



COLORADO HIGHER EDUCATION COMPETITIVE RESEARCH AUTHORITY

University of Colorado: Colorado State University: University of Northern Colorado: Colorado Schools of Mines: State of Colorado

WHAT IS THE COLORADO HIGHER EDUCATION COMPETITIVE RESEARCH AUTHORITY?

The Colorado Higher Education Competitive Research Authority was created by the General Assembly in 2008 to provide a source of matching funds for National Science Foundation (NSF) and other federal grants that require a state match.

Funded by an annual contribution of \$2.1 million from the Limited Gaming Fund, the CHECRA has a Board of Directors that comprises the presidents of the four research institutions (or their designees) and one board member appointed by the Governor.

WHY IS CHECRA IMPORTANT?

CHECRA matching funds have helped to bring significant research dollars to Colorado. As of January 2016, the CHECRA has provided (or is providing) matching funds for 18 equipment and research projects. Among these are three Materials Research Science and Engineering Centers (MRSECs), which are among NSF's most competitive and prestigious grants.

The CHECRA has provided matches of \$60,000 to \$400,000 per year, while the NSF grants range from several hundred thousand to over three million per year. Among the funded projects are:

- **Renewable Energy MRSEC** at the Colorado School of Mines
 - NSF Grant: \$9.3 million over 6 years
 - CHECRA match: \$400,000 per year for 6 years
- **Re-inventing the Nation's Urban Water Infrastructure (ReNEWit) Engineering Research Center** at the School of Mines with the University of California-Berkeley, Stanford University, and New Mexico State University
 - NSF Grant: \$3.25 million over 5 years
 - CHECRA match: \$400,000 per year for 5 years
- **Center for Multiscale Modeling of Atmospheric Processes (CMMAP)** at Colorado State University
 - NSF Grant: \$23.2 million over 10 years
 - CHECRA match: \$150,000 per year for 5 years
- **Water Quality and Supply Impacts from Climate-induced Insect Tree Mortality and Resource Management in the Rocky Mountain West** at the Colorado School of Mines
 - NSF Grant: \$3 million over 5 years
 - CHECRA match: 75,000 per year for 5 years

- **Liquid Crystal MRSEC** at the University of Colorado in collaboration with the Colorado School of Mines and the University of Utah
 - NSF Grant: \$7.2 million over 6 years
 - CHECRA match: \$400,000 per year for 6 years

ADDITIONAL BENEFITS TO COLORADO

In addition to the federal funding to the institution and the scientific results achieved under the projects, all of the research centers funded by CHECRA have many additional positive benefits to Colorado. **These benefits include support for graduate and undergraduate students, outreach to K-12 students and teachers, and economic development benefits from spin-off technologies and companies.** Some highlights of these benefits include:

- In 2014 alone, the Extreme Ultra Violet Engineering Research Center (ERC) at Colorado State University (in collaboration with the University of Colorado) supported 75 graduate and undergraduate students and faculty, reached approximately 500 K-12 students and 25 teachers with science workshops and demonstrations, and provided summer research experiences for high school teachers.
- The CMMAP provided an intensive week long training to **36 K-12 teachers** with its Teaching Weather and Climate Summer Teacher Course and reached over **20,000 K-12 students** and teachers through the activities of the Little Shop of Physics in more than 40 schools visits and workshops.
- The Liquid Crystal Materials Research Center at the University of Colorado Boulder delivered **90 classes to 3,400 Colorado K-12 children**. The Center *Graduate Training Program in Liquid Crystal Science and Technology* received funding from the Department of Education *Graduate Assistantships in Areas of National Need* program for 5 additional graduate fellowships.



For more information, please contact Kachina Weaver, Chief Policy Officer for the Colorado Department of Higher Education, at (303) 883-7076 or vial email kachina.weaver@dhe.state.co.us.