

Gerhard Kramer

Curriculum Vitae, January 2024

Work Address

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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
Senior Vice President 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 Guest Professor, Dept. Photonics Engineering, DTU, Lyngby, Denmark 2017-2018
- 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
- *Vodafone Innovations Prize*, 2011
- *Alexander von Humboldt Professorship*, 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 TUM Office for Research and Innovation (TUM ForTe), 2019-
- Chair/member of numerous (≈ 20) university boards as Senior VP, 2019-
- Appointment and Tenure Board, 2012- (Chair since 2019)
- Int. Graduate School of Science and Engineering (IGSSE), 2016- (Deputy Director since 2016)
- Supervision TUM Sustainability Office and Sustainable Futures Strategy, 2020-2023
- Institute for Advanced Study Advisory Council, 2011-2017

Partner Director & Supervisory Boards

- TUM Venture Labs Management gGmbH, 2022-
- MQV e.V. (Munich Quantum Valley), 2022-
- TUM CREATE Ltd., Singapore, 2022-
- IMT Science Council, 2020-
- Board of Curators, Max Planck Institute of Quantum Optics, Garching, 2020-
- Steering Committee, German-French Academy for the Industry of the Future, 2019-

ECE / CE Department

- Master of Science in Communications Eng. (MSCE) Program Director, 2010-2020
- Bachelor Study Exam Board, 2016-2019
- Gender Equality Officer, 2015-2019
- Committee for Equal Opportunity (Chair), 2014-2018
- Strategy Committee, 2011-2014
- Numerous W3 Professor search committees, 2011-2018

Bavarian Academy of Sciences & Humanities (BAdW)

- Forum Technologie, 2016-
- Selection Committee, Junges Kolleg, 2017-
- Symposium Organizer: Informationsübertragung mit Photonen, Apr 2018

Bavaria & Germany

- Board of Curators, Eduard Rhein Foundation, 2013-
- VDE ITG Information and System Theory Technical Committee (Fachausschuss KT 1), 2011-
- VDE ITG Awards Committees, 2015-2021
- Mentor, Max Weber Program, 2016-2023
- Vertrauensdozent, Bayerische EliteAkademie, 2017-2019

Evaluator & Examiner

- 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
- Chair of the “Strukturkommission” for the DLR Institute for Communications and Navigation, 2018
- Panel reviewer for funding agencies in Austria (FWF), Finland (Academy of Finland), Germany (BMBF, DFG), Sweden (SRC), and USA (DARPA, NSF)
- Member and external evaluator for 12 professor search committees in Asia and Europe, 2011-
- External examiner of 5 habilitation à diriger des recherches (HDR) in France, 2012-
- External examiner of 56 Dr. / Ph.D. dissertations in Asia, Australia, Europe, North America, 2004-

Local Workshop Chair (33 events in total, selected events listed)

- Joint DIP & Ollendorff-Minerva Center Workshop on Cognitive Cloud Networks, Munich, Mar 2023
- Workshop on Coding, Coop. & Security in Commun. Networks (COCO), Haifa 2018, Munich 2019-2021
- Munich Workshop on Information Theory of Optical Fiber (MIO), Dec 2014-2016, 2018
- Claude Shannon 100th Birthday Celebration, Heinz Nixdorf Museum, Germany, May 2016

IEEE Information Theory Society

Elected Positions and Committees

- President (2013), 1st Vice President (2012), 2nd Vice President (2011)
- Board of Governors, 2009-2015
- Numerous committees since 2005

Editorships

- Foundations and Trends in Communications and Information Theory, 2012-
- Guest Editor, *Entropy* Special Issue on Information Theory of Optical Fiber, 2020
- Associate Editor for Shannon Theory, *IEEE Trans. Inf. Theory*, 2006-2009
- Guest Editor, *IEEE Trans. Inf. Theory* Special Issue on Relaying & Cooperation, Oct 2007
- Publications Editor, *IEEE Trans. Inf. Theory*, 2004-2005

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 (involved with 34 Schools with over 3000 Ph.D. students)

- Europe (10 schools): 2012 (Chair), 2013-2022
- North America (15 schools): 2008-2010 (Founding Chair), 2011-2022
- Africa, Australia, East Asia, India (8 schools): 2014-2017
- Latin American School (1 school): 2018
- the ITSoc school program was recognized by the *Society/Council Professional Development Award* of the IEEE Educational Activities Board in 2014

IEEE Communications and Photonics Societies

- Guest Editor, *IEEE J. Special Areas in Commun. (J-SAC)*, Issue on EM Signal & Inf. Theory, 2023-2024
- Photonics Society Fellow Evaluations, 2020
- Technical Program Chair: ISWCS 2011 (Aachen)
- ComSoc Emerging Technologies Committee, 2009-2011
- ComSoc Technical Program Committees: over 75 in total

IEEE Awards

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

Invited Talks & Lectures (recent talks listed)

Keynote, Plenary & Distinguished Lectures (32 in total)

Talks at Universities, Industrial Labs & Workshops (172 in total)

- “Network Coding and Edge-Cut Bounds,” *Workshop on Information Theory and Related Fields, In Memory of Ning Cai*, Bielefeld, Germany, Nov 25, 2023
- “Information Rates via Auxiliary Models based on MMSE and LMMSE Estimation,” *Joint DIP & Ollendorff-Minerva Center Workshop*, Munich, Germany, Mar 17, 2023
- “Short Blocklength Polar Codes for Non-Coherent Channels, Probabilistic Shaping, and Dirty-Paper Coding,” *Int. Symp. Topics Coding*, Montréal, Canada, Aug. 29-30, 2022

Talks for Local Audiences (30 in total)

Doctoral Thesis Supervision

Current

1. Daniel Plabst, Direct Detection for Short-Reach Optical, 2023-
2. Mustafa Karağöz, Learning for Wireless, 2023-
3. Alex Jäger, Receivers for Optical Channels, 2022-
4. Andreas Straßhofer, Coding for Wireless, 2022-
5. Yutong Han, Communications Theory, 2022-
6. Alexander Sauter, Code Design for Low Latency, 2022-
7. Hooman Asgari, Massive Multiple Access, 2022-
8. Constantin Runge, Polar Codes, 2021-
9. Lorenzo Zaniboni, Joint Communication and Sensing, 2021-
10. Mahdi Mahvari, Wireless Communications, 2021-
11. Francesca Diedolo, Short Reach Optical Communications, 2021-
12. Ayman Zahr, Coding and Modulation for Free-Space Optical Links, 2021-
13. Yusuf Şener, Coding for Multi-user Communications, 2020-
14. Abdalla Ibrahim, Identification Capacity and Codes, 2019-
15. Diego Lentner, Information Theory and Coding, 2019-
16. Thomas Wiegart, Polar Codes and Shaping, 2018-

Past (24 Dr.-Ing. and 2 Ph.D.)

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

30. Mohit Thakur, Dr.-Ing. TUM, Mar 2014; [Relay Positioning for Multicast Relay Networks](#)
31. Georg Zeitler, Dr.-Ing. TUM, Mar 2012; [Low-Precision Quantizer Design for Communication Problems](#)

Bell Labs (13 Interns from 2000-2008)

1. Eren Şaşıoğlu, 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 (11 Postdocs, 2 Habilitations)

1. Christian Deppe, Dr.-Ing. habil. TUM, 2020-2023; joined TU Braunschweig
2. Uzi Pereg, Postdoc, 2019-2022; joined Technion as Assistant Professor
3. Georg Böcherer, Dr.-Ing. habil. TUM, 2013-2017; Postdoc, 2012-2013; joined Huawei in Paris
4. Bernhard Geiger, Postdoc, 2014-2017; joined Know-Center GmbH in Graz
5. Yongpeng Wu, Postdoc, 2017; joined Shanghai Jiao Tong University as Research Professor
6. Youlong Wu, Postdoc, 2014-2017; joined ShanghaiTech University as Assistant Professor
7. Roy Timo, Postdoc, 2014-2016; joined Ericsson in Stockholm
8. Shirin Saeedi Bidokhti, Postdoc, 2012-2016; joined University of Pennsylvania as Assistant Professor
9. Mansoor Yousefi, Postdoc, 2012-2016; joined Telecom ParisTech as Assistant Professor
10. Luca Barletta, Postdoc, 2012-2015 ; joined Politecnico di Milano as Assistant Professor
11. Stefano Rini, Postdoc, 2011-2012; joined National Chiao-Tung University as Assistant Professor
12. Christoph Hausl, Habilitation, 2010-2013; joined Rohde & Schwarz in Munich

Recognitions for Dr. Researchers & Postdocs (29 in total, selected recognitions listed)

- Francesca Diedolo, *Lecturer Award (Dozentenpreis)*, Student Assoc. (Fachschaft), TUM CIT School, 2023
- Constantin Runge, *Prof. Ralf Kötter Memorial Award*, 2022
- Onur Günlü, *Johann Philipp Reis Award* of the VDE, 2021
- Thomas Wiegart, *Lecturer Award (Dozentenpreis)*, Student Association (Fachschaft), TUM ECE Dept., 2020
- Diego Lentner, *Prof. Ralf Kötter Memorial Award*, 2020
- Emna Ben Yacoub, *Ingenieurinnen-Preis*, Bavarian Ministry of Sciences and the Arts, 2019
- Tobias Prinz, Fabian Steiner, Thomas Wiegart, Peihong Yuan, *Heinrich Hecht Award* for Code Design, 2019
- Fabian Steiner, Georg Böcherer, Patrick Schulte, *IEEE/OSA J. Lightw. Technol. Paper Award*, 2019
- Mansoor Yousefi, *IEEE Information Theory Society Paper Award*, 2018
- Georg Böcherer, *Johann Philipp Reis Award* of the VDE, 2017

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

USC (2009-2010)

- Master courses: Information Theory, Multi-User Information Theory

Other: 7 courses from 1999-2008 at ETH, Columbia Univ., Korea, Lund & Aalborg Universities

Short Courses & Tutorials

Ferienakademie Sarntal, Südtirol, short course of 2 weeks (11 in total)

- Neural Network Compression (Bachelor & Master students), Sep 2023
- Physical Models meet Deep Learning (Bachelor & Master students), Sep 2022
- Advanced Topics in Information Theory and Communications (Doctoral Course), Sep-Oct 2021
- Machine Learning in Signal Processing & Communications (Bachelor & Master students), Sep-Oct 2019

Advanced Information Theory and Coding (28 in total, 2003-2018)

Gerhard Kramer's Publications, January 2024

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 & Edited Book

1. *Topics in Multi-User Information Theory*, G. Kramer, Foundations and Trends in Commun. and Inf. Theory, Hanover, MA: now Publishers Inc., vol. 4, no. 4-5, pp. 265-444, 2007. DOI: [10.1561/0100000028](https://doi.org/10.1561/0100000028)
2. *Cooperative Communications*, G. Kramer, I. Marić, and R. D. Yates, Foundations and Trends in Network. Hanover, MA: now Publishers Inc., vol. 1, no. 3-4, pp. 271-425, 2006. DOI: [10.1561/1300000004](https://doi.org/10.1561/1300000004)
3. *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.

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

1. 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)
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: [10.1017/9781108241267.002](https://doi.org/10.1017/9781108241267.002)
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
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 (80 in total)

1. M. Yusuf Şener, R. Böhnke, W. Xu, and G. Kramer, "Achieving the dirty paper channel capacity with scalar lattices and probabilistic shaping," *IEEE Commun. Lett.*, early access. DOI: [10.1109/LCOMM.2023.3339252](https://doi.org/10.1109/LCOMM.2023.3339252)
2. 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.*, early access. DOI: [10.1109/TCOMM.2023.3337254](https://doi.org/10.1109/TCOMM.2023.3337254)
3. 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)
4. 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)
5. 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)
6. 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)
7. 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. 3602-33613, Jun 15, 2022. DOI: [10.1109/JLT.2022.3149574](https://doi.org/10.1109/JLT.2022.3149574)
8. 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)
9. 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)
10. M. Yusuf Şener, R. Böhnke, W. Xu, and G. Kramer, "Dirty paper coding based on polar codes and probabilistic shaping," *IEEE Commun. Lett.*, vol. 25, no. 12, pp. 3810-3813, Dec 2021. DOI: [10.1109/LCOMM.2021.3113722](https://doi.org/10.1109/LCOMM.2021.3113722)
11. P. Yuan, M. C. Coşkun, and G. Kramer, "Polar-coded non-coherent communication," *IEEE Commun. Lett.*, vol. 25, no. 6, pp. 1786-1790, Jun 2021. DOI: [10.1109/LCOMM.2021.3061650](https://doi.org/10.1109/LCOMM.2021.3061650)
12. F. J. García-Gómez and G. Kramer, "Mismatched models to lower bound the capacity of dual-polarization optical fiber channels," *IEEE/OSA J. Lightw. Technol.*, vol. 39, no. 11, pp. 3390-3399, Jun 1, 2021. DOI: [10.1109/JLT.2021.3069686](https://doi.org/10.1109/JLT.2021.3069686)
13. F. J. García-Gómez and G. Kramer, "Mismatched models to lower bound the capacity of optical fiber channels," *IEEE/OSA J. Lightw. Technol.*, vol. 38, no. 24, pp. 6779-6787, Dec 15, 2020. DOI: [10.1109/JLT.2020.3021277](https://doi.org/10.1109/JLT.2020.3021277)

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