2018

It is hard to reduce the whole year 2018 to one common denominator. Nevertheless, there are events that have been particularly formative and important for us at the Multimedia Communications Lab.

At a formal event Björn Richerzhagen was awarded with a dissertation (PhD) prize of the Informationstechnische Gesellschaft VDE-ITG in Berlin. In addition, the alumnae society "Freunde der TU Darmstadt" awarded his outstanding scientific achievements as being the best thesis of the department in 2017. His work shows how and why mobile communications can be considerably relieved by the clever use of transitions.

In 2018, Christoph Rensing was one of twelve European scientists to receive the ACM Senior Member award. He is being recognized for a scientist who has "demonstrated performance through technical leadership, and technical or professional contributions".

Concerning myself I was appointed as "GI Fellow" by the Gesellschaft für Informatik of which I am very proud. As a member of the newly established Council for Digital Ethics of the State of Hesse, I will be happy to contribute towards a responsible practice of digitization.

Since early 2018, I have been a member of the Ethics and Technology Advisory Board of the Digital City Darmstadt. Since the beginning of the year, close coordination and regular meetings have taken place on relevant topics to set-up the long-term cooperation between TU Darmstadt and Smart City (Digital City) Darmstadt. I am thrilled to act as Scientific Coordinator for the TU Darmstadt in consultation with Vice President Ralph Bruder, which led to common aim of the cooperation agreement between Mayor Jochen Partsch and President Hans-Jürgen Prömel.

We are pleased to announce that seven doctoral thesis were successfully completed this year by Irina Diaconita; Alexander Frömmgen; Denny Stohr; Binh Nguyen; Christian Koch; Leonhard Nobach; and Jeremias Blendin. Furthermore, we are very proud where our graduates chose to continue their professional career. Just to name a few: ABB; Continental; Daimler; Google; Netflix; Opel; SAP and Siemens.

Praise and distinction goes out especially to our students who completed their courses at KOM as the best at our dedicated event for students. At our project E-Finance Lab, some of our students were honored for their outstanding achievements in Frankfurt and could establish contacts with interesting companies and institutions on site.

2018 marked the second year of the second funding period of the DFG Collaborative Research Centre MAKI - Multi-Mechanisms Adaptation for the Future Internet. Two conferences were organized: (1) the MAKI - Scientific Workshop on "Machine Learning for Communication Systems" with over 150 participants and (2) the MAKI Industry Workshop on "Next-Generation Networks".

The successful application for participation in the Software Campus has almost become a tradition at KOM. Patrick Lieser and Steffen Schnitzer successfully completed their projects on robust communication in catastrophes and on micro-tasks in corporate communication. Polona Caserman and Wael Alkhatib are newly sponsored. Caserman's project focuses on exploiting the potential of virtual reality to optimize business processes through full-body tracking. Alkhatib's project deals with the design of book recommendations based on automatic analysis and clustering of texts.

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[1] The academic titles have been omitted

Relevant research results on the future of the Internet have been published at leading conferences of our networking community such as CoNEXT, IMC and INFOCOM. Our work on "Multipath TCP" received the "Best Paper Award" at the ACM USENIX Middleware. In cooperation with Deutsche Telekom Technik AG, the first P4 implementation of the Broadband Network Gateway functionality was published at the Open Networking Foundation.

We worked together with Opel/PSA on resilient communication systems for (partially) self-driving vehicles. One result was awarded the Best Student Paper Award at the VEHITS conference. In 2018, Jörg Widmer, Fernandez Anta (Imdea Networks, Madrid), Michael Zink (UMass, Amherst), Carsten Griwodz (Univ. Oslo), Ioannis Stavrakakis (Univ. Athens) and Trevor Ballard (Univ. of Central Florida, Orlando), among others, visited Darmstadt for longer periods of time to intensify their cooperation with scientists in Darmstadt. Approaching the area of "Fog Computing" we organized the first KuVS expert discussion together with Andreas Reinhardt and Stefan Schulte in Darmstadt. Rhaban Hark received a Google award for young doctoral students and a DAAD scholarship for an academic stay abroad at the UMass in Amherst.

The media response to the successfully completed BMBF project SMARTER impressively showed how big the interest in resilient communication solutions in case of a crisis is. Many of the techniques we investigated for efficient communication and processing of data in a mobile ad-hoc network build the basis for the new LOEWE project Nature 4.0: Research mechanisms for high-resolution environmental monitoring in time and space with guidance of our colleagues from Marburg. In the Marburg University Forest, together with Bernd Freisleben and his team, we provide joint contributions to this exciting, interdisciplinary topic.

In KeaP digital, we developed and evaluated together with our partners methods and tools for the realization of digital qualification of employees wrt. the production processes. In such training processes, there is a high need for standardization and support. The positive feedback from companies using our technology-supported method illustrates the practical suitability of the research results.

"Serious Games" defined its own standard through Stefan Göbel's initiative. The DIN SPEC 91380 standard specifies requirements for the description format of Serious Games. It is also the basis for the "Serious Games Information Center", a standardized online platform for "collecting" existing games; facilitating researchers', developers' and users' access to the diverse offerings of Serious Games for their respective areas of application. In the new project "Knowledge and Technology Transfer Serious Games" at the TU Darmstadt, interdisciplinary research cooperation with Regina Bruder and Josef Wiemeyer is being conducted to explore the knowledge about the characteristics of high-quality Serious Games. Overall, the project aims to establish Hesse as #1 in the Serious Games sector, with TU Darmstadt nationwide serving as the first point of contact for research and teaching in this field. As part of GameDays 2018, the "Science meets Business" workshop and the visitors' day for playing games for all age groups took place. Interested children and other visitors were given insights to the industry and scientists and developers exchanged ideas on research topics. For the first time the "Joint Conference on Serious Games" (JCSG) took place in Darmstadt.

Last but not least, greeting from our annual retreat in Kleinwalsertal, Austria. Luckily, the weather turned around most likely due to our great spirit as pictured above.

If you would like to stay in contact with us throughout the year around, you can find current scientific publications, further details on our expertise at www.kom.tu-darmstadt.de and blog.multimedia-communications.net as well as on Twitter: https://twitter.com/kom_tudarmstadt
In addition, we are personally available on site, by e-mail, telegram, WhatsApp or, as always, by telephone and we continue to be open to new ideas and topics.