

**ASTRONOMY VILLAGE: USE OF PLANETARY IMAGES IN EDUCATIONAL MULTIMEDIA.** S. K. Croft<sup>1</sup>, S. M. Pompea<sup>1</sup>, and S. M. McGee<sup>2</sup>. <sup>1</sup>NOAO, 950 N. Cherry Ave, Tucson, AZ, 85710, [scroft@noao.edu](mailto:scroft@noao.edu), [spompea@noao.edu](mailto:spompea@noao.edu), <sup>2</sup>Center for Educational Technologies, 316 Washington Ave, Wheeling, WV 26003, [mcgee@cet.edu](mailto:mcgee@cet.edu).

**Introduction:** The effective use of planetary images and data in the classroom has been a challenge from the beginning of the space program. The tendency has been to flood classrooms with “gee whiz” PR images, or to provide access to enormous archives of satellite images or data assuming that classroom teachers will easily incorporate such information into their classroom presentations. Experience has shown that most teachers generally have neither the time nor the expertise to make effective educational use of masses of images, and that the best use of images is in the context of a carefully designed curriculum. Two products have been developed in recently at the Center for Educational Technology that provide an inquiry-based scientific context to a selected set of planetary images: “Astronomy Village: Investigating the Universe” (AV-IU), and “Astronomy Village: Investigating the Solar System” (AV-ISS). Following content guidelines in the NRC’s National Science Standards, AVIU is designed for high school students and deals with topics mostly in stellar and galactic astronomy, while AVISS is designed for middle school students and deals with topics in astrobiology and planetary geology.

**Description:** The objective of both products is to engage students in scientific inquiry by having them acquire, explore, and analyze real scientific data and images drawn from real scientific problems. In each product, students are provided an array of ten investigations. In each investigation, students are presented with a problem and are provided with an array of information – images, experiments, informative documents, and digital/graphical data – that

can be used to define the problem and investigate possible solutions. Images are used as illustrations, combined in several types of comparative formats, and used as objects of detailed image processing and digital analysis. Students are guided through their investigations in both products by the “Research Path Diagram,” a visual representation and interactive model of the scientific process. In the earlier AV-IU, the “path” was linear and each investigation was independent. In the later AV-ISS, the path is circular and investigations are linked, so that students can see how research activities are in a sense cyclical and build on one another. By working through the investigations and by doing “hands-on” activities both on and off-line, students gain an understanding of how science works. They also gain understanding of physics, biology, and geology through hands-on analysis and synthesis of NASA planetary and deep-space images and data. Both products will be available for demonstration.

**Additional Information:** NOAO is operated by the Association of Universities for Research in Astronomy (AURA), Inc. under cooperative agreement with the National Science Foundation.