



**University of Northern Colorado
Professor and MAST Institute
Director Receives Two Grants from NASA**

Dr. Steven Anderson, a faculty member in the University of Northern Colorado's College of Natural and Health Sciences, School of Earth Science and Physics and a Director of the UNC Math and Science Teaching Institute (MAST) was awarded a 3-year, \$409,903 NASA grant to establish a research experience program for teachers interested in climate change. MAST, in partnership with the University Corporation for Atmospheric Research (UCAR) in Boulder, will establish a Global Climate Change Research Experiences for Teachers Institute (RETI). This program will allow 2 cohorts of teachers to develop advanced levels of global climate change conceptual understanding and new curricular materials at one of the premier research sites in the world, and use a unique new webportal (WebConnect) to support RETI participants' pedagogical development during the program through online discussion threads moderated by MAST pedagogy experts. A second objective is to house and disseminate new curricular materials developed by these teachers during the research program, and 3) and provide long-term dissemination and sustainability of these materials by integrating the RETI teachers into MAST's network of experts available to support teachers nationwide wishing to incorporate global climate change concepts into their classrooms.

For the second NASA Grant (\$730,000), Anderson will partner with the Planetary Science Institute (PSI) and the Tucson Regional Science Center (RSC) to offer a series of professional development workshops targeting elementary and middle school teachers within the Tucson, Arizona region and create a series of instructional rock kits for independent use and in support of the workshops. Additional effort will generate state-of-the-art scientific visualizations to teach key concepts in Earth and space science and establish a means for students, teachers, and the public to directly interact with PSI scientists through a web-based Ask-An-Expert tool. A team of planetary scientists and education specialists will use interest in planetary science and space exploration to enhance Science, Technology, Engineering, and Math (STEM) learning and teaching by improving the content knowledge and conceptual understanding while instilling greater scientific confidence and more positive attitudes towards science and science education.

Dr. Anderson specializes in two main areas of research: the relationships between teaching and learning in the geosciences, and the formation of lava flows on the Earth, Mars and Venus. Funded primarily by the NSF and NASA, his work has resulted in numerous publications, including 2 in *Nature*. As MAST Director, he facilitates partnerships and collaborations that positively impact science and mathematics education on a regional and national level.