EST Energy Conference: Research for the Transformation of the Energy System

Numerous KIT Speakers at the International Conference EST / Technologies for the Sustainable Development of Energy Systems

Sustainable technologies, such as solar power generation at KIT, are of crucial importance to the transformation of the energy system. (Photo: KIT)

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Karlsruhe Institute of Technology will present its energy research activities at the international conference "EST 2015 – Energy, Science, and Technology". KIT's research focuses on renewable energies, energy efficiency as well as on energy and storage systems. From May 20 to 22, 2015, presentations, posters, exhibits, and excursions will provide insight into the state of the art of interdisciplinary research and coming innovations in the energy sector.

Geothermal energy, solar cells, batteries, biofuels, power grids, lightweight construction, and much more: The list of elements for the future transformation of the energy system is long, varied, and of interdisciplinary character. This is also true for the research activities that will be presented by the KIT at the EST Conference this week. More than 50 presentations and just as many posters of KIT scientists will be part of the program. The KIT will organize excursions, a symposium for young scientists, and an accompanying exhibition.

The public evening presentation about two big trends in automotive industry will be made by Dr. Dieter Zetsche, KIT alumnus and CEO of Daimler AG: Which obstacles still remain to be overcome for the electric vehicle to prevail? Which advantages does driverless mobility have and which challenges are associated with it?

“The ‘Energiewende’ is one of the biggest challenges of society. For it to become reality, expertise of a number of disciplines along the complete scientific chain of values added is essential,” says the President of KIT and Chairman of the EST Conference, Professor Holger Hanselka. “Intensive dialog of science, industry, and politics is important. The EST 2015 will bring together strong actors in these sectors.”

“The KIT is one of the leading energy research centers in Europe with an excellent success story in various areas of energy research,” says Dr. Karl-Friedrich Ziegahn, Head of Division of KIT and Chairman of the EST Advisory Board.” The KIT supports the congress that will be a platform for an inspiring interdisciplinary dialog of science, industry, politics, and other stakeholders.”

“The program of the conference is intended to foster exchange of information beyond the limits of disciplines and to contribute to the success of the Energiewende in the long term,” explains Professor Hans-Jörg Bauer of KIT, Chairman of the Scientific Program Committee of EST 2015. “Under the framework conditions resulting from climate change and the necessity of reducing the consumption of natural resources, the Energiewende and future energy systems have become issues that are much discussed on the international level. I am very happy that numerous national and international participants will take part in a broad discussion of sustainable, reliable, and affordable energy systems of the future.”

At the accompanying EST exhibition, the KIT Energy Center will present KIT’s research activities at a **central booth**. With 1250 employees, the KIT Energy Center is among the largest energy research centers in Europe. In addition, the KIT Business Club will be represented and may be contacted by companies interested in KIT technologies. Moreover, the HECTOR School of Engineering and Management will inform about its activities. It offers tailored master’s programs for staff of innovative companies. Information about training parallel to the job in the energy sector will be provided by the Center for Technology-Enhanced Learning (ZML) of KIT. The booth’s eye-catcher will be the entropy wheel. It converts ambient heat into motion and might help recycle unused heat of industrial processes.

“Nachwachsende Ideen – Energieforschung am KIT” (renewable ideas – energy research at KIT) will be the heading of the annual symposium of doctoral students organized by the KIT Energy Center parallel to the EST. On May 20 at 2 p.m., young researchers will provide insights into their work by short presentations about efficient aircraft engines, optimized solar cells, high-performance batteries, and use of biomass in classical coal-fired power plants.

On the last conference day, May 22, **excursions to KIT** will provide the participants with the opportunity to directly inform themselves about the research activities. At the bioliq pilot plant, high-quality synthetic fuels are produced from residual biomass, such as straw. Hence, biogenous energy production no longer competes with food production. The SOMMER (solar furnace with molten-metal-cooled receiver) project is a concentrating solarthermal facility with a thermal lead-bismuth storage system. Weather-dependent fluctuations of solar irradiation can be balanced with the help of this system. At the FZI Living Lab smartEnergy, elements of future energy systems that flexibly store and use thermal and electrical energy are being developed in an interdisciplinary manner. The Energy Smart Home Lab works on optimizing energy flows of a household on a prototype scale and on combining these energy flows with those of electric mobility and smart grids.

Find more about the EST program at:

http://www.est-conference.com/

More information on KIT’s energy research activities:

http://www.energy.kit.edu

The KIT Energy Center

Research, education, and innovation at KIT foster the energy turnaround and reorganization of the energy system in Germany. Clear priorities lie in the areas of energy efficiency and renewable energies, energy storage systems and grids, electric mobility, and enhanced international cooperation in research.

With 1250 employees, the KIT Energy Center is one of the biggest energy research centers in Europe. It pools the energy research activities of the KIT and renowned cooperation partners. Its work is of interdisciplinary character and covers fundamental and applied research into all relevant energy sources for industry, households, services, and mobility.

The institutes and research groups involved in the KIT Energy Center conduct research projects in their own responsibility. Pooling of related issues, interdisciplinary cooperation of scientists, and joint use of equipment and facilities result in a new quality of research and education. The KIT Energy Center develops energy technology solutions under one roof and is a competent partner for politics, industry, and the society in matters relating to energy.

Karlsruhe Institute of Technology (KIT) is a public corporation pursuing the tasks of a Baden-Wuerttemberg state university and of a national research center of the Helmholtz Association. The KIT mission combines the three core tasks of research, higher education, and innovation. With about 9,400 employees and 24,500 students, KIT is one of the big institutions of research and higher education in natural sciences and engineering in Europe.

Since 2010, the KIT has been certified as a family-friendly university.

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