



In memory of Heinrich Hussmann, long-time friend and SoSyM editor

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Heinrich Hussmann studied informatics at the Technical University of Munich. After he had finished his studies, Hussmann worked from 1983 to 1989 as a research assistant in the group of Manfred Broy at the University of Passau where he carried out research on the formal specification of software systems. His “RAP” tool for prototyping conditional algebraic specifications gained wide international recognition and was used worldwide at more than 30 universities. For his excellent doctoral thesis in 1989 with the topic “Nondeterministic Algebraic Specifications”, Heinrich was awarded the East Bavarian Culture Prize.

After that he moved together with Manfred Broy back to Munich where he worked as an academic assistant from 1989 to 1994 at the Faculty of Computer Science at the Technical

University of Munich doing research in the field of formal methods in software engineering. In 1994 he completed his Habilitation on “Formal Foundations for SSADM”, for which he received the Software Engineering Prize from the Ernst Denert Foundation in 1995. Heinrich was one of the key designers of the Requirement and Design Specification Language SPECTRUM which was based on algebraic data types. He was highly respected as a colleague and researcher both for his outstanding research and his expertise and for his friendly and collegial way.

In 1994 he left the Technical University in Munich. From 1994 to 1997, he worked as a systems engineer in the area of public communication networks in pre-development at Siemens AG, Munich doing research on broadband multimedia services, prototype development for multimedia network services and intelligent networks. His extensive theoretical research in software engineering and this practical experience in the field of multimedia were unique and the core from which he developed what is still modern media informatics today. Being at Siemens, he continued his research collaboration with researchers at the Technical University of Munich in a highly fruitful interaction. In 1997, Heinrich Hussmann accepted a professorship for software technology at the Institute for Software and Multimedia Technology at the Technical University of Dresden. There he developed a highly influential approach by combining his successful research in software technology with basic concepts in multimedia and human machine interfaces. Some of this work is documented in the SoSyM special section on “service-based software engineering” where Heinrich served as one of the editors. He continued his research on software design specifications and developed a widely cited approach for integrating relational databases into object-oriented applications. The idea was to express database constraints unambiguously in the Object Constraint Language (OCL) of the Unified Modeling Language (UML). The approach was supported by the “Dresden OCL Tool Kit” which was based on formal semantics and flexible modular architecture. For this work, Heinrich received the “Ten Years Most Influential Paper Award” of the MODELS 2010 international conference.

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In the year 2002 Heinrich Hussmann returned to Munich to start the media informatics program at the Ludwig-Maximilians-Universität (LMU). He shaped this new and emerging field with great personal passion. Starting with a small number of staff and of students interested at the intersection of digital media, human–computer interaction, computer graphics, and software development he created an internationally unique study program and a worldwide leading research group. As Heinrich Hussmann was deeply rooted in software engineering with a comprehensive understanding of multimedia networks, he intuitively understood at that time, that transformation that is about to happen is defined by software and distributed systems. The way people create, distribute, consume, and share music, pictures, films, and games has been revolutionized by software. His vision of teaching and research in media informatics, that he implemented at LMU, was strongly anchored in a comprehensive computer science education. With this solid basis research and teaching ventured into new media, exploring many areas, from computational photography, multimedia programming paradigms, human computer interaction to interactive computer games. This approach to media informatics and his passionate teaching has created generations of highly sought after professionals and successful academics. With his vision he led the way for a human-centered digital transformation that is now ubiquitous in society. His legacy is also visibility in a broad range of publications that are highly cited. As a research fellow for Human-Centric Engineering at the fortiss Institute in Munich he continued to push for the applications of his research beyond the academic world.

With his view of media informatics and human centered computing he was internationally well networked. In numerous collaborations he worked on the vision of making technologies that are useful for human. In this course he had longer research stays at Lancaster University in the UK and at the South-West University for Nationalities in Chengdu in China.

Heinrich always looked beyond the boundaries of computer science. He acted as a founding member of LMU's interdisciplinary Center for Internet Research and Media Integration, where business economists, communication scientists and computer scientists worked together to investigate questions of the digital transformation of the media and telecommunications industries. He was also a member of the multi-disciplinary Munich Center of the Learning Sciences and the International Doctoral School "Scientific Reasoning and Argumentation" (REASON). There Heinrich cooperated with scientists from psychology, education sciences, and social work on questions concerning scientific reasoning and argumentation skills from preschool age to adulthood.

Heinrich was also very active in academic self-governance. From 2009 to 2011 he served as dean of the faculty for mathematics, computer science and statistics. As an expert in digitalization, he advised the LMU university management and coordinated the development of online-based self-assessments to support first-year students in their choice of subject.

From 2017 until 2020 he was the director of the computer science institute at LMU leading the next transition of the introduction of artificial intelligence across many faculties inside the university.

Besides his comprehensive understanding of the digital transformation and his vision for the field, he was an amazing person of many talents. Without his interest and deep knowledge in art, photography, film making, and music, such a media informatics program would not have been possible. His empathy and understanding of people made him a unique teacher, mentor, and friend.

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