

Cornell Space Sciences Summer Institute for Middle School Science Teachers

1. Abstract

The Center for Radiophysics & Space Research in the Cornell University Department of Astronomy will offer the 2008 Cornell Space Sciences Summer Teacher Institute, a unique opportunity for grades 6-8 science teachers in the central region. Astronomy is an extremely appealing modern science that fascinates and attracts students, but is also a challenge to teach, due to the complex nature of astronomical concepts, which are often misunderstood.

The institute is designed around research-based features of high quality professional development: a focus on content knowledge, working with actual curriculum materials, an emphasis on active learning, sustained time for training, and collaboration. The focus of the institute will be on activity-based learning experiences that teachers can use to help students visualize the astronomical concepts addressed in the intermediate standards. The primary instructional material we will work with is the new GEMS Space Science Core Curriculum Sequence for grades 6-8, which will focus strategically and effectively on core science concepts in the curriculum. Through classroom investigations, students do what scientists do and develop inquiry skills, an understanding of the nature of science, and deeper understanding of the concepts. The institute will provide a unique opportunity for teachers to interact with world-class scientists, researchers, and the unique resources at Cornell University and return to the classroom enthused about inquiry-based science teaching. New and emerging technologies have significant potential to improve student learning and the participating teachers will explore NASA multimedia and new media learning technologies.