

## Materials Science – Basis of Technical Progress

**2015 Annual Celebration: KIT Is Widely Recognized and Valued Partner in the Development of New Materials – Hanselka: Dialog with Society Is Major Task of Science**



*“Materials science as the basis of technical progress” was the subject of the panel discussion with presenter Markus Brock, Friederike Lindner, Tim Hosenfeldt, Peter Elsner, and Oliver Kraft. (From left to right; photo: KIT/Breig)*

**Materials science contributes considerably to answering pressing questions of the future in the areas of energy supply, mobility, or information and communication technologies. The high innovation potential of materials research was in the focus of the Annual Celebration of KIT at the Karlsruhe Congress Center. “Materials science is the key to solving many pressing problems today. More than two thirds of all technical innovations are based on new materials,” the President of KIT, Professor Holger Hanselka, emphasized. For the first time, the Annual Celebration replaced the traditional celebrations of both precursory institutions of KIT. “Five years after the foundation of KIT, we can take this step with self-confidence,” Hanselka said. “The KIT is well on course.”**

“We can look back on a successful year that has passed since our last celebration,” the President of KIT pointed out. The KIT reached very good results in the program-oriented funding evaluations of the Helmholtz Association, with the high scientific excellence of KIT’s

**Monika Landgraf**  
Chief Press Officer

Kaiserstraße 12  
76131 Karlsruhe, Germany  
Phone: +49 721 608-47414  
Fax: +49 721 608-43658  
E-mail: [presse@kit.edu](mailto:presse@kit.edu)

**For further information,  
please contact:**

Margarete Lehné  
Press Officer  
Phone: +49 721 608-4 8121  
Fax: +49 721 608-4 3658  
E-mail: [margarete.lehne@kit.edu](mailto:margarete.lehne@kit.edu)

work being confirmed by international experts. “At the same time, it is our task to inform society about our activities, if we want to contribute to its progress. For 190 years now, we have been maintaining this dialog here in Karlsruhe.”

To master the society’s challenges, such as the transformation of the energy system or tomorrow’s mobility, interdisciplinary competences are required. “Materials science is the basis of significant progress in numerous fields of work. Without new materials, we will not be able to develop any high-performance storage systems that are indispensable for tomorrow’s energy system,” Hanselka underlined.

Materials science is one of the biggest and most important research areas and has a long tradition at KIT. “The scientific stimuli provided by Karlsruhe scientists in this research area are of remarkable international relevance. This is what I could see for myself when I visited our partners in China and Japan last week. The KIT is a worldwide acknowledged and valued partner.” In the past year, the KIT opened a branch office in China. “Currently, we are continuing to take a strategic position by establishing a new board unit. This unit will combine what needs to be combined in a globalized world – innovation and international affairs. This doubtlessly is a fascinating task,” Hanselka said.

Materials science bridges the gap between engineering and natural sciences, accordingly wide is the scope of topics covered by the scientists of KIT. Among these topics are nanomaterials for applications in microsystems technology and electronics, energy conversion, and energy storage as well as lightweight construction and high-temperature materials for vehicle and aircraft construction or compact storage media for information and communication technologies.

### Keynote Speech

Also “tomorrow’s mobility” will require materials of enhanced performance with new performance profiles in order to specifically minimize energy losses in friction contacts. The keynote speech “Technical Innovations by Customized Materials” by Dr. Tim Hosenfeldt, Vice President and Head of the Competence Center for Surface Technology of Schaeffler Technologies AG & Co. KG, focused on the corresponding materials solutions. Close networking of science and industry is reflected by the cooperation model “SHARE at KIT” (Schaeffler Hub for Automotive Research in E-Mobility at KIT), which is aimed at developing further innovations for mobility.



Professor Holger Hanselka,  
President of KIT

## Panel Discussion

Milestones of materials science – from the development of steel at the turn of the 19<sup>th</sup> to the 20<sup>th</sup> century to today's LEDs – and current research areas, such as sustainable energy production and reduced energy consumption, were in the focus of the panel discussion entitled "Investing in the Future – Materials Science as the Basis of Technical Progress". Numerous aspects of materials science and their importance to industry were discussed by presenter Markus Brock and representatives of industry and science: Dr. Friederike Lindner, Vice President Corporate Sector Purchasing and Logistics of Robert Bosch GmbH, Dr. Tim Hosenfeldt, Vice President Competence Center Surface Technology of Schaeffler Technologies AG & Co. KG, Professor Dr. Oliver Kraft, President of the Materials Research Society and Member of the Board of Directors of the Institute for Applied Materials, and Professor Dr. Peter Elsner, Director of the Fraunhofer Institute for Chemical Technology ICT.

## Department Teaching Awards

Innovative concepts also are of high priority in higher education at KIT. Since 2007 already has the Presidential Committee of KIT granted department teaching awards to acknowledge outstanding higher education efforts at the KIT departments. During this year's Annual Celebration, Professor Alexander Wanner, Vice President for Higher Education and Academic Affairs of KIT, handed over the teaching awards to 17 lecturers, whose lectures and seminars are characterized by new types of learning and teaching, interdisciplinarity, high up-to-dateness of the knowledge conveyed, or research- and application-oriented teaching modules. The winners can be found at <http://www.kit.edu/foerdern/16631.php>

## Innovation Competition

In the course of the Annual Celebration, President Holger Hanselka also handed over the prizes of the third innovation competition NEULAND of KIT. The first prize in the category of idea competition was won by Professor Wilhelm Schabel, Dr. Philip Scharfer, Marcel Schmitt, and Ralf Diehm for their project "Novel Slotted Nozzle Technology for the Coating of Lithium-ion Batteries". Professor Bernhard Holzzapfel, Dr. Alexandra Jung, and Dr. Manuela Erbe were granted the transfer projects special prize for "Superconductors for Energy Technology".

## Science Slam

Short and to the point, materials research was presented by mathematician Anastasia August, KIT, at the beginning and the end of the celebration: As a science slammer, she translates her research work into generally understandable presentations like “Storing Heat like a Bear”. With this presentation, she already was successful in the 2014 FameLab competition in Karlsruhe. This year, she again qualified for the German FameLab final.

**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.**



Science slammer Anastasia August of KIT

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

This press release is available on the internet at [www.kit.edu](http://www.kit.edu).

The photos of printing quality may be downloaded under [www.kit.edu](http://www.kit.edu) or requested by mail to [presse@kit.edu](mailto:presse@kit.edu) or phone +49 721 608-4 7414. The photos may be used in the context given above exclusively.