

Hands n Science Summer 2010

Hands-on, integrated natural science for k-8 teachers

In-service Teacher Workshops

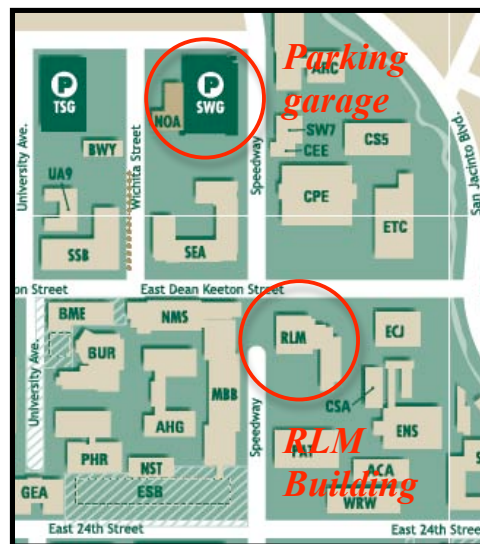
A partnership with the Texas Regional Collaboratives

You are invited to participate in one or more week-long inquiry-based conceptual science content workshops offered by the College of Natural Sciences at UT Austin. Based upon a 4-semester integrated science content curriculum for pre-service elementary school teachers, the workshop will explore concepts from physics, chemistry, and biology. Participants will use standard lab equipment to develop the big ideas in these disciplines using evidence gathered by inquiry. Participants will be given ample time to fully develop an understanding of this content via small group and whole class discussions.



The workshops will be held in the Robert Lee Moore building on the UT campus. During the week, the participants will have the opportunity to tour several research labs. Additionally, participants are invited to a complimentary catered appetizers and evening lecture by our faculty. Each workshop will follow the basic format below:

- Monday, Tuesday, Wednesday
8:30-11:30am Welcome, workshop objectives
11:30-12:30 *lunch*
12:30-4:00 Laboratory Activities
- Wednesday
3:00-4:30 Tour of Research labs
4:45-6:30 Appetizers/lecture
- Thursday & Friday
8:30-11:30 Laboratory Activities
11:30-12:30 *lunch*
- 12:30-4:00 Laboratory Activities
(close-out and final assessment on Friday)



The workshop venue is Room 114 on the 7th floor of the RLM Building (RLM 7.114). RLM is located at the intersection of 26th Street (otherwise known as Dean Keeton) and Speedway Avenue. Parking is available one block north in the “Speedway Garage.”

Cost of the workshops is \$250 for a one-week workshop. This includes, for each day, light breakfast snacks and parking at the nearby Speedway Garage.

Workshop # 1: Energy and Motion

July 12-16, 2010

Facilitators Prof. Sacha Kopp, Dr. Cynthia LaBrake

In this workshop we cover the “Big Ideas” of energy, energy transformation, and the conservation law of energy. Participants will use standard physics lab equipment to develop these concepts using evidence gathered by inquiry. Specific topics covered will include motion and interactions, potential energy, friction, conservation of energy, magnetic energy, gravitational energy and electrical energy. In addition we discuss the concept of forces, and the relationship between force and energy. We discuss common misconceptions held by children which often continue into adulthood. Participants will be given ample time to fully develop an understanding of this content via small group and whole class discussions.

Wednesday Evening Lecture “The Big Bang” – Professor Sacha Kopp

Workshop # 2: Energy and Matter in Biological Systems

July 19-23, 2010

Facilitators Dr. Peter English, Dr. Cynthia LaBrake

This workshop begins by tracing the flow of energy and matter into living systems, integrating the focus of the physics segment into biology. The first day will develop the concept of radiant energy from the Sun and mechanisms of energy transfer. The second day will cover the process of photosynthesis. The remainder of the course will trace that energy through the dazzling array of processes that living organisms display. We will define living systems and investigate several of characteristics of living things including energy use, growth, and replication. Finally, we will trace the process of inheritance and variation from both a molecular-level parent-offspring perspective and also from a large-scale population level.

Wednesday Evening Lecture “I Prefer the Company of Birds” – Dr. Peter English