

EXCELLENCE INITIATIVE NEWSLETTER

30 March 2017

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Dear Readers,

3 April 2017 is a milestone in the application process for participating in the upcoming [Excellence Strategy](#). The date marks the deadline for submitting the draft proposals for Clusters of Excellence to the German Research Foundation (DFG) in Bonn. Technische Universität Dresden (TUD) will take part with eight draft proposals for clusters. In September, we will then learn whether the huge preparatory effort has borne fruit. After the assessment taking place during the summer, those research clusters selected will be invited to submit their full proposals on 28 September 2017.

Prime Minister and State Minister at Info Event on Excellence Application

To kick off the new [application process for the Excellence Strategy](#), TUD will host an information event featuring prominent guests. On Monday, 3 April, at 10am, Stanislaw Tillich, Prime Minister of Saxony, and Dr. Eva-Maria Stange, State Minister of Science, will be in the TUD banquet hall on Dülferstraße, sending a clear message of support for the TUD application on behalf of Saxony.

Interdisciplinary “Ideenstudio” about Biomicroelectronics on 7 March

On 7 March, the [Project Scouts](#) held a Biomicroelectronics “IDEENSTUDIO” at TUD’s Graduate Academy. The interdisciplinary event was aimed at pooling research strengths in the areas of microelectronics, material sciences, medicine and life sciences within TU Dresden and DRESDEN-concept, and at creating space for new ideas and projects. Building on this “IDEENSTUDIO”, a further event will take place in the autumn of 2017 to take up these impulses.

Faculty of Business and Economics Changes Schools

On 1 April, the TUD Faculty of [Economics and Business](#) will be switching from the School of Humanities and Social Sciences (GSW) to the School of Civil and Environmental Engineering (BU).

Trefftz Professor Has a Talent for Science Communication

As of 1 April, Dr. Monica Dunford, a lecturer in physics at the Heidelberg University, will be spending six months at TU Dresden in the framework of the [Eleonore Trefftz Programme for Visiting Women Professors](#). During the course of her career, Dr. Dunford, originated from the United States, has been involved twice in research that later led to Nobel Prizes for Physics. To the general public, Monica Dunford is known through her starring role in the 2014 feature film "Particle Fever", which chronicled her work as a young scientist in the years before and during the discovery of the Higgs boson at CERN. She has also used her talent for science communication at many other events, such as in coordinating the "Expand the Horizons" workshop for girls aged 9 to 12 years in Geneva.



Monica Dunford, new Trefftz Professor from April 2017. Photo: Claudia Marcelloni

Two DRESDEN Fellows from Syria

Since 24 March, two Syrian scientists have been guests of TUD as a [DRESDEN Fellow](#). Dr. Hafez Mahfoud is Head of the Institute of Biotechnology at the Research Center Latakia, where he works for the General Commission for Scientific Agricultural Research in Syria. From 2005 to 2010, he was a doctoral candidate at the Institute of Botany at TU Dresden (Prof. Christoph Neinhuis), and wrote

his doctoral thesis on botany in the eastern Mediterranean region. He will be staying at the Institute of Botany of TUD until the end of August.

A second visiting scientist from Syria, Dr. Fatina Kourdi, is working at TUD as a DRESDEN Fellow from 24 March until 22 September. Until 2013, she was Dean of the Faculty of Architecture at the University of Aleppo and at the Ebla Private University in the neighbouring Idleb-Saraqeb. Due to the war in Syria, she has since then worked as a research assistant at the Zirve University in Gaziantep, Turkey. As a professor of urban planning, she drew up blueprints for schools and hospitals in the old town and for other districts of the city in Aleppo and Damascus. In the eighties, she also wrote her doctoral thesis on urban planning at TU Dresden.

"BeING inside" Provides Practical Orientation

Undergraduate students can still register for the interdisciplinary project week "[BeING Inside](#)" until 30 April. "BeING Inside" provides practical career guidance and is being held as part of the ESF project "[Orientation Platform Research & Practice](#)" at the Centre for Interdisciplinary Learning and Teaching (ZiLL). In this simulation of an industry project, students from the Faculty of Electrical and Computer Engineering, together with students from the Department of Chemistry and Food Chemistry, work on solving a practical problem. Trained coaches accompany the interdisciplinary teams during the week from 6 to 9 June as they deal with their practical tasks. Just as in business, the teams will compete for the best solutions. The winning team will receive a prize at the closing event on 12 June.

Graduate Academy Workshop on Professional PhD Supervision

The "Professionalisation of PhD Supervision" workshop took place in the [Graduate Academy](#) for the second time on 20 and 21 March. In the coming semester, this will be organised by the Centre for Continuing Education. Due to the keen interest shown in the event, the GA

will be offering an additional course from 24 to 25 April as part of its regular qualification programme. “Co-Supervision of PhD Projects” is explicitly aimed at postdocs who are just beginning their supervising career.

DRESDEN-concept Researchers Participate in Science March

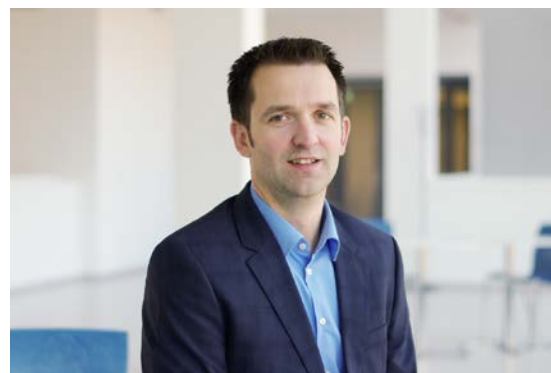
Together for science: the 24 [DRESDEN-concept partners](#) will be supporting the global Science March, which will start on 22 April at 1.30pm, at Theaterplatz in Dresden. Colleagues from the research alliance will be taking part in the Dresden Science March and are also calling on the Dresden general public to join in. The idea is to strike a blow for cross-border scientific freedom, its status in society, and for dissociation from opinions, statements and indoctrination.

T-Cells in Babies are Indication of Future Onset of Type 1 Diabetes

The research group headed by Prof. Ezio Bonifacio, who is group leader and Director at the [DFG Research Center for Regenerative Therapies Dresden \(CRTD\)](#), [Cluster of Excellence](#) at TU Dresden, and also group leader at the DZD Paul Langerhans Institute Dresden, presents a new [understanding of cellular mechanisms in type 1 diabetes](#). This is based on examinations of newborn babies who are at high risk of developing type 1 diabetes. “This is the first time that we have at such an early stage precisely a molecular difference in the immune system of children who are developing type 1 diabetes. These results indicate that the immune system is already programmed incorrectly at a very early stage, be it genetically or as a result of environmental influences. We now need to find out how to re-programme the immune system before it starts working against the insulin-producing cells. We hope that the [Freder1k-Study](#) and our prevention studies will help us in this,” Prof. Ezio Bonifacio explains.

Research Group Leader Stephan Speier Appointed Professor

Group leader [Stephan Speier](#) has been appointed Professor for the Physiology of Pancreatic Islet Cells at the Medical Faculty of TU Dresden. After studying human biology at the Philipps Universität in Marburg and conducting his doctoral thesis at the Max Planck Institute of Biophysical Chemistry in Göttingen, Stephan Speier worked as a postdoctoral fellow at the Karolinska Institutet in Sweden. In 2009, he joined the Center for Regenerative Therapies Dresden (CRTD) and the Paul Langerhans Institute Dresden as an Emmy Noether Fellow. In 2016, he was also awarded [TUD Young Investigator](#). In his research, Stephan Speier studies the insulin-producing pancreatic beta-cells, whose malfunction or destruction leads to diabetes.



Prof. Stephan Speier. Photo: CRTD

CRTD: Numerous Hands-On Activities at UniStem Day 2017

On 17 March, CRTD took part in the Europe-wide [UniStem Day](#). Dresden high school students were introduced to the CRTD and given insights into research work and everyday laboratory practice. The action day is intended to provide students with the latest information on stem cell research. The event took place in seven European countries, with a total of 75 universities and research institutes involved. In Germany, CRTD was one of ten participating institutions.

Saxony's Prime Minister Visits cfaed at CeBIT



Prime Minister of Saxony, Stanislaw Tillich (centre), stopped off at the [cfaed booth](#) during his visit to CeBIT on 20 March. In the photograph, Cluster coordinator Prof. Gerhard Fettweis (left) and Prof. Frank Fitzek explain to him the new "HAEC Topology Visualization" of the Collaborative Research Centre "Highly Adaptive Energy Efficient Computing (HAEC)", which is integrated into the cfaed. In a subsequent press conference held by the [VDE](#), the two electronics experts also presented a new [study on IT security concepts](#). Photo: Matthias Hahndorf

cfaed Develops Protection for DNA Origami Used in Nanomedicine

Scientists from the Center for Advancing Electronics Dresden and the University of Tokyo, led by Thorsten L. Schmidt (cfaed) have developed a [method for protecting DNA origami from degradation in biological media](#). Thanks to the unique control of materials in the nanometer range, DNA nanostructures are also of interest in applications in molecular biology and nanomedicine. For example, nanostructures could be used as programmable drug carriers or diagnostic units. To this end, the cfaed research group led by Dr. Schmidt covered DNA origami structures with a synthetic polymer. The team published its research findings under the title "Block Copolymer Micellization as a Projection Strategy for DNA Origami" in the specialist journal "Angewandte Chemie" (Applied Chemistry).

cfaed Coordinator Gerhard Fettweis Becomes Leopoldina Member

Prof. Gerhard Fettweis, the coordinator of cfaed, has been admitted to one of the oldest scientific academies in the world: the National Academy of Sciences, the Leopoldina, selected him to their ranks as [one of twelve scientists from the fields of mathematics, natural sciences and engineering](#). The certificates were awarded at a symposium on 15 March in Halle. Gerhard Fettweis has been Professor of Communications Systems at TU Dresden since 1994, and has been coordinating the cfaed Cluster of Excellence since 2012.



TUD Prof. Fettweis (2nd from right) among the new Leopoldina members. Photo: Markus Scholz

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