

VSI Summer Science Courses! Want a chance to boost your science content while being immersed in inquiry-based science? The Vermont Science Initiative has several inquiry science content courses that are engaging, hands-on, and will leave you ready to apply what you learned back in the classroom. A \$150 stipend is awarded upon successful completion of each content course.

Hands on a Watershed- 2 credits-UVM - Paul Bierman - *June 27, 28, 29, 30, and July 1* – In this engaging field based course, teachers will conduct inquiry investigations of the Chaplain Valley watershed and address the related physical, earth, and life science concepts. For five days you will be in the field, getting your hands and feet wet and dirty and learning how watersheds work by becoming part of them. Both simple observational techniques that are readily transferred to the K-8 classroom as well as state-of-the art instrumentation will be used.

Physics of Fluids – 2 credits – **Middlebury College** – Bob Prigo and Gregg Humphrey **August 1-5, 2011** Fluids: What causes an object to float? What are the conditions that account for flight? Gases (like air) and liquids (like water) are considered separate states of matter with different physical properties, yet both also have some very important properties in common. Many of these properties can be understood in terms of basic physical principles when placed within the single category of fluids: Fluids at Rest and Fluids in Motion. We will involve participants with investigations that will clarify these concepts.

Physics of Light – 2 credits – **Middlebury College** – Bob Prigo and Gregg Humphrey **August 8-12, 2011** Without light, space and time - the universe - would not exist, to say nothing of life on earth. Light (both visible and non-visible) is central to our understanding of matter and energy, from the most basic interactions of subatomic particles to the creation and evolution of the universe. Our present conception of the nature of light involves a fascinating yet somewhat bazaar duality between particles (photons) and waves (electromagnetic waves). This duality, along with the many wonderful properties of light (reflection, refraction, internal reflection, color dispersion, diffraction, and interference), will be addressed in this course. Inquiry investigations will help participants clarify these ideas and properties.

Nature In and Out of Balance / Forest Ecology- 2 credits- **LSC-** Alan Giese- *June 23, 24, 27, 28, 29-* Using the forest ecosystem as the context, this field-based ecology course immerse you in the way that practicing, scientists learn and teach about ecosystems and their dynamics.

For more information and a full listing of upcoming courses, please go to: www.vtscience.org or contact Program Managers Renee Affolter (renee@vtscience.org) or Maura O'Brien (mauraobrienscienced@gmail.com).