



2017 was a year of awards and accolades: For the first time TU Darmstadt awarded the title of “Athene Young Investigator” to young scientists, supporting them on their path towards professorship. Among the first awardees is Amr Rizk¹. Christoph Rensing was awarded the grade of Fellow by the Association for Media in Science “Gesellschaft für Medien in der Wissenschaft” for his outstanding contributions towards the application of media in science and the development of the respective association. Personally I was honored with the VDE ITG-Fellowship for my scientific achievements. This very recently established award is limited to 0.1% of all members of the Information Technology Society in the VDE (ITG). The Master’s thesis of Wael Alkhatib titled “Hybrid Large Scale Power Consumption Forecasting” received an award worth 1000€ from the TU Darmstadt Energy Center. Furthermore, Wael Alkhatib received the best paper award at the 9th International Conference on Knowledge Engineering and Ontology Development KEOD ‘17.

Six doctoral theses were successfully defended this year: *Dres-Ing.* Olga Wenge, Daniel Burgstahler, Björn Richerzhagen, Ronny Hans, Tobias Rückelt, and Rahul Dwarakanath. Congratulations are also in order to two post-doctoral graduates “Habilitationen”: Christoph Rensing and Stefan Göbel. We welcome our new colleagues: Polona Casermann, Robert Konrad, Sounak Kar, Thomas Lenz, Zeynep Tuncer, and Torsten Uhlig. Further, Jeremias Blendin, Leonhard Nobach, and Christian Koch complement our team as advanced researchers.

2017 marked the beginning of the second funding period of the DFG collaborative research center MAKI – Multi-Mechanism Adaptation for the Future Internet. On that note, we cordially invite you to the MAKI scientific workshop on March 23, 2018, on “Machine Learning for Communication Systems”.

In February 2017, we organized the E-Finance Lab spring conference at the House of Finance in Frankfurt on “Cyber IT-Security in the Financial Industry”. The conference attracted more than 400 participants and contributors from leading companies in the financial and IT industry, such as Allianz, IBM, usd AG, and Kaspersky, launching discussions on the challenges of IT-security in the finance sector and the possibilities of intelligent solutions, e.g., using “Cognitive Computing”.

We are currently working with and for Deutsche Telekom on innovative concepts of intelligent networks in software-defined networking and network function virtualization. We also continue to maintain our successful cooperation with Opel towards research on (partially) automated vehicles and their communication systems.

As part of MAKI, the Mercator-Fellow module of the DFG allows for a long-term exchange between the researchers of MAKI and globally leading scientists: Florin Ciucu (Univ. of Warwick, UK), Ioannis Stavrakakis (Univ. of Athens, Greece), and Michael Zink (UMass, Amherst, USA). Jörg Widmer (IMDEA Networks, Madrid, Spain), who received the “Wilhelm Bessel Research Award”, spent half a year with us in Darmstadt. Patrick Lieser currently spends a three months DAAD scholarship at UMass with Michael Zink, and Christian Koch is currently on a research visit at UIUC with Klara Nahrstedt.

The innovation network “Serious Games Technologies” was formed under the guidance of htcc e.V. As an independent entity, it will contribute towards exploring the possible applications of “serious games” in the economy and society. The BMBF sponsored joint project “PDExergames”, which runs until 2020, deals with research and practice of therapeutic

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¹ The academic titles have been omitted

applications of exergaming for Parkinson patients. “Exergaming” is a combination of “exercise” and “gaming”. In cooperation with KOM, at the htc we started the development of an information system for serious games, including the design of a standardized description format for serious games – DIN SPEC 91380 serious games metadata format. The LOEWE pilot project for the diagnosis of the effects of immersive 3D environments was successfully completed. The “Ludum Dare game jam” and Game Days 2017 attracted numerous participants. Stefan Göbel and Wolfgang Effelsberg are co-editors of the book “*Serious Games – Foundations, Concepts and Practice*”, which appeared in Springer International Publishing.

Information and communication technology (ICT) is the central nervous system of our daily lives nowadays. During catastrophes, the forces of nature or human/technical malfunction can lead to damage or complete failure of ICT infrastructures. We explore possible technical solutions in the projects NICER and SMARTER. In NICER, we explore the possibilities of connecting people during crisis situations using infrastructure-less ICT. Some results from this project are taken up in SMARTER and field-tested. For anyone affected by a catastrophe it is vital to request help, look up information, and contact families – preferably using a smartphone. This is the result of a large-scale field test of SMARTER with over 125 participants; SWR1, ZDF.de, Deutschlandfunk, Spiegel Online, and RTL-Hessen, among others, reported on this event.

Together with our partners in project “KOLA – Competence-oriented Learning in the Work Process with Digital Media”, we explore how collaboration between a vocational school and a training company can be improved with a stronger focus on future professional practice. To this end, our team devised innovative technological concepts as well as a novel learning application. This application was successfully evaluated as part of the project, and can now be broadly deployed among craftsmen. In another project, the focus is on approaches towards the recommendation of tasks on crowdsourcing platforms. The renewed DFG funded research will lead to new mechanisms for crowdsourcing as a novel form of work organization in the Internet.

As part of the delegation visit with state secretary Mathias Samson to our partners at the University of La Plata in Argentina I realized the importance of an innovation and start-up-friendly environment at universities. This showed me more than ever that regional partnerships – such as our current endeavor “SmartParking” – are of great importance. At the end of the official talks of this delegation visit in La Plata, quite unexpectedly, along with Alejandro Fernandez we came up with a rather “cool” idea: Evaluating whether crowdsourcing with local citizens combined with a game-related approach can help to find solutions to specific scientific issues. We will approach this idea early 2018 jointly with our partners in Argentina.

Last but not least, our yearly retreat at the Darmstädter Haus in the Kleinwalsertal: During this annual event, individual teams intensively exchange their views on past success stories, current problems, and future challenges. This year’s workshops revolved around diverse topics: 3D printing, encryption methods, complexity theory, and how to provide more room for “creativity in everyday life”. We also had a yoga course outside. The balanced mix of technical and non-technical is always well received among all participants.

If you would like to stay in touch with us throughout the year, you can find all the current scientific publications and additional useful information on www.kom.tu-darmstadt.de and blog.multimedia-communications.net. Also, please do not hesitate to get in touch personally, via e-mail or telephone. We enjoy discussing new ideas and topics, and are looking forward to your feedback!



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