# Daniel P. **Palomar** | Professor

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## Research Interests

Optimization methods, high-frequency data, and deep learning in financial systems.

## Academic Qualifications

- **1999–2003** Ph.D. *cum laude* in Electrical Engineering, Technical University of Catalonia (UPC), Barcelona, Spain *(exchange student at Stanford University)*
- **1998** M.Sc. with honours in Electrical Engineering, King's College London (KCL), London, UK
- **1993–1998** B.Sc. with honours in Electrical Engineering, Technical University of Catalonia (UPC), Barcelona, Spain

## Summary of Employment

- **2014–present** Full Professor, Hong Kong University of Science and Technology (HKUST)
- **2013–2018** Fellow, Institute for Advanced Study of HKUST
- **2010–2012** Consultant, Research Center CTTC-HK
- **2010–2014** Associate Professor, Hong Kong University of Science and Technology (HKUST)
- **2006–2010** Assistant Professor, Hong Kong University of Science and Technology (HKUST)
- **2006** Research Associate, Princeton University, Princeton, NJ
- **2004–2006** Fulbright Research Fellow, Princeton University, Princeton, NJ
- **2003–2004** Visiting Researcher, University of Rome "La Sapienza", Rome, Italy
- **2003** Guest Researcher, Royal Institute of Technology (KTH), Stockholm, Sweden
- **1999–2003** Research Assistant, Technical University of Catalonia (UPC), Barcelona, Spain
- **2002** Visiting Researcher, Telecommunications Technology Center of Catalonia, Barcelona, Spain
- **2001** Visiting Researcher, Stanford University, Stanford, CA

## Career Totals

**Publications:**

- Books/monographs: 5
- Book chapters: 9
- Journal papers: 133
- Conference papers: 140
- h-index: 72 / 51 (Google Scholar / ISI Web of Knowledge)
- Total citations: 24,000+
- Top-3 cited papers: 2,028 / 1,961 / 1,438 citations (Google Scholar)

**Funding:**

- Funded projects: 25
- Total amount as PI: HK$9,415,560

**Students advised:**

- PhD/MPhil students: 24 / 7
- Visiting students: 19
- Postdocs: 7

## Honors and Awards

- **Keynote Speaker** at the 2026 Graph Signal Processing (GSP) Workshop, Madrid, Spain.
- **EURASIP Fellow**[1] for "contributions to optimization theory and algorithms with applications in communication systems and finance," Feb. 2024.
- **Keynote Speaker** at the ICAIF Workshop 2022 on NLP and Network Analysis in Financial Applications, ACM Conference on AI in Finance, New York, USA.
- **Plenary Speaker** at the 2022 Statistical Learning for Signal and Image Processing Workshop, Cadaques, Spain.
- 2020 Young Author **Best Paper Award** (co-author) by the IEEE Signal Processing Society.
- **Plenary Speaker** at the 2020 Graph Signal Processing (GSP) Workshop, Madrid, Spain.
- **Tutorial Presenter** at the 2019 European Signal Processing Conference (EUSIPCO), A Coruña, Spain.
- **Invited Tutorial Speaker** at Eurocast 2019, Las Palmas de Gran Canaria, Spain.
- **Plenary Speaker** at IEEE SSP 2018, Freiburg, Germany.
- **Plenary Speaker** at IEEE CAMSAP 2017, Curaçao, Dutch Antilles.
- **Tutorial Presenter** at ICASSP 2017, New Orleans, USA.
- **Invited Speaker** at Global Quant Conference 2017, Deutsche Bank, Hong Kong.
- 2016 **Research Excellence Award** by HKUST.
- **Tutorial Presenter** at ICASSP 2016, Shanghai, China.
- 2015 Young Author **Best Paper Award** (co-author) by the IEEE Signal Processing Society.
- **Fellow** of the Institute for Advanced Study of HKUST (2013–2018).
- **IEEE Fellow** for "contributions to convex optimization-based signal processing for communications," 2012.
- **Keynote Speaker** at the 2013 Workshop on Signal Processing and Optimization for Wireless Communications: In Memory of Are Hjorungnes, NTNU, Trondheim, Norway.
- **Tutorial Presenter** at ICASSP 2011, Prague, Czech Republic.
- **Keynote Speaker** at the 2009 Australian Communication Theory Workshop (AusCTW2009), University of New South Wales, Sydney, Australia.
- **Plenary Speaker** at the 2008 IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC'08), Recife, Brazil.
- 2004 Young Author **Best Paper Award** by the IEEE Signal Processing Society.
- 2004 Prize for the best Doctoral Thesis in Advanced Mobile Communications by the Vodafone Foundation and COIT.
- 2003/2004 **Fulbright Scholarship** at Princeton University, Princeton, NJ.
- 2002/2003 Rosina Ribalta first prize for the best Doctoral Thesis in Information Technologies and Communications by the Epson Foundation.
- 2002/2003 Best Ph.D. prize in Information Technologies and Communications by the Technical University of Catalonia (UPC).

## Teaching

Textbook: *Portfolio Optimization: Theory and Practice*, Cambridge University Press, 2025.

- **MFIT5009** Optimization in FinTech, MSc in FinTech.
- **MAFS5310** Portfolio Optimization with R, MSc in Financial Mathematics.
- **ELEC3189** Data-Driven Portfolio Optimization (Undergraduate).
- **ELEC5470** Convex Optimization (Postgraduate): student evaluation ~98/100 points; students from ECE, CSE, MATH, and IELM (textbook: *Convex Optimization in Signal Processing and Communications*, Cambridge University Press, 2009).

[1] The EURASIP Fellowship is awarded to four people every year in the Signal Processing area.

## Research Group

- Arnau Vilella Piqué, PhD student (2024–)
- Yifan Yu, PhD student (2022–)
- Zhewei Li, PhD student (2025–)
- Zixuan Jiang, PhD student (2023–)
- Aditya Mangla, MPhil student (2025–)
- Jong Ho Ju, MPhil student (2024–)
- Vinayak Khurana, MPhil student (2025–)
- Joel Solé Casale, visiting BSc student (2025–)
- Jonathan Rodríguez Barja, visiting BSc student (2025–)

Full list of alumni, visiting students, and theses: https://www.danielppalomar.com/group/

## Funded Projects

- **GRF 16206123** (PI), Graph Estimation Methods for Practical Systems, Jan 2024 – Dec 2026, HK$941,622
- **GRF 16207820** (PI), Data-Driven Methods for Large-Scale Network Inference, Jan 2021 – Dec 2023, HK$602,349
- **GRF 16201620** (Co-I), Deep Learning Models for Predicting Antigenic Properties of Influenza, Jul 2020 – Jun 2023, HK$845,055
- **GRF 16207019** (PI), Optimization Methods for Structured Graph Learning via Spectral Constraints, Sep 2020 – Dec 2022, HK$673,470
- **GRF 16208917** (PI), Portfolio Optimization: From Wireless Communications to Financial Engineering, Sep 2017 – Aug 2020, HK$600,000
- **TRS T21-602/15R** (Co-I), Smart Urban Water Supply Systems, Jan 2016 – Dec 2020, HK$49,296,000
- **HKUST FP602** (PI), Low Complexity Techniques for Frugal Covariance Sensing, Oct 2015 – Oct 2017, HK$95,900
- **RGC 16206315** (PI), Convex Optimization Methods for Advanced Sequence Design, Sep 2015 – Aug 2018, HK$696,029
- **RGC 16207814** (PI), Parameter Estimation for Heavy-Tailed Distributions with Outliers, Sep 2014 – Aug 2017, HK$796,828
- **RGC 617312** (PI), Discovering Signals in Large Sets of High-Dimensional Data, Sep 2012 – Aug 2015, HK$575,000
- **RPC11EG39** (PI), Adaptive Learning for Decision-Making: From Signal Processing to Financial Engineering, Jun 2011 – May 2014, HK$320,000
- **RGC 617911** (PI), Robust Optimization and Estimation: On the Pathway to Practical Implementations, Sep 2011 – Aug 2014, HK$721,050
- **RGC 610411** (Co-I, PI: B. Bensaou), Taming IEEE802.11-based WLANs via Joint Channel Assignment, Association Control, Rate Control, and Contention Resolution, Jan 2012 – Dec 2014, HK$699,122
- **RGC 617810** (PI), Variational Inequality Theory: A Framework for Optimization, Game Theory, and Complementary Problems, Jan 2011 – Apr 2014, HK$578,287
- **RGC 618709** (PI), Cognitive Radio Wireless Systems: From Conservative to Flexible Designs via Variational Inequalities, Jan 2010 – Dec 2012, HK$1,065,418
- **NSFC/RGC N_HKUST604/08** (PI, joint w/ P. Fan), Distributed Optimization of Infrastructureless MIMO Networks via Game Theory, Jan 2009 – Dec 2011, HK$667,600
- **DAG_S08/09.EG05** (PI), Precoder Design for MIMO Channels with Arbitrary Signaling, Jun 2009 – Jun 2010, HK$67,160
- **RGC 610409** (Partner, PI: B. Bensaou), Joint Contention Windows Adjustment and Congestion Control in Multi-Radio Wireless Mesh Networks, Jul 2009 – Jun 2012, HK$658,007
- **Consolider CDS2008-00010** (Partner, PI: J. Fonollosa), Foundations and Methodologies for Future Communication and Sensor Networks (COMONSENS), 2010 – 2015, €3,500,000
- **RGC 618008** (PI), Distribution of the Eigenvalues of Random Covariance Matrices with Applications

to MIMO Systems, Jan 2009 – Dec 2010, HK$571,647
- **HKTIIT/VFP/08-003** (PI), Fellow Visiting Program, Dec 2008 – Jan 2009, HK$43,200
- **RPC07/08.EG23** (PI), Waveform Design for MIMO Radar, May 2008 – Apr 2010, HK$300,000
- **NSFC 60702081** (Partner, PI: W. Xu), Generalized Congestion Control for Ad Hoc Networks, Jan 2008 – Dec 2010, ¥260,000
- **Consolider TEC2006-06481** (Partner, PI: J. Fonollosa), Fundamental Bounds in Network Information Theory (LITIS), Nov 2006 – Nov 2010, €360,000
- **DAG06/07.EG02** (PI), Analytical Performance Characterization of Low-Complexity Linearly Precoded MIMO Systems, Dec 2006 – Nov 2007, HK$100,000

## Professional Service

### Committee Membership

- Member of the EURASIP Fellow Nomination Committee (2025–2028).
- Member of the IEEE Bell Graham Medal Committee (2013–2016).
- Member of the IEEE SPCOM Technical Committee (2007–2010).

### Journal Editorship

- **Guest Editor** of the 2020 Special Issue of Elsevier Signal Processing on "Processing and Learning over Graphs."
- **Guest Editor** of the 2016 Special Issue of IEEE JSTSP on "Financial Signal Processing and Machine Learning for Electronic Trading."
- **Associate Editor** of IEEE Trans. on Information Theory (2010–2014).
- **Associate Editor** of IEEE Trans. on Signal Processing (2007–2010).
- **Guest Editor** of the 2010 Special Issue of IEEE Signal Processing Magazine on "Convex Optimization for Signal Processing." (Co-editors: T. Luo, Y. Eldar, K. Ma, and N. Sidiropoulos.)
- **Guest Editor** of the 2008 Special Issue of IEEE JSAC on "Game Theory in Communication Systems." (Co-editors: J. Huang, N. Mandayan, S. Wicker, J. Walrand, and T. Basar.)
- **Lead Guest Editor** of the 2007 Special Issue of IEEE JSAC on "Optimization of MIMO Transceivers for Realistic Communication Networks." (Co-editors: T. Davidson, S. Barbarossa, A. Goldsmith, and G. Giannakis.)

### Conference Organization

- Organizing Committee (Plenary Co-Chair) of EUSIPCO 2027, Darmstadt, Germany.
- Organizing Committee (Plenary Chair) of IEEE SSP 2027, Annecy, France.
- Organizing Committee (Tutorial Chair) of IEEE SPAWC 2015, Stockholm, Sweden.
- Organizing Committee (Tutorial Chair) of IEEE ICASSP 2015, Brisbane, Australia.
- Organizing Committee (Keynote Speakers Chair) of ISWCS 2014, Barcelona, Spain.
- Organizing Committee (Tutorial Chair) of EUSIPCO 2011, Barcelona, Spain.
- General Co-Chair of IEEE CAMSAP 2009, Aruba.
- Chair of the IEEE Hong Kong Information Theory Society (2010).
- Vice-Chair of the IEEE Hong Kong Information Theory Society (2009).
- Organizer of special sessions at Asilomar 2013, CAMSAP 2011, DSP 2011, CIP 2010, CAMSAP 2009, GameNets 2009, ICASSP 2007.

### Reviewing

- Technical Program Committees: SAM (2014), ICASSP (2008–2013), ISIT (2009, 2011, 2013), SPAWC (2009–2013), CAMSAP (2005–2013), and others.
- Reviewer for IEEE Trans. on Signal Processing, IEEE Trans. on Information Theory, IEEE Trans. on Communications, IEEE JSAC, IEEE Trans. on Wireless Communications, IEEE Trans. on Automatic Control, IEEE Signal Processing Magazine, EURASIP Signal Processing.

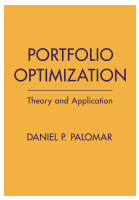
## University Service

- Member of the Engineering Research Committee (2024–2026).

- Chair of the ECE International PG Taskforce (2022–present).
- Member of the ECE MSc Taskforce (2022–present).
- Member (deputy) of the ECE Merit Salary Review Committee (2021–present).
- Member of the ECE PG committee (2009–present).
- Member of the ECE Long-Term Plan Committee (2017–present).
- Chair of the ECE Search & Appointments Committee (2018–2019).
- Member of the SENG Research Awards Selection Committee (2018–2019).
- Member of the SENG Internal Review Committee (2016–2018).
- Member of the ECE Search & Appointments Committee (2015–2018).
- Member of the ECE Office Renovation Committee (2015–2017).
- Member of the Honorary Awards Committee (2014–2016).
- Member of the ECE Merit Salary Review Committee (2012–2017).
- Faculty in charge of the PQE at the ECE Dept. (2009–2018).
- Organizer of the ECE departmental weekly lunch seminars (2011–2017).
- Faculty in charge of the ECE Dual International MPhil program (2010–2015).
- Member of the Quantitative Finance Search Committee (2012).
- Member of the SENG Financial Engineering Minor committee (2011).
- Member of the SENG Financial Engineering Taskforce committee (2009).
- Member of the ECE UG committee (2006–2009).
- Mentor of ECE UG international students (2006–2009).

## Publications

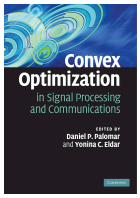
### Books and Monographs (5)




Daniel P. Palomar, *Portfolio Optimization: Theory and Practice*, Cambridge University Press, 2025.


Konstantinos Benidis, Yiyong Feng, and Daniel P. Palomar, *Optimization Methods for Financial Index Tracking: From Theory to Practice*, Foundations and Trends® in Optimization, Now Publishers, 2018.


Yiyong Feng and Daniel P. Palomar, *A Signal Processing Perspective on Financial Engineering*, Foundations and Trends® in Signal Processing, Now Publishers, 2016.




Daniel P. Palomar and Yonina C. Eldar, Eds., *Convex Optimization in Signal Processing and Communications*, Cambridge University Press, 2009.


Daniel P. Palomar and Yi Jiang, *MIMO Transceiver Design via Majorization Theory*, Foundations and Trends® in Communications and Information Theory, Now Publishers, 2007.

**Book Chapters (9)**

- José Vinícius de M. Cardoso, Jiaxi Ying, and Daniel P. Palomar, "Learning Graphs from Heavy-Tailed Data," in *Elliptically Symmetric Distributions in Signal Processing and Machine Learning*, Eds. J.-P. Delmas, M. N. El Korso, S. Fortunati, F. Pascal, Springer, Jul. 2024.
- José Vinícius de M. Cardoso, Jiaxi Ying, and Daniel P. Palomar, "Nonconvex Graph Learning: Sparsity, Heavy-tails, and Clustering," in *Signal Processing and Machine Learning Theory*, Ed. P. S. R. Diniz, Digital Signal Processing Series, Elsevier, Dec. 2022.
- Linlong Wu and Daniel P. Palomar, "Radar Waveform Design via the Majorization-Minimization Framework," in *Radar Waveform Design Based on Optimization Theory*, Ch. 7, Eds. G. Cui, A. De Maio, A. Farina, and J. Li, IET, 2020.
- Gesualdo Scutari, Daniel P. Palomar, Francisco Facchinei, and Jong-Shi Pang, "Monotone Games for Cognitive Radio Systems," in *Distributed Decision-Making and Control*, Ch. 4, Eds. A. Rantzer and R. Johansson, Lecture Notes in Control and Information Sciences, Springer, 2011.
- Jiaheng Wang and Daniel P. Palomar, "Majorization Theory with Applications in Signal Processing and Communication Systems," in *Mathematical Foundations for Signal Processing, Communications and Networking*, Ch. 16, Eds. T. Chen, D. Rajan, and E. Serpedin, CRC Press, 2011.
- Gesualdo Scutari, Daniel P. Palomar, and Sergio Barbarossa, "Competitive Optimization of Cognitive Radio MIMO Systems via Game Theory," in *Convex Optimization in Signal Processing and Communications*, Eds. D. P. Palomar and Y. C. Eldar, Cambridge University Press, 2009.
- Mung Chiang, Chee Wei Tan, Daniel P. Palomar, Daniel O'Neill, and David Julian, "Power Control by Geometric Programming," in *Resource Allocation in Next Generation Wireless Networks*, vol. 5, Ch. 13, Eds. W. Li and Y. Pan, Nova Science Publishers, 2005.
- Daniel P. Palomar, A. Pascual-Iserte, John M. Cioffi, and Miguel A. Lagunas, "Convex Optimization Theory Applied to Joint Transmitter-Receiver Design in MIMO Channels," in *Space-Time Processing for MIMO Communications*, Ch. 8, Eds. A. B. Gershman and N. Sidiropoulos, John Wiley & Sons, 2005.
- Daniel P. Palomar, "Unified Design of Linear Transceivers for MIMO Channels," in *Smart Antennas – State-of-the-Art*, Ch. 18, EURASIP Hindawi Book Series, Eds. T. Kaiser et al., 2005.

**Journal Papers (133)**

*(Including conferences NeurIPS, AAAI, and AISTATS with acceptance rate around 15%–30%.)*

- Ruiding Hou, Jiaheng Wang, Rui Zhou, Daniel P. Palomar, Xiqi Gao, and Björn Ottersten, "An Efficient and Unified Framework for Downlink Linear Precoding with QoS Constraints," accepted in *IEEE Trans. on Signal Processing*, 2025.
- Chenyu Gao, Ziping Zhao, and Daniel P. Palomar, "Novel Penalty Methods for Maximum Likelihood Estimation of Gaussian and Student's t GARCH," accepted in *IEEE Trans. on Signal Processing*, 2025.
- Amirhossein Javaheri, Jiaxi Ying, Daniel P. Palomar, and Farokh Marvasti, "Time-Varying Graph Learning for Data with Heavy-Tailed Distribution," *IEEE Trans. on Signal Processing*, vol. 73, pp. 3044–3060, 2025.
- Jasin Machkour, Michael Muma, and Daniel P. Palomar, "High-Dimensional False Discovery Rate Control for Dependent Variables," *Signal Processing*, vol. 234, pp. 109990, 2025.
- Andrei Buciulea, Jiaxi Ying, Antonio G. Marques, and Daniel P. Palomar, "Polynomial Graphical Lasso: Learning Edges from Gaussian Graph-Stationary Signals," *IEEE Trans. on Signal Processing*, vol. 73, pp. 1153–1167, 2025.
- Jasin Machkour, Michael Muma, and Daniel P. Palomar, "The Terminating-Random Experiments Selector: Fast High-Dimensional Variable Selection with False Discovery Rate Control," *Signal Processing*, vol. 231, pp. 109894, 2025.

- Runhao Shi, Jiaxi Ying, and Daniel P. Palomar, "Adaptive Passive-Aggressive Framework for Online Regression with Side Information," *Advances in Neural Information Processing Systems (NeurIPS)*, Vancouver, Canada, Dec. 2024. [25.8% acceptance rate]
- Runhao Shi and Daniel P. Palomar, "SAOFTRL: A Novel Adaptive Algorithmic Framework for Enhancing Online Portfolio Selection," *IEEE Trans. on Signal Processing*, vol. 72, pp. 5291–5305, 2024.
- Syed Awais W. Shah, Daniel P. Palomar, Ian Barr, Leo L. M. Poon, Ahmed Abdul Quadeer, and Matthew R. McKay, "Seasonal antigenic prediction of influenza A H3N2 using machine learning," *Nature Communications*, vol. 15, no. 3833, 2024.
- Amirhossein Javaheri, Arash Amini, Farokh Marvasti, and Daniel P. Palomar, "Learning Spatio-Temporal Graphical Models from Incomplete Observations," *IEEE Trans. on Signal Processing*, vol. 72, pp. 1361–1374, 2024.
- Jian-Feng Cai, José Vinícius de M. Cardoso, Daniel P. Palomar, and Jiaxi Ying, "Fast Projected Newton-like Method for Precision Matrix Estimation under Total Positivity," *Advances in Neural Information Processing Systems (NeurIPS)*, New Orleans, LA, Dec. 2023. [26.1% acceptance rate]
- Xiwen Wang, Jiaxi Ying, and Daniel P. Palomar, "Learning Large-Scale MTP2 Gaussian Graphical Models via Bridge-Block Decomposition," *Advances in Neural Information Processing Systems (NeurIPS)*, New Orleans, LA, Dec. 2023. [26.1% acceptance rate]
- Xiwen Wang, Rui Zhou, Jiaxi Ying, and Daniel P. Palomar, "Efficient and Scalable Parametric High-Order Portfolios Design via the Skew-t Distribution," *IEEE Trans. on Signal Processing*, vol. 71, pp. 3726–3740, 2023.
- Esa Ollila, Daniel P. Palomar, and Frédéric Pascal, "Affine equivariant Tyler's M-estimator applied to tail parameter learning of elliptical distributions," *IEEE Signal Processing Letters*, vol. 30, pp. 1017–1021, 2023.
- Shengjie Xiu, Xiwen Wang, and Daniel P. Palomar, "A Fast Successive QP Algorithm for General Mean-Variance Portfolio Optimization," *IEEE Trans. on Signal Processing*, vol. 71, pp. 2713–2727, 2023.
- Jiaxi Ying, José Vinícius de M. Cardoso, and Daniel P. Palomar, "Adaptive Estimation of Graphical Models under Total Positivity," *International Conference on Machine Learning (ICML)*, Honolulu, HI, July 2023. [27.9% acceptance rate]
- José Vinícius de M. Cardoso, Jiaxi Ying, and Daniel P. Palomar, "Learning Bipartite Graphs: Heavy Tails and Multiple Components," *Advances in Neural Information Processing Systems (NeurIPS)*, New Orleans, LA, Dec. 2022. [25.6% acceptance rate]
- Rui Zhou, Jiaxi Ying, and Daniel P. Palomar, "Covariance Matrix Estimation Under Low-Rank Factor Model with Nonnegative Correlations," *IEEE Trans. on Signal Processing*, vol. 70, pp. 4020–4030, 2022.
- Xiwen Wang, Jiaxi Ying, José Vinícius de M. Cardoso, and Daniel P. Palomar, "Efficient Algorithms for General Isotone Optimization," *AAAI Conference on Artificial Intelligence (AAAI)*, Feb. 2022. [15% acceptance rate]
- José Vinícius de M. Cardoso, Jiaxi Ying, and Daniel P. Palomar, "Graphical Models for Heavy-Tailed Markets," *Advances in Neural Information Processing Systems (NeurIPS)*, Virtual, Dec. 2021. [26% acceptance rate]
- Jiaxi Ying, José Vinícius de M. Cardoso, and Daniel P. Palomar, "Minimax Estimation of Laplacian Constrained Precision Matrices," *Proc. of the 24th International Conference on Artificial Intelligence and Statistics (AISTATS)*, vol. 130, pp. 3736–3744, April 2021. [29.8% acceptance rate]
- Arnaud Breloy, Sandeep Kumar, Ying Sun, and Daniel P. Palomar, "Majorization-Minimization on the Stiefel Manifold with Application to Robust Sparse PCA," *IEEE Trans. on Signal Processing*, vol. 69, pp. 1507–1520, 2021.
- Rui Zhou and Daniel P. Palomar, "Solving High-Order Portfolios via Successive Convex Approximation Algorithms," *IEEE Trans. on Signal Processing*, vol. 69, pp. 892–904, 2021.

- Esa Ollila, Daniel P. Palomar, and Frédéric Pascal, "Shrinking the Eigenvalues of M-estimators of Covariance Matrix," *IEEE Trans. on Signal Processing*, vol. 69, pp. 256–269, 2021.
- Rui Zhou, Junyan Liu, Sandeep Kumar, and Daniel P. Palomar, "Student's t VAR Modeling with Missing Data via Stochastic EM and Gibbs Sampling," *IEEE Trans. on Signal Processing*, vol. 68, pp. 6198–6211, 2020.
- Jiaxi Ying, José Vinícius de M. Cardoso, and Daniel P. Palomar, "Nonconvex Sparse Graph Learning under Laplacian Constrained Graphical Model," *Advances in Neural Information Processing Systems (NeurIPS)*, Vancouver, Canada, Dec. 2020. [20.1% acceptance rate]
- Rui Zhou and Daniel P. Palomar, "Understanding the Quintile Portfolio," *IEEE Trans. on Signal Processing*, vol. 68, pp. 4030–4040, 2020.
- Sandeep Kumar, Jiaxi Ying, José Vinícius de M. Cardoso, and Daniel P. Palomar, "A Unified Framework for Structured Graph Learning Via Spectral Constraints," *Journal of Machine Learning Research (JMLR)*, 21(22):1–60, 2020.
- Linlong Wu, Yiyong Feng, and Daniel P. Palomar, "General Sparse Risk Parity Portfolio Design via Successive Convex Optimization," *Signal Processing*, vol. 170, pp. 1–13, 2019.
- Sandeep Kumar, Jiaxi Ying, José Vinícius de M. Cardoso, and Daniel P. Palomar, "Structured Graph Learning Via Laplacian Spectral Constraints," *Advances in Neural Information Processing Systems (NeurIPS)*, Vancouver, Canada, Dec. 2019. [21.6% acceptance rate]
- Kaiming Shen, Wei Yu, Licheng Zhao, and Daniel P. Palomar, "Optimization of MIMO Device-to-Device Networks via Matrix Fractional Programming: A Minorization-Maximization Approach," *IEEE/ACM Trans. on Networking*, vol. 27, no. 5, pp. 2164–2177, 2019.
- Linlong Wu and Daniel P. Palomar, "Sequence Design for Spectral Shaping via Minimization of Regularized Spectral Level Ratio," *IEEE Trans. on Signal Processing*, vol. 67, no. 18, pp. 4683–4695, 2019.
- Licheng Zhao, Yiwei Wang, Sandeep Kumar, and Daniel P. Palomar, "Optimization Algorithms for Graph Laplacian Estimation via ADMM and MM," *IEEE Trans. on Signal Processing*, vol. 67, no. 16, pp. 4231–4244, 2019.
- Junyan Liu and Daniel P. Palomar, "Regularized Robust Estimation of Mean and Covariance Matrix for Incomplete Data," *Signal Processing*, vol. 165, pp. 278–291, 2019.
- Junyan Liu, Sandeep Kumar, and Daniel P. Palomar, "Parameter Estimation of Heavy-Tailed AR Model with Missing Data Via Stochastic EM," *IEEE Trans. on Signal Processing*, vol. 67, no. 8, pp. 2159–2172, 2019.
- Ziping Zhao, Rui Zhou, and Daniel P. Palomar, "Optimal Mean-Reverting Portfolio with Leverage Constraint for Statistical Arbitrage in Finance," *IEEE Trans. on Signal Processing*, vol. 67, no. 7, pp. 1681–1695, 2019.
- Xun Wang, Daniel P. Palomar, Licheng Zhao, Mohamed S. Guidaoui, and Ross Murch, "Spectral-Based Methods for Pipeline Leakage Localization," *Journal of Hydraulic Engineering*, 145(3), 2019.
- Licheng Zhao and Daniel P. Palomar, "A Markowitz Portfolio Approach to Options Trading," *IEEE Trans. on Signal Processing*, vol. 66, no. 16, pp. 4223–4238, 2018.
- Ziping Zhao and Daniel P. Palomar, "Mean-Reverting Portfolio With Budget Constraint," *IEEE Trans. on Signal Processing*, vol. 66, no. 9, pp. 2342–2357, 2018.
- Tianyu Qiu, Xiao Fu, Nicholas D. Sidiropoulos, and Daniel P. Palomar, "MISO Channel Estimation and Tracking from Received Signal Strength Feedback," *IEEE Trans. on Signal Processing*, vol. 66, no. 7, pp. 1691–1704, 2018.
- Linlong Wu, Prabhu Babu, and Daniel P. Palomar, "Transmit Waveform/Receive Filter Design for MIMO Radar With Multiple Sequence Constraints," *IEEE Trans. on Signal Processing*, vol. 66, no. 6, pp. 1526–1540, 2018.
- Konstantinos Benidis, Yiyong Feng, and Daniel P. Palomar, "Sparse Portfolios for High-Dimensional Financial Index Tracking," *IEEE Trans. on Signal Processing*, vol. 66, no. 1, pp. 155–170, 2018.

- Tianyu Qiu and Daniel P. Palomar, "Undersampled Sparse Phase Retrieval via Majorization-Minimization," *IEEE Trans. on Signal Processing*, vol. 65, no. 22, pp. 5957–5969, 2017.
- Zhongju Wang, Prabhu Babu, and Daniel P. Palomar, "Effective Low-Complexity Optimization Methods for Joint Phase Noise and Channel Estimation in OFDM," *IEEE Trans. on Signal Processing*, vol. 65, no. 12, pp. 3247–3260, 2017.
- Shanpu Shen, Ying Sun, Sichao Song, Daniel P. Palomar, and Ross D. Murch, "Successive Boolean Optimization of Planar Pixel Antennas," *IEEE Trans. on Antennas and Propagation*, vol. 65, no. 2, pp. 920–925, 2017.
- Licheng Zhao and Daniel P. Palomar, "Maximin Joint Optimization of Transmitting Code and Receiving Filter in Radar and Communications," *IEEE Trans. on Signal Processing*, vol. 65, no. 4, pp. 850–863, 2017.
- Ying Sun, Prabhu Babu, and Daniel P. Palomar, "Majorization-Minimization Algorithms in Signal Processing, Communications, and Machine Learning," *IEEE Trans. on Signal Processing*, vol. 65, no. 3, pp. 794–816, 2017.

  🏆 **2020 Young Author Best Paper Award, IEEE Signal Processing Society**
- Linlong Wu, Prabhu Babu, and Daniel P. Palomar, "Cognitive Radar-Based Sequence Design via SINR Maximization," *IEEE Trans. on Signal Processing*, vol. 65, no. 3, pp. 779–793, 2017.
- Licheng Zhao, Junxiao Song, Prabhu Babu, and Daniel P. Palomar, "A Unified Framework for Low Autocorrelation Sequence Design via Majorization-Minimization," *IEEE Trans. on Signal Processing*, vol. 65, no. 2, pp. 438–453, 2017.
- Javier Rubio, Antonio Pascual-Iserte, Daniel P. Palomar, and Andrea Goldsmith, "Joint Optimization of Power and Data Transfer in Multiuser MIMO Systems," *IEEE Trans. on Signal Processing*, vol. 65, no. 1, pp. 212–227, 2017.
- Zhongju Wang, Prabhu Babu, and Daniel P. Palomar, "Design of PAR-Constrained Sequences for MIMO Channel Estimation via Majorization-Minimization," *IEEE Trans. on Signal Processing*, vol. 64, no. 23, pp. 6132–6144, 2016.
- Konstantinos Benidis, Ying Sun, Prabhu Babu, and Daniel P. Palomar, "Orthogonal Sparse PCA and Covariance Estimation via Procrustes Reformulation," *IEEE Trans. on Signal Processing*, vol. 64, no. 23, pp. 6211–6226, 2016.
- Tianyu Qiu, Prabhu Babu, and Daniel P. Palomar, "PRIME: Phase Retrieval via Majorization-Minimization," *IEEE Trans. on Signal Processing*, vol. 64, no. 19, pp. 5174–5186, 2016.
- Licheng Zhao, Prabhu Babu, and Daniel P. Palomar, "Efficient Algorithms on Robust Low-Rank Matrix Completion Against Outliers," *IEEE Trans. on Signal Processing*, vol. 64, no. 18, pp. 4767–4780, 2016.
- Yang Yang, Marius Pesavento, Mengyi Zhang, and Daniel P. Palomar, "An Online Parallel Algorithm for Recursive Estimation of Sparse Signals," *IEEE Trans. on Signal and Inform. Proc. Over Networks*, vol. 2, no. 3, pp. 290–305, 2016.
- Maria Gregori, Miquel Payaró, and Daniel P. Palomar, "Sum-Rate Maximization for Energy Harvesting Nodes With a Generalized Power Consumption Model," *IEEE Trans. on Wireless Communications*, vol. 15, no. 8, pp. 5341–5354, 2016.
- Ying Sun, Prabhu Babu, and Daniel P. Palomar, "Robust Estimation of Structured Covariance Matrix for Heavy-Tailed Elliptical Distributions," *IEEE Trans. on Signal Processing*, vol. 64, no. 14, pp. 3576–3590, 2016.
- Yang Yang, Gesualdo Scutari, Daniel P. Palomar, and Marius Pesavento, "A Parallel Decomposition Method for Nonconvex Stochastic Multi-Agent Optimization Problems," *IEEE Trans. on Signal Processing*, vol. 64, no. 11, pp. 2949–2964, 2016.
- Junxiao Song, Prabhu Babu, and Daniel P. Palomar, "Sequence Set Design With Good Correlation Properties Via Majorization-Minimization," *IEEE Trans. on Signal Processing*, vol. 64, no. 11, pp. 2866–2879, 2016.
- Ying Sun, Arnaud Breloy, Prabhu Babu, Daniel P. Palomar, Frédéric Pascal, and Guillaume Ginol-

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- Junxiao Song, Prabhu Babu, and Daniel P. Palomar, "Sequence Design to Minimize the Weighted Integrated and Peak Sidelobe Levels," *IEEE Trans. on Signal Processing*, vol. 64, no. 8, pp. 2051–2064, 2016.
- Yiyong Feng and Daniel P. Palomar, "SCRIP: Successive Convex Optimization Methods for Risk Parity Portfolio Design," *IEEE Trans. on Signal Processing*, vol. 63, no. 19, pp. 5285–5300, 2015.
- Yiyong Feng and Daniel P. Palomar, "Normalization of Linear Support Vector Machines," *IEEE Trans. on Signal Processing*, vol. 63, no. 17, pp. 4673–4688, 2015.
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- Junxiao Song, Prabhu Babu, and Daniel P. Palomar, "Sparse Generalized Eigenvalue Problem via Smooth Optimization," *IEEE Trans. on Signal Processing*, vol. 63, no. 7, pp. 1627–1642, 2015.
- Yiyong Feng, Daniel P. Palomar, and Francisco Rubio, "Robust Optimization of Order Execution," *IEEE Trans. on Signal Processing*, vol. 63, no. 4, pp. 907–920, 2015.
- Antonio A. D'Amico, Luca Sanguinetti, and Daniel P. Palomar, "Convex Separable Problems with Linear Constraints in Signal Processing and Communications," *IEEE Trans. on Signal Processing*, vol. 62, no. 22, pp. 6045–6058, 2014.
- Ying Sun, Prabhu Babu, and Daniel P. Palomar, "Regularized Tyler's Scatter Estimator: Existence, Uniqueness, and Algorithms," *IEEE Trans. on Signal Processing*, vol. 62, no. 19, pp. 5143–5156, 2014.
- Gesualdo Scutari, Francisco Facchinei, Jong-Shi Pang, and Daniel P. Palomar, "Real and Complex Monotone Communication Games," *IEEE Trans. on Information Theory*, vol. 60, no. 7, pp. 4197–4231, 2014.
- Italo Atzeni, Luis G. Ordóñez, Gesualdo Scutari, Daniel P. Palomar, and Javier R. Fonollosa, "Noncooperative Day-Ahead Bidding Strategies for Demand-Side Expected Cost Minimization with Real-Time Adjustments: A GNEP Approach," *IEEE Trans. on Signal Processing*, vol. 62, no. 9, pp. 2397–2412, 2014.
- Yongwei Huang and Daniel P. Palomar, "Randomized Algorithms for Optimal Solutions of Double-Sided QCQP with Applications in Signal Processing," *IEEE Trans. on Signal Processing*, vol. 62, no. 5, pp. 1093–1108, 2014.
- Gesualdo Scutari, Francisco Facchinei, Peiran Song, Daniel P. Palomar, and Jong-Shi Pang, "Decomposition by Partial Linearization: Parallel Optimization of Multi-Agent Systems," *IEEE Trans. on Signal Processing*, vol. 62, no. 3, pp. 641–656, 2014.

  **2015 Young Author Best Paper Award, IEEE Signal Processing Society**
- Benjamín Béjar Haro, Santiago Zazo, and Daniel P. Palomar, "Energy Efficient Collaborative Beamforming in Wireless Sensor Networks," *IEEE Trans. on Signal Processing*, vol. 62, no. 2, pp. 496–510, 2014.
- Yang Yang, Francisco Rubio, Gesualdo Scutari, and Daniel P. Palomar, "Multi-Portfolio Optimization: A Potential Game Approach," *IEEE Trans. on Signal Processing*, vol. 61, no. 22, pp. 5590–5602, 2013.
- Xiaopeng Fan, Junxiao Song, Daniel P. Palomar, and Oscar C. Au, "Universal Binary Semidefinite Relaxation for ML Signal Detection," *IEEE Trans. on Communications*, vol. 61, no. 11, pp. 4565–4576, 2013.
- Yang Yang, Gesualdo Scutari, Peiran Song, and Daniel P. Palomar, "Robust MIMO Cognitive Radio Systems Under Interference Temperature Constraints," *IEEE Journal on Selected Areas in*

*Communications*, vol. 31, no. 11, pp. 2465–2482, 2013.

- Mengyi Zhang, Francisco Rubio, Daniel P. Palomar, and Xavier Mestre, "Finite-Sample Linear Filter Optimization in Wireless Communications and Financial Systems," *IEEE Trans. on Signal Processing*, vol. 61, no. 20, pp. 5014–5025, 2013.
- Italo Atzeni, Luis G. Ordóñez, Gesualdo Scutari, Daniel P. Palomar, and Javier R. Fonollosa, "Demand-Side Management via Distributed Energy Generation and Storage Optimization," *IEEE Trans. on Smart Grids*, vol. 4, no. 2, pp. 866–876, 2013.
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- Jong-Shi Pang, Gesualdo Scutari, Daniel P. Palomar, and Francisco Facchinei, "Design of Cognitive Radio Systems Under Temperature-Interference Constraints: A Variational Inequality Approach," *IEEE Trans. on Signal Processing*, vol. 58, no. 6, pp. 3251–3271, 2010.
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- Luis G. Ordóñez, Daniel P. Palomar, Alba Pagès-Zamora, and Javier R. Fonollosa, "Minimum BER Linear MIMO Transceivers with Adaptive Number of Substreams," *IEEE Trans. on Signal Processing*, vol. 57, no. 6, pp. 2336–2353, 2009.
- Gesualdo Scutari, Daniel P. Palomar, and Sergio Barbarossa, "The MIMO Iterative Waterfilling Algorithm," *IEEE Trans. on Signal Processing*, vol. 57, no. 5, pp. 1917–1935, 2009.
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- Daniel P. Palomar and Sergio Verdú, "Lautum Information," *IEEE Trans. on Information Theory*, vol. 54, no. 3, pp. 964–975, 2008.
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- Gesualdo Scutari, Daniel P. Palomar, and Sergio Barbarossa, "Optimal Linear Precoding Strategies for Wideband Noncooperative Systems Based on Game Theory — Part II: Algorithms," *IEEE Trans.*

*on Signal Processing*, vol. 56, no. 3, pp. 1250–1267, 2008.

- Daniel P. Palomar and Mung Chiang, "Alternative Distributed Algorithms for Network Utility Maximization: Framework and Applications," *IEEE Trans. on Automatic Control*, vol. 52, no. 12, pp. 2254–2269, 2007.
- Luis García-Ordóñez, Daniel P. Palomar, Alba Pagès-Zamora, and Javier R. Fonollosa, "High-SNR Analytical Performance of Spatial Multiplexing MIMO Systems with CSI," *IEEE Trans. on Signal Processing*, vol. 55, no. 11, pp. 5447–5463, 2007.
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- Daniel P. Palomar and Sergio Verdú, "Representation of Mutual Information via Input Estimates," *IEEE Trans. on Information Theory*, vol. 53, no. 2, pp. 453–470, 2007.
- Daniel P. Palomar and Mung Chiang, "A Tutorial on Decomposition Methods for Network Utility Maximization," *IEEE Journal on Selected Areas in Communications*, vol. 24, no. 8, pp. 1439–1451, 2006. *(highly cited, ISI Web of Knowledge)*
- Daniel P. Palomar and Sergio Verdú, "Gradient of Mutual Information in Linear Vector Gaussian Channels," *IEEE Trans. on Information Theory*, vol. 52, no. 1, pp. 141–154, 2006. *(highly cited, ISI Web of Knowledge)*
- A. Pascual-Iserte, Daniel P. Palomar, Ana I. Pérez-Neira, and Miguel A. Lagunas, "A Robust Maximin Approach for MIMO Communications with Partial Channel State Information Based on Convex Optimization," *IEEE Trans. on Signal Processing*, vol. 54, no. 1, pp. 346–360, 2006.
- Daniel P. Palomar, "Convex Primal Decomposition for Multicarrier Linear MIMO Transceivers," *IEEE Trans. on Signal Processing*, vol. 53, no. 12, pp. 4661–4674, 2005.
- Daniel P. Palomar and Sergio Barbarossa, "Designing MIMO Communication Systems: Constellation Choice and Linear Transceiver Design," *IEEE Trans. on Signal Processing*, vol. 53, no. 10, pp. 3804–3818, 2005.
- Daniel P. Palomar, Mats Bengtsson, and Björn Ottersten, "Minimum BER Linear Transceivers for MIMO Channels via Primal Decomposition," *IEEE Trans. on Signal Processing*, vol. 53, no. 8, pp. 2866–2882, 2005.
- Daniel P. Palomar and Javier Rodriguez Fonollosa, "Practical Algorithms for a Family of Waterfilling Solutions," *IEEE Trans. on Signal Processing*, vol. 53, no. 2, pp. 686–695, 2005.
- Daniel P. Palomar, "Unified Framework for Linear MIMO Transceivers with Shaping Constraints," *IEEE Communications Letters*, vol. 8, no. 12, pp. 697–699, 2004.
- Daniel P. Palomar, Miguel Angel Lagunas, and John M. Cioffi, "Optimum Linear Joint Transmit-Receive Processing for MIMO Channels with QoS Constraints," *IEEE Trans. on Signal Processing*, vol. 52, no. 5, pp. 1179–1197, 2004.
- Daniel P. Palomar, John M. Cioffi, and Miguel Angel Lagunas, "Joint Tx-Rx Beamforming Design for Multicarrier MIMO Channels: A Unified Framework for Convex Optimization," *IEEE Trans. on Signal Processing*, vol. 51, no. 9, pp. 2381–2401, 2003. *(highly cited, ISI Web of Knowledge)*

  **2004 Young Author Best Paper Award, IEEE Signal Processing Society**
- Daniel P. Palomar, John M. Cioffi, and Miguel Angel Lagunas, "Uniform Power Allocation in MIMO Channels: A Game-Theoretic Approach," *IEEE Trans. on Information Theory*, vol. 49, no. 7, pp. 1707–1727, 2003.
- Daniel P. Palomar and Miguel Angel Lagunas, "Joint Transmit-Receive Space-Time Equalization in Spatially Correlated MIMO channels: A Beamforming Approach," *IEEE Journal on Selected Areas in Communications*, vol. 21, no. 5, pp. 730–743, 2003.
- Daniel P. Palomar and Miguel Angel Lagunas, "Temporal diversity on DS-CDMA communication systems for blind array signal processing," *EURASIP Signal Processing*, vol. 81, no. 8, pp. 1625–1640, 2001.

- Daniel P. Palomar, Montse Nájar, and Miguel Angel Lagunas, "Self-reference Spatial Diversity Processing for Spread Spectrum Communications," *AEÜ International Journal of Electronics and Communications*, vol. 54, no. 5, pp. 267–276, 2000.
- Daniel P. Palomar, Marc Price, and Mark Sandler, "Re-optimization of LPC filters for multi-pulse coded excitation," *IEE Electronics Letters*, vol. 35, no. 13, pp. 1058–1059, 1999.
- Daniel P. Palomar, "Implementación de filtros digitales en tiempo real," (in Spanish), *Sólo Programadores*, 1997.

**Conference Papers (140)**

See appendix.

**Ph.D. Dissertation**

- Daniel P. Palomar, *MIMO Communication Systems: Transmitter-Receiver Designs for Channel Capacity Optimization*, Ph.D. Thesis, Technical University of Catalonia (UPC), Barcelona, Spain, May 2003.

**Electrical Engineering Degree Thesis**

- Daniel P. Palomar, "Coding of the Residual-LPC Analysis for High Quality Speech Compression," Electrical Engineering Degree Thesis, King's College London (supervised by Prof. Mark Sandler) and Technical University of Catalonia (UPC), July 1998.

## Invited Talks and Seminars

- June 8-10, 2026, Keynote Talk "Graphs in Financial Markets," Graph Signal Processing (GSP) Workshop, Madrid, Spain.
- November 2, 2022, Keynote Talk "Learning Financial Graphs," ICAIF Workshop 2022 on NLP and Network Analysis in Financial Applications, ACM Conference on AI in Finance, New York, USA.
- October 21, 2022, Plenary Talk "High-Order Portfolios: The Role of Heavy Tails and Skewness," Statistical Learning for Signal and Image Proc. Workshop 2022, Cadaques, Spain.
- May 2020, Plenary Talk "Learning graphs of stocks: From iid to time-varying models," Graph Signal Processing (GSP) Workshop, Madrid, Spain.
- November 6, 2019, Invited Talk "A Unified Framework for Structured Graph Learning via Spectral Constraints," Apple Inc., Silicon Valley, California, USA.
- September 2, 2019, Tutorial Presenter "Portfolio Optimization in Financial Markets," European Signal Processing Conference (EUSIPCO), A Coruña, Spain.
- February 20, 2019, Invited Tutorial Speaker "Signal Processing and Optimization in Financial Engineering," Eurocast 2019, Las Palmas de Gran Canaria, Spain.
- December 21, 2018, Invited Talk "Imputation of Time Series with Missing Values under Heavy-Tailed AR Model via Stochastic EM," International Workshop on Mathematical Issues on Information Sciences (MIIS), The Chinese University of Hong Kong, Shenzhen, China.
- November 28, 2018, Invited Talk "Imputation of Time Series with Missing Values under Heavy-Tailed AR Model via Stochastic EM," Big Data Challenges for Predictive Modeling of Complex Systems, Institute of Mathematical Research, University of Hong Kong, Hong Kong.
- June 14, 2018, Invited Talk "Financial Engineering Playground: Signal Processing, Robust Estimation, Kalman, HMM, Optimization, et Cetera," Aalto University, Helsinki, Finland.
- June 11, 2018, Plenary Talk "Financial Engineering Playground: Signal Processing, Robust Estimation, Kalman, HMM, Optimization, et Cetera," IEEE Statistical Signal Processing Workshop (SSP), Freiburg, Germany.

- December 11, 2017, Plenary Talk "A Signal Processing and Optimization Perspective on Financial Engineering," IEEE Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP), Curaçao, Dutch Antilles.
- November 15, 2017, Invited Talk "Sparse Portfolios for High-Dimensional Financial Index Tracking," dbAccess Global Quant Conference, Deutsche Bank, Hong Kong.
- March 5, 2017, Tutorial "A Signal Processing Perspective on Financial Engineering," IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), New Orleans, USA.
- March 20, 2016, Tutorial "A Signal Processing Perspective on Financial Engineering," IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Shanghai, China.
- January 8, 2015, Invited Talk "Regularized Robust Estimation of Mean and Covariance Matrix under Heavy Tails and Outliers," IAS Program on Statistics and Computational Interface to Big Data, IAS-HKUST, Hong Kong.
- July 31, 2014, Invited Talk "Regularized Robust Estimation of Mean and Covariance Matrix under Heavy Tails and Outliers," Workshop on Complex Systems Modeling and Estimation Challenges in Big Data (CSM-2014), ISM, Tokyo, Japan.
- May 23, 2013, Keynote Speech "From Wireless Communications to Financial Engineering," Workshop on Signal Proc. and Optimization for Wireless Communications: In Memory of Are Hjorungnes, NTNU, Trondheim, Norway.
- December 21, 2012, Invited Talk "Design of Cognitive Radio Systems Under Temperature-Interference Constraints: A Variational Inequality Approach," Workshop on Advanced Wireless Comm. Technologies and Robust Networks, Sendai, Japan.
- July 19, 2012, Invited Talk "Design of Cognitive Radio Systems Under Temperature-Interference Constraints: A Variational Inequality Approach," Workshop on Advances in Wireless Communications (WAWC'12), Univ. of Electronic Science and Technology of China (UESTC), Chengdu, China.
- July 16, 2012, Invited Talk "Design of Cognitive Radio Systems Under Temperature-Interference Constraints: A Variational Inequality Approach," Workshop on Advances in Wireless Communications (WAWC'12), Southeast Univ., Nanjing, China.
- July 11, 2012, Invited Talk "The Ubiquitous Variational Inequality Theory: From Wireless Communications to Smart Grids and Financial Systems," International Workshop on Mathematical Issues in Information Sciences (MIIS'12), Xi'an, China.
- July 8, 2012, Invited Tutorial "Variational Inequality Theory: A Mathematical Framework for Multiuser Communication Systems and Signal Processing," International Workshop on Mathematical Issues in Information Sciences (MIIS'12), Xi'an, China.
- May 1, 2012, "From Wireless Communications to Financial Engineering: Money Equals Power," Dept. EE, SUNY at Buffalo, NY, USA.
- March 15, 2012, "From Wireless Communications to Financial Engineering," Dept. EE, Tsinghua University, Beijing, China.
- May 22, 2011, Tutorial "Variational Inequality (VI) Theory: A Mathematical Framework for Multiuser Communication Systems and Signal Processing," IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Prague, Czech Republic.
- March 17, 2011, Invited Tutorial "Convex Optimization, Game Theory, and Variational Inequality Theory in Multiuser Communication Systems," IEEE Winter School of Information Theory, Universitat Pompeu Fabra (UPF), Barcelona, Spain.
- December 1, 2010, Invited Talk "Design of Cognitive Radio Systems Under Temperature-Interference Constraints: A Variational Inequality Approach," Workshop on Applications of Optimization in Science and Engineering, Institute for Pure and Applied Mathematics (IPAM), UCLA, Los Angeles, USA.
- August 23, 2010, Invited Tutorial "Convex Optimization, Game Theory, and Variational Inequality Theory in Multiuser Communication Systems," European Signal Processing Conference (EUSIPCO),

Aalborg, Denmark.

- March 12, 2010, Invited Talk "Design of Cognitive Radio Systems Under Temperature-Interference Constraints: A Variational Inequality Approach," Workshop on Distributed Decision-Making and Control, LCCC, Lunds University, Sweden.
- January 22, 2010, "Primal and Dual Perspectives of Rank-Constrained Semidefinite Programming with Applications to Optimal Beamforming," Dept. IESE, Univ. of Illinois at Urbana-Champaign (UIUC), IL, USA.
- January 22, 2010, "Rank-Constrained Separable Semidefinite Programming with Applications to Optimal Beamforming," Dept. ECE, Univ. of Illinois at Urbana-Champaign (UIUC), IL, USA.
- June 27, 2009, "Rank-Constrained Separable Semidefinite Programming with Applications to Optimal Beamforming," Distinguished Seminar Series, Yonsei University, Seoul, Korea.
- June 18, 2009, "Rank-Constrained Separable Semidefinite Programming with Applications to Optimal Beamforming," Università di Pisa, Pisa, Italy. (in Italian)
- June 16, 2009, "Rank-Constrained Separable Semidefinite Programming with Applications to Optimal Beamforming," Università degli Studi di Napoli "Federico II", Naples, Italy. (in Italian)
- June 15, 2009, "Rank-Constrained Separable Semidefinite Programming with Applications to Optimal Beamforming," University of Rome "La Sapienza", Rome, Italy. (in Italian)
- April 20, 2009, Tutorial "A Unified Design Framework for Non-Linear MIMO Transceivers Using Majorization Theory," IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Taipei, Taiwan.
- April 11, 2009, Invited Talk "Connections Between Information Theory and Estimation Theory in the Vector Case," Princeton University, Princeton, NJ, USA.
- February 6, 2009, Keynote Talk "MIMO Transceiver Design: from Signal Processing to Information Theory," Australian Communication Theory Workshop (AusCTW2009), New South Wales, Australia.
- December 19–21, 2008, 18-hour Course "Convex Optimization for Wireless Communications and Signal Processing," National Chiao Tung Univ., Hsinchu, Taiwan.
- July 8, 2008, Plenary Talk "MIMO Transceiver Design: from Signal Processing to Information Theory," IEEE Workshop on Signal Proc. Advances in Wireless Comm. (SPAWC).
- June 19, 2008, "MIMO Transceiver Design: from Signal Processing to Information Theory," ECE Seminar, HKUST, Hong Kong.
- January 28, 2008, "Decision-Feedback MIMO Transceiver Design via Majorization Theory," Workshop on Information Theory and Applications (ITA), UCSD, San Diego, CA, USA.
- January 24, 2008, "MIMO Transceiver Design via Majorization Theory: From Linear to DF Schemes," ISS Seminar, Princeton University, Princeton, NJ, USA.
- January 23, 2008, "MIMO Transceiver Design via Majorization Theory: From Linear to DF Schemes," Winlab, Rutgers University, New Brunswick, NJ, USA.
- December 19, 2007, "MIMO Transceiver Design via Majorization Theory," Workshop on Optimization and Signal Processing, CUHK, Hong Kong.
- January 22, 2007, "Waterfillings, Waterfillings, and Waterfillings: From Single-User to Multiuser," ISS Seminar, Princeton University, Princeton, NJ, USA.
- January 19, 2007, "Waterfillings, Waterfillings, and Waterfillings: From Single-User to Multiuser," Columbia University, New York City, NY, USA.
- January 18, 2007, "Waterfillings, Waterfillings, and Waterfillings: From Single-User to Multiuser," Winlab, Rutgers University, New Brunswick, NJ, USA.
- April 12, 2006, "Design of MIMO Communication Systems: A Marriage of Majorization Theory and Convex Optimization Theory," University of California – Los Angeles, Los Angeles, CA, USA.
- March 28, 2006, "Design of MIMO Communication Systems: A Marriage of Majorization Theory and Convex Optimization Theory," Ohio State University, Columbus, OH, USA.

- March 23, 2006, "Design of Wireless MIMO Systems: A Marriage of Majorization Theory and Convex Optimization Theory," Washington University in St. Louis, St. Louis, MO, USA.
- March 13, 2006, "Linear Transceivers for MIMO Channels: A Marriage of Majorization Theory and Convex Optimization Theory," University of Delaware, Newark, DE, USA.
- March 8, 2006, "Signal Processing for MIMO Communication Systems: A Marriage of Majorization Theory and Convex Optimization Theory," University of Wisconsin-Madison, WI, USA.
- March 6, 2006, "Connections Between Information Theory and Estimation Theory," Queen's University, Kingston, Ontario, Canada.
- February 24, 2006, "Signal Processing for MIMO Channels: A Marriage of Majorization Theory and Convex Optimization Theory," University of Connecticut, Storrs, CT, USA.
- February 3, 2006, "Linear Transceivers for MIMO Channels: A Marriage of Majorization Theory and Convex Optimization Theory," Drexel University, Philadelphia, PA, USA.
- January 20, 2006, "Signal Processing for MIMO Channels: A Marriage of Majorization Theory and Convex Optimization Theory," Hong Kong University of Science and Technology (HKUST), Hong Kong.
- November 14, 2005, "Design of Linear Transceivers for MIMO Channels: A Unified Framework for Convex Optimization," Winlab, Rutgers University, New Brunswick, NJ, USA.
- November 1, 2005, "Design of Linear Transceivers for MIMO Channels: A Unified Framework for Convex Optimization," Bell Labs, Lucent Technologies, Holmdel, NJ, USA.
- October 6, 2005, "Design of Linear Transceivers for MIMO Channels: A Unified Framework for Convex Optimization," ISS Seminar, Princeton University, Princeton, NJ, USA.
- March 5, 2004, "Minimum BER Linear Transceivers for MIMO Channels via Primal Decomposition," Dept. of Signal Theory and Communications, Technical University of Catalonia (UPC), Barcelona, Spain.
- December 5, 2003, "A Unified Framework for Linear Transceiver Design in MIMO Communication Systems," INFOCOM Department, University of Rome "La Sapienza", Rome, Italy.
- November 17–19, 2003, "A Primer on Convex Optimization Theory," Ph.D. course, Dept. of Signal Theory and Communications, Technical University of Catalonia (UPC), Barcelona, Spain.
- November 11, 2003, "Minimum BER Linear Transceivers for MIMO Channels," Dept. of Signals, Sensors & Systems, Royal Institute of Technology (KTH), Stockholm, Sweden.
- October 22, 2003, "A Unified Framework to Design Linear Transceivers for Communications through MIMO Channels," Ericsson, Stockholm, Sweden.
- August 28, 2003, "A Unified Framework for Communications through MIMO Channels," Dept. of Signals, Sensors & Systems, Royal Institute of Technology (KTH), Stockholm, Sweden.
- October 30, 2002, "Optimum Joint Transmit-Receive Linear Processing for Vectored DSL Transmission with QoS Requirements," Dept. of Electrical Engineering, Stanford University, Stanford, CA, USA.

## Appendix: Conference Papers (140)

**2026 (1)**

- Arnau Vilella, Jasin Machkour, Michael Muma, and Daniel P. Palomar, "Learning False Discovery Rate Control via Model-Based Neural Networks," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Barcelona, Spain, May 4–8, 2026.

**2025 (2)**

- Amirhossein Javaheri and Daniel P. Palomar, "Clustering of Incomplete Data via a Bipartite Graph Structure," in *Proc. European Signal Processing Conference (EUSIPCO)*, Palermo, Italy, Sep. 8–12, 2025.
- Jasin Machkour, Daniel P. Palomar, and Michael Muma, "FDR-Controlled Portfolio Optimization for Sparse Financial Index Tracking," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Hyderabad, India, April 6–11, 2025.

**2024 (6)**

- Runhao Shi, Jiaxi Ying, and Daniel P. Palomar, "Adaptive Passive-Aggressive Framework for Online Regression with Side Information," *Advances in Neural Information Processing Systems (NeurIPS)*, Vancouver, Canada, Dec. 2024. [25.8% acceptance rate]
- Yifan Yu, Shengjie Xiu, and Daniel P. Palomar, "Robust and Constrained Estimation of State-Space Models: A Majorization-Minimization Approach," in *Proc. Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, USA, 2024.
- Amirhossein Javaheri and Daniel P. Palomar, "Learning Time-Varying Graphs for Heavy-Tailed Data Clustering," in *Proc. European Signal Processing Conference (EUSIPCO)*, Lyon, France, Aug. 26–30, 2024.
- Jasin Machkour, Michael Muma, and Daniel P. Palomar, "FDR-Controlled Sparse Index Tracking with Autoregressive Stock Dependency Models," in *Proc. European Signal Processing Conference (EUSIPCO)*, Lyon, France, Aug. 26–30, 2024.
- Amirhossein Javaheri, Arash Amini, Farokh Marvasti, and Daniel P. Palomar, "Joint Signal Recovery and Graph Learning from Incomplete Time-Series," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Seoul, Korea, April 14–19, 2024.
- Jasin Machkour, Arnaud Breloy, Michael Muma, Daniel P. Palomar, and Frédéric Pascal, "Sparse PCA with False Discovery Rate Controlled Variable Selection," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Seoul, Korea, April 14–19, 2024.

**2023 (5)**

- Chenyu Gao, Ziping Zhao, and Daniel P. Palomar, "A Novel Algorithm for GARCH Model Estimation," *22nd IEEE Statistical Signal Processing Workshop (SSP)*, Hanoi, Vietnam, July 2023.
- Amirhossein Javaheri, José Vinícius de M. Cardoso, and Daniel P. Palomar, "Graph Learning for Balanced Clustering of Heavy-Tailed Data," in *Proc. International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, Los Sueños, Costa Rica, Dec. 10–13, 2023.
- Shengjie Xiu and Daniel P. Palomar, "Intraday Volatility-Volume Joint Modeling and Forecasting: A State-Space Approach," in *Proc. European Signal Processing Conference (EUSIPCO)*, Helsinki, Finland, Sep. 4–8, 2023.
- Jiaxi Ying, José Vinícius de M. Cardoso, and Daniel P. Palomar, "Adaptive Estimation of MTP2 Graphical Models," *International Conference on Machine Learning (ICML)*, Honolulu, HI, USA, July 2023. [27.9% acceptance rate]
- José Vinícius de M. Cardoso, Jiaxi Ying, Sandeep Kumar, and Daniel P. Palomar, "Estimating Normalized Graph Laplacians in Financial Markets," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Rhodes Island, Greece, June 4–10, 2023.

**2022 (3)**

- José Vinícius de M. Cardoso, Jiaxi Ying, and Daniel P. Palomar, "Learning Bipartite Graphs: Heavy Tails and Multiple Components," *Advances in Neural Information Processing Systems (NeurIPS)*, New Orleans, LA, USA, Dec. 2022. [25.6% acceptance rate]
- Jasin Machkour, Michael Muma, and Daniel P. Palomar, "False discovery control for grouped variable selection in high-dimensional linear models using the T-Knock filter," in *Proc. European Signal Processing Conference (EUSIPCO)*, Belgrade, Serbia, Aug. 29 – Sep. 2, 2022.
- Xiwen Wang, Jiaxi Ying, José Vinícius de M. Cardoso, and Daniel P. Palomar, "Efficient Algorithms for General Isotone Optimization," in *The Thirty-Sixth AAAI Conference on Artificial Intelligence (AAAI)*, Feb. 2022. [15% acceptance rate]

**2021 (5)**

- José Vinícius de M. Cardoso, Jiaxi Ying, and Daniel P. Palomar, "Graphical Models for Heavy-Tailed Markets," *Advances in Neural Information Processing Systems (NeurIPS)*, Virtual, Dec. 2021. [26% acceptance rate]
- Jiaxi Ying, José Vinícius de M. Cardoso, and Daniel P. Palomar, "A Fast Algorithm for Graph Learning under Attractive Gaussian Markov Random Fields," in *Proc. 55th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, USA, 2021.
- Frédéric Pascal, Esa Ollila, and Daniel P. Palomar, "Improved estimation of the degree of freedom parameter of multivariate t-distribution," in *Proc. European Signal Processing Conference (EUSIPCO)*, Dublin, Ireland, Aug. 23–27, 2021.
- Rui Zhou, Junyan Liu, Sandeep Kumar, and Daniel P. Palomar, "Parameter Estimation for Student's t VAR Model with Missing Data," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Toronto, Ontario, Canada, June 6–11, 2021.
- Jiaxi Ying, José Vinícius de M. Cardoso, and Daniel P. Palomar, "Minimax Estimation of Laplacian Constrained Precision Matrices," *International Conference on Artificial Intelligence and Statistics (AISTATS)*, April 2021.

**2020 (5)**

- José Vinícius de M. Cardoso and Daniel P. Palomar, "Learning Undirected Graphs in Financial Markets," in *Proc. 54th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, USA, 2020.
- Jiaxi Ying, José Vinícius de M. Cardoso, and Daniel P. Palomar, "Nonconvex Sparse Graph Learning under Laplacian Constrained Graphical Model," *Advances in Neural Information Processing Systems (NeurIPS)*, Dec. 2020. [20.1% acceptance rate]
- Rui Zhou and Daniel P. Palomar, "A theoretical basis for practitioners heuristic 1/N and quintile portfolio," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Barcelona, Spain, May 4–8, 2020.
- Esa Ollila, Daniel P. Palomar, and Frédéric Pascal, "M-estimators of scatter with eigenvalue shrinkage," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Barcelona, Spain, May 4–8, 2020.
- Rui Zhou, Junyan Liu, Sandeep Kumar, and Daniel P. Palomar, "Robust Factor Analysis Parameter Estimation," in *Computer Aided Systems Theory – EUROCAST 2019*, Springer International Publishing, 2020, pp. 3–11.

**2019 (7)**

- Rui Zhou and Daniel P. Palomar, "Accelerating the skew t parameter estimation," in *Proc. International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, Guadeloupe, French West Indies, Dec. 15–18, 2019.
- Sandeep Kumar, Jiaxi Ying, José Vinícius de M. Cardoso, and Daniel P. Palomar, "Structured Graph Learning Via Laplacian Spectral Constraints," *Advances in Neural Information Processing Systems (NeurIPS)*, Vancouver, Canada, Dec. 2019. [21.6% acceptance rate]

- Ziping Zhao and Daniel P. Palomar, "Large-Scale Regularized Portfolio Selection via Convex Optimization," in *Proc. IEEE GlobalSIP*, Ottawa, Canada, Nov. 11–14, 2019.
- Sandeep Kumar, Jiaxi Ying, José Vinícius de M. Cardoso, and Daniel P. Palomar, "Bipartite Structured Gaussian Graphical Modeling via Adjacency Spectral Priors," in *Proc. 53rd Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, USA, Nov. 3–6, 2019.
- Junyan Liu, Sandeep Kumar, and Daniel P. Palomar, "Parameter Estimation of Heavy-Tailed AR(p) Model from Incomplete Data," in *Proc. European Signal Processing Conference (EUSIPCO)*, A Coruña, Spain, Sept. 2–6, 2019.
- Rui Zhou, Ziping Zhao, and Daniel P. Palomar, "Unified Framework for Minimax MIMO Transmit Beampattern Matching under Waveform Constraints," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Brighton, UK, May 12–17, 2019.
- Rui Zhou, Junyan Liu, Sandeep Kumar, and Daniel P. Palomar, "Robust Factor Analysis Parameters Estimation," in *Proc. Eurocast*, Las Palmas de Gran Canaria, Spain, Feb. 17–22, 2019.

**2018 (6)**

- Ziping Zhao, Songtao Lu, Mingyi Hong, and Daniel P. Palomar, "Distributed optimization for Generalized Phase Retrieval Over Networks," in *Proc. 52nd Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, USA, Oct. 28–31, 2018.
- Yi Jiang, Daniel P. Palomar, and Mahesh K. Varanasi, "Decision Feedback Based Transceiver Optimization for MIMO Inter-Symbol Interference Channels," in *Proc. International Symposium on Mathematical Theory of Networks and Systems (MTNS)*, Hong Kong, July 16–20, 2018.
- Ziping Zhao and Daniel P. Palomar, "Sparse reduced rank regression with nonconvex regularization," in *Proc. IEEE Statistical Signal Processing Workshop (SSP)*, Freiburg, Germany, June 10–13, 2018.
- Ziping Zhao, Rui Zhou, Zhongju Wang, and Daniel P. Palomar, "Optimal portfolio design for statistical arbitrage in finance," in *Proc. IEEE Statistical Signal Processing Workshop (SSP)*, Freiburg, Germany, June 10–13, 2018.
- Ziping Zhao and Daniel P. Palomar, "MIMO Transmit Beampattern Matching under Waveform Constraints," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Calgary, Alberta, Canada, April 15–20, 2018.
- Junyan Liu, Sandeep Kumar, and Daniel P. Palomar, "Parameter Estimation of Heavy-Tailed Random Walk Model from Incomplete Data," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Calgary, Alberta, Canada, April 15–20, 2018.

**2017 (4)**

- Ziping Zhao and Daniel P. Palomar, "Robust Maximum Likelihood Estimation of Sparse Vector Error Correction Model," in *Proc. IEEE GlobalSIP*, Montreal, Canada, Nov. 14–16, 2017.
- Junyan Liu and Daniel P. Palomar, "Robust Estimation of Mean and Covariance Matrix for Incomplete Data in Financial Applications," in *Proc. IEEE GlobalSIP*, Montreal, Canada, Nov. 14–16, 2017.
- Linlong Wu, Prabhu Babu, and Daniel P. Palomar, "A Fast Algorithm for Joint Design of Transmit Waveforms and Receive Filters," in *Proc. IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Sapporo, Japan, July 3–6, 2017.
- Zhongju Wang, Prabhu Babu, and Daniel P. Palomar, "A Low-Complexity Algorithm for OFDM Phase Noise Estimation," in *Proc. IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Sapporo, Japan, July 3–6, 2017.

**2016 (9)**

- Arnaud Breloy, Ying Sun, Prabhu Babu, Guillaume Ginolhac, and Daniel P. Palomar, "Robust Rank Constrained Kronecker Covariance Matrix Estimation," in *Proc. 50th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, USA, Nov. 6–9, 2016.
- Ying Sun, Gesualdo Scutari, and Daniel P. Palomar, "Distributed Nonconvex Multiagent Optimization Over Time-Varying Networks," in *Proc. 50th Asilomar Conference on Signals, Systems and*

*Computers*, Pacific Grove, CA, USA, Nov. 6–9, 2016.

- Ziping Zhao and Daniel P. Palomar, "Mean-Reverting Portfolio Design via Majorization-Minimization Method," in *Proc. 50th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, USA, Nov. 6–9, 2016.
- Arnaud Breloy, Ying Sun, Prabhu Babu, and Daniel P. Palomar, "Low-Complexity Algorithms for Low Rank Clutter Parameters Estimation in Radar Systems," in *Proc. European Signal Processing Conference (EUSIPCO)*, Budapest, Hungary, Aug. 29 – Sept. 2, 2016.
- Arnaud Breloy, Ying Sun, Prabhu Babu, Daniel P. Palomar, Frédéric Pascal, and G. Ginolhac, "A robust signal subspace estimator," in *Proc. IEEE Workshop on Statistical Signal Processing (SSP)*, Mallorca, Spain, June 26–29, 2016.
- Yiyong Feng and Daniel P. Palomar, "Portfolio Optimization with Asset Selection and Risk Parity Control," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Shanghai, China, March 20–25, 2016.
- Konstantinos Benidis, Ying Sun, Prabhu Babu, and Daniel P. Palomar, "Orthogonal Sparse Eigenvectors: A Procrustes Problem," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Shanghai, China, March 20–25, 2016.
- Zhongju Wang, Prabhu Babu, and Daniel P. Palomar, "Optimal Design of Constant-Modulus Channel Training Sequences," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Shanghai, China, March 20–25, 2016.
- Junxiao Song, Prabhu Babu, and Daniel P. Palomar, "Sequence Design to Minimize the Peak Sidelobe Level," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Shanghai, China, March 20–25, 2016.

**2015 (5)**

- Licheng Zhao, Prabhu Babu, and Daniel P. Palomar, "Robust Low-Rank Optimization for Large Scale Problems," in *Proc. 49th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, USA, Nov. 8–11, 2015.
- Tianyu Qiu, Prabhu Babu, and Daniel P. Palomar, "PRIME: Phase Retrieval via Majorization-Minimization Technique," in *Proc. 49th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, USA, Nov. 8–11, 2015.
- Yiyong Feng and Daniel P. Palomar, "Linear Support Vector Machines with Normalizations," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Brisbane, Australia, April 19–24, 2015.
- Junxiao Song, Prabhu Babu, and Daniel P. Palomar, "Optimization Methods for Sequence Design with Low Autocorrelation Sidelobes," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Brisbane, Australia, April 19–24, 2015.
- Ying Sun, Prabhu Babu, and Daniel P. Palomar, "Robust Estimation of Structured Covariance Matrix for Heavy-Tailed Distributions," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Brisbane, Australia, April 19–24, 2015.

**2014 (4)**

- Yang Yang, Mengyi Zhang, Marius Pesavento, and Daniel P. Palomar, "An Online Parallel Algorithm for Recursive Estimation of Sparse Signals," in *Proc. 48th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, USA, Nov. 2–5, 2014.
- Junxiao Song, Prabhu Babu, and Daniel P. Palomar, "A Fast Algorithm for Sparse Generalized Eigenvalue Problem," in *Proc. 48th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, USA, Nov. 2–5, 2014.
- Ying Sun, Prabhu Babu, and Daniel P. Palomar, "Regularized Robust Estimation of Mean and Covariance Matrix under Heavy Tails and Outliers," in *Proc. IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM)*, A Coruña, Spain, June 22–25, 2014.
- Antonio A. D'Amico, Luca Sanguinetti, and Daniel P. Palomar, "Convex Separable Problems with

Linear and Box Constraints," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Florence, Italy, May 4–9, 2014.

**2013 (6)**

- Yiyong Feng, Daniel P. Palomar, and Francisco Rubio, "Robust Order Execution Under Box Uncertainty Sets," in *Proc. 47th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, USA, Nov. 3–6, 2013.
- Yang Yang, Gesualdo Scutari, and Daniel P. Palomar, "Parallel Stochastic Decomposition Algorithms for Multiuser Systems," in *Proc. 14th IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Darmstadt, Germany, June 16–19, 2013.
- Gesualdo Scutari, Francisco Facchinei, Peiran Song, Daniel P. Palomar, and Jong-Shi Pang, "Decomposition by Partial Linearization in Multiuser Systems," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Vancouver, Canada, May 26–31, 2013.
- Yang Yang, Peiran Song, Gesualdo Scutari, and Daniel P. Palomar, "Robust MIMO Cognitive Radio Systems under Temperature Interference Constraints," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Vancouver, Canada, May 26–31, 2013.
- Italo Atzeni, Luis G. Ordóñez, Gesualdo Scutari, Daniel P. Palomar, and Javier R. Fonollosa, "Cooperative Day-Ahead Bidding Strategies for Demand-Side Expected Cost Minimization," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Vancouver, Canada, May 26–31, 2013.
- Mengyi Zhang, Francisco Rubio, Daniel P. Palomar, and Xavier Mestre, "Robust Adaptive Beamforming with Imprecise Steering Vector and Finite Sample," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Vancouver, Canada, May 26–31, 2013.

**2012 (6)**

- Italo Atzeni, Luis G. Ordóñez, Gesualdo Scutari, Daniel P. Palomar, and Javier R. Fonollosa, "Day-Ahead Bidding Strategies for Demand-Side Expected Cost Minimization," in *Proc. IEEE SmartGridComm*, Tainan City, Taiwan, Nov. 5–8, 2012.
- Yiyong Feng, Francisco Rubio, and Daniel P. Palomar, "Optimal Order Execution for Algorithmic Trading: A CVaR Approach," in *Proc. 13th IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Istanbul, Turkey, June 17–20, 2012.
- Benjamín Béjar, Santiago Zazo, and Daniel P. Palomar, "Lifetime Maximization for Beamforming Applications in Wireless Sensor Networks," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Tokyo, Japan, March 25–30, 2012.
- Mengyi Zhang, Francisco Rubio, and Daniel P. Palomar, "Calibration of High-Dimensional Precision Matrices under Quadratic Loss," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Tokyo, Japan, March 25–30, 2012.
- Jiaheng Wang, Mats Bengtsson, Björn Ottersten, and Daniel P. Palomar, "Robust Maximin MIMO Precoding for Arbitrary Convex Uncertainty Sets," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Tokyo, Japan, March 25–30, 2012.
- Yongwei Huang, Daniel P. Palomar, and Shuzhong Zhang, "Lorentz-Positive Maps with Applications to Robust MISO Downlink Beamforming," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Tokyo, Japan, March 25–30, 2012.

**2011 (7)**

- G. Scutari, D. P. Palomar, F. Facchinei, and J.-S. Pang, "Distributed dynamic pricing for MIMO interfering multiuser systems: A unified approach," in *Proc. 5th International Conference on Network Games, Control and Optimization (NetGCooP)*, 2011.
- Miquel Payaró, Maria Gregori, and Daniel P. Palomar, "Yet Another Entropy Power Inequality with an Application," in *Proc. IEEE International Conference on Wireless Communications and Signal Processing (WCSP)*, Nanjing, China, Nov. 9–11, 2011.
- Francisco Rubio, Daniel P. Palomar, and Xavier Mestre, "A Unified Asymptotic Approach to Risk

Estimation and Analysis of Large Dimensional Portfolios," in *Proc. International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, San Juan, Puerto Rico, Dec. 13–16, 2011.

- Luis G. Ordóñez, Daniel P. Palomar, and Javier R. Fonollosa, "DMA Tradeoff for the MIMO Static Half-Duplex Relay," in *Proc. IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, San Francisco, CA, USA, June 26–29, 2011.
- Luis G. Ordóñez, Daniel P. Palomar, and Javier R. Fonollosa, "Fundamental Diversity, Multiplexing, and Array Gain Tradeoff Under Different MIMO Channel Models," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Prague, Czech Republic, May 22–27, 2011.
- Javier Vía, Daniel P. Palomar, Luis Vielva, and Ignacio Santamaría, "Maximum Likelihood ICA of Quaternion Gaussian Vector," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Prague, Czech Republic, May 22–27, 2011.
- Yang Yang, Francisco Rubio, Gesualdo Scutari, and Daniel P. Palomar, "Multi-Portfolio Optimization: A Potential Game Approach," in *Proc. International ICST Conference on Game Theory for Networks*, Shanghai, China, April 16–18, 2011.

**2010 (5)**

- Luis G. Ordóñez, Daniel P. Palomar, and Javier R. Fonollosa, "On the Diversity, Multiplexing, and Array Gain Tradeoff in MIMO Channels," in *Proc. IEEE International Symposium on Information Theory (ISIT)*, Austin, TX, USA, June 13–18, 2010.
- Ronit Bustin, Miquel Payaró, Daniel P. Palomar, and Shlomo Shamai, "On MMSE Properties and I-MMSE Implications in Parallel MIMO Gaussian Channels," in *Proc. IEEE International Symposium on Information Theory (ISIT)*, Austin, TX, USA, June 13–18, 2010.
- Jiaheng Wang, Gesualdo Scutari, and Daniel P. Palomar, "Robust Cognitive Radio via Game Theory," in *Proc. IEEE International Symposium on Information Theory (ISIT)*, Austin, TX, USA, June 13–18, 2010.
- Yongwei Huang and Daniel P. Palomar, "A Dual Perspective on Separable Semidefinite Programming with Applications to Optimal Beamforming," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Dallas, TX, USA, March 14–19, 2010.
- Jong-Shi Pang, Gesualdo Scutari, Daniel P. Palomar, and Francisco Facchinei, "Design of Cognitive Radio Systems Under Temperature-Interference Constraints: A Variational Inequality Approach," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Dallas, TX, USA, March 14–19, 2010.

**2009 (5)**

- Yongwei Huang and Daniel P. Palomar, "Rank-Constrained Separable Semidefinite Programming for Optimal Beamforming Design," in *Proc. IEEE International Symposium on Information Theory (ISIT)*, Seoul, Korea, June 28 – July 3, 2009.
- Miquel Payaró and Daniel P. Palomar, "On optimal precoding in linear vector Gaussian channels with arbitrary input distribution," in *Proc. IEEE International Symposium on Information Theory (ISIT)*, Seoul, Korea, June 28 – July 3, 2009.
- Gesualdo Scutari, Daniel P. Palomar, and Sergio Barbarossa, "Competitive Optimization of Cognitive Radio MIMO Systems via Game Theory," in *Proc. International Conference on Game Theory for Networks (GameNets)*, Istanbul, Turkey, May 13–15, 2009.
- Svante Bergman, Daniel P. Palomar, and Björn Ottersten, "Optimal Bit Loading for MIMO Systems with Decision Feedback Detection," in *Proc. IEEE Vehicular Technology Conference (VTC-Spring)*, Barcelona, Spain, April 26–29, 2009.
- Jiaheng Wang and Daniel P. Palomar, "Maximin Robust Design for MIMO Communication Systems Against Imperfect CSIT," in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Taipei, Taiwan, April 19–24, 2009.

**2008 (7)**

- Are Hjørungnes and Daniel P. Palomar, "Finding Patterned Complex-Valued Matrix Derivatives by Using Manifolds," in *Proc. IEEE First Symposium on Applied Sciences in Biomedical and Communication Technologies (ISABEL)*, Aalborg, Denmark, Oct. 2008.
- Are Hjørungnes and Daniel P. Palomar, "Patterned Complex-Valued Matrix Derivatives," in *Proc. IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM)*, Darmstadt, Germany, July 21–23, 2008.
- Eduard Calvo, Daniel P. Palomar, Javier R. Fonollosa, and Josep Vidal, "The Computation of the Capacity Region of the Discrete Degraded BC is a Nonconvex DC Problem," in *Proc. IEEE International Symposium on Information Theory (ISIT)*, Toronto, Canada, July 6–11, 2008.
- Miquel Payaró and Daniel P. Palomar, "A Multivariate Generalization of Costa's Entropy Power Inequality," in *Proc. IEEE International Symposium on Information Theory (ISIT)*, Toronto, Canada, July 6–11, 2008.
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