

Environmental Research for Baden-Wuerttemberg

Status Colloquium on February 24 and 25 Presents 20 Projects for the Solution of Environmental Problems – KIT Contributions on “AERO-TRAM” and Climate-friendly Space Cooling



Preservation of the environment in Baden-Wuerttemberg is the objective of the BWPLUS Environmental Research Program. (Photo: Dr. Reiner Wirth)

Application-oriented projects of the BWPLUS Environmental Research Program – in two of which KIT participates – are in the focus of the twelfth “Status Colloquium on Environmental Research in Baden-Wuerttemberg”, February 24 and 25, 2010, on KIT Campus North. The colloquium is organized by the Karlsruhe Project Management Agency, Baden-Wuerttemberg Research Programs (PTKA-BWP), within Karlsruhe Institute of Technology on behalf of the Environmental Ministry of Baden-Wuerttemberg. Journalists and the interested public are cordially invited. Please register under bwp@ptka.kit.edu.

On Wednesday, February 24, 9.30 hrs, the Baden-Wuerttemberg Minister of the Environment, Tanja Gönner, will open the status colloquium at the Center for Advanced Technological and Environmental Training (FTU), Hermann-von-Helmholtz-Platz 1, KIT Campus North, together with KIT Vice-President Dr. Alexander Kurz. Dr. Kora Kristof from the Wuppertal-Institut für Klima, Umwelt, Energie GmbH will then present an overview entitled “Resource Efficiency – Chances for the Environment and Economy, Challenge for Politics and Research”.

Dr. Elisabeth Zuber-Knost
Press Officer

Kaiserstraße 12
76131 Karlsruhe, Germany
Phone: +49 721 608-7414
Fax: +49 721 608-3658

**For further information,
please contact:**

Jonas Moosmüller
Public Relations and
Marketing (PKM)
Phone: +49 721 608-8120
Fax: +49 721 608-3658
E-mail: jonas.moosmueller@kit.edu

The colloquium will focus on 20 contributions to current and just completed research projects that are supported by the Ministry of the Environment under the BWPLUS funding program (Baden-Wuerttemberg Research Program Securing a Sustainable Living Environment). KIT is involved in two of the application-oriented research activities in the fields of "Climate and Environment", "Noise in the Environment", "Area Management", "Geothermal Energy Challenge", and "Thermal Energy Stores".

Scientists of the KIT Institute of Meteorology and Climate Research (IMK) will present latest results of their "AERO-TRAM" project that is unique in Germany: A tram of the Karlsruhe Transport Authorities equipped with various sensors has been measuring weather data, such as temperature, humidity, air pressure, and wind as well as the most frequent pollutants and the fine dust concentration in the conurbation of Karlsruhe since December 2009. Every day, the tram passes forests, fields, industries, residential areas, and the motorway along the same route.

For the team of IMK scientists under the direction of Professor Christoph Kottmeier and Dr. Rayk Rinke, the tram therefore is the optimum vehicle to analyze and precisely measure air pollution of the conurbation and its causes. "We deliberately decided in favor of this tram, because every day it drives along the same route at fixed times. Using the car as a mobile laboratory, such continuity cannot be ensured," explains Rinke.

In addition, KIT scientists working in the field of turbo-engines at the Faculty of Mechanical Engineering will present current results of their project "StratiSorp". Dr. Ferdinand Schmidt and Chirag Joshi are working on a novel stratified storage system to increase the efficiency of adsorption heat pumps and cooling machines. With the help of the new technology, the devices shall use the not needed thermal energy of thermal solar collectors for space cooling as cooling machines in summer. In winter, the systems shall be operated as gas-driven heat pumps. In the longer term, the scientists want to develop economically efficient systems, by means of which existing buildings can be turned into low-energy houses that are comfortable even during hot summers.

The Karlsruhe Project Management Agency (PTKA) within KIT is the partner and co-designer in the funding of scientific research and technical development. Its major task is to support customers in program-based project funding and the dissemination of research results. The Baden-Wuerttemberg Research Programs Division, for instance, is preparing, implementing, and supporting funding programs on behalf of the Ministry of the Environment of Baden-Wuerttemberg and the Baden-Wuerttemberg State Foundation.

Program of the Status Colloquium

Karlsruhe Institute of Technology (KIT) is a public corporation and state institution of Baden-Württemberg. It fulfills the



The AERO-TRAM measures air pollution in the area of Karlsruhe
(Photo: Dr. Rayk Rinke)

mission of a university and the mission of a national research center of the Helmholtz Association. KIT pursues its tasks in the knowledge triangle of research, teaching, and innovation.

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