

## **8<sup>th</sup> International ITG Conference on Source and Channel Coding (SCC'10)**

**January 18 – 21, University of Siegen, Germany**

The biannual conference is organized by ITG/VDE Technical Committee 5.1 “Information and System Theory”. Professor Christoph Ruland from Siegen University served as General Chair, Professor Rudolf Mathar, principal researcher of UMIC and presently chairman of committee 5.1, acted as Program Chair, assisted by Melanie Neunerdt from the Chair of Theoretical Information Technology. With about 110 participants from 9 countries the conference was a full success with a dense program of 39 contributed research papers of high quality. The conference was strongly supported by UMIC as may be seen from the following short report.

On Monday, prior to the conference three tutorials were offered, well visited by about 90% of all participants. Professor Heinrich Meyr, principal researcher of UMIC, assisted by Mike Dörpinghaus from the Chair of Integrated Signal Processing Systems, gave a tutorial on “Iterative Receiver Algorithms”. Two more tutorials by Professor Gerhard Bauch on “Point to Multipoint MIMO-OFDMA: Principles, Limits and Standardization for LTE” and Professor Johannes Huber on “Information Combining: Models, Bounds and Applications” were well recognized by conference participants.

Professor Robert Calderbank and Professor Jim Massey, both members of the advisory board of UMIC, gave keynote speeches. Robert’s brilliant talk entitled “Something New, Something Old” bridged known results from coding to recent developments in compressive sensing. Robert is an intoxicating speaker, with a fine sense for clarity and organization. Our cluster of excellence very much appreciates his membership on the advisory board.



Professor Robert Calderbank

The same holds true for Professor Jim Massey. Jim is one of the most famous researchers in information theory. He asked the question “Combined Source-Channel Coding – a Good

Idea”, and carefully investigated it on the basis of some fundamental channel models. He left the audience with some open, far reaching research problems of great importance.



Professor Jim Massey

The third keynote speaker was Professor Gerhard Kramer from USC, his talk entitled “Capacity Limits of Optical Fibre Networks”. He first introduced optical channels, which typically show nonlinearities. He developed approximate, but accurate models which allow for assessing capacity limits and comparing the performance of different optical modulation schemes. Gerhard is an excellent speaker who knows how to fascinate his audience. We should consider inviting him as a distinguished speaker of UMIC in the near future.



Professor Gerhard Kramer

Amazingly, not only the keynote presenters but also the session chairs were world famous scientists. Robert was introduced by Professor Heinrich Meyr, Gerhard by Professor Joachim Hagenauer, and Jim by Professor Rudi Ahlswede. Professor Ahlswede received the “Shannon Lecturer Award” in 2006. He introduced Jim for about 15 minutes, there is simply so much to tell about him. His way of reporting joint incidents, accidents, joint research and successes gave the whole day a fresh and open atmosphere. It was great fun to watch two leading scientists in information theory telling where it all comes from and where it might go to in the future.



Jim Massey and Rudi Ahlswede

As an innovation to the conference, a one-minute-madness session was introduced. Poster presenters were given the opportunity to attract people to their poster by telling the essentials in just one minute. Obviously this is a challenge, hard to solve and requiring thorough thinking of what to tell in a few hitting words. Some speakers solved the problem by amazing intuitive graphical representations. Melanie Neunerdt, the session chair, reminded those who exceeded the time limit by a polite “toot-toot” whispered into the microphone. Melanie gave the session a wonderful vivid and interactive flavour.

In summary, SCC’10 was a distinguished event with presentations of highest quality, a lovely social event at the Krombacher Brewery and an enjoyable conference banquet in the Siegerlandhalle. UMIC’s support was well recognized, proceedings distributed on UMIC memory sticks will remind participants of our cluster of excellence also in the future.

Rudolf Mathar, TI