



Press Release

Cyber Valley: top researcher appointed Bosch-endowed chair

Bosch endows the chair with 5.5 million euros: Matthias Hein to research machine learning at the University of Tübingen – Björn Andres, expert in artificial intelligence, appointed to Industry on Campus professorship

Dr. Karl Guido Rijkhoek
Director

Antje Karbe
Press Officer
Phone +49 7071 29-76788
+49 7071 29-76789
Fax +49 7071 29-5566
karl.rijkhoek[at]uni-tuebingen.de
antje.karbe[at]uni-tuebingen.de

www.uni-tuebingen.de/aktuell

Tübingen, 6 June 2018

Bosch is bringing a top researcher in machine learning to the state of Baden-Württemberg: Professor Matthias Hein, 42, is joining the staff at the University of Tübingen thanks to a Bosch-endowed professorship that the company will provide 5.5 million euros to support over ten years as part of Cyber Valley. Hein's research is on statistical learning for applications relating to image processing and genetics. His focus is on developing reliable and comprehensible learning processes. A case in point is the development of automated decision-making systems that apply machine learning processes to rule out any discriminatory decisions. A current example of such a decision is when a system is more inclined to approve a loan to a man than to a woman. "Such an example shows that machine learning processes can have a positive effect on society," Hein says. "This is a goal well worth pursuing."

Hein has been teaching mathematics and computer science at Saarland University since 2011. He studied physics in Tübingen and received his PhD in computer science at TU Darmstadt. From 2002 to 2007, Hein was part of Professor Bernhard Schölkopf's working group at the Max Planck Institute for Biological Cybernetics. Today, Schölkopf heads the Max Planck Institute for Intelligent Systems in Tübingen and is counted among the world's leading researchers in the field of machine learning.

"The interplay of science, industry, and politics in Cyber Valley has an appeal that stretches far beyond the region. Baden-Württemberg is becoming a global hotspot for top researchers," says Dr. Michael Bolle, the head of Bosch research. "We are very much looking forward to working with Professor Hein. Given the outstanding caliber of the scientists and researchers already working in Cyber Valley, we can expect an ideas economy to emerge that will really drive new business start-ups. This is

how we shape digital transformation,” says Theresia Bauer, Baden- Württemberg’s science minister.

In addition to the appointment of the endowed chair, the physicist Dr. Björn Andres will set up an Industry on Campus group at the University of Tübingen. Andres works at the Bosch Center for Artificial Intelligence (BCAI) in Renningen. Industry on Campus professorships allow the university to integrate external experts into research and teaching practices. “This benefits both Tübingen as a research hub and those who study here,” says Professor Bernd Engler, President of the University of Tübingen. “Our collaboration with Bosch is another example of how we achieve our goal of coupling basic research with a high degree of practical application.”

Close collaboration between research and industry in Cyber Valley Industry on Campus professorships focus on finding answers to the leading questions in industrial applications. Take research into vibration sensors, which are used in predictive diagnostics: vibrations that are virtually undetectable to humans can predict a machine failure long before it happens. This means wear parts can be replaced in time to prevent longer downtimes. Predictive diagnostics is an example of machine learning, which is the focus of the research conducted at the BCAI. Bosch currently has 120 associates working on artificial intelligence at three locations around the world.

Bosch and the University of Tübingen are among the initiators of Baden- Württemberg’s Cyber Valley, in which partners from politics, industry, and science pool their expertise in artificial intelligence. Bosch is supporting the Cyber Valley venture to the tune of some seven million euros. As part of its involvement in Cyber Valley, the University of Tübingen will first establish five new professorships as well as additional junior research groups. The university also plays a role in the education of PhD students at the International Max Planck Research School for Intelligent Systems.

The University of Tübingen is one of 11 German universities honored by the country’s Excellence Initiative. In the area of life sciences, it conducts leading research in the disciplines of neuroscience, translational immunology and cancer research, microbiology and infection research, and molecular biology. Other research focal points include machine learning, geoscience and environmental research, archeology and anthropology, language and cognition, and education and media. More than 28,400 students from all over the world are currently enrolled at the university. They can choose from some 300 courses of study – from Egyptology to cellular neuroscience.

The Bosch Group is a leading global supplier of technology and services. It employs roughly 402,000 associates worldwide (as of December 31, 2017). The company generated sales of 78.1 billion euros in 2017. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT company, Bosch offers innovative solutions for smart homes, smart cities, connected mobility, and connected manufacturing. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross- domain solutions from a single source. The Bosch Group’s strategic objective is to deliver innovations for a connected life. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is “Invented for life.” The Bosch Group comprises Robert Bosch GmbH and its roughly 440 subsidiary and regional companies in 60 countries. Including sales and service partners, Bosch’s global manufacturing, engineering, and sales network covers nearly every country in the world. The basis for the company’s future growth is its innovative strength. At 125 locations across the globe, Bosch employs some 64,500 associates in research and development.

The company was set up in Stuttgart in 1886 by Robert Bosch (1861-1942) as “Workshop for Precision Mechanics and Electrical Engineering.” The special ownership structure of Robert Bosch GmbH guarantees the entrepreneurial freedom of the Bosch Group, making it possible for the company to plan over the long term and to undertake significant upfront investments in the safeguarding of its future. Ninety-two percent of the share capital of Robert Bosch GmbH is held by Robert Bosch Stiftung GmbH, a charitable foundation. The majority of voting rights are held by Robert Bosch Indus-

trietreuhand KG, an industrial trust. The entrepreneurial ownership functions are carried out by the trust. The remaining shares are held by the Bosch family and by Robert Bosch GmbH.

Additional information is available online at www.bosch.com, www.iot.bosch.com, www.bosch-press.com, www.twitter.com/BoschPresse