Understandable Science Relating to Organic Light-emitting Diodes

Chemist Dr. Daniel Volz Is Granted the 2015 Klaus Tschira Award for Understandable Science for His Article "Printed Light"

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

Today, Dr. Daniel Volz, who did his doctorate at the Karlsruhe Institute of Technology (KIT), is granted the 2015 Klaus Tschira Award for Understandable Science, KlarText!, in the category of chemistry. His article "Licht aus dem Drucker" (light from the printer) presents the results of his doctoral thesis in a fascinating and clear way. Environmentally compatible copper-based luminescent materials allow for a more widespread use of organic light-emitting diodes (OLED), e.g. in entertainment technology. The KlarText! Awards will be handed over today by the Klaus Tschira Foundation at the Alte Aula of Heidelberg University.

This year, seven young scientists, who have written a generally understandable article for the broader public about their doctoral theses in biology, chemistry, physics, mathematics, computer science or neurosciences are awarded the prizes. Every winner receives a sum in the amount of EUR 5000. All prize-winning articles will be published unmodified in the popular science magazine bild der wissenschaft. "In our program of the 20th anniversary of the Foundation, hand-over of the Klaus Tschira Award has a special place," Beate Spiegel, Managing Director of the Klaus Tschira Foundation, says. "It was the first project initiated by Klaus Tschira after establishing his foundation and in which he was involved until his death this year."

"We are very proud of a doctoral student of KIT being granted one of the renowned KlarText! Awards by the Klaus Tschira Foundation again," the President of KIT, Professor Holger Hanselka, says. "The award reflects the excellent conditions young scientists are offered at KIT. I am convinced that researchers also have to communicate science to the society and to discuss it with it. I am very pleased that our winner succeeded in doing so."

The thesis of Daniel Volz deals with an innovative technology that might sustainably change many areas, from illumination to electronic

media. He receives the award for his article “Licht aus dem Drucker” (light from the printer).

The proportion of energy used for illumination and screens is still increasing all over the world, while heating systems or household appliances become even more energy-efficient. In his article, Daniel Volz describes how organic light-emitting diodes (so-calles OLEDs) – thin, flexible, and large-area light sources – may be used for a variety of applications and rather efficiently. OLEDs are already used in commercial tablet PCs and smart watches. However, problems are encountered when they are applied in lamps and large-area screens. This is due to the large dependence on extremely rare materials, such as iridium. Daniel Volz proves that copper can sustainably replace iridium and, hence, allows for a wider use of OLED.

Daniel Volz, who was born in 1986, studied chemistry at KIT and wrote his diploma thesis about the self-catalyzed cross linking of copper(I) complexes. As a fellow of the Karlsruhe School of Optics and Photonics (KSOP), he worked on his doctoral thesis in the group of Professor Stefan Bräse. It focused on the use of efficient, environmentally compatible copper-based luminescent substances in organic light-emitting diodes. His doctoral thesis entitled “Zweikernige Kupfer(I)-Komplexe als OLED-Leuchtstoffe: Synthese, Eigenschaften und neue Konzepte“ (bi-nuclear copper(I) complexes as OLED emitters: syntheses, properties, and new concepts) was given the grade *summa cum laude* and granted the Carl-Roth Prize for the environmentally compatible use of chemicals and the Green Photonics Young Scientist Award for sustainable photonics. Today, Daniel Volz works at CYNORA GmbH, a spin-off of KIT that was chosen to be the Science Startup of the Year 2013 at the International Falling Walls Conference in Berlin. CYNORA studies and develops innovative materials and concepts for organic light-emitting diodes.

The other winners of the 2015 Klaus Tschira Award for understandable science are: Peter Salz (computer science; doctorate at TU Kaiserslautern), Robert Fledrich (neurosciences; Georg-August-Universität Göttingen), Ima Avaloz Viscarra (biology; ETH Zurich), Timo Berthold (mathematics; TU Berlin), Jenny Feige (physics; University of Vienna), and Sascha Heitkam (also physics; TU Dresden).

Photos of the award winners may be downloaded on October 08, 2015 from 19.30 hrs at **http://www.klaus-tschira-stiftung.de/presse.php.**

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.

This press release is available on the internet at www.kit.edu.