMB3RS*. Learn how computer software can be used to set up a maximization problem of the best choice of essentials that can fit into one bag to be carried on a trip.

**Robots Don’t Need a Lunch Break** (Engineering & Manufacturing) – Discover the real capabilities of industrial automation. Watch a large industrial robot execute a standard “pick and place” operation, then work in teams to duplicate the demonstration on your own microbot.

**Let’s Get Wired!** (Medicine, Manufacturing) – Students will use observation, experimentation, and data analysis to discover how the properties of wire composed of a nickel titanium alloy make it suitable for uses in medicine and dentistry, telecommunications, and other applications, such as robotics.

**Drug Discovery** (Chemistry) – Discover natural products and drug compounds in plants and other sources. Learn how to use thin layer chromatography to detect these compounds.

**Genetic Testing** (Biotechnology) – Students will analyze a mock karyotype to detect chromosomal abnormalities, and learn about new sophisticated techniques of FISH and CGH to detect molecular changes.

**Green is HOT!** (Physics) – Understanding heat transfer is important to modern technology and energy savings in our new green economy. Students will learn the basics of heat transfer, see how it applies to components used in automobiles, and engage in their own heat transfer project.

**Got Game?** (Animation and Gaming) – Explore the capabilities of Maya®, a 3D modeling, animation, effects, and rendering software program used in the computer gaming industry.

**Storm Alert!** (Physics, Math) Ever wonder how to read a weather map? How do you know which kind of weather is safe to fly through? Students use simple physics and math to understand weather maps.

Name of Student \_\_\_\_\_ Student ID No. \_\_\_\_\_

Name of Teacher \_\_\_\_\_ High School \_\_\_\_\_

For more information contact Martha Eldredge Heck at 847-692-8023, [meldredgeheck@maine207.org](mailto:meldredgeheck@maine207.org) or Pati Biancalana at 847.692.8024, [pbiancalana@maine207.org](mailto:pbiancalana@maine207.org).