



COLORADO HIGHER EDUCATION COMPETITIVE RESEARCH AUTHORITY

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

March 7, 2013

Honorable Members of the House and Senate Education Committees
State Capitol
200 East Colfax
Denver, CO 80203

Re: Annual Report of the Colorado Higher Education Competitive Research Authority

Dear Senators and Representatives:

Colorado Revised Statute §23-19.7-103(3) requires the Colorado Higher Education Competitive Research Authority (CHECRA) to report annually to the Education Committees of the Colorado House of Representatives and Senate on research projects funded by the CHECRA in the previous calendar year. This letter reports on calendar year 2012.

The CHECRA was created to provide a source of state matching funds for National Science Foundation (NSF) and other federal grants that require matching funds. State funding assists Colorado universities to acquire the matching funds that are viewed favorably by the funding Agency as. CHECRA funding has helped to bring significant research dollars to Colorado. Cumulatively, CHECRA funding of \$9.5 million over six years has brought in \$45 million over the same time period.

CHECRA provided funding for five projects in 2012. The sixth project listed below was approved for funding but no payments have yet been made.

1. The National Science Foundation (NSF) awarded a Materials Research Science and Engineering Center (MRSEC) grant in 2008 to the Colorado School of Mines. The Center is focused on investigating emerging renewable energy materials, such as those to be used in the next generation of solar panels and fuel cells. It is the first NSF-funded center dedicated solely to renewable energy technologies. The CHECRA has pledged \$400,000 per year to this Center and made the fifth of six payments to the School of Mines in 2012.
2. Also in 2008, the NSF awarded a second MRSEC grant to the University of Colorado for a continuation of CU's Liquid Crystal Research Center. This Center's research is contributing to a number of different fields, including better liquid crystals for solar panels and the use of

liquid crystal arrays in analyzing DNA structure. The CHECRA has pledged \$400,000 per year to this Center and made the fifth of six payments to CU in 2012.

3. Colorado State University's NSF-funded Extreme Ultraviolet Engineering Research Center received the third of four pledged payments of \$400,000 from the Authority in 2012 (the funding was actually made in early 2013, but we list it here as 2012 was the third year of the project). This Center is a world leader in the generation and application of extreme ultraviolet light to challenging scientific and industrial problems.
4. The Colorado School of Mines NSF-funded Re-inventing the Nation's Urban Water Infrastructure (ReNEWIt) Engineering Research Center received the second of five payments of \$400,000 from the Authority in 2012. With this grant, the School of Mines joins leading universities in tackling the acute water problems and needed infrastructure changes facing the West.
5. The NSF Science and Technology Center (STC), entitled the Center for Multiscale Modeling of Atmospheric Processes (CMMAP), at Colorado State University received the second of five payments of \$150,000 from the Authority in 2012. CMMAP is a partnership of research and educational institutions, government agencies, and industry, and it focuses its research on improving the representation of cloud processes in climate models.
6. An NSF-funded research project at Colorado School of Mines called Water Quality and Supply Impacts from Climate-induced Insect Tree Mortality and Resource Management in the Rocky Mountain West. This five-year effort will determine potential water resource changes resulting from the mountain pine beetle epidemic. The CHECRA will fund this project for 5 years beginning in calendar year 2013 at 75,000 per year.

Attachments A-E include detailed information on each of the projects that received funding in 2012.

During calendar year 2012, the Authority received quarterly distributions from the waste tire recycling fees totaling \$393,752. The Authority also received a single distribution of Limited Gaming Funds of \$1,546,919. Interest earnings on those funds and the prior year's receipts totaled \$15,468, for a total income of \$1,956,140 in 2012.

Please contact me if you have any questions.

Sincerely yours,



Lt. Governor Joseph A. Garcia
Chair