

Highlights - Daniel P. Palomar

Research

- Publications: 4 books, 6 book chapters, 93 published journal papers, h-index of 48/33 (Google Scholar/ISI Web of Science), top two cited papers with 1,209 and 1,161 citations, total number of citations of 11,474.
- **Plenary Speaker** at IEEE SSP 2018, Freiburg, Germany.
- **Plenary Speaker** at IEEE CAMSAP 2017, Curaçao, Dutch Antilles.
- 2016 **Research Excellence Award** by HKUST.
- 2015 Young Author **Best Paper Award** (co-author) by the IEEE Signal Processing Society.
- **IEEE Fellow** for “contributions to convex optimization-based signal processing for communications”
- **Fellow** of the Institute for Advanced Study of HKUST, since 2013.
- 2004 Young Author **Best Paper Award** by the IEEE Signal Processing Society.
- Seven **Highly Cited Papers** (ISI Web of Knowledge).
- **Keynote Speaker** at 2013 Workshop In Memory of Are Hjørungnes, NTNU, Trondheim, Norway
- **Keynote Speaker** at 2009 Australian Comm. Theory Workshop (AusCTW2009), Sydney, Australia.
- **Plenary Speaker** at 2008 IEEE Workshop on SP Advances in Wireless Comm. (SPAWC'08), Brazil.
- Steady research funding from RGC, prestigious joint Hong Kong – Mainland China (RGC – NSFC) funding award, and RPC award twice. Total amount of HK\$6,502,219 as PI.
- Associate Editor of IEEE Trans. on Information Theory and IEEE Trans. on Signal Processing, General Chair of Workshop CAMSAP 2009, Chair of IEEE HK Information Theory Society 2010.

Teaching

- Developed new course ELEC5470 “Convex Optimization” which was very well received by the students and faculty from different departments like ECE, CSE, MATH, and IELM. Student evaluation always gives a high score around 98/100 points.
- Co-edited a textbook to support the course (jointly with Yonina Eldar) entitled *Convex Optimization in Signal Processing and Communications*, Cambridge University Press, 2009.
- Have graduated two MPhil students (current positions: ASTRI, Hong Kong, and Tencent, Shenzhen), five PhD students (current positions: Associate Professor at Southeast University, China; Intel, Germany; NetEase Inc., China; Three Stones Hedge Fund, Hong Kong; postdoc at CUHK), and also hosted four postdocs (current positions: Head of Engineering Department in CTTC, Barcelona, Spain; Assistant Professor at Purdue Univ., USA; Assistant Professor at Baptist Univ., Hong Kong; and Quantitative Analyst at Genetic Finance Ltd., Hong Kong).
- Currently, eight PhD students and one postdoc. Also, constant flow of visiting PhD students (from, e.g., Belgium, Sweden, Spain, Italy, Germany, Australia, Mainland China).

Service

- Member of the ECE Long-Term Plan Committee (2017-present)
- Member of the SENG Internal Review Committee (2016-2017).
- Member of the Search & Appointments Committee (2015-present).
- Member of the Honorary Awards Committee (2014-2016).
- Member of the PG (postgraduate) committee and in charge of the PQE at the ECE Dept. (2009-present).
- Organizer of the ECE departmental weekly lunch seminars (2011-present).
- Member of the Financial Engineering Minor committee at the School of Engineering (2011).
- Member of the Financial Engineering Taskforce committee at the School of Engineering (2009).

CV - Daniel P. Palomar

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 Hong Kong

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 URL: <http://www.danielpalomar.com>

Academic Qualifications

Years	Institution	Qualification
1/1999 – 5/2003	Technical University of Catalonia (UPC), Barcelona, Spain (exchange student at Stanford University)	Ph.D. cum laude in EE
1998	King's College London (KCL), London, UK	M.Sc. with honors in EE
10/1993 – 10/1998	Technical University of Catalonia (UPC), Barcelona, Spain	B.Sc. with honors in EE

Summary of Employment

Period	Employment	Position
6/2014 – present	Hong Kong Univ. of Science and Technology (HKUST)	Full Professor
1/2013 – present	Institute for Advanced Study of HKUST	Fellow
2010 – 2012	Research center CTTC-HK	Consultant
7/2010 – 5/2014	Hong Kong Univ. of Science and Technology (HKUST)	Associate Professor
8/2006 – 6/2010	Hong Kong Univ. of Science and Technology (HKUST)	Assistant Professor
3/2006 – 7/2006	Princeton University, Princeton, NJ	Research Associate
3/2004 – 2/2006	Princeton University, Princeton, NJ	Fulbright Research Fellow
11/2003 – 3/2004	University of Rome “La Sapienza”, Rome, Italy	Visiting Researcher
8/2003 – 11/2003	Royal Institute of Technology (KTH), Stockholm, Sweden	Guest Researcher
1/1999 – 8/2003	Technical University of Catalonia (UPC), Barcelona, Spain	Research Assistant
1/2002 – 12/2002	Telecomm. Tech. Center of Catalonia, Barcelona, Spain	Visiting Researcher
4/2001 – 11/2001	Stanford University, Stanford, CA	Visiting Researcher

Career Totals

Publications:	Books/monographs	4		
	Book chapters	6		
	Journal papers	93		
	Conference papers	100		
	Highly cited papers	7	(ISI Essential Science Indicators)	
	h-index	48/33	(Google Scholar/ISI Web of Knowledge)	
	i10-index	107/63		
	Total citations	11,474/5,519		
	Citations:			
	top highly cited paper	1,209 / 603		
second highly cited paper	1,161 / 676			
Funding:	Funded projects	18		
	Amount as PI	HK\$6,502,219		
Students advised:	PhD/MPhil students	13/2		
	Visiting students	10		
	Postdocs	7		

Honors and Awards

- **Plenary Speaker** at IEEE SSP 2018, Freiburg, Germany.
- **Plenary Speaker** at IEEE CAMSAP 2017, Curaçao, Dutch Antilles, Dec. 11, 2017.
- **Invited Speaker** at Global Quant Conference 2017, Deutsche Bank, Hong Kong, Nov. 15, 2017.
- Tutorial Presenter at the 2017 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), New Orleans, USA, March 5-9, 2017.
- Tutorial Presenter at the 2016 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Shanghai, China, March 20-25, 2016.
- 2016 **Research Excellence Award** by HKUST.
- 2015 Young Author **Best Paper Award** (co-author) by the IEEE Signal Processing Society.
- **Fellow** of the Institute for Advanced Study of HKUST since Jan 2013.
- **IEEE Fellow** for “contributions to convex optimization-based signal processing for communications”, 2012.
- **Keynote Speech** at the 2013 Workshop on Signal Proc. And Optimization for Wireless Communications: In Memory of Are Hjørungnes, NTNU, Trondheim, Norway.
- Seven **Highly Cited Papers**¹ (ISI Web of Knowledge) in past 10 years:
 - Yongwei Huang and Daniel P. Palomar, “Rank-Constrained Separable Semidefinite Programming With Applications to Optimal Beamforming,” *IEEE Trans. on Signal Processing*, vol. 58, no. 2, pp. 664-678, Feb. 2010.
 - Mung Chiang, Chee Wei Tan, Daniel P. Palomar, Daniel O’Neill, and David Julian, “Power Control by Geometric Programming,” *IEEE Trans. on Wireless Comm.*, vol. 6, no. 7, pp. 2640-2651, July 2007.
 - 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, Jan. 2006.
 - Daniel P. Palomar and Mung Chiang, “A Tutorial on Decomposition Methods for Network Utility Maximization,” *IEEE Journal on Selected Areas in Communications: Special Issue on Nonlinear Optimization of Communication Systems*, vol. 24, no. 8, pp. 1439-1451, Aug. 2006.
 - Gesualdo Scutari, Daniel P. Palomar, and Sergio Barbarossa, “Optimal Linear Precoding Strategies for Wideband Noncooperative Systems Based on Game Theory – Part I: Nash Equilibria,” *IEEE Trans. on Signal Processing*, vol. 56, no. 3, pp. 1230-1249, March 2008.
 - 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, March 2008.
 - 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, Sept. 2003.
- Invited Speaker at the 2014 Workshop on Complex Systems Modeling and Estimation Challenges in Big Data (CSM-2014), ISM, Tokyo, Japan.
- Invited Speaker at the 2012 Workshop on Advances in Wireless Communications (WAWC'12), Univ. of Electronic Science and Technology of China (UESTC), Chengdu, China. (Organized by Geoffrey Li and Shaoqian Li.)
- Invited Speaker at the 2012 Workshop on Advances in Wireless Communications (WAWC'12), Southeast Univ., Nanjing, China. (Organized by Zhi Ding and Xiaohu You.)
- Invited Speaker at the 2012 International Workshop on Mathematical Issues in Information Sciences (MIIS'12), Xi'an, China. (Organized by Tom Luo and Hong Wei Liu.)
- Tutorial Presenter at the 2011 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Prague, Czech Republic.

¹ *Highly cited paper* is an official status given by the ISI Web of Science to the 1% top papers in terms of citations within the field according to Essential Science IndicatorsSM.

- Invited Instructor at the 2011 Winter School of Information Theory, Barcelona, Spain.
- Invited Speaker at the 2010 Workshop on Applications of Optimization in Science and Engineering, Institute for Pure and Applied Mathematics (IPAM), UCLA campus, LA, USA.
- Invited Tutorial at the 2010 European Signal Processing Conference (EUSIPCO), Aalborg, Denmark.
- Invited Speaker at the 2010 Workshop on Distributed Decision-Making and Control, LCCC, Lunds University, Sweden.
- **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 Proc. Advances in Wireless Comm. (SPAWC'08), Recife, Brazil.
- Invited Speaker at the “Panel for Convex Optimization and Applications,” ICASSP 2008, Las Vegas, USA.
- Invited Speaker at the 2007 Workshop on Optimization and Signal Processing (WOSP), Hong Kong.
- Co-recipient of 2006 Best Student Paper Award at ICASSP'06, Toulouse, France.
- 2004 Young Author **Best Paper Award**² by the IEEE Signal Processing Society.
- 2004 Prize for the best Doctoral Thesis in Advanced Mobile Communications by the Vodafone Foundation and COIT.
- 3/2004 – 3/2006, Fulbright Scholarship at Princeton University, Princeton, NJ.
- 2002/2003 Rosina Ribalta first prize for the best Doctoral Thesis project within areas of Information Technologies and Communications by the Epson Foundation.
- 2002/2003 best Ph.D. prize within the area of Information Technologies and Communications by the Technical University of Catalonia (UPC).

Research Group

Current members:

Yiwei Wang	PhD student	9/2017 – 8/2021
Rui Zhou	PhD student	9/2017 – 8/2021
Junyan Liu	PhD student	9/2015 – 8/2019
Jijie Wang	PhD student (part time)	9/2014 – 8/2019
Tianyu Qiu	PhD student	9/2014 – 8/2018
Ziping Zhao	PhD student	9/2014 – 8/2018
Licheng Zhao	PhD student	9/2014 – 8/2018
Linlong Wu	PhD student	9/2014 – 8/2018
Konstantinos Benidis	PhD student	9/2013 – 8/2017

Alumni:

Zhongju Wang	PhD student	9/2013 – 8/2017
Rena Cheng	RA	1/2016 – 8/2016
Ying Sun	PhD student	9/2011 – 8/2018
Prabhu Babu	Postdoc	2/2013 – 1/2016
Junxiao Song	PhD student	9/2011 – 8/2015
Yiyong Feng	PhD student	9/2010 – 8/2015
Arnaud Breloy	Visiting PhD student	6/2015 – 7/2013
Maria Gregori	Visiting PhD student	9/2013 – 12/2013
Italo Atzeni	Visiting PhD student	9/2013 – 12/2013
Yang Yang	PhD student	9/2009 – 8/2013

² The Young Author Best Paper Award is a very prestigious award given to an outstanding journal paper published by the IEEE Signal Society within a year (with the first author having no more than 30 years at the time of submission).

Mengyi Zhang	PhD student	9/2009 – 8/2013
Francisco Rubio	Research Associate	1/2011 – 2/2012
Hui Zhou	Visiting PhD student	2/2011 – 8/2011
Yongwei Huang	Research Associate	4/2011 – 7/2011
Benjamín Béjar	Visiting PhD student	1/2011 – 7/2011
Frankie Chan	Postdoc	4/2010 – 3/2011
Sudhir Singh	Visiting PhD student	9/2010 – 12/2010
Francisco Rubio	Visiting Researcher	8/2010 – 9/2010
Jiaheng Wang	PhD student	9/2006 – 7/2010
Luxmiram Vijayandran	Visiting PhD student	2/2010 – 6/2010
Tian Wang	MPhil student	9/2008 – 7/2010
Luis García Ordóñez	Postdoc	10/2009 – 4/2010
Yongwei Huang	Postdoc	8/2009 – 3/2010
Javier Vía	Visiting Professor	9/2009 – 1/2010
Gesualdo Scutari	Research Associate	2/2009 – 12/2009
Francisco Rubio	Visiting Researcher	8/2009 – 9/2009
Francisco Rubio	Visiting Researcher	7/2008 – 8/2008
Gesualdo Scutari	Postdoc	5/2008 – 8/2008
Yongwei Huang	Postdoc	2/2008 – 4/2009
Svante Bergman	Visiting PhD student	2/2008 – 5/2008
Gesualdo Scutari	Postdoc	9/2007 – 1/2008
Luis G. Ordoñez	Visiting PhD student	3/2007 – 9/2007
Miquel Payaró	Postdoc	2/2007 – 12/2008
Jonathan Duplicy	Visiting PhD student	11/2006 – 4/2007
Xiaoting Wu	MPhil student	9/2006 – 12/2008

Visiting PhD students:

Maria Greco	Research center CTTC	Advisor: Miquel Payaró	Spain
Italo Atzeni	Technical Univ. of Catalonia (UPC)	Advisor: Javier R. Fonollosa	Spain
Abolfazl Hashemi	Shariff Univ. of Technology		Iran
Hui Zhou	Tsinghua Univ.	Advisor: Pinying Fan	China
Benjamín Béjar	Technical Univ. of Madrid (UPM)	Advisor: Santiago Zazo	Spain
Sudhir Singh	Victoria Univ. of Wellington	Advisor: Paul Teal	New Zealand
Luxmiram Vijayandran	Norwegian Univ. of Science and Technology (NTNU)	Advisor: Torbörn Ekman	Norway
Svante Bergman	Royal Institute of Technology (KTH)	Advisor: Björn Ottersten	Sweden
Luis G. Ordoñez	Technical Univ. of Catalonia (UPC)	Advisor: Javier R. Fonollosa	Spain
Jonathan Duplicy	Université catholique de Louvain (UCL)	Advisor: Luc Vandendorpe	Belgium

MPhil/PhD Theses:

Junxiao Song	PhD	Efficient Optimization Methods for High-Dimensional Problems in Machine Learning and Signal Processing	Aug. 2015
Yiyong Feng	PhD	Convex Optimization Methods for Financial Engineering: Order Execution and Portfolio Design	Aug. 2015
Yang Yang	PhD	Distributed Optimization in Financial Engineering, Signal Processing, and Communication Networks	Aug. 2013
Mengyi Zhang	PhD	High-Dimensional Signal Processing in Wireless Communications and Financial Systems	Aug. 2013
Jiaheng Wang	PhD	Robust Designs for Wireless Communication Systems	Aug. 2010
Tian Wang	MPhil	Portfolio Optimization Based on Random Matrix Theory	May 2010
Xiaoting Wu	MPhil	Array Signal Processing for MIMO Radar	Jan. 2009

Teaching

- I have developed the new postgraduate course “Convex Optimization” ELEC5470 (previously ELEC692Q) in the ECE department at HKUST. The feedback from the students and faculty is extremely positive.
- I have co-edited a textbook to support the course ELEC5470 (jointly with Yonina Eldar) entitled *Convex Optimization in Signal Processing and Communications*, Cambridge University Press, 2009.³

Funded Projects

Grant	Role	Title	Duration	Amount
RGC 2015/16-16206315	PI	Convex Optimization Methods for Advanced Sequence Design	1/9/2015 – 31/8/2018	HK\$696,029
RGC 2014/15-16207814	PI	Parameter Estimation for Heavy-Tailed Distributions with Outliers	9/2014 – 8/2017	HK\$796,828
RGC 2012/13-617312	PI	Discovering signals in large sets of high-dimensional data	9/2012 – 8/2015	HK\$575,000
RPC11EG39	PI	Adaptive Learning for Decision-Making: From Signal Processing to Financial Engineering	6/2011 – 5/2014	HK\$320,000
RGC 2011/12-617911	PI	Robust Optimization and Estimation: On the Pathway to Practical Implementations	9/2011 – 8/2014	HK\$721,050
RGC 2011/12-610411	Co-I (PI: Brahim Bensaou)	Taming IEEE802.11- based WLANs via joint-Channel assignment, Association Control, Rate Control, and Contention resolution	1/2012 – 12/2014	HK\$699,122
RGC 2010/11-617810	PI	Variational Inequality Theory: A Framework for Optimization, Game Theory, and Complementary Problems with Applications in Signal Processing and Communication Systems	1/2011 – 4/2014	HK\$578,287
RGC 2009/10-618709	PI	Cognitive Radio Wireless Systems: From Conservative To Flexible Designs via Variational Inequalities	1/2010 – 12/2012	HK\$1,065,418
NSFC/RGC N_HKUST604/08	PI (joint w/Pingyin Fan)	Distributed Optimization of Infrastructureless MIMO Communication Networks via Game Theory	1/2009 – 12/2011	HK\$667,600
DAG_S08/09.EG05	PI	Precoder design for MIMO channels with arbitrary signaling	6/2009 – 6/2010	HK\$67,160
RGC09/10-610409	Partner (PI: Brahim Bensaou)	Joint Contention Windows adjustment and congestion control in multi-radio wireless	7/2009 – 6/2012	HK\$658,007

³ The course ELEC5470 follows a case-study approach by considering recent successful applications on convex optimization; this motivated the edition of a textbook that precisely compiles tutorials of these recent applications written by the original authors.

		mesh networks		
Consolider-Ingenio project CDS2008-00010 (National Research Plan of Spain)	Partner (PI: Javier Fonollosa)	Foundations and Methodologies for Future Communication and Sensor Networks (COMONSENS)	2010 – 2015	€3,500,000
RGC08/09-618008	PI	Distribution of the Eigenvalues of Random Covariance Matrices with Applications to MIMO Communication Systems	1/2009 – 12/2010	HK\$571,647
HKTIT/VFP/08-003	PI	Fellow Visiting Program, to visit The Technion, Israel	12/2008 – 1/2009	HK\$43,200
RPC07/08.EG23	PI	Waveform Design for MIMO Radar: An Emerging and Promising Technology	5/2008 – 4/2010	HK\$300,000
NSFC-60702081 (Mainland China)	Partner (PI: Weiqiang Xu)	Generalized Congestion Control for Ad Hoc Networks under the Non-cooperative and High Dynamic Environment	1/2008 – 12/2010	¥260,000
Consolider project TEC2006-06481/TCM (National Research Plan of Spain)	Partner (PI: Javier Fonollosa)	Fundamental Bounds in Network Information Theory (LITIS)	11/2006 – 11/2010	€360,000
DAG06/07.EG02	PI	Analytical Performance Characterization of Low-Complexity Linearly Precoded MIMO Systems	12/2006 – 11/2007	HK\$100,000

Professional Service

- Member of the IEEE Bell Graham Medal Committee (2013 – 2016).

Journal Editorship

- Guest Editor of the 2016 Special Issue of *IEEE Journal of Selected Topics in Signal Processing* 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).
- Editor of the book *Convex Optimization in Signal Processing and Communications*, Cambridge Univ. Press, 2009. (Co-editor: Yonina C. Eldar.)
- 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 Journal on Selected Areas in Communications* on “Game Theory in Communication Systems.” (Co-editors: J. Huang, N. Mandayam, S. Wicker, J. Walrand, and T. Basar.)
- Lead Guest Editor of the 2007 Special Issue of *IEEE Journal on Selected Areas in Communications* on “Optimization of MIMO Transceivers for Realistic Communication Network: Challenges and Opportunities.” (Co-editors: Tim Davidson, Sergio Barbarossa, Andrea Goldsmith, and Georgios Giannakis.)

Conference organization

- Organizing Committee (Tutorial Chair) of the 2015 IEEE Workshop on Signal Proc. Advances in Wireless Comm. (SPAWC), Stockholm, Sweden.

- Organizing Committee (Tutorial Chair) of the 2015 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Brisbane, Australia.
- Organizing Committee (Keynote Speakers Chair) of the 2014 International Symposium on Wireless Communication Systems (ISWCS), Barcelona, Spain.
- Organizer of Asilomar 2013 special session on “Financial Engineering and Signal Processing,” Pacific Grove, California, USA.
- Organizer of CAMSAP 2011 special session on “Signal Processing Applications to Financial Engineering,” Puerto Rico.
- Co-organizer of DSP 2011 special session on “Game Theory in Signal Processing for Communications,” Corfu, Greece.
- Organizing Committee (Tutorial Chair) of the 2011 European Signal Processing Conference (EUSIPCO), Barcelona, Spain.
- Co-organizer of CIP 2010 special session on “Game Theoretic Tools for Cognitive Radios,” Elba, Italy.
- Chair of the IEEE Hong Kong Information Theory Society (2010).
- General Co-Chair of the 2009 IEEE Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP), Aruba.
- Vice-Chair of the IEEE Hong Kong Information Theory Society (2009).
- Organizing Committee of the 2009 IEEE Workshop on Signal Proc. Advances in Wireless Comm. (SPAWC), Perugia, Italy.
- Organizing Committee of the 2009 IEEE Taiwan/Hong Kong/Macau Joint Workshop on Information Theory and Communications, Macau.
- Organizer of CAMSAP’09 special session on “Game Theory in Multisensor Signal Processing,” Aruba.
- Organizer of CIP2010 special session on “Game-theoretic tools for cognitive radios,” Elba, Italy.
- Organizer of GameNets’09 special session on “Game Theory for Communication Systems,” Istanbul, Turkey.
- Member of the IEEE SPCOM Technical Committee (2007 – 2010).
- Co-organizer of ICASSP-2007 special session on “Optimization of Communication Systems.” (Co-organizer: Mung Chiang.)

Review

- Member of the following Technical Program Committees (TPCs): SAM (2014), ICASSP (2008-2013), ISIT (2009, 2011, 2013), SPAWC (2009-2013), ITW (2013), CAMSAP (2005, 2007, 2009, 2011, 2013), GlobalSIP (2013), ISWCS (2013), SSPW (2011), CROWN (2010), Gamecomm (2009), GameNets (2009), ICCS (2008), Necsyst (2009), WiOpt (2008, 2009), ICC (2009-2010), PIMRC (2008), RAWNET (2007-2010), VTC (2007), WCNC (2007).
- Reviewer for the following journals:
 - *IEEE Trans. on Signal Processing*
 - *IEEE Trans. on Information Theory*
 - *IEEE Trans. on Communications*
 - *IEEE Journal on Selected Areas in Communications*
 - *IEEE Trans. on Wireless Communications*
 - *IEEE Trans. on Automatic Control*
 - *IEEE Signal Processing Magazine*
 - *EURASIP Signal Processing*

University Service

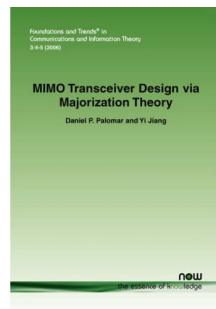
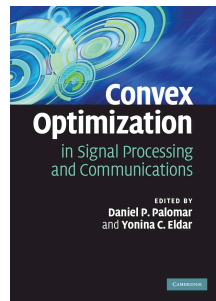
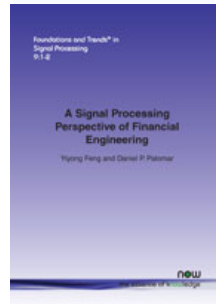
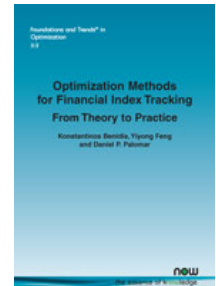
- Member of the SENG Internal Review Committee (2016-present).
- Member of the Search & Appointments Committee (2015-present).

- Member of the Office Renovation Committee (2015-present).
- Member of the Honorary Awards Committee (2014-present).
- Member of the Merit Salary Review Committee (2012-present).
- Member of the PG (postgraduate) committee at the ECE Dept. (2009-present).
- Faculty in charge of the PQE at the ECE Dept. (2009-present).
- Organizer of the ECE departmental weekly lunch seminars (2011-present).
- Faculty in charge of the Dual International MPhil program (2010-2015).
- Member of the Quantitative Finance Search Committee (2012).
- Member of the Financial Engineering Minor committee at the School of Engineering (2011).
- Member of the Financial Engineering Taskforce committee at the School of Engineering (2009).
- Member of the UG (undergraduate) committee at the ECE Dept. (2006-2009).
- Mentor of UG international students (2006-2009).

Publications

Books and Monographs (4)

- 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, vol. 3, no. 3, pp. 171-279, 2018.
- Yiyong Feng and Daniel P. Palomar, *A Signal Processing Perspective on Financial Engineering*, Foundations and Trends® in Signal Processing, Now Publishers, vol. 9, no. 1-2, pp. 1-231, 2015.
- 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, vol. 3, no. 4-5, 2007.



Book Chapters (6)

- 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. Anders Rantzer and Rolf Johansson, Lecture Notes in Control and Information Sciences Series, Springer Verlag, 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. Thomas Chen, Dinesh Rajan, and Erchin 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. Daniel P. Palomar and Yonina 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, Chapter 13, pp. 289-313, W. Li, Y. Pan, Editors, Nova Sciences Publishers, ISBN 1-59554-583-9, 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*, Chapter 8, pp. 269-318, A. B. Gershman and N. Sidiropoulos, Editors, John Wiley & Sons, ISBN 0-470-01002-9, April 2005.
- Daniel P. Palomar, “Unified Design of Linear Transceivers for MIMO Channels,” in *Smart Antennas – State-of-the-Art*, Chapter 18, EURASIP Hindawi Book Series, T. Kaiser, A. Bourdoux, H. Boche, J. R. Fonollosa, J. B. Andersen, and W. Utschick, Editors, ISBN 977-5945-09-7, 2005.

Journal Papers (94)

- 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, Aug. 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, May 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, April 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, March 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, Jan. 2018.
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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, Feb. 2007.
 - Daniel P. Palomar and Mung Chiang, “A Tutorial on Decomposition Methods for Network Utility Maximization,” *IEEE Journal on Selected Areas in Communications: Special Issue on Nonlinear Optimization of Communication Systems*, vol. 24, no. 8, pp. 1439-1451, Aug. 2006.
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- Daniel P. Palomar, “Implementación de filtros digitales en tiempo real,” (in Spanish), *Sólo Programadores*, 1997.

Conference Papers

See appendix.

Ph.D. Dissertation

- Daniel P. Palomar, “A Unified Framework for Communications through MIMO Channels,” Ph.D. dissertation, Technical University of Catalonia (UPC), Barcelona, Spain, May 27, 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 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 Heave 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 Heave 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 Hjørungnes, 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. (Organized by Geoffrey Li and Shaoqian Li.)
- 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. (Organized by Zhi Ding and Xiaohu You.)
- 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. (Organized by Tom Luo and Hong Wei Liu.)
- 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. (Organized by Tom Luo and Hong Wei Liu.)
- 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, LA, 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”, Napoli, 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 at ICASSP’09 “A Unified Design Framework for Non-Linear MIMO Transceivers Using Majorization Theory,” Taipei, Taiwan. (Co-lectured with Michael Botros Shenouda and Tim Davidson.)
- 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 on “Convex Optimization for Wireless Communications and Signal Processing,” National Chiao Tung Univ., Hsinchu, Taiwan. (Co-taught with Ken Ma.)
- 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, MA, 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, China.
- 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,” as part of a 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 Vektored DSL Transmission with QoS Requirements,” Dept. of Electrical Engineering, Stanford University, Stanford, CA, USA.

Appendix: Conference Papers

Conference Papers (2/102) – 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.

Conference Papers (4/100) – 2017

- 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 Computationally Efficient Method for OFDM Phase Noise Compensation,” in *Proc. IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Sapporo, Japan, July 3-6, 2017.

Conference Papers (9/96) – 2016

- Arnaud Breloy, Ying Sun, Prabhu Babu, Guillaume Ginolhac, and Daniel P. Palomar, “Robust Rank Constrained Kronecker Covariance Matrix Estimation,” in *Proc. of the 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. of the 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. of the 50th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, USA, Nov. 6-9, 2016.
- Arnaud Breloy, Ying Sun, Prabu Babu, 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, Prabu Babu, Daniel P. Palomar, F. Pascal, 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.

Conference Papers (5/87) – 2015

- Licheng Zhao, Prabhu Babu, and Daniel P. Palomar, “Robust Low-Rank Optimization for Large Scale Problems,” in *Proc. of the 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. of the 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.

Conference Papers (4/82) – 2014

- Yang Yang, Mengyi Zhang, Marius Pesavento, and Daniel P. Palomar, “An Online Parallel Algorithm for Recursive Estimation of Sparse Signals,” in *Proc. of the 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. of the 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.

Conference Papers (6/78) – 2013

- Yiyong Feng, Daniel P. Palomar, and Francisco Rubio, “Robust Order Execution Under Box Uncertainty Sets,” in *Proc. of the 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 2013)*, 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, 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 Xavi 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.

Conference Papers (6/72) – 2012

- 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 2012)*, 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, Bjorn 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.

Conference Papers (7/66) – 2011

- 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)*, pp. 1–5, 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'11)*, 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.

Conference Papers (5/59) – 2010

- 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'10)*, 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'10)*, 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'10)*, 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.

Conference Papers (5/54) – 2009

- Yongwei Huang and Daniel P. Palomar, “Rank-Constrained Separable Semidefinite Programming for Optimal Beamforming Design,” in *Proc. IEEE International Symposium on Information Theory (ISIT'09)*, 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'09)*, 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 2009)*, Boğaziçi University, 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 (VTC2009-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.

Conference Papers (7/49) – 2008

- 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 2008)*, 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.
- Gesualdo Scutari, Daniel P. Palomar, and Sergio Barbarossa, “MIMO Cognitive Radio: A Game-Theoretical Approach,” in *Proc. 9th IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC 2008)*, Recife, Brazil, July 7-9, 2008.
- Luis García-Ordoñez, Daniel P. Palomar, and Javier R. Fonollosa, “Ordered Eigenvalues of a General Class of Hermitian Random Matrices and Performance Analysis of MIMO Systems,” in *Proc. IEEE 2008 International Conference on Communications (ICC’03)*, Beijing, China, May 19-23, 2008.
- Gesualdo Scutari, Daniel P. Palomar, and Sergio Barbarossa, “Competitive Design of Multiuser MIMO Interference Systems Based on Game Theory: A Unified Framework,” in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Las Vegas, NV, USA, March 30-April 4, 2008.

Conference Papers (11/42) – 2007

- Jonathan Duplicy, Daniel P. Palomar, and Luc Vandendorpe, “Adaptive Orthogonal Beamforming for the MIMO Broadcast Channel,” in *Proc. Second International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP 2007)*, St. Thomas, Virgin Islands, USA, Dec. 12-14, 2007.
- Gesualdo Scutari, Daniel P. Palomar, and Sergio Barbarossa, “Optimal Decentralized Linear Precoding for Wideband Non-Cooperative Interference Systems Based on Game Theory,” in *Proc. Second International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP 2007)*, St. Thomas, Virgin Islands, USA, Dec. 12-14, 2007.
- Yi Jiang, Mahesh K. Varanasi, and Daniel P. Palomar, “Decision Feedback Based Transceiver Optimization for MIMO Intersymbol Interference Channels,” in *Proc. 41st Asilomar Conference on Signals, Systems & Computers*, Pacific Grove, CA, USA, Nov. 4-7, 2007.
- Xi Zhang, Daniel P. Palomar, and Björn Ottersten, “Robust MAC MIMO Transceiver Design with Partial CSIT and CSIR,” in *Proc. 41st Asilomar Conference on Signals, Systems & Computers*, Pacific Grove, CA, USA, Nov. 4-7, 2007.
- Eduard Calvo, Daniel P. Palomar, Javier R. Fonollosa, and Josep Vidal, “The Computation of the Capacity Region of the Discrete MAC is a Rank-One Non-Convex Optimization Problem,” in *Proc. IEEE International Symposium on Information Theory (ISIT)*, Nice, France, June 24-29, 2007.
- Chee Wei Tan, Daniel P. Palomar, and Mung Chiang, “Exploiting Hidden Convexity for Flexible and Robust Resource Allocation in Cellular Networks,” in *Proc. IEEE Infocom*, Anchorage, Alaska, USA, May 6-12, 2007.
- Luis G. Ordoñez, Daniel P. Palomar, Alba Pagès-Zamora, and Javier R. Fonollosa, “On Equal Constellation Minimum BER Linear MIMO Transceivers,” in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Honolulu, Hawaii, USA, April 15-20, 2007.
- Are Hjørungnes, David Gesbert, and Daniel P. Palomar, “Unified Theory of Complex-Valued Matrix Differentiation,” in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Honolulu, Hawaii, USA, April 15-20, 2007.
- Gesualdo Scutari, Daniel P. Palomar, and Sergio Barbarossa, “Distributed Totally Asynchronous Iterative Waterfilling for Wideband Interference Channel with Time/Frequency Offset,” in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Honolulu, Hawaii, USA, April 15-20, 2007.
- Yi Jiang, Daniel P. Palomar, and Mahesh K. Varanasi, “Precoder Optimization for Nonlinear MIMO Transceiver Based on Arbitrary Cost Function,” in *Proc. Conference on Information Sciences and Systems (CISS 2007)*, The John Hopkins University, Baltimore, MD, March 14-16, 2007.
- Gesualdo Scutari, Daniel P. Palomar, and Sergio Barbarossa, “Asynchronous Iterative Waterfilling for Gaussian Frequency-Selective Interference Channels: A Unified Framework,” in *Proc. Information Theory and Applications (ITA) Workshop*, San Diego, CA, USA, Jan. 29 - Feb. 2, 2007.

Conference Papers (7/31) – 2006

- Gesualdo Scutari, Daniel P. Palomar, and Sergio Barbarossa, “Simultaneous Iterative Water-Filling for Gaussian Frequency-Selective Interference Channels,” in *Proc. IEEE International Symposium on Information Theory (ISIT)*, Seattle, WA, USA, July 9-14, 2006.
- Gesualdo Scutari, Daniel P. Palomar, and Sergio Barbarossa, “Asynchronous Iterative Water-Filling for Gaussian Frequency-Selective Interference Channels: A Unified Framework,” in *Proc. IEEE Workshop on Signal Proc. Advances in Wireless Commun. (SPAWC 2006)*, Cannes, France, July 2-5, 2006.
- Xi Zhang, Daniel P. Palomar, and Björn Ottersten, “Robust Design of Linear MIMO Transceivers under Channel Uncertainty,” in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Toulouse, France, May 14-19, 2006.
- Gesualdo Scutari, Sergio Barbarossa, and Daniel P. Palomar, “Potential Games: A Framework for Vector Power Control Problems with Coupled Constraints,” in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Toulouse, France, May 14-19, 2006.

☺ **Best Student Paper Award at ICASSP**

- Chee Wei Tan, Daniel P. Palomar, and Mung Chiang, “Distributed Optimization of Coupled Systems with Applications to Network Utility Maximization,” in *Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Toulouse, France, May 14-19, 2006.
- Daniel P. Palomar and Mung Chiang, “Alternative Decompositions for Distributed Maximization of Network Utility: Framework and Applications,” in *Proc. IEEE Infocom*, Barcelona, Spain, April 23-29, 2006.
- Daniel P. Palomar and Sergio Verdú, “Lautum Information,” in *Proc. IEEE Information Theory Workshop (ITW)*, Punta del Este, Uruguay, March 13-17, 2006.

Conference Papers (6/24) – 2005

- Daniel P. Palomar and Mung Chiang, “Alternative Decompositions and Distributed Algorithms for Network Utility Maximization,” in *Proc. Globecom*, St. Louis, MO, USA, Nov. 28 – Dec. 2, 2005.
- Chee Wei Tan, Daniel P. Palomar, and Mung Chiang, “Solving Nonconvex Power Control Problems in Wireless Networks: Low SIR Regime and Distributed Algorithms,” in *Proc. Globecom*, St. Louis, MO, USA, Nov. 28 – Dec. 2, 2005.
- Xi Zhang, Daniel P. Palomar, and Björn Ottersten, “Robust Design of Linear MIMO Transceivers for Low SNR,” in *Proc. 39th Asilomar Conference on Signals, Systems & Computers*, Pacific Grove, CA, USA, Oct. 30 - Nov. 2, 2005.
- Daniel P. Palomar and Sergio Verdú, “Estimation-Theoretic Representation of Mutual Information,” in *Proc. 43th Annual Allerton Conference on Communication, Control, and Computing*, Allerton House, Monticello, IL, USA, Sept. 28-30, 2005.
- Daniel P. Palomar and Sergio Verdú, “Gradient of Mutual Information in Linear Vector Gaussian Channels,” in *Proc. IEEE 2005 International Symposium on Information Theory (ISIT’05)*, Adelaide, Australia, Sept. 4-9, 2005.
- Luis García-Ordoñez, Daniel P. Palomar, Alba Pagès-Zamora, and Javier R. Fonollosa, “Analytical BER Performance in Spatial Multiplexing MIMO Systems,” in *Proc. IEEE Workshop on Signal Proc. Advances in Wireless Commun. (SPAWC 2005)*, New York, USA, June 5-8, 2005.

Conference Papers (1/18) – 2004

- Daniel P. Palomar, Adrian Agustín, Olga Muñoz, and Josep Vidal, “Decode-and-Forward Protocol for Cooperative Diversity in Multi-Antenna Wireless Networks,” in *Proc. Conference on Information Sciences and Systems (CISS 2004)*, Princeton University, Princeton, NJ, March 17-19, 2004.

Conference Papers (3/17) – 2003

- Diego Bartolomé, Daniel P. Palomar, and Ana I. Pérez-Neira, “Real-Time Scheduling for Wireless Multiuser MISO Systems under different Fairness Criteria,” in *Proc. IEEE Seventh International Symposium on Signal Processing and its Applications (ISSPA’03)*, Paris, France, July 1-4, 2003.

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