

DRESDEN
concept



SCIENCE EXHIBITION

Dresden–Wrocław

Science Unlimited

PROGRAMME

22 SEP–11 OCT 2017

WROCLAW, PLAC SOLNY

Imprint

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From Joint Projects to Strategic Alliances

SCIENCE UNLIMITED BETWEEN DRESDEN AND WROCLAW

PROF HANS MÜLLER-STEINHAGEN

Predominantly, excellent research results are produced by strong teams of brilliant and innovative minds. The required alliances may not always be found locally, frequently they stretch across regional and national borders. Therefore, it is essential for us to strengthen and to expand the scientific Cooperation between Dresden and its partner city Wrocław.



In today's highly competitive scientific world, what are the benefits of forming interregional partnerships? For Dresden and Wrocław respectively, it will be the addition of a conglomerate of internationally renowned partners to complement the already existing excellence. Dresden's research strength is manifested around the DRESDEN-concept alliance, which is unique in Germany. 24 top-class Dresden-based partner institutions from the world of science and culture pool their resources, conduct joint research projects and develop strategic research programmes with one common vision in mind: to further enhance their performance through targeted collaboration and the utilisation of synergies. An additional benefit from this cooperation is that all partners gain more national and international visibility.

A particularly important aspect is that science is an enormous economic factor and innovation driver for the city of Dresden and the entire region. The strong development of local industries, start-up companies, and research offices of established industrial players in and around Dresden are the result of the availability of highly qualified university graduates and outstanding research collaborations. Having achieved all this, DRESDEN-concept now strives to further develop its activities by strengthening international collaboration. Based on the extremely positive feedback from the huge number of Dresden visitors, it was decided to take the DRESDEN-concept Science Exhibition on an international tour. The cities of Wrocław, London and Prague have been deliberately selected due to their scientific reputation and potential for future cooperation.

TU Dresden already enjoys long-standing partnerships with the University, the Technical University and the Medical University of Wrocław. EU projects, interregional projects as well as cooperations with the different schools of the universities are measurable criteria for the partnership. It is envisaged that through the DRESDEN-concept Science Exhibition in Wrocław and the accompanying activities, new contacts and avenues may be initiated to connect the entire spectrum of research-active institutions on both sides in an unprecedented way.

An excellent model for this is the transCampus partnership between TU Dresden and King's College London, which has initially been established in the field of medicine but will be expanded to other areas due to its great success. These endeavours were also supported by the DRESDEN-concept Science Exhibition and the associated workshops in May 2017.

The events presented in this booklet are as diverse as the research activities of DRESDEN-concept. Speakers from all DRESDEN-concept partners and the universities of Wrocław are excited to inform the scientific and the interested public community of Wrocław about their current research topics. Through lectures, workshops and additional networking events, doctoral students, postdocs and scientists from the Wrocław-based universities and the DRESDEN-concept partners can participate in an active, fruitful exchange of ideas. Have a look, get involved and let yourself be inspired by the fascinating world of science!

The science exhibition and the accompanying programme are an excellent opportunity to strengthen the ties between Wrocław- and Dresden-based research institutions, and I sincerely hope there will be more to follow.

Prof Hans Müller-Steinhagen

*Rector of Technische Universität Dresden and
Chairman of the Board of DRESDEN-concept*

DRESDEN-concept

AN ALLIANCE FOR EXCELLENCE IN SCIENCE AND CULTURE



DRESDEN-concept is an alliance between the Technische Universität Dresden and non-university research institutions in Dresden. DRESDEN is an acronym for Dresden Research and Education Synergies for the Development of Excellence and Novelty. The active cooperation and the local proximity of the individual partners from the world of science and culture favour the development of synergies in research, teaching, infrastructure, administration and transfer.

DRESDEN-concept was established in 2010 in the context of the German Excellence Initiative. Coming together in the DRESDEN-concept alliance further facilitated cooperations among the partners and promoted a synergistic network which is unique in Germany. A major aim is to develop scientific concepts for research areas where Dresden presently has, or likely will have in the future, a leading international position. Furthermore, the alliance implements scientific strategies.

The DRESDEN-concept partners have joined forces in selected priority research fields, with the goal of bundling their diverse strengths and achieving outstanding results. These efforts are in part undertaken in joint research centres. The research focuses are Biomedicine & Bioengineering, Information Technology & Micro-electronics, Materials & Structures, and Culture & Societal Change.



KRUWiO – an University Alliance

THE COUNCIL OF RECTORS FROM WROCLAW AND OPOLE

The Council of Rectors from Wrocław and Opole, and to some extent also from Zielona Góra, is an association of the rectors of higher education institutions. It was established in the 1960s, with the goal of jointly representing the scientific landscape at the political and administrative levels.

Over the years, this structure has changed, so that its current mission is the integration of the scientific environment and support of the social and economic developments in the scientific landscape, in order for knowledge to be conveyed to the residents of the region, political actors and the economy. The Council meets once a month to discuss relevant questions concerning interdisciplinary scientific developments. The Council is in close contact with the municipal authorities regarding scientific topics, such as the construction of the Academic Centre, the organisation of the student days *Juwenalia*, the opening ceremony of the academic year as well as the Wrocław Science festivities. Prof Marek Ziętek, Rector of the Medical University in Wrocław has been the chairman of the association since 1 September 2016. Vice-chairpersons are Prof Piotr Kielan, Rector of the Academy for Fine Arts and Prof Andrzej Rokita, Rector of the Sports Academy in Wrocław.



THE ASSOCIATION IS COMPRISED OF THE FOLLOWING UNIVERSITIES:

- **Wrocław Medical University**
- Academy of Music in Wrocław
- University School of Physical Education in Wrocław
- Eugeniusz Geppert Academy of Art and Design in Wrocław
- Pontifical University of John Paul II in Wrocław
- PWST National Academy of Theatre Arts in Wrocław
- **Wrocław University of Science and Technology**
- **Wrocław University of Economics**
- **Wrocław University of Environmental and Life Science**
- **The University of Wrocław**
- The General Tadeusz Kościuszko Military Academy of Land Forces in Wrocław
- Opole University of Technology
- University of Opole
- The Angelus Silesius University of Applied Sciences in Wałbrzych

Saxon-Polish Innovation Day

21-22 SEPTEMBER 2017 IN WROCLAW

The Innovation Day connects scientists, businesses and transfer experts from Poland and Saxony to an internationally competitive network. It aims at effectively and sustainably expanding the cooperation of neighbouring countries in research and development. Together, impulses for the growth of the region shall be set and internationally competitive solutions for social change are to be developed.

The format of the transnational Innovation Day was designed by the Transfer Office of Technische Universität Dresden, and has repeatedly proven itself. With the Czech Republic as the initial partner country, it has already been held successfully for three years. The recipe for success is, on the one hand, the mixture of participants, and on the other hand, the focus on a key research theme. Scientists present their new solutions and findings, enterprises discuss the possibilities and hurdles thwarting the implementation of innovations, transfer experts point out opportunities of cooperation and present best practice examples of successful research collaboration, and representatives of the ministries establish framework conditions and create funding opportunities – and all of this on a topical and socially relevant key issue, such as energy storage, new materials or biotechnology.



ELECTROMOBILITY: RESEARCH & TRANSFER NETWORKS AS A DRIVER FOR INNOVATION

The topic of the first Saxon-Polish Innovation Day in Wrocław is Electromobility. In both countries, research institutes and companies provide substantial expertise. In addition, research and development in this area are strongly promoted, both in Saxony and in Poland. The broad topic of electromobility with a focus on materials and structures will be illuminated. Specialising on this very topic, the Institute of Lightweight Engineering and Polymer Technology (ILK) of Technische Universität Dresden is a strong partner for the content and programme of the Innovation Day. The institute bundles competence and research excellence, benefitting from a large network of outstanding actors from the area of science and business.

The Transfer Office of Technische Universität Dresden wants to build up a platform, jointly with the speakers and participants, combining actors from science, economics, transfer and politics in a structured form, which initiates cooperations, shows funding opportunities and makes achievements internationally visible. The Liaison Office of the Free State of Saxony supports this endeavour through the organisation of the Saxon-Polish Innovation Day. The joint patronage of the Consulate General, the Saxon State Ministry for Higher Education, Research and the Arts (SMWK), the City of Wrocław and the state capital Dresden shows the high political relevance. With the help of all these experts and supporters, a strong alliance will emerge, which is able to increase the potentials of the two countries, and which jointly tackles the challenges in research and innovation in the international competition.

All of these aspects add to the attractiveness of both universities, increasing the chances of recruiting world-class scientists and highly qualified students.

→ www.xborderinnovation.eu

Programme 21 Sep–11 Oct 2017

EVENTS, LECTURES & WORKSHOPS

21 SEP

19:00–21:00

THE FREE STATE OF SAXONY'S LIAISON
OFFICE IN WROCŁAW, RYNEK 7

OPENING EVENT

Saxon-Polish Innovation Day

Electromobility: Research & Transfer
Networks as a Driver for Innovation

28 SEP

18:00–19:30

THE FREE STATE OF SAXONY'S LIAISON
OFFICE IN WROCŁAW, RYNEK 7

BOOK PRESENTATION

A Contemporary

Image of the Sudetes

*Dr Wojciech Browarny (UWR), Jörg Bernig (novelist),
Prof Christian Prunitsch (TUD)*

10 OCT

9:00–15:00

POLITECHNIKA WROCŁAWSKA,
BUILDING D-21

WORKSHOP

Strategy for a Transnational Cooperation Network

of Transfer Promoters

22 SEP

9:00–15:00

NEW TOWN HALL WROCŁAW

LECTURES & WORKSHOPS

Saxon-Polish Innovation Day

Electromobility: Research & Transfer
Networks as a Driver for Innovation

29 SEP

17:00–18:30

UPWR, CENTRUM DYDAKTYCZNO-NAUKOWE,
SEMINAR ROOM II C

LECTURE

The Gardens of Peter Joseph Lenné in Present-day Poland

A Shared Cultural Heritage

*Dr Justyna Jaworek (UPWR),
Prof Marcus Köhler (TUD)*

10 OCT

18:00–20:00

KLUB PROZA, WROCŁAWSKI DOM LITERATURY,
PRZEJŚCIE GARNCARSKIE 2

LECTURE

Silver and Iron

Mining Archaeology in Western Poland
and Saxony

*Dr Paweł Konczewski (UWRES),
Dr Christiane Hemker (LFA)*

22 SEP

15:30–18:30

PLAC SOLNY

OPENING EVENT

Dresden-Wrocław

Science Unlimited

5 OCT

13:15–15:00

INSTITUTE OF LOW TEMPERATURE AND
STRUCTURE RESEARCH, LECTURE ROOM

LECTURE

High Critical Currents

of FeAs-based Pnictides, Y123 Cuprates
and MgB₂ Superconductors

*Prof Krzysztof Rogacki (ILTPS),
Dr Günter Fuchs (LIFW)*

11 OCT

11:15–13:00

POLITECHNIKA WROCŁAWSKA,
BUILDING B-1, ROOM 117

LECTURE

Development of Multiaxial Reinforced Carbon Fibre-reinforced Composites

*Prof Jerzy Kaleta (UWRST), Dr Justyna Krzak (UWRST),
Prof Maik Gude (TUD), Dr Axel Spickenheuer (LIPF)*

BIOMEDICINE & BIOENGINEERING

MATERIALS & STRUCTURES

CULTURE & SOCIETAL CHANGE

27 SEP

13:00–15:00

UNIwersytet Wrocławski, INSTITUTE
OF PSYCHOLOGY, LECTURE ROOM

LECTURE

The Human Sense of Smell

(Olfaction)

*Dr Anna Oleszkiewicz (UWR), Dr Agnieszka Sorokowska (UWR/TUD), Dr Piotr Sorokowski (UWR),
Jun Prof Ilona Croy (TUD), Prof Antje Haehner (TUD),
Dr Pengfei Han (TUD), Prof Thomas Hummel (TUD)*

6 OCT

15:30–17:30

KLUB PROZA, WROCŁAWSKI DOM LITERATURY,
PRZEJŚCIE GARNCARSKIE 2

LECTURE

Mobilising Innovation

How to Invigorate the Cross-border
Region with Innovation Spirit

*Justyna Lasak (Mashall's Office), Tomasz Wiśniewski,
Prof Jörg R. Noennig (TUD),
Dr Peter Schmiedgen (TUD)*

21 & 22 SEP

WROCLAW, PLAC SOLNY

Dresden–Wrocław
 Science Unlimited
 DRESDEN-concept Science Exhibition

21 SEP

19:00–21:00 **Opening of the Saxon-Polish Innovation Day**
 at the Free State of Saxony's liaison office in Wrocław, Rynek 7

22 SEP

9:00–15:00 **Saxon-Polish Innovation Day**
 at New Town Hall Wrocław
 Electromobility: Research & Transfer Networks as a Driver for Innovation
 Plenary lectures and workshops to build and foster cross-border
 cooperation between Saxony and Poland



22 SEP

15:30 **Official Opening of the DRESDEN-concept Science Exhibition**
 at Plac Solny in Wrocław

*In case of bad weather: presentation at the Old Stock Exchange
 (Restauracja Inspiracja, Plac Solny 16)*

Welcome address by Prof Müller-Steinhagen

Rector of TU Dresden and Chairman of the DRESDEN-concept Board

Welcome Address by Rafał Dutkiewicz

Lord Mayor of Wrocław

Welcome address by Dirk Hilbert

Lord Mayor of Dresden

16:15–17:00 **Guided Tour of the exhibition**

17:00 Transfer to the Old Stock Exchange and **drinks reception**

17:05–17:15 **Greeting by Christiane Botschen**

Deputy Consul General of the Federal Republic of Germany

17:15–17:45 **Greeting by Uwe Gaul**

State Secretary of the Saxon State Ministry for Higher Education,
 Research and the Fine Arts

18:30 End of the official programme

Open exchange with drinks & snacks and background music

The Human Sense of Smell (Olfaction)

LECTURE

The sense of smell is important in various areas including appreciation of foods and drinks, as a warning system (e.g. poisonous fumes), or as a social signal between humans, e.g. when crying or when developing an infection. The sense of smell has an impact on reproductive behaviour including inbreeding avoidance and mate selection, as well as emotional contagion. In this context, olfactory dysfunction is an increasingly recognised condition. However, the sense of smell remains relatively poorly researched and is often neglected by the scientific community. This may be due to the subtle effects of sense of smell on our behaviour. In this symposium we plan to show several aspects of olfaction, mostly in a clinical context. How do we test olfactory function? What are olfactory disorders and how can we treat them?



Examination of olfactory training effectiveness in relation to its complexity, duration and the cause of olfactory loss

Dr Anna Oleszkiewicz is a social and evolutionary psychologist. She works at the University of Wrocław, Institute of Psychology, and at the Smell & Taste Clinic at the Department of Otorhinolaryngology at Technische Universität Dresden. Her research interests focus on the role of human senses in social cognition processes.



Olfaction and blindness: a systematic review and meta-analysis

Dr Agnieszka Sorokowska is an assistant professor of psychology at the University of Wrocław and a research fellow in psychology at Technische Universität Dresden. She is mostly interested in sensory science with a particular focus on human taste and olfaction.

Olfaction and blindness: a systematic review and meta-analysis

Dr Piotr Sorokowski is an associate professor and head of the Institute of Psychology at the University of Wrocław, Poland. His main research interests include evolutionary, social and cross-cultural psychology, with a particular focus on human attractiveness.



Olfaction and Depression

Jun Prof Ilona Croy studied psychology and completed her training in psychodynamic psychotherapy in Dresden, where she also obtained her doctoral degree. During her doctoral thesis, she worked in the lab of Prof Hummel and examined the olfactory processing in mental disorders. She spent three years as a post-doc in Gothenburg, where she studied the impact of noise and vibration on sleep and mental health, sparking her interest in the area of affective touch.



Disorders of Olfaction

Prof Antje Haehner is an Adjunct Professor in the Smell & Taste Clinic at the Department of Otorhinolaryngology, University Hospital at Technische Universität Dresden. Her research focuses on olfaction in neurodegenerative disorders, improving diagnostics and treatment of any olfactory and gustatory loss.



Investigating olfactory dysfunction using brain imaging techniques

Dr Pengfei Han joined the Smell & Taste Clinic at the Department of Otorhinolaryngology at Technische Universität Dresden, in May 2016. He obtained his PhD in Human Nutrition in 2016 from the University of Queensland, Australia. His work is directed toward understanding the neural mechanisms underlying smell, taste functions and dysfunctions, and their correlations with health and nutrition in humans.



Why do we need a sense of smell? What happens when it is lost?

Prof Thomas Hummel conducts research in the chemosensory systems at the Smell & Taste Clinic at the Department of Otorhinolaryngology at Technische Universität Dresden. It includes an olfactory/gustatory dysfunction clinic. Investigations in these areas are performed using electrophysiological (olfactory event-related potentials, recordings from the mucosa of the nasal cavity), psychophysical, and imaging techniques (PET, fMRI).

IN COOPERATION WITH



28 SEP**18:00–19:30****THE FREE STATE OF SAXONY'S LIAISON OFFICE
IN WROCLAW, RYNEK 7****BOOK PRESENTATION**

A Contemporary Image of the Sudetes

This literary evening is dedicated to the region of the Sudetes, an area in the borderland between the Czech Republic, Germany and Poland. This evening revolves around the presentation of the trilingual anthology *The beautiful remnants after the end of the world. Sudetes, literary* (*Piękne resztki po końcu świata. Sudety literackie*). It was created following a trilingual writers' conference that took place in Wrocław in 2015. The three editors of the anthology (Dr Wojciech Browarny, Jörg Bernig, Prof Christian Prunitsch) will provide insights regarding the background of this book and its history of origin. Subsequently, passages from the anthology will be read to the public.



Dr Wojciech Browarny is an Associate Professor at the Wrocław University. He works at the Institute of Polish Philology. He heads the Department of History of Polish Literature post-1918, the workshop of Polish literature post-1989 and the workshop of Silesian Regionalists.



Jörg Bernig is a German poet, essayist and novelist. Bernig studied German and English philology at Leipzig University. He gained his doctoral degree at the Freie Universität Berlin in 1996. The writer lives in Radebeul near Dresden.



Prof Christian Prunitsch is Head of the Chair of Polish Regional and Cultural Studies at Technische Universität Dresden. Since 2003, he has been supervising the young researcher group *Conceptualisation and Status of Small Cultures*.

IN COOPERATION WITH

**29 SEP****17:00–18:30****UPWR, CENTRUM DYDAKTYCZNO-NAUKOWE,
UL. GRUNWALDZKA 24 A, SEMINAR ROOM II C****LECTURE**

The Historical Gardens of Peter Joseph Lenné in Present-day Poland A Shared Cultural Heritage

A publication and a travelling exhibition have emerged from the German-Polish research project *The historical gardens of Peter Joseph Lenné in present-day Poland*. About thirty objects are presented that the Prussian court garden director and garden artist Lenné (1789–1866) has created in Pomerania, Silesia and Masuria. They are now part of a common cultural heritage that is to be explored, developed and preserved. Hereby, the landscape architecture can contribute in the form of garden history and historic garden conservation. Joint projects in the Jelenia Góra Valley, in the garden of the Kraszewski museum in Dresden or in Sztynort are envisaged. An important place of exchange for both sides is the Fürst Pückler Park Bad Muskau since, as a world heritage site, it has already played a pioneering role in the German-Polish exchange in the field of garden history and historic garden conservation for two decades.



Dr Justyna Jaworek is a landscape architect and research assistant at the Institute of Landscape Architecture at the Wrocław University of Environmental and Life Sciences. Since 2014, cooperation with Prof Dr Marcus Köhler as part of a project on Peter Joseph Lenné in Poland. April–September 2017 DRESDEN Junior Fellowship at TU Dresden. Publishes and works on German-Polish garden culture.



Prof Marcus Köhler is an art historian and professor of the History of Landscape Architecture and Historic Garden Conservation at the TU Dresden Institute of Landscape Architecture. From 1998 to 2014 in the same position at the Neubrandenburg University of Applied Sciences. Member of the Scientific Advisory Board of the foundation Fürst Pückler Park Bad Muskau.

IN COOPERATION WITH

UNIWERSYTET
PRZYRODNICZY
WE WROCLAWIUTECHNISCHE
UNIVERSITÄT
DRESDEN

5 OCT

13:15–15:00

INSTITUTE OF LOW TEMPERATURE AND
STRUCTURE RESEARCH, LECTURE ROOM

High Critical Currents of FeAs-based Pnictides, Y123 Cuprates and MgB₂ Superconductors

LECTURE

After a short introduction to vortex dynamics, the speakers will present and evaluate the potential of FeAs-based pnictides, Y123 cuprates and MgB₂ high-current superconducting materials. The Y123 compound is the only superconductor, which can be used at liquid nitrogen temperatures in high magnetic fields. It will be illustrated, how the critical current density of this compounds can be improved by the nano-sized defects created by chemical methods. MgB₂ is a promising low-cost superconductor for applications at 20 K. High upper critical fields in carbon doped MgB₂ will be presented. In order to interpret B_{c2}(T) data, the pronounced two-band properties of MgB₂ are taken into account. High critical current data are discussed, which are due to nano-crystalline grains in MgB₂ powder obtained by high-energy ball milling. By hot-pressing of this powder, high trapped fields in bulk MgB₂ are achieved. Finally, possible applications of bulk MgB₂ and MgB₂ tapes will be discussed.



Prof Krzysztof Rogacki studied physics at Wrocław University from 1974 to 1978. He completed his PhD (1990) and habilitation (2004) degrees at the Institute of Low Temperature and Structure Research (Polish Academy of Science) in Wrocław, where he is now a professor. His research area is the fundamental and applied superconductivity.



Dr Günter Fuchs studied physics at Technische Universität Dresden and received his PhD in 1980. Since 1969, he has been at the Leibniz Institute for Solid State and Materials Research (IFW) in Dresden. His research areas are applied and fundamental superconductivity. In 2002, he received the PASREG Award for outstanding scientific achievements in the field of bulk cuprate superconductors at high magnetic fields.

IN COOPERATION WITH



→ **Tangible Science** – from July until October 2016, residents as well as visitors to the State capital Dresden were able to personally discover and explore cutting-edge research results – around-the-clock and right in front of the famous Frauenkirche, located on the Neumarkt square.



Mobilising Innovation

How to Invigorate the Cross-border Region with Innovation Spirit

LECTURE

The lecture describes the concept of the lighthouse project *TRAILS – Traveling Innovation Labs and Services*, which is being funded through the EU cooperation programme INTERREG Poland-Saxony between 2014 and 2020, and presents its first results. TRAILS brings mobile innovation labs directly to schools and enterprises that are located in the German-Polish cross-border region. There, they are stationed for one week respectively. During this week, pupils get in touch with entrepreneurship, create their own project ideas and test new technologies in the innovation labs. Members of SMEs practise methods for the development of new products and services as well as for the optimisation of processes. The aim is to offer formats such as business modelling, makerspaces or hackathons along with all the necessary facilities, technologies and workshop programmes on-site of structurally weak areas, and to raise awareness for topics such as the digital transformation as well as new business and marketing models.



Justyna Lasak, Marshal's Office of Lower Silesia, Head of Innovation & Competitiveness Unit in the Department of Regional Development. Has seven years of experience as project manager of several EU-funded projects, covering manifold areas of innovation, research and development in the SME sector, clusters, technology parks, academic sector. Special fields of expertise: design and implementation of regional innovation policies/strategies, support instruments in the fields of innovation and entrepreneurship policies as well as smart specialisation (RIS3).



Tomasz Wiśniewski has 13 years of experience as a consultant in collaboration with SMEs and institutions of the business environment, consulting, technology transfer and innovative entrepreneurship. He works in the areas of project organisation & realisation, preparation of applications & business plans, risk management, technology transfer, commercialisation of scientific research results, IPR and startup assistance.



Prof Jörg Rainer Noennig is Professor for Digital City Science at the CityScienceLab at Hafencity Universität Hamburg and director of the WISSENSARCHITEKTUR Laboratory of Knowledge Architecture at TU Dresden. Between 1998 and 2001, he worked as an architect in Tokyo, among others at the Ishiyama Experimental Underground Architecture Factory, at Arata Isozaki & Associates, and as a freelance architect. As of 2001, he has been a Research Associate at TU Dresden, where he was appointed Junior Professor for Knowledge Architecture (2009–2015). In 2007, he received his doctoral degree from Bauhaus-Universität Weimar.



Dr Peter Schmiedgen is Head of Research and Unit Leader for Innovation & Entrepreneurship of the WISSENSARCHITEKTUR Laboratory of Knowledge Architecture at TU Dresden. Besides teaching *Startup Design & Marketing*, he is the project coordinator of the EU INTERREG project *TRAILS – Traveling Innovation Labs and Services*. He completed his doctorate in 2015 and focuses on barriers in the inter-organisational knowledge exchange. Before joining TU Dresden in 2013, he built up a crowdfunding platform for startups and was a consultant for business modeling/development, marketing, and funding. In 2011, he graduated from Leipzig University with a Master's degree in Communication Management.

IN COOPERATION WITH



10 OCT

9:00–15:00

POLITECHNIKA WROCŁAWSKA,
BUILDING D-21

Strategy for a Transnational Cooperation Network of Transfer Promoters

Vision: **»In 2025, the trinational border region Saxony, Lower Silesia and the Ústí district is characterised by a lively exchange of knowledge and new technologies. Polish, Czech and German universities, as well as research institutions are working together to bring the latest scientific findings and technologies, which are beneficial to European firms, into practice and industrial use. The digitally connected and digitally minded economy as well as the science institutions are supported by a functional transnational innovation system. A network of transfer promoters provides a broad service portfolio to initiate new cross-border projects and cooperation.«**

Strategy for a Transnational Cooperation Network of Transfer Promoters

To reach this vision, the workshop will help to collect final inputs for the strategy of the intended network, discuss objectives and framework conditions and obtain feedback from policymakers of all three regions. At the end, the strategy should be approved with the implementation of the project aim.

- Welcome addresses (Marshal's Office of Lower Silesia, Wrocław University of Science and Technology, Wrocław Regional Development Agency)
- Presentation of the *TRANS³Net* project (TU Dresden)
- Keynote speech: successful cooperation between science and enterprises
- Feedback from policymakers of all three regions
- Presentation of the strategy for the transnational cooperation network of transfer promoters (Wrocław Regional Development Agency)
- Summary and conclusion

Detailed information about schedule and speakers will be available on

→ www.trans3net.eu



TRANS³Net Transnational Transfer in Central Europe

Increased effectiveness of transnational knowledge and technology transfer through a transnational cooperation network of transfer promoters

The main objective of the *TRANS³Net* project is to significantly contribute to the emergence of a functional transnational innovation system in the trinational border area between Germany, Poland and the Czech Republic. This will be characterised by a self-sustaining cooperation between *transfer promoters* and further actors of the scientific, economic and public sphere in order to initiate, implement and transfer new technologies. Therefore, *TRANS³Net* aims to strengthen the links between science, economy and the public administration.

→ www.trans3net.eu

Facts and outputs

- 9 project partners | Period: July 2016–June 2019 | Budget: 1.82 million euro
- Strategy for transnational cooperation network of transfer promoters
- Action plan for the implementation of the intended transnational network
- Innovation web platform as the contact base for initiation of cooperation between universities, research organisations and SMEs
- Online map of transfer promoters to facilitate contact initiation for concrete transfer projects
- Transnational trainings to empower transfer promoters for transnational transfer
- Implementation of pilot actions to foster transnational knowledge and technology transfer
- Initiation of transnational contacts between science and business for joint cross-border transfer projects

IN COOPERATION WITH



10 OCT

18:00–20:00

KLUB PROZA, WROCLAWSKI DOM LITERATURY,
PRZEJŚCIE GARNCARSKIE 2

LECTURE

Silver and Iron

Mining Archaeology in Western Poland and Saxony

In the Middle Ages, the exploitation and processing of natural resources to extract silver and iron has already been conducted on a large scale. In the Lower Silesian-Lusatian Heath in the west of Poland, no less than forty hammer mills were running in the 15th and 16th centuries. Even today, archaeological research in the field is able to prove traces of iron smelting and charcoal production. The intensive medieval silver mining in the Ore Mountains on both sides of the Saxon-Czech border had a profound impact on the landscape in those days. The effects of silver mining are in parts still visible today. It becomes apparent that the Middle Ages were far from an ideal world with a pristine environment. Through cross-border research endeavours, Polish and Saxon archaeologists focus on pivotal eras in their respective national histories including what was then considered cutting-edge technology for mining and production processes. The lecture is held in Polish and German with translations.



Dr Paweł Konczewski studied archaeology at the Wrocław University, where in 2006 he also obtained his doctoral degree. Currently, he is a lecturer at the Chair of Anthropology of the Wrocław University of Environmental and Life Sciences. Furthermore, he is the editor-in-chief of the scientific quarterly *Archeologia Żywa* and a forensic expert for the District Court in Wrocław.



Dr Christiane Hemker has been heading the archaeological mining research programme at the Archaeological Heritage Office Saxony for many years. The research focus of her international projects is on medieval mining in Saxony and Bohemia. She is also Head of the Archaeological Preservation of Monuments in south-west Saxony and is responsible for the archaeological excavations in cities, castles and churches, being conducted in this region.

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→ Interactive elements, videos and games specifically designed for children helped to make complex research comprehensible. This is the display of the Scientific Area Committee 4 Culture & Societal Change.

Development of Multiaxial Reinforced Carbon Fibre-reinforced Composites

LECTURE

Within the development of competitive high-tech products, a profound rethinking from classical materials and technologies towards tailored materials and adapted manufacturing processes becomes apparent. Through this, it is possible to significantly extend the field of application of materials in technical systems with regard to a sustainable and energy efficient future, especially in traffic engineering as well as in mechanical and process engineering. For extremely stressed lightweight structures, in particular, constantly rising demands increasingly require the use of new materials with advanced property profiles. Due to their selectively adaptable characteristics, endless fibre-reinforced composite materials are clearly superior to conventional monolithic materials. Advanced textile technologies and infiltration methods offer the highest possible flexibility for the adaptation of the property profile with regard to complex loading conditions. They can purposefully be designed by novel cross-scale simulation methods and technologically implemented by advanced manufacturing processes.



Prof Jerzy Kaleta is Head of Mechanics, Materials Science and Engineering Department of the Wrocław University of Science and Technology. He focuses on fatigue, high pressure storage of hydrogen, experimental mechanics, Smart Magnetic Materials, magnetovision, cross-effects, energy harvesting and martensitic transformation.



Dr Justyna Krzak is Vice Head of Mechanics, Materials Science and Engineering Department of the Wrocław University of Science and Technology. Her fields of interests are sol-gel materials, surface modification, methodology of thin film synthesis and their metrology.



Prof Maik Gude, full professor at Technische Universität Dresden, Institute for Lightweight Engineering and Polymer Technology (ILK) has more than 20 years of experience in lightweight engineering with a focus on material characterisation, lightweight design, function integration, structural simulation and process development. He is a member of the Spokespersons' Council of the Scientific Area Committee of DRESDEN-concept as well as the Scientific Manager both of the National Platform *Research and Technology Centre for Resource-Efficient Lightweight Structures for E-Mobility* (FOREL) funded by the Federal Ministry of Education and Research (BMBF) and of the Research Complex Saxon Alliance for Material- and Resource-Efficient Technologies (AMARETO) funded by the Saxon State Ministry for Higher Education, Research and the Arts (SMWK) and the European Regional Development Fund (EFRE).



Dr Axel Spickenheuer studied aerospace engineering at Technische Universität Dresden and Nihon University Koriyama, Japan. Since 2005, he has been a scientist at the Leibniz-Institut für Polymerforschung Dresden e.V. and in 2010 he was appointed Head of the Workgroup of Complex Structural Components. In 2013, he co-founded the IPF spin-off company Complex Fiber Structures GmbH and in 2014, he obtained his PhD in material science. His main research interest is the exploitation of anisotropic composite material properties for extreme lightweight structures by applying a variable-axial composite designs.

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**NEXT STOP OF THE DRESDEN-concept SCIENCE EXHIBITION:
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