

ILK INTERNATIONAL

Internationalization is an important pillar of the ilk strategy. Its activities focus on long-standing cooperation partners in the United Kingdom and Poland, but also on establishing new partnerships in the US and Asia, in particular in Singapore, China and South Korea. In 2017, numerous activities were initiated with partners in the strategic focus countries.

PROF. HUFENBACH RECEIVES THE HIGHEST AWARD FOR SCIENCE AND TECHNOLOGY FROM THE CHINESE GOVERNMENT

Minister of State Dr. Eva-Maria Stange and Rector Prof. Hans Müller-Steinhagen (right) congratulate award winner Prof. Hufenbach.



For his outstanding commitment to the German-Chinese scientific exchange in the field of lightweight engineering, ILK board member Prof. Dr.-Ing. habil. Werner Hufenbach has been awarded the “International Scientific and Technological Cooperation Award 2016” by the Chinese government. It is the most significant prize China has to offer in this field. Prof. Hufenbach is the first and only international scientist in the field of engineering who has received the award. The prize was awarded at a state ceremony led by President Xi Jinping in the Great Hall of the People in January 2017. In addition to Prof. Hufenbach, the winners in 2016 were Prof. Dr. med. Katharina Kohse-Höinghaus from Universität Bielefeld and three other scientists from France, Mexico and the US.

TRANSATLANTIC CLUSTER INITIATIVE OF THE GERMAN-AMERICAN CHAMBER OF COMMERCE

In February 2017, Dipl.-Ing. Marco Zichner and Dipl.-Ing. Tino Wollmann took part in the Transatlantic Cluster Roadshow of the German-American Chamber of Commerce on “Lightweighting Technologies & Materials” in the United States of America.

The first stop of the trip took ILK scientists to Knoxville (Tennessee) for the Oak Ridge National Laboratory (ORNL), the Institute for Advanced Composites Manufacturing Innovation (IACMI) and Local Motors. Afterwards, they went to Columbus (Ohio), which is a partner city of Dresden. They visited several institutes at Ohio State University and the Edison Welding Institute (EWI). In Detroit (Michigan), which was the third and last stop, they gained first impressions

of the Lightweighting Innovations for Tomorrow (LIFT) research centre, which was still under development at that time. The US-American cluster representatives and institutions as well as the TU Dresden, Leichtbau BW and MAI Carbon from Germany presented themselves at all locations. The cluster conferences were then rounded off by panel discussions and joint visits to the research institutions.

At the same time as the International Dresden Lightweighting Symposium, a return visit of interested American companies and cluster associations took place in June. In addition to attending the symposium, the delegation was also able to gain an impression of Dresden’s research landscape by visiting ILK and ITM.

OFFICIAL START OF THE JOINT DOCTORAL PROGRAMME BETWEEN TU DRESDEN AND POLITECHNIKA WARSZAWSKA

Opening event of the German-Polish doctoral programme and admission of the first two PhD students. From left to right: Rafał Stanik, Prof. Anna Boczkowska, Prof. Maik Gude, Prof. Tomasz Wisniewski and Michał Kubis.



TU Dresden and Politechnika Warszawska (Warsaw University of Technology) have signed an agreement on a joint doctoral programme. In this cooperative programme, PhD students of the engineering sciences will receive guidance from both institutions. They will be able to research at the two locations and will receive direct access to the site-specific infrastructure. The doctoral programme results in a German-Polish degree as Doctor of Engineering. In an opening event at Warsaw University of Technology in May 2017, the programme was officially launched and the first two PhD students, Rafał Stanik (TU Dresden/ILK) and Michał Kubis (Politechnika Warszawska), have been enrolled for the research area of lightweight engineering.

SAXON-POLISH INNOVATION DAY "ELECTROMOBILITY: R&T NETWORKS AS DRIVERS OF INNOVATION"

In September 2017, the Transfer Office of TU Dresden, together with the Liaison Office of the Free State of Saxony in Wrocław and Politechnika Wrocławska organised the Saxon-Polish Innovation Day in Wrocław, which saw a large participation of ILK. In accordance with the motto "Finding cross-border cooperation partners, project ideas and funding opportunities", the initiators of the Innovation Day pursued the goal of effective and sustainable development of cooperation between science and

industry in the field of electromobility. In addition to specialist lectures, the event kicked off with the launch of the Saxon-Polish cooperation platform Xborderinnovation. (<http://xborderinnovation.eu>)

KICK-OFF FOR FIRST JOINT RESEARCH PROJECT WITH KOREAN PARTNERS

With the participation of scientists from the ILK of TU Dresden, the Korea Evaluation Institute of Industrial Technology (KEIT) has started a joint project with the Korean companies SUNGWOO HITECH, HANKUK CARBON and DongSung Chemical, the Korea Institute of Materials Science (KIMS) and the Universities of Busan and Andong. In this project, the involved partners develop a new lightweight vehicle side structure and associated highly efficient production processes.

At a kick-off meeting at ILK in September 2017, the launch of the project "Multi-Material Side Body Structure (MMSS)" was initiated by ILK board spokesman Prof. Hubert Jäger. As part of this project, ILK team develops simulation methods and design information for the side structure in the event of a crash. The project is funded by the Government of the Republic of Korea via the Korea Evaluation Institute of Industrial Technology (KEIT). This illustrates the good international reputation of ILK and the research location Dresden in South Korea.

TRAVELLING CONFERENCE 2017

Panel discussion at the Sino-German Symposium on Innovative Vehicle Technology



For the second year in succession, a nine-member ILK delegation led by Professor Modler embarked on a two-week networking trip to Asia in December 2017. The BMBF-funded project Travelling Conference aimed to consolidate and expand ILK's collaboration with selected outstanding research institutions in China, Singapore and South Korea. During this Travelling Conference, the delegation visited Nanyang Technological University (NTU) in Singapore, Ningbo Institute of Materials Technology and Engineering (CNITECH) of the Chinese Academy of Science and the Institute of Advanced Composite Materials of the Korea Institute of Science and Technology (KIST) near Jeonbuk. At each stop, the guests from ILK stayed for two days. On the first day of their stay, they held a conference together with their hosts. The second day served as an opportunity for in-depth technical discussion. ILK scientists and their hosts agreed on potential contributions from the respective partners to future joint research projects and identified numerous synergies.

ILK'S INTERNATIONAL PRESENCE AT FAIRS AND CONFERENCES

The international exhibition season opened with the participation of ILK scientists in JEC World in Paris in March 2017. Among many other interesting exhibits, the researchers presented a novel floor assembly demonstrator for electric vehicles from the FOREL technology project LEIKA. At the World Conference on Carbon in Melbourne in July 2017, ILK scientists PD Dr. Robert Böhm and Daniel Wolz presented their research results in the field of carbon fibres. At two Polish fairs, an ILK team led by the institute's representative for cooperation with Poland, Dr. Albert Langkamp, presented the current state of the German lightweight and polymer developments together with partners from Germany and abroad. At the KOMPOZYT-EXPO Krakow, ILK exhibited their work together with TU Warsaw, New Era Materials and ILK-AGH Aero-Team in the beginning of October. A few days later, the team moved on to Poznan where they presented digital product developments in composite construction, particularly for electromobility, in collaboration with the German Aerospace Center (DLR) at the Pol Eco System fair.

FBO-AWARD FOR UTC DRESDEN

At the Rolls-Royce University Technology Centre (UTC) Directors' Seminar 2017, ILK of TU Dresden achieved a Technical Impact Award for outstanding efforts in performing fan blade-off research on composite casings. The Certificate of Recognition was presented by Paul Stein, Director of Research and Technology.



INTERNATIONAL COOPERATION WITHIN THE UNIVERSITY TECHNOLOGY CENTRE VIBRATION CONFERENCE

In Summer, a one-day conference organised by Rolls-Royce in collaboration with the Imperial College and TU Dresden was held in Dresden to bring together current research in the UTC network. This event was held to share both best practices and challenges faced in vibration-related research.

Engine manufacturer Rolls-Royce bundles its research activities at selected universities worldwide in so-called University Technology Centres (UTCs). Each UTC stands for cutting-edge research in selected engineering disciplines. The UTC "Lightweight Structures and Materials and Robust Design", set up at the TU Dresden, acts as a driving force in the field of system lightweighting, multi-material design and robust design and aims to transfer fundamental results from university research into industrial practice at Rolls-Royce.





**TECHNISCHE
UNIVERSITÄT
DRESDEN**



Research Report 2017



**Institut für
Leichtbau und
Kunststofftechnik**

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