

Biography

Gerhard Kramer is Professor of Communications Engineering at the Technical University of Munich (TUM) and has served as TUM's Executive Vice President for Research and Innovation since 2019. In this role, he shapes university strategy, leads major committees, and oversees initiatives that strengthen collaboration with industry and support technology-driven start-ups, including the Innovation Networks and Venture Labs. These efforts contributed to TUM securing seven Clusters of Excellence in 2025.

Kramer's research focuses on communications and information theory. His contributions include tools for analyzing information flow (causally conditioned directed information), characterizing multi-terminal channel capacities, introducing empirical coordination for source coding, establishing the area property of EXIT functions, and developing algorithms for MIMO systems. His work influenced industrial practice, including Lucent's adoption of higher-order modulation for long-haul fiber and Alcatel-Lucent's use of vectoring to boost DSL speeds.

At TUM, his group develops theory and algorithms for optical and wireless communication, including equalization, quantized precoding/decoding, shaping, and short-block-length coding. He has supervised over 75 doctoral and postdoctoral researchers, many of whom earned awards for excellence in research and teaching.

Before joining TUM, Kramer was Professor of Electrical Engineering at the University of Southern California (2009–2010) and previously worked at Bell Labs (2000–2008) and Endora Tech AG (1998–2000). He received a Dr. sc. techn. from ETH Zurich (1998), where his dissertation earned an ETH Medal, and holds M.Sc. (1992) and B.Sc. (1991) degrees in Electrical Engineering from the University of Manitoba.

Kramer has held numerous leadership roles in the IEEE Information Theory Society, including serving as President in 2013. He co-founded the Schools of Information Theory and expanded them globally. He co-chaired ISIT conferences in Taipei (2023), Aachen (2017), Honolulu (2014, TPC), and Toronto (2008, TPC), as well as the ITW in Kaohsiung (2017).

His honors include being named an IEEE Fellow, an Alexander von Humboldt Professor, and a recipient of the Aaron D. Wyner Distinguished Service Award. He is a member of the Bavarian Academy of Sciences and Humanities. He serves on the boards of the Eduard Rhein Foundation (since 2013), the Max Planck Institute of Quantum Optics (since 2020), TUM CREATE Singapore, Munich Quantum Valley, and TUM Venture Labs (since 2022). He chairs the Bavarian High-tech Young Talent Award committee (since 2025) and the supervisory board of the Bavarian University and Innovation Center Asia-Pacific (since 2026).

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