

# Gerhard Kramer

## Curriculum Vitae, May 2026

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### Work Address

Technical University of Munich  
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### Education

- *Dr. sc. techn. (Doktor der technischen Wissenschaften)*, ETH Zurich, Switzerland 1998
- *Post Diploma in Information Technology*, ETH Zurich, Switzerland 1996
- *Master of Science*, University of Manitoba, Winnipeg, MB, Canada 1992
- *Bachelor of Science in Engineering*, University of Manitoba, Winnipeg, MB, Canada 1991

### Positions Held

- *Technical University of Munich (TUM)*, Germany Oct 2010-  
Professor and Chair of Communications Engineering  
Executive Vice President for Research and Innovation, Oct 2019-
- *University of Southern California (USC)*, Los Angeles, CA, USA 2009-2013  
Professor, Dept. Electrical Engineering, Jan 2009 - Sep 2011  
Adjunct Research Professor, Oct 2011 - Dec 2013
- *Bell Labs, Alcatel-Lucent*, Murray Hill, NJ, USA 2000-2008  
Member of Technical Staff, Mathematical and Algorithmic Sciences Research Center
- *Endora Tech AG*, Basel, Switzerland 1998-2000  
Communications Engineering Consultant

### Visiting and Adjunct Positions

- Otto Mønsted Visiting Professor, Dept. Photonics Engineering, DTU, Lyngby, Denmark 2017-2018
- Visiting Professor, Faculty of Electrical Engineering and Inf. Technology, TU Graz, Austria 2015
- Visiting Scientist, Dept. Electrical Engineering and Inf. Technology, Lund Univ., Sweden 2007-2008
- Visiting Professor, School of Electrical Engineering, Korea Univ., Seoul, South Korea 2007
- Adjunct Assistant Professor, Dept. Electrical Engineering, Columbia Univ., NY, USA 2002 & 2005

### Principal Honors & Awards

#### **Professional**

- *Aaron D. Wyner Distinguished Service Award*, IEEE Information Theory Society, 2021
- *Thomson Reuters Highly Cited Researcher* in Computer Science, 2014, 2015, 2016
- Member, Bavarian Academy of Sciences and Humanities, 2015
- *Alexander von Humboldt Professorship*, 2011
- *Vodafone Innovations Prize*, 2011
- *IEEE Fellow*, 2010

#### **Papers and Patents**

- *Best Paper Award*, EURASIP Journal on Wireless Communications and Networking, 2014
- *Thomas Alva Edison Patent Award*, Research & Development Council of New Jersey, 2012
- *Stephen O. Rice Prize Paper Award*, IEEE Communications Society, 2005

## Professional Assignments & Service

### **TUM**

- Supervision of the Office for Research and Innovation (TUM ForTe), 2019-
- Chair/member of numerous ( $\approx 25$ ) university boards and committees as Executive VP, 2019-
- Supervision of the Sustainability Office and Sustainable Futures Strategy writing, 2020-2023
- Institute for Advanced Study Advisory Council, 2011-2017

### Partner Supervisory Boards (selected activities listed)

- TUM Venture Labs Management gGmbH, 2022-
- Munich Quantum Valley e.V., 2022-
- TUM CREATE Ltd., Singapore, 2022-
- Max Planck Institute of Quantum Optics, 2020-

### ECE / CE Department (selection)

- Director, Master of Science in Communications Engineering (MSCE) program, 2010-2020
- Gender Equality Officer, 2015-2019

### **Bavarian Academy of Sciences & Humanities (BAdW)** (selection)

- Selection committee, Bavarian High-tech Young Talent Award, 2025- (Chair 2025-)
- Selection committee, Junges Kolleg, 2017-
- Forum Technologie, 2016-

### **Bavaria & Germany** (selection)

- Supervisory Board, Bavarian University and Innovation Center Asia-Pacific, 2026- (Chair 2026-)
- Committee for Research and Academic Career Paths, German Rectors' Conference (HRK), 2024-
- Board of Trustees, Eduard Rhein Foundation, 2013-
- VDE ITG Information and System Theory Technical Committee (Fachausschuss KT 1), 2011-

### **Evaluator & Examiner for National & International Organizations** (selection)

- Panel member, Assessment of the Higher Education System of the State of Schleswig-Holstein, German Science and Humanities Council (Wissenschaftsrat), 2022-2023
- Chair of panel evaluating the Dept. of Electrical Engineering, Chalmers University, Sweden, 2018
- Examiner of 56 external Dr. / Ph.D. dissertations and 7 Habilitations, 2004-

### **IEEE Information Theory Society**

#### Elected Positions

- President (2013), 1st Vice President (2012), 2nd Vice President (2011)
- Board of Governors, 2009-2015

#### Editorships (selection)

- Foundations and Trends in Communications and Information Theory, 2012-
- Associate Editor for Shannon Theory, *IEEE Trans. Inf. Theory*, 2006-2009

#### Conference and Workshop Organization

- General Program Chair: ISIT 2023 (Taipei), ISIT 2017 (Aachen), ITW 2017 (Kaohsiung)
- Technical Program Chair: ISIT 2014 (Honolulu), ISIT 2008 (Toronto), ISTC 2014 (Bremen)
- Technical Program Committees: over 60 in total

#### Schools of Information Theory: co-founder in 2008, involved with 34 Schools

- school program recognized by the *IEEE Society/Council Professional Development Award* in 2014

### **IEEE Communications Society** (selection)

- Guest Editor, *IEEE J. Special Areas in Commun. (J-SAC)*, Issue on EM Signal & Inf. Theory, 2023-2024
- ComSoc Technical Program Committees: over 90 in total

### **IEEE Awards**

- Richard W. Hamming Medal Committee, 2014-2017, 2022-2025
- Eric E. Sumner Award Committee, 2020-2024 (Chair 2022-2023)
- Alexander Graham Bell Medal Committee, 2011-2014

### **Local Workshop Chair** (37 events in total, selected events listed)

- Munich Workshop on Shannon Coding Techniques, 2024, 2026
- DFG DIP Workshops on Communication Networks, 2018-2021, 2023-2025
- DLR-TUM Workshops on Coding & Modulation, 2014, 2015, 2019, 2020
- Munich Workshop on Information Theory of Optical Fiber (MIO), Dec 2014-2016, 2018
- Claude Shannon 100th Birthday Celebration, Heinz Nixdorf Museum, Paderborn, May 2016

### **Invited Talks & Lectures**

- Keynote, Plenary & Distinguished Lectures: 33 in total
- Talks at Universities, Industrial Labs & Workshops: 178 in total

### **University Teaching**

#### **TUM** (since 2010)

- Bachelor courses: Digital Communications 1 & 2, Mobile Communications
- Master courses: Information Theory, Multi-User Information Theory, Machine Learning for Commun.
- TUM Asia Bachelor course: Digital Communications

#### **Other Universities** (since 1999)

- IIT Kanpur: Network Information Theory, 2018
- TU Graz: Advanced Information Theory, 2015
- USC: Information Theory, Multi-User Information Theory, 2009-2010
- Korea, Lund & Aalborg Universities: Cooperative Communications and Network Coding, 2007-2008
- Columbia University: Algebraic Coding Theory, Communication Theory II, 2002, 2005
- ETH Zurich: Applied Digital Information Theory II, Multi-User Information Theory 1999, 2004

#### **Short Courses & Tutorials** (39 in total)

- 11 courses at Ferienakademie Sarntal, Südtirol, 2012-2023
- 19 courses on Information Theory and Coding in Asia (4), Australia (2), Europe (9), USA (4), 2003-2017
- 9 tutorials: ECOC, OFC, ISIT, IWCS (Fiber Capacity, Coding, Relaying & Cooperation), 2007-2024

## **Doctoral Thesis Supervision**

### **Current**

1. Sena Ergişi, Coding for Wireless, 2025-
2. Yue Xia, Federated Learning, 2024-
3. Mustafa Karağöz, Learning for Wireless, 2023-
4. Alex Jäger, Receivers for Optical Channels, 2022-
5. Andreas Straßhofer, Coding for Wireless, 2022-
6. Yutong Han, Communications Theory, 2022-
7. Alexander Sauter, Code Design for Low Latency, 2022-
8. Hooman Asgari, Federated Learning and Multiple Access, 2022-
9. Constantin Runge, Polar Codes, 2021-
10. Lorenzo Zaniboni, Wireless Communications, 2021-
11. Mahdi Mahvari, Information Theory, 2021-
12. Francesca Diedolo, Short Reach Optical Communications, 2021-
13. Ayman Zahr, Coding and Modulation for Free-Space Optical Links, 2021-
14. Abdalla Ibrahim, Identification Capacity and Codes, 2019-
15. Diego Lentner, Information Theory and Coding, 2019-

### **Past (26 Dr.-Ing. and 2 Ph.D.)**

1. Yusuf Şener, 2020-2026; Coding for Multi-User Communications
2. Daniel Plabst, 2023-2026; Information Rates of Short-Haul Fiber with Direct Detection
3. Thomas Wiegart, 2018-2025; Coding and Shaping for Asymmetric Channels and Fiber-Optical Channels
4. Tobias Prinz, Dr.-Ing. TUM, Oct 2025; [Polarizing Codes for Higher-Order Modulation and Direct Detection](#)
5. Emna Ben Yacoub, Dr.-Ing. TUM, Mar 2024; [Error Floors and Efficient Decoding of LDPC Codes](#)
6. Mohammad Salarisiddigh, Dr.-Ing. TUM, Jan 2024; [Deterministic Identification](#)
7. Delcho Donev, 2017-2024; Low-latency Waveforms and Coding
8. Mustafa Coşkun, Dr.-Ing. TUM, Apr 2022; [Polar Code Design for Successive Cancellation List Decoders](#)
9. Tayyab Mehmood, Ph.D. DTU, Mar 2022; [Rate-adaptive FEC for High Throughput Communications](#)
10. Javier García, Dr.-Ing. TUM, Dec 2021; [Nonlinear Perturbation for Optical Fiber Channels](#)
11. Peihong Yuan, Dr.-Ing. TUM, Nov 2021; [Polar Coding for Time-Varying Channels](#)
12. Andrei Nedelcu, Dr.-Ing. TUM, Oct 2021; [From Compact MIMO to Massive MIMO](#)
13. Amir Mehdi Ahmadian, Dr.-Ing. TUM, May 2020; [Precoding for Massive MIMO Wireless Systems](#)
14. Patrick Schulte, Dr.-Ing. TUM, Apr 2020; [Algorithms for Distribution Matching](#)
15. Thomas Jerkovits, 2016-2020; supervised by A. Wachter-Zeh since 2020, Dr.-Ing. TUM, May 2025;
16. Fabian Steiner, Dr.-Ing. TUM, Jan 2020; [Coding for Higher-Order Modulation and Probabilistic Shaping](#)
17. Lars Palzer, Dr.-Ing. TUM, Oct 2019; [Rate-Distortion Analysis of Sparse Sources and Compressed Sensing](#)
18. Marcin Pikus, Dr.-Ing. TUM, Sep 2019; [Finite-Precision and Multi-Stream Distribution Matching](#)
19. Rana Ali Amjad, Dr.-Ing. TUM, Sep 2019; [Information Theory and Factor Graphs for Machine Learning](#)
20. Markus Staudacher, 2014-2019; Quantized Precoding for Massive MIMO
21. Onur Günlü, Dr.-Ing. TUM, Nov 2018; [Key Agreement with PUFs and Biometric Identifiers](#)
22. Stefan Dierks, Dr.-Ing. TUM, Feb 2018; [Multiple Antenna Precoding: Indoor Communications and EIRP](#)
23. Hannes Bartz, Dr.-Ing. TUM, Apr 2017; [Algebraic Decoding of Subspace and Rank-Metric Codes](#)
24. Markus Stinner, Dr.-Ing. TUM, Sep 2016; [Spatially Coupled LDPC Codes on the Binary Erasure Channel](#)
25. Marwa El Hefnawy, Dr.-Ing. TUM, Dec 2015; [Spectral Efficiency of Faster-than-Nyquist Signals](#)
26. Joschi Brauchle, Dr.-Ing. TUM, Dec 2015; [Algebraic Decoding of Reed-Solomon and Related Codes](#)
27. Michael Heindlmaier, Dr.-Ing. TUM, Oct 2015; [Network Coding for Relay and Broadcast Channels](#)
28. Onurcan İşcan, Dr.-Ing. TUM, Dec 2014; [Design of Communication Systems for Two-Way Relaying](#)
29. Hassan Ghozlan, Ph.D. USC, Sep 2014; [Information Rates for Channels with Nonlinearity and Phase Noise](#)
30. Tobias Lutz, Dr.-Ing. TUM, Aug 2014; [Coding for Half-Duplex Relay Networks and The Trapdoor Channel](#)

31. Ronald Böhnke, Dr.-Ing. Univ. Bremen, Aug 2014; [Detection and Transmission for MIMO-OFDM Systems](#)
32. Jie Hou, Dr.-Ing. TUM, Aug 2014; [Coding for Relay Networks and Effective Secrecy](#)
33. Mohit Thakur, Dr.-Ing. TUM, Mar 2014; [Relay Positioning for Multicast Relay Networks](#)
34. Georg Zeitler, Dr.-Ing. TUM, Mar 2012; [Low-Precision Quantizer Design for Communication Problems](#)

#### Bell Labs (13 Interns from 2000-2008)

1. Eren Şaçoğlu, EPFL, Switzerland, 2008; Interference Channel Capacity
2. Wei Kang, Univ. Maryland, College Park, 2007; Joint Source-Channel Coding for Broadcast Channels
3. Xiaohu Shang, Syracuse Univ., 2007; Interference Channel Capacity
4. Danail Traskov, Univ. Illinois Urbana-Champaign, 2006; Coding for Networks with Interference
5. Hanan Weingarten, Technion, Israel, 2005; Diversity for Compound Broadcast Channels
6. Yingbin Liang, Univ. Illinois Urbana-Champaign, 2005; Relay Broadcast Channels
7. Tobias Koch, ETH Zurich, Switzerland, 2004; The Capacity Pre-Log of Noncoherent Relay Channels
8. Niranjan Ratnakar, Univ. Illinois Urbana-Champaign, 2004; Multicast Capacity of Relay Networks
9. Gökhan Mergen, Cornell Univ., 2003; Information Theory for Relay Channels
10. Abdelaziz Amraoui, EPFL, Switzerland, 2002; Code Design for Multi-Antenna Broadcast Channels
11. Irem Koprulu, Univ. Illinois Urbana-Champaign, 2002; Network Coding and Routing
12. Michael Gastpar, EPFL, Switzerland, 2001; Information Theory for Multiple Relay Channels
13. Raman Venkataramani, Univ. Illinois Urbana-Champaign, 2000; Multiple Description Coding

#### **Postdoc / Habilitation Supervision**

##### **Past (12 Postdocs & 3 Senior Researchers)**

1. Fariba Abbasi, Postdoc, 2025-
2. Rawad Bitar, Research Group Leader, 2024-
3. Roberto Ferrara, Postdoc, 2018-2024
4. Christian Deppe, Senior Researcher, 2018-2023; joined TU Braunschweig
5. Uzi Pereg, Postdoc, 2019-2022; joined Technion as Assistant Professor
6. Georg Böcherer, Dr.-Ing. habil. TUM, 2013-2017; Postdoc, 2012-2013; joined Huawei in Paris
7. Bernhard Geiger, Postdoc, 2014-2017; joined Know-Center GmbH in Graz
8. Yongpeng Wu, Postdoc, 2017; joined Shanghai Jiao Tong University as Research Professor
9. Youlong Wu, Postdoc, 2014-2017; joined ShanghaiTech University as Assistant Professor
10. Roy Timo, Postdoc, 2014-2016; joined Ericsson in Stockholm
11. Shirin Saeedi Bidokhti, Postdoc, 2012-2016; joined University of Pennsylvania as Assistant Professor
12. Mansoor Yousefi, Postdoc, 2012-2016; joined Telecom ParisTech as Assistant Professor
13. Luca Barletta, Postdoc, 2012-2015 ; joined Politecnico di Milano as Assistant Professor
14. Stefano Rini, Postdoc, 2011-2012; joined National Chiao-Tung University as Assistant Professor
15. Christoph Hausl, Habilitation, 2010-2013; joined Rohde & Schwarz in Munich

##### **Recognitions for Dr. Researchers & Postdocs (30 in total, selected recognitions listed)**

- Onur Günlü, *Johann Philipp Reis Award* of the VDE, 2021
- Tobias Prinz, Fabian Steiner, Thomas Wiegart, Peihong Yuan, *Heinrich Hecht Award for Code Design*, 2019
- Fabian Steiner, Georg Böcherer, Patrick Schulte, *IEEE/OSA J. Lightwave Technology Paper Award*, 2019
- Mansoor Yousefi, *IEEE Information Theory Society Paper Award*, 2018
- Georg Böcherer, *Johann Philipp Reis Award* of the VDE, 2017

## **Gerhard Kramer's Publications**, May 2026

### **Dissertations**

1. Doctoral Thesis: *Directed Information for Channels with Feedback*. Konstanz: Hartung-Gorre Verlag, 1998. ETH Series in Information Processing, Vol. 11, Ed. James L. Massey. ISBN 3-89649-379-5. DOI: [10.3929/ethz-a-001988524](https://doi.org/10.3929/ethz-a-001988524)
2. Post Diploma in Information Technology Thesis: *Single-User Channel Estimation with Periodic Pilot Sequences for Mobile Radio*. ETH Zurich, Switzerland, 1996.
3. Master of Science Thesis: *CPM Receiver Issues: The Matched Filter Bank and Sequential Sequence Estimation*. Univ. Manitoba, Canada, 1992.
4. Bachelor of Science Thesis: *Continuous Measurement of Cerebral Water Content by Time-Domain Reflectometry*. Univ. Manitoba, Canada, 1991.

### **Monographs & Overview Articles**

1. *Directed Information: Estimation, Optimization and Applications in Communications and Causality*, D. Tsur, O. Sabag, N. Kashyap, H. Permuter, and G. Kramer, *Foundations and Trends in Communications and Information Theory*, 2026. <https://arxiv.org/abs/2602.09711>
2. Y.-H. Kim and G. Kramer, "Information theory for cellular wireless networks," in *Information Theoretic Perspectives on 5G Systems and Beyond*, I. Marić, S. Shamai, O. Simeone, eds., pp. 10-92, Cambridge Univ. Press, Apr 2022. DOI: [10.1017/9781108241267](https://doi.org/10.1017/9781108241267)
3. *Topics in Multi-User Information Theory*, G. Kramer, *Foundations and Trends in Communications and Information Theory*, vol. 4, no. 4-5, pp. 265-444, 2007. DOI: [10.1561/01000000028](https://doi.org/10.1561/01000000028)
4. *Cooperative Communications*, G. Kramer, I. Marić, and R. D. Yates, *Foundations and Trends in Networking*, vol. 1, no. 3-4, pp. 271-425, 2006. DOI: [10.1561/13000000004](https://doi.org/10.1561/13000000004)
5. *Advances in Network Information Theory*, P. Gupta, G. Kramer, and A. J. van Wijngaarden, Eds., DIMACS Series in Discrete Math. and Theoret. Comp. Sci., vol. 66, Amer. Math. Soc., 2004. ISBN: [978-0-8218-3467-1](https://doi.org/978-0-8218-3467-1)

### **Articles in Books, Newsletters, or Reviews** (13 in total)

1. K. V. Mishra, R. C. de Lamare, M. Matthaiou, G. Kramer, E. Knightly, and D. Mittleman, "Guest editorial: Introduction to the special issue on electromagnetic signal and information theory for communications," *IEEE J. Sel. Areas Commun.*, vol. 42, no. 6, pp. 1475-1478, Jun 2024. DOI: [10.1109/JSAC.2024.3383168](https://doi.org/10.1109/JSAC.2024.3383168)
2. M. Fornasier, D. Hong, G. Kramer, L. Palzer, M. Rauchensteiner, and X. X. Zhu, "Information theory and recovery algorithms for data fusion in earth observation," in *Compressed Sensing in Information Processing*, G. Kutyniok, H. Rauhut, R. J. Kunsch, eds., pp. 435-469, Birkhäuser Cham, Oct 2022. DOI: [10.1007/978-3-031-09745-4\\_14](https://doi.org/10.1007/978-3-031-09745-4_14)
3. G. Kramer, G. Liva, D. Donev, and M. C. Coşkun, "Efficient coding and modulation for satellite links with severe delay constraints," in *Munich Aerospace Report. New Horizons in Space Technology*, Munich Aerospace e. V., pp. 91-105, Apr 2020
4. J. Hou, G. Kramer, and M. Bloch, "Effective secrecy: reliability, confusion and stealth," in *Information Theoretic Security and Privacy of Information Systems*, H. Boche, A. Khisti, H. V. Poor, and R. F. Schaefer, eds., pp. 3-20, Cambridge Univ. Press, Jun 2017. DOI: [10.1017/9781316450840.002](https://doi.org/10.1017/9781316450840.002)
5. G. Kramer, "Teaching IT: An identity for the Gelfand-Pinsker converse," *IEEE Inf. Theory Soc. Newsletter*, vol. 61, no. 4, pp. 4-6, Dec 2011
6. G. Kramer, R. A. Berry, A. El Gamal, H. El Gamal, M. Franceschetti, M. Gastpar, and J. N. Laneman, "Introduction to the special issue on models, theory, and codes for relaying and cooperation in communication networks," *IEEE Trans. Inf. Theory*, vol. 53, no. 10, pp. 3297-3301, Oct 2007. DOI: [10.1109/TIT.2007.905003](https://doi.org/10.1109/TIT.2007.905003)
7. G. Kramer, "Communication strategies and coding for relaying," *Wireless Communications*, IMA Volumes in Mathematics and its Applications, vol. 143, P. Agrawal, D. M. Andrews, P. J. Fleming, G. Yin, and L. Zhang, eds., pp. 163-175, Springer: New York, 2007. DOI: [10.1007/978-0-387-48945-2\\_7](https://doi.org/10.1007/978-0-387-48945-2_7)

8. G. Kramer and S. A. Savari, "On networks of two-way channels," *Algebraic Coding Theory and Information Theory, DIMACS Workshop, Dec. 15-18, 2003*, DIMACS Series in Discrete Math. and Theoret. Comp. Sci., vol. 68, A. Ashikhmin and A. Barg, eds., pp. 133-143, 2005 ISBN: 978-0-8218-3626-2
9. S. Vishwanath, G. Kramer, S. Shamai (Shitz), S. Jafar, and A. Goldsmith, "Capacity bounds for Gaussian vector broadcast channels," *Multiantenna Channels: Capacity, Coding and Signal Processing, DIMACS Workshop, Oct. 7-9, 2002*, DIMACS Series in Discrete Math. and Theoret. Comp. Sci., vol. 62, G. J. Foschini and S. Verdú, eds., pp. 107-122
10. G. Kramer, J. E. Mazo, and S. A. Savari, "Eulogy for Claude Elwood Shannon," *ACM SIGMOBILE Mobile Comp. and Commun. Review*, vol. 5, no. 1, p. 1, Jan 2001. DOI: [10.1145/2F584091](https://doi.org/10.1145/2F584091)
11. J. Ruprecht, U. Loher, and G. Krämer, "Code time division multiple access," *COST Action 231 – Digital Mobile Radio Towards Future Generation System: Final Report*, Ch. 7, pp. 386-414, 1999. [EU Link](#)
12. C. Harpes, G. G. Kramer, and J. L. Massey, "A generalization of linear cryptanalysis and the applicability of Matsui's piling-up lemma," *Advances in Cryptology - Eurocrypt '95, Lecture Notes in Comp. Sci. No. 921*, L. C. Guillou and J.-L. Quisquater, eds., pp. 24-38, Springer, 1995. DOI: [10.1007/3-540-49264-X\\_3](https://doi.org/10.1007/3-540-49264-X_3)
13. J. Ruprecht, U. Loher, and G. Krämer, "Code time division multiple access," *Mobile and Personal Commun., Proc. 2nd Joint COST 227/231 Workshop on Mobile and Personal Commun., Florence, Italy, April 20-21, 1995*, E. Del Re, ed., pp. 317-325, Elsevier, 1995

#### Journal Articles (84 in total)

1. D. Plabst, M. Akrouf, A. Mezghani, and G. Kramer, "Information rates of approximate message passing for bandlimited direct-detection channels," *IEEE Trans. Inf. Theory*, accepted, 2026. DOI: [10.1109/TIT.2026.3686091](https://doi.org/10.1109/TIT.2026.3686091)
2. A. Favano, L. Barletta, A. Dytso, and G. Kramer, "Non-coherent Rayleigh fading channels: properties of the capacity-achieving input," *IEEE Trans. Inf. Theory*, vol. 71, no. 7, pp. 5258-5276, Jul 2025. DOI: [10.1109/TIT.2025.3565653](https://doi.org/10.1109/TIT.2025.3565653)
3. A. Jäger and G. Kramer, "Information rates of successive interference cancellation for optical fiber," *IEEE J. Sel. Areas Commun.*, vol. 43, no. 5, pp. 1484-1497, May 2025. DOI: [10.1109/JSAC.2025.3543543](https://doi.org/10.1109/JSAC.2025.3543543)
4. D. Plabst, T. Prinz, F. Diedolo, T. Wiegart, G. Böcherer, N. Hanik, and G. Kramer, "Neural network-based successive interference cancellation for non-linear bandlimited channels," *IEEE Trans. Commun.*, vol. 73, no. 3, pp. 1847-1861, Mar 2025. DOI: [10.1109/TCOMM.2024.3454026](https://doi.org/10.1109/TCOMM.2024.3454026)
5. T. Prinz, D. Plabst, T. Wiegart, S. Calabrò, N. Hanik, and G. Kramer, "Successive interference cancellation for bandlimited channels with direct detection," *IEEE Trans. Commun.*, vol. 72, no. 3, pp. 1330-1340, Mar 2024. DOI: [10.1109/TCOMM.2023.3337254](https://doi.org/10.1109/TCOMM.2023.3337254)
6. M. Y. Şener, R. Böhnke, W. Xu, and G. Kramer, "Achieving the dirty paper channel capacity with scalar lattices and probabilistic shaping," *IEEE Commun. Lett.*, vol. 28, no. 1, pp. 29-33, Jan 2024. DOI: [10.1109/LCOMM.2023.3339252](https://doi.org/10.1109/LCOMM.2023.3339252)
7. M. M. Mahvari and G. Kramer, "Stability of Bernstein's theorem and soft doubling for vector Gaussian channels," *IEEE Trans. Inf. Theory*, vol. 69, no. 10, pp. 6231-6250, Oct 2023. DOI: [10.1109/TIT.2023.3293311](https://doi.org/10.1109/TIT.2023.3293311)
8. D. Lentner, E. Ben Yacoub, S. Calabrò, G. Böcherer, N. Stojanović, G. Kramer, "Concatenated forward error correction with KP4 and single parity check codes," *IEEE/OSA J. Lightw. Technol.*, vol. 41, no. 17, pp. 5641-5652, Sep 1, 2023. DOI: [10.1109/JLT.2023.3269325](https://doi.org/10.1109/JLT.2023.3269325)
9. G. Kramer, "Information rates for channels with fading, side information and adaptive codewords," *Entropy*, vol. 25, no. 5, article 728, 2023. DOI: [10.3390/e25050728](https://doi.org/10.3390/e25050728)
10. F. J. García-Gómez and G. Kramer, "Rate and power scaling of space-division multiplexing via nonlinear perturbation," *IEEE/OSA J. Lightw. Technol.*, vol. 40, no. 15, pp. 5077-5082, Aug 1, 2022. DOI: [10.1109/JLT.2022.3172625](https://doi.org/10.1109/JLT.2022.3172625)
11. D. Plabst, T. Prinz, T. Wiegart, T. Rahman, N. Stojanović, S. Calabrò, N. Hanik, and G. Kramer, "Achievable rates for short-reach fiber-optic channels with direct detection," *IEEE/OSA J. Lightw. Technol.*, vol. 40, no. 12, pp. 3602-3613, Jun 15, 2022. DOI: [10.1109/JLT.2022.3149574](https://doi.org/10.1109/JLT.2022.3149574)

12. A. Nedelcu, F. Steiner, and G. Kramer, “Low-resolution precoding for multi-antenna downlink channels and OFDM,” *Entropy*, vol. 24, no. 4, article 504, Apr 2022. DOI: [10.3390/e24040504](https://doi.org/10.3390/e24040504)  
See also “Correction: Nedelcu et al. Low-resolution precoding for multi-antenna downlink channels and OFDM,” *Entropy*, vol. 25, no. 5, article 445, Mar 2023. DOI: [10.3390/e25030445](https://doi.org/10.3390/e25030445)
13. P. Schulte, R. A. Amjad, T. Wiegart, and G. Kramer, “Invertible low-divergence coding,” *IEEE Trans. Inf. Theory*, vol. 68, no. 1, pp. 178-192, Jan 2022. DOI: [10.1109/TIT.2021.3120066](https://doi.org/10.1109/TIT.2021.3120066)
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## Conference Papers (187 in total; 143 regular and 44 invited; recent and selected papers listed)

### Recent Papers

1. A. Gohari and G. Kramer, “Dependence balance bound for reliable communication over networks,” *IEEE Int. Symp. Inf. Theory*, Guangzhou, China, 2026.
2. A. Jäger and G. Kramer, “Feedforward phase noise compensation for intersymbol-interference channels,” *IEEE Int. Symp. Inf. Theory*, Guangzhou, China, 2026.
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DOI: [10.1109/ISIT63088.2025.11195245](https://doi.org/10.1109/ISIT63088.2025.11195245)

### Selected Papers with results available in conference paper only

1. G. Kramer, “Feedback gains for Gaussian massive multiple-access channels,” *IEEE Inf. Theory Workshop*, Kanazawa, Japan, pp. 1-3, Oct 17-21, 2021. DOI: [10.1109/ITW48936.2021.9611423](https://doi.org/10.1109/ITW48936.2021.9611423)
2. G. Kramer, “Divergence scaling for distribution matching,” *IEEE Int. Symp. Inf. Theory*, Melbourne, Australia, pp. 1159-1163, Jul 12-20, 2021. DOI: [10.1109/ISIT45174.2021.9517945](https://doi.org/10.1109/ISIT45174.2021.9517945)
3. D. Lentner and G. Kramer, “Stealth communication with vanishing power over binary symmetric channels,” *IEEE Int. Symp. Inf. Theory*, Los Angeles, CA, pp. 822-827, Jun 21-26, 2020.  
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