

RESEARCH GROUP OF EXCELLENCE

ECONOMICS MEETS SCIENCE



TUHH

Technische Universität Hamburg

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The TUHH has set up a Research Group of Excellence as a new means of promoting science. An exemplary approach: business, the scientific community and the State of Hamburg are all investing equal shares in brilliant minds in order to transform ideas into innovation more quickly.

They all share common goals when it comes to the technological questions of the future. In Hamburg, both the public and private sectors are therefore pushing forward new research approaches. In this way, science and business have an equally bright future. In contrast to projects usually receiving limited support, the Research Group of Excellence is committed to long-term cooperation. And given the manageable investment, this multivalent partnership is also of interest to SMEs, who can increase their own innovative power by working together with leading scientists.

Here are the first junior professorships established in the TUHH areas of expertise of “green technologies”, “life science technologies” and “aviation and maritime systems”. Each professorship lasts six years.

Chris Brzuska is the first junior professor at the TUHH Research Group of Excellence. He is undertaking research in the field of data protection. The key exchange procedure in digital communications is at the heart of his work. He is investigating whether and, if so, how the security of such procedures can be proven and how these can be optimised. The professorship “IT Security Analysis” was established together with NXP Semiconductors and can lead to an endowed professorship.



Benedikt Kriegesmann is junior professor of “New Design and Calculation Methods for Hybrid Aircraft Structures”. The focus of his research is the challenge of keeping the weight of aircraft structures to a minimum. After all: making aircraft lighter and more efficient is a key objective in the rapidly growing aviation industry. In order to secure its own innovative edge in the long term, Airbus has become a cooperation partner of this junior professorship.



Maksym Dosta is junior professor of “Multi-scale Simulation of Solid Systems”. More than half of all products in the chemical and pharmaceutical industries are made from solid powder. This requires complex processes that need to be described and optimised. Modelling plays a major role here – this involves the research area of Dosta, the junior professorship for which was established in cooperation with Glatt Ingenieurtechnik GmbH.



Christian Renner is carrying out research into, and teaching on, the topic of intelligent port management. Traffic and goods are networked digitally, thus enabling the process to flow more efficiently – this is also the case with the smartPORT initiative of the Hamburg Port Authority (HPA). The junior professorship, established by the TUHH and the HPA, encompasses both practical work in the port of Hamburg and computer science. As a link between the university and Port Authority, Renner contributes to making Hamburg the most modern port in the world.



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