

## News in Brief

## China and UCR

## Solve Air

## Pollution

## Problems

**A**N ACADEMIC AND research agreement between the Beijing Energy Training Center at Tsinghua University and CE-CERT was signed on March 24, 2000. This five-year agreement outlines a relationship between the two institutions for the purposes of encouraging research, educational programs, and exchange of faculty, students and staff of both universities in programs related to air pollution control and environmental sustainability. Tsinghua University is noted for having the best engineering program in China.

## 21st Century

## Truck Initiative

**C**E-CERT is participating in a partnership between the Army's National Automotive Center, Georgetown University, College of the Desert, and SunLine Services Group in

## News - Spring 2000

## Congressional Briefing on Transportation Technology



*Congressman Joe Baca, Congressman Ken Calvert and Dr. Joe Norbeck in front of the CE-CERT Hynol Process research and development facility.*

**L**OCAL MEMBERS OF THE U.S. HOUSE OF Representatives visited UCR on April 17, 2000, for a congressional field briefing on future technologies for automotive engines and fuels. The briefing was convened by the Science Subcommittee on Energy and Environment chaired by Congressman Ken Calvert (R-Riverside). Congressional members Joe Baca (D-San Bernardino) and Gary Miller (R-Diamond Bar) joined Mr. Calvert. The briefing

entitled, "Automotive Engine and Fuel Designs for the Future: Increasing Efficiency and Reducing Emissions," brought together authorities on new gasoline-engine designs, hybrid vehicles, electric vehicles and fuel cells, to discuss with legislators new uses of traditional hydrocarbon-based fuels and fuels derived from renewable resources, as well as their impact on fuel efficiency and air quality.

Mr. Calvert and Mr. Baca had the opportunity to learn first hand about the intelligent shared vehicle system devised by CE-CERT and Honda R&D. Both congressional members drove electric cars participating in the IntelliShare program to a tour of the CE-CERT laboratories following the briefing. Calvert stated: "Science keeps moving ahead and keeps finding new and innovative solutions to our energy and our environmental problems, including the work being done right here at CE-CERT. We need to continue to support these exciting scientific initiatives."

## Air Quality Research in the Central Valley

**D**O YOU KNOW WHAT YOU ARE breathing? The state of California is working on finding out. The Central California Ozone Study (CCOS) is a multi-year program of meteorological and air quality monitoring, emission inventory development, data analysis, and air quality simulation modeling. Many of the air quality measurements



*the development of the 21st Century Truck. The project includes the development of key technologies such as a fuel cell reformer that can convert diesel fuel into hydrogen pure enough to use in a fuel cell to increase cost-effectiveness and efficiency of vehicles for both military and civilian uses, as well as creating vehicles that are quieter and cooler.*

## CE-CERT and Honda to Develop New Technologies

**O**N JUNE 9, 2000, CE-CERT and Honda R&D Americas, in cooperation with the United States Environmental Protection Agency and the California Air Resources Board, announced a cooperative research program on the study of extremely low-emission vehicles. This program will explore developing technologies and techniques for accurately measuring emissions at near-zero levels; understanding how extremely low emission vehicles perform on the road under "real world" conditions; and assessing the air quality benefits of these vehicles. The announcement took place in the CE-CERT Courtyard at Bourns Inc. A tour of the CE-CERT facilities followed the announcement.

considered by the CCOS include a wide variety of air pollutants that are not measured by the routine methods used to monitor air quality. At least 30 monitoring sites will be operational during the study in the Central Valley with a variety of state-of-the-art measurement equipment.

*CE-CERT Atmospheric Processes Laboratory Manager, Dennis Fitz, with TDLAS.*

CE-CERT's unique capabilities in measuring trace atmospheric pollutants make the Center a natural partner in the CCOS program. CE-CERT will work on at least four projects in support of the measurement program for the CCOS. These projects include construction, evaluation, and installation of equipment to measure trace species in the atmosphere. For example, a very specialized piece of equipment, called a Tunable Diode Laser Absorption Spectrometer (TDLAS), will be used to measure hydrogen peroxide, nitric acid, formaldehyde, and nitrogen dioxide.

The comprehensive plan for CCOS states, "Central California monitoring sites such as Edison, Fresno, Livermore, and Sacramento have shown little or no progress toward attainment of the ozone standard despite extensive efforts to reduce precursor emission during the past two decades." The CCOS will provide baseline data that can be used for future air quality planning efforts in the Central Valley, as well as contributing to the larger air quality picture in California and in establishing compliance with the Federal air quality standards. A similar study was done in Southern California in 1998.

## New Buildings for CE-CERT

**C**E-CERT IS FINISHING UP PLANS FOR TWO NEW BUILDINGS. PLEASE WATCH FOR MORE information and a groundbreaking announcement in the near future. The first building will house the "Next Generation" Smog Chamber funded by the United States Environmental Protection Agency. This two-story building will house the chamber, its associated laboratories and offices. Researchers use these atmospheric chambers to simulate the chemical processes that form ozone and fine particulate matter in the atmosphere. Larger than anything CE-CERT has now, the new chamber will include humidity and temperature controls. An additional feature of the chamber is xenon arc lighting that will more accurately simulate the sun's rays than the traditional black lights currently used. In response to the news of the groundbreaking, Director Joseph M. Norbeck stated, "UCR has had an outstanding research record in atmospheric processes for the last 20 years. This building will assure that we remain at the forefront of this research for the next 20."

The second building, a 20,000 gsf administration building, will house the CE-CERT administrative staff and most of the research staff and students. This new facility will provide space for CE-CERT's expanding programs and increasing numbers of personnel. The proximity of the new administration building to the CE-CERT laboratories at Bourns, Inc. will allow for enhanced coordination between the administrative and research teams.

[MAP] 1084 Columbia Ave., Riverside, CA 92507 | Voice: 951-781-5791 | Fax: 951-781-5790 | [info@cert.ucr.edu](mailto:info@cert.ucr.edu)

[University of California, Riverside](#)  
[Bourns College of Engineering](#)  
[Center for Environmental Research & Technology](#)