



INFORMATION, COMMUNICATION & COMPUTING

Fields of Expertise TU Graz

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Kay Uwe Römer,
Information, Communication & Computing

Source: Lunghammer – TU Graz

15 years after the Excellence Initiative was introduced in Germany, an Excellence program is now coming to Austria as well, with 36 letters of intent submitted over the summer out of which five will be funded initially. What did Austria learn from Germany? The German program originally foresaw graduate schools (PhD training), Excellence clusters (collaborative research), and future concepts

(an Excellence label for universities that managed to win a minimum number of Excellence clusters and graduate schools and proposed a convincing Excellence strategy). Both the graduate schools, (“there are other good funding instruments for PhD training”) and the future concepts (“Excellence should be assessed on past achievements, not on plans”) received substantial criticism, as a result of which the graduate schools were dropped, but the future concepts were continued largely unchanged. Given this assessment, it seems a wise choice that the Austrian version focuses on Excellence clusters initially. Other criticism of the German program included a division of universities into a few “Excellent” winners and many losers, and too much focus on research and too little on education. The total yearly funding of about 500m euros

of the whole program is ridiculous compared to Harvard’s annual multi-billion-dollar budget, and a huge waste of resources regarding writing proposal “bibles” of which only a tiny fraction is funded. Despite this, the German program has been successful without doubt in strengthening research and international visibility, especially by forming research teams of critical mass and having universities focus on their strengths. Let’s see how much of this carries over to Austria=Excellent and which new aspects we will experience over the coming decade.

In September Yannic Maus joined the Institute of Software Technology as the FoE ICC tenure-track assistant professor. In this edition of TU Graz research, he introduces himself and his research. Welcome, Yannic!

Yannic Maus

Foundations for Modern Distributed Computing

Many of today’s and tomorrow’s computer systems distribute data to several machines, or the systems are built on top of large-scale networks, such as the internet or sensor networks. Our research builds the theoretical foundations for these settings. We analyse and develop distributed algorithms that are fast and communication efficient.

Distributed algorithms are becoming increasingly important. Networks and the size of the data are often already too large to be stored, processed or controlled by a single central authority, or are distributed by design.

BENCHMARK PROBLEM GRAPH COLORING

Let us illustrate this with an artificial example. Consider a large network of sensors deployed in the vineyards in the south



Yannic Maus
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Source: Yannic Maus

