

CSMATE NEWSLETTER

The Center for Science, Mathematics and Technology Education

The Mission of CSMATE is to serve as the focal point for program development and research aimed at fostering improvements, innovations and reforms in science, mathematics and technology instruction and curriculum at all levels, K-16.



Center for Learning and Teaching In the West

CLT-West is a consortium of five universities collaborating with tribal colleges and public school systems in Montana, Colorado and Oregon. The Center will bring the varied expertise of scientists, mathematicians and educators to address current challenges in understanding and improving student learning and achievement in science and mathematics from middle school through college. Work will include research and related activities focused on studying and

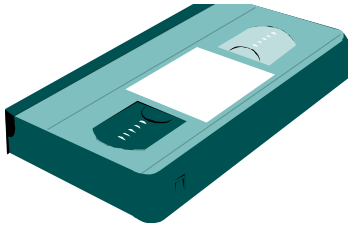
addressing the wide ranges of achievement in science observed among students in urban and rural settings. The Center will support research activities, a doctoral graduate curriculum, inservice professional development, and preservice teacher preparation, much of it delivered through distance technology. The goal is to develop and support a new generation of educational leaders who will use their knowledge of mathematics, science and pedagogy to improve teaching and learning.

The Center is a key example of how universities across the region can work together to leverage faculty expertise and institutional resources.



CSMATE was host to a planning meeting of the CLTW leaders held December 13-14, 2001 in Fort Collins, Colorado. Over 40 participants met and generated a highly successful framework for proceeding with the development of the Center. Focal points of the meeting included determining research models and strategies; scope and sequence design relating to professional development; finalizing campus plans regarding the integration of the Center curriculum with existing doctoral, masters or professional development programs; listing the personnel to serve on the Course Curriculum and Professional Development teams. The teams will include lead faculty, administrators and teachers. A strategic time-line for

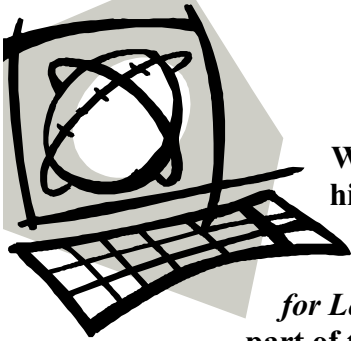
doctoral and professional development delivery would start in early spring, 2002 with implementation of all components by spring, 2003. Ongoing assessment and revision will continue through summer, 2006.



***Annenberg Video Series* Annenberg/CPB**

CSMATE at Colorado State University began offering credit for the Private Universe Project in the fall of 1995. Funded by the Annenberg Foundation and the Corporation for Public Broadcasting, the program uses media and telecommunications to advance excellent teaching in American schools. This is carried out by the funding and distribution of educational video programs with coordinated Web and print materials for interactive teacher workshop broadcast series. Six years later, over 1,300 teachers nationwide have enrolled for two, graduate level semester credits offered by CSMATE and Colorado State University through the Division of Educational Outreach. The availability of low cost graduate level credit for participants in these professional development series has provided an added incentive for teachers and school districts to utilize the resources of the Annenberg/CPB Channel as they reform their mathematics and science education programs. For example, *Looking at Learning, again, Part 2* through use of personal interviews, teacher discussions, and classroom video footage encourages K-12 teachers and administrators to analyze existing theories about how children learn. The Annenberg/CPB channel is expanding its programming to include professional development workshops for teachers of humanities disciplines. CSMATE is working with Colorado State University's School of Education to provide credit for these courses as well. CSMATE staff and faculty receive the packets compiled by the participants at the end of the semester and award teachers credit on a pass/fail basis. The Annenberg Web site at: (www.learner.org/channel/channel.html), provides further information as well as online registration. Barry Carroll is the Annenberg project coordinator for CSMATE and can be reached at 970-491-1700.

ONLINE LEARNING ASSESSMENT



Science Assessments for Learners and Teachers (SALT)

With the growing emphasis on assessment in education there is an urgent need for high quality test questions that are designed to challenge students to use deductive reasoning and the scientific method. These types of questions are often very time consuming and difficult for a teacher to write. With *Science Assessments for Learners and Teachers*, Drs. Ed Geary and Andrew Warnock, as part of the GETIT (Geoscience Education Through Interactive Technology) grant from the NSF, have set out to provide teachers with easy access to a broad spectrum of exemplary field-tested assessment items. The collection will be searchable via the Internet at no cost. Educators can *Browse by Category* and search by *Keyword* or *National Science Standard*. All queries can be limited to a specific grade interval or question type. Search results are presented in the browser so that the user can copy and paste into their word processor, or there is the option to download an RTF file containing the same information and the answers. RTF (rich text format) files can be imported easily into all word processors, regardless of computer platform and are fully editable. The prototype Web site can be found at (<http://www.csmate.colostate.edu/demo>).

New Faculty Welcome

CSMATE and the Department of Chemistry at Colorado State University are pleased to welcome Dr. Dawn Rickey who came to Colorado the summer of 2001 from Berkeley, California where she received her M.S. and Ph.D. in Chemistry. Dawn's research interests center on metacognition and chemistry--how students think and the applications for improving teaching. Dawn's academic accomplishments are as outstanding as her warm and welcoming personality. Numerous academic awards include: National Science Foundation Postdoctoral Fellowship in Science, Mathematics, Engineering and Technology Education (PFSMETE), UCLA; Regents Fellowship, U.C. Berkeley; 10 scholarships and awards while earning her B.S. at Rutgers; 12 teaching positions ranging from her current half-time position with CSMATE to *Expanding Your Horizons* conference where Dawn planned and facilitated annual hands-on chemistry workshops for middle school and high school girls. Dawn will also serve as the chemistry advisor for the newly instituted Bachelors of Science degree in Natural Sciences at CSU. Dawn originally hails from New Jersey. It is indeed a great honor to have Dawn on board with us at Colorado State University!



CSMATE TRAVEL AND EVENTS

CSMATE's staff calendars continued to be very full with events ranging from conference travel to hosting and attending workshops near and far. Summer and fall highlights included: twelve K-12 teacher workshops; seventeen ongoing Annenberg courses, and a Revolution workshop in Snowmass, Colorado June, 2001. Fall semester's conferences from coast to coast for Ed, Christine, Steve, Andrew, Mary, Barry and Courtney included: CLTW (Center for Learning and Teaching in the West); FIPSE (Fund for the Improvement of Post-Secondary Education); RTPI (Rural Teacher Preparation Initiative); AGU (American Geophysical Union); TERC (The Regional Alliance for Mathematics and Science Education); GSA (Geological Society of America); CAST (Colorado Association of Science Teachers); ENC (Eisenhower National Clearinghouse); and CSEN (Colorado Science Education Network).



Digital Water Education Library (DWEL)

The Digital Water Education Library (DWEL) project will develop an exemplary collection of digital K-12 water materials and resources. The purpose of the collection is to enhance the ability of K-12 teachers, students and parents to easily find, access and use high-quality, standards-based water resources in their classrooms, at home and in informal learning environments. Funded by a grant from the National Science Foundation and in partnership with the National Science Teachers Association (NSTA) and the University of Colorado at Boulder, Dr. Ed Geary, Director of CSMATE, will serve as the overall project administrator. Bryan Aivazian, of Wyoming Public Schools will serve as the project coordinator for the day to day work. NCAR, located in Boulder was host to a three-day training meeting January 26-28, 2002 in Boulder, Colorado at the UCAR complex for teachers, scientists and science educators. The project continues to recruit individuals who have a real interest and strong background in water themes in education as compensated members of the working teams.

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Knowledge to Go Places

**The Center for Science, Mathematics
and Technology Education
Fort Collins, CO 80523-1802**

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