

# Chong-Yung Chi

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## **EDUCATION:**

Ph. D. University of Southern California, Los Angeles, CA, Electrical Engineering, 1983  
MS National Taiwan University, Taipei, Taiwan, Electrical Engineering, 1977  
BS Tatung Institute of Technology, Taipei, Taiwan, Electrical Engineering, 1975

## **RESEARCH INTERESTS:**

### **Wireless Communications:**

Multiple-input multiple-output (MIMO) coherent/ noncoherent detection and estimation, robust MIMO transmit beamforming, distributed and coordinated communications, physical-layer secret communications, resource allocation and interference management for heterogeneous networks, convex analysis and optimization for signal processing in wireless communications and networking

### **Blind Signal Processing:**

Blind separation of independent sources, blind separation of non-negative dependent sources, blind equalization and system identifications, convex analysis and optimization for blind signal processing with applications to biomedical and hyperspectral image analysis

## **PROFESSIONAL EXPERIENCE:**

8/02 ~7/05 Chairman, Institute of Communications Engineering, National Tsing Hua University (NTHU), Hsinchu, Taiwan  
8/99 ~present Professor, Institute of Communications Engineering, NTHU, Hsinchu, Taiwan  
8/89 ~present Professor, Department of Electrical Engineering, NTHU, Hsinchu, Taiwan  
10/88 ~7/89 Visiting Specialist, Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan  
7/83 ~9/88 Member of Technical Staff, Jet Propulsion Laboratory (JPL), Pasadena, California

## **PROFESSIONAL ACHIEVEMENTS & HONORS:**

### **I. Journal Editor**

1/12~12/15 Associate Editor of IEEE Trans. Signal Processing (**Impact factor: 5.230**)  
6/06 ~5/10 Associate Editor of IEEE Signal Processing Letters (**Impact factor: 3.268**)  
1/08 ~12/09 Associate Editor of IEEE Trans. Circuits and Systems I (**Impact factor: 3.934**)  
6/05 ~5/08 Member of Editorial Board of Elsevier Signal Processing (**Impact factor: 3.470**)  
1/06 ~12/07 Associate Editor of IEEE Trans. Circuits and Systems II (**Impact factor: 3.250**)  
5/01 ~4/06 Associate Editor of IEEE Trans. Signal Processing (**Impact factor: 5.230**)  
7/03 ~12/05 Editorial Board Member of JASP (The EURASIP) (**Impact factor: 1.639**)  
2006 Guest Editor, JASP special issue, "Multisensor Processing for Signal Extraction and Applications"

### **II. Conference Chair/Technical Program Committee (TPC) Member/ Society Technical Committee Member**

**2020** TPC member, IEEE Sensor Array and Multichannel (SAM-2020).  
**2020** TPC member, IEEE International Conference on Communications (ICC-2020)  
**2019** TPC member, IEEE International Conference on Communications (ICC-2019)  
**2013~2018** [Sensor Array and Multichannel Technical Committee \(SAM-TC\) Member](#), IEEE Signal Processing Society.

- 2018** TPC Member, 2018 IEEE Seventh International Conference on Communications and Electronics (IEEE ICCE 2018).
- 2018 TPC Member, IEEE International Conference on Communications (ICC-2018).
- 2018 TPC Member, 26th European Signal Processing Conference (EUSIPCO-2018).
- 2018 TPC Member, 10<sup>th</sup> IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM-2018).
- 2018 TPC Member, 2018 International Conference on Sensor Networks and Signal Processing (SNSP-2018).
- 2017** TPC Member, 22<sup>nd</sup> International Conference on Digital Signal Processing (DSP-2017).
- 2017 TPC Member, 2017 IEEE Information Theory Workshop (ITW-2017).
- 2017 TPC Member, IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP-2017).
- 2011~2016** *Signal Processing for Communications and Networking Technical Committee (SPCOM-TC) Member, IEEE Signal Processing Society.*
- 2016** TPC Member, IEEE Global Conference on Signal and Information Processing (GlobalSIP-2016).
- 2016 TPC Member, IEEE International Conference on Ubiquitous Wireless Broadband (ICUWB-2016).
- 2016 TPC Member, 2016 IEEE 17<sup>th</sup> International Workshop on Signal Processing Advances in Wireless Communications (SPAWC-2016).
- 2016 Area Chair of Track *Sensor Array, Multichannel and Communication Signal Processing*, 2016 European Signal Processing Conference (EUSIPCO 2016).
- 2015** TPC Member, IEEE Global Conference on Signal and Information Processing (GlobalSIP-2015).
- 2015 TPC Member, IEEE International Conference on Communications - Signal Processing for Communications Symposium (ICC'15 (05) SPC).
- 2015 TPC Member, IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC-2015).
- 2014** TPC Member, IEEE International Conference on Communications - Communication Theory Symposium (ICC'15 (04) CTS).
- 2014 TPC Member, Globecom 2014 - Signal Processing for Communications Symposium.
- 2014 TPC Member, IEEE Sensor Array and Multichannel Signal Processing (SAM) Workshop 2014.
- 2014 TPC Member, IEEE/CIC ICC 2014 Symposium on Signal Processing for Communications.
- 2014 TPC Member, IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC-2014).
- 2013** TPC Member, Signal Processing for Communications (SPC) Symposium, ChinaCOM 2013.
- 2013 TPC Member, 2<sup>nd</sup> IEEE/CIC International Conference on Communications in China: Signal Processing for Communications (ICC 2013-SPC Symposium).
- 2013 TPC Member, IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC-2013).
- 2012** TPC Member, IEEE International Conference on Information and Automation & International Symposium on Biomedical Engineering (ICIA-2012).
- 2012 TPC Member, IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC-2012).
- 2012 TPC Member, IEEE Workshop on Statistical Signal Processing (SSP'12).
- 2011** *Track Chair* for MIMO, Signal Processing, and Smart in Antennas, 2011 IEEE Radio and Wireless Symposium in Radio and Wireless Week (RWW) 2011.
- 2011 TPC Member, IEEE Workshop on Statistical Signal Processing (SSP'11).
- 2011 TPC Member, IEEE International Conference on Communication Technology (ICCT'2011).
- 2011 TPC Member, European Conference on Signal Processing (EUSIPCO 2011).
- 2011 TPC Member, The International Conference on Wireless Communications and Signal Processing (WCSP2011).

- 2010** TPC Member, European Conference on Signal Processing (EUSIPCO 2010).
- 2005~2010** *Signal Processing Theory and Methods Technical Committee (SPTM-TC)*, IEEE Signal Processing Society.
- 2010 TPC Member, Wireless Communications and Signal Processing (WCSP) track at the 19th International Conference on Computer Communications and Networks (ICCCN-2010).
- 2010 TPC Member of The International Conference on Wireless Communications and Signal Processing (WCSP2010).
- 2010 TPC Member of APSIPA Annual Summit Conference 2010 "Wireless Communications & Networking" Track.
- 2009** *Lead Co-Chair* of Signal Processing for Communications (SPC) Symposium, ChinaCOM 2009.
- 2009 TPC Member of The International Conference on Wireless Communications and Signal Processing (WCSP2009).
- 2009 TPC Member, IEEE Workshop on Statistical Signal Processing (SSP'09).
- 2009 TPC Member of Third IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (IEEE CAMSAP 2009).
- 2009 TPC Member, European Conference on Signal Processing (EUSIPCO 2009).
- 2009 Wireless Communications and Signal Processing (WCSP) track at the 18th International Conference on Computer Communications and Networks (ICCCN-2009).
- 2008** *Co-Chair* of SPC Symposium, ChinaCOM 2008.
- 2008 TPC Member, EUSIPCO 2008.
- 2007** TPC Member, IEEE Workshop on Statistical Signal Processing (SSP'07).
- 2007 TPC Member, 2007 Sixth International Conference on Information, Communications and Signal Processing (ICICS-2007).
- 2007 TPC Member of Second IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (IEEE CAMSAP 2007).
- 2006** TPC Member, IEEE International Symposium on Signal Processing and Information Technology (ISSPIT'06).
- 2006 TPC Member of the ICC 2006 Wireless and Ad-Hoc Sensor Networks.
- 2006 Member of International Program Committee and Program Committee of the 6th International Symposium on Independent Component Analysis and Blind Source Separation (ICA-2006).
- 2006 TPC Member of 2006 International Wireless Communications and Computing Conference (IWCCC-2006).
- 2005** TPC Member of First IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (IEEE CAMSAP 2005).
- 2005 TPC Member of Emerging Networks, Technologies & Standards Symposium, IEEE WirelessCom 2005.
- 2005 Track TPC Member of 2005 International Conference on Communications, Circuits and Systems (ICCCAS-2005).
- 2004** Technical Committee Member, IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC-2004).
- 2003** Program Committee Member, International Conference on Signal Processing (ICSP-2003).
- 2003 Member of International Program Committee of the 4th International Symposium on Independent Component Analysis and Blind Source Separation (ICA-2003).
- 2003 Technical Committee Member, IEEE International Symposium on Signal Processing and Information Technology (ISSPIT'03).
- 7/01~6/03 Chair of Information Theory Chapter of IEEE Taipei Section.
- 2001** *Co-organizer and a general co-chairman* of 2001 IEEE SP Workshop on Signal Processing Advances in Wireless Communications (SPAWC-2001).
- 2001 Member of International Advisory Committee of TENCON'01.
- 2001 TPC Member, IEEE Workshop on Statistical Signal Processing (SSP'01).
- 1999** Technical Committee Member, IEEE Signal Processing Workshop on Higher-Order Statistics (HOS'99).

1997 Technical Committee Member, IEEE Signal Processing Workshop on Higher-Order Statistics (HOS'97).

### III. Honors

- **MOST Young Scholar Fellowship under Einstein Program:** Chia-Hsiang Lin (one of my former PhD students), Assistant Professor National Cheng Kung University (NCKU), Principal Investigator, Advanced Blind Source Separation and Hyperspectral Super-resolution Imaging via Convex Geometry and Big Data Optimization, from Aug. 2018 to July 2023.
- **2018 IEEE Signal Processing Society Best Paper Award:** Kun-Yu Wang, Anthony Man-Cho So, Tsung-Hui Chang, Wing-Kin Ma, and Chong-Yung Chi, "Outage Constrained Robust Transmit Optimization for Multiuser MISO Downlinks: Tractable Approximations by Conic Optimization," IEEE Tran. Signal Processing, Vol. 62, No. 21, November 2014.
- **Best PhD Dissertation Award of IEEE/GRS-S (2016):** Chia-Hsiang Lin (one of my former Ph.D. students) won the best doctoral dissertation award of IEEE Geoscience and Remote Sensing Society (GRSS) Taipei Chapter for the PhD dissertation, "Simplex geometry based non-negative blind source separation," conferred in IEEE ICSANE, Nov. 2016.
- **Outstanding PhD Dissertation Award of IPPR/CVGIP (2016):** Chia-Hsiang Lin (one of my former Ph.D. students) won the outstanding doctoral dissertation award of IPPR/CVGIP for the PhD dissertation, "Simplex geometry based non-negative blind source separation," conferred in IPPR/CVGIP, August 2016.
- **IEEE Geoscience and Remote Sensing Society Taipei Chapter Best Thesis Award for 2013:** ArulMurugan Ambikapathi (one of my former Ph.D. students) won the best thesis award for his Ph.D. thesis, "Chance constrained robust unmixing algorithms and estimation of number of endmembers in hyperspectral images."
- **Best Poster Award:** Wei-Chiang Li, Tsung-Hui Chang, Che Lin and Chong-Yung Chi, "Outage constrained distributed multicell coordinated beamforming: A dynamic pricing scheme," presented in International Workshop on Mathematical Issues in Information Sciences (MIIS), Xi'an, China, July 7-13, 2012.
- **Best Paper Award:** Tsung-Han Chan, Wing-Kin Ma, Arulmurugan Ambikapathi and Chong-Yung Chi, "Robust endmember extraction using worst-case simplex volume maximization," in Proc. Third IEEE Workshop on Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS), Lisbon, Portugal, June 6-9, 2011.
- **Outstanding Doctoral Dissertation Award of IPPR (2010):** Tsung-Han Chan (one of my former Ph.D. students) won the outstanding doctoral dissertation award of IPPR for the paper: "Convex analysis based non-negative blind source separation for biomedical and hyperspectral image analysis" in IPPR, 2010.
- **Best Doctoral Dissertation Award of CID & ORSTW (2010):** Tsung-Han Chan (one of my former Ph.D. students) won the best doctoral dissertation award of CID & ORSTW for the paper: "Convex analysis based non-negative blind source separation for biomedical and hyperspectral image analysis," in CID & ORSTW, 2010.
- **Best Student Paper Award:** Chun-Hsien Peng (one of my former Ph.D. students) won the best student paper award for the paper: Chun-Hsien Peng, Chong-Yung Chi, I-Chieh Chang and Chia-Hsing Kuo, "A blind space-time decoding algorithm by Kurtosis maximization for the down-link of MC-CDMA systems," 2005 IEEE International Conference on Information, Communications and Signal Processing (ICICS-2005), Bangkok, Thailand, Dec. 6-9, Dec. 2005.
- **NSC Class A Research Award 2005:** (within top 3% in Signal Processing Community in Taiwan)

### IV. Invited Plenary Talks at International Workshops/ Symposia/ Conferences

- 2018 3rd International Conference on Communication, Image and Signal Processing Sanya, China, Nov. 16-18, 2018 (CCISP 2018).  
Topic: *Convex Optimization for Signal Processing and Communications: From Fundamentals to Applications*
- 2018 International Conference on Sensor Networks and Signal Processing Xi'an, China, Oct. 28-31, 2018 (SNSP 2018).  
Topic: *Super-resolution Image via Hyperspectral and Multispectral Data Fusion using Big-data Convex Optimization*
- 5th International Conference on Big Data Analysis and Data Mining,

Rome, Italy, June 20-21, 2018 (Data Mining 2018).

Topic: *A Convex Optimization Based Coupled Non-negative Matrix Factorization Algorithm for Hyperspectral and Multispectral Data Fusion*

- 2018 2nd International Conference on Data Mining, Communications and Information Technology, Shanghai, China, May 25-27, 2018 (DMCIT 2018).

Topic: *Blind Deconvolution Based Super-resolution Imaging with ROSIS/HYDICE/AVIRIS Sensors via Big Data Convex Optimization*

- The 27th Wireless and Optical Communications Conference, National Dong Hwa University, Hualien, Taiwan, April 30- May 1, 2018 (WOCC 2018).

Topic: *Blind Deconvolution Based Super-resolution Imaging with ROSIS/HYDICE/AVIRIS Sensors via Big Data Convex Optimization*

- The International Mathematical Meeting and the Annual Meeting of the Taiwanese Mathematical Society,

National University of Kaohsiung, Kaohsiung, Taiwan, Dec. 19-20, 2015.

Topic: *Outage Constrained Robust Transmit Optimization for Multiuser MISO Downlinks: Tractable Approximations by Conic Optimization*

- IEEE China Summit and International Conference on Signal and Information Processing, Beijing, China, July 6-10, 2013 (IEEE ChinaSIP 2013).

Topic: *Convex Geometric Analysis for Non-negative Blind Source Separation*

- 2nd International Symposium on IT Convergence Engineering, POSTECH, Pohang, Korea, August 19-20, 2010 (ISITCE 2010).

Topic: *Non-negative Blind Source Separation for Biomedical Image Analysis*

- The International Workshop on Optimization and Signal Processing, Chinese University of Hong Kong, Hong Kong, Dec. 19-21, 2007.

Topic: *Non-Negative Least-correlated Component Analysis for Separation of Dependent Sources*

## V. Invited Short Courses

1. **Xidian University (XDU)**, Xi'an, China (2019/08/05-2019/08/30): *Convex Optimization for Communications and Signal Processing*
2. **Beijing University of Posts and Telecommunications (BUPT)**, Beijing, China (2019/07/04-2019/07/22): *Convex Optimization from Fundamentals to Applications*
3. **Shandong Normal University (SDNU)**, Jinan, China (2018/08/05-2018/08/25): *Convex Optimization from Fundamentals to Applications*
4. **Beijing University of Posts and Telecommunications (BUPT)**, Beijing, China (2018/06/30-2018/07/21): *Convex Optimization from Fundamentals to Applications*
5. **Shandong University (SDU)**, Jinan, China (2017/10/30-2017/11/14): *Convex Optimization from Fundamentals to Applications*
6. **Beijing Jiaotong University (BJTU)**, Beijing, China (2017/08/05-2017/08/26): *Convex Optimization from Fundamentals to Applications*
7. **Beijing University of Posts and Telecommunications (BUPT)**, Beijing, China (2017/07/01-2017/07/22): *Convex Optimization from Fundamentals to Applications*
8. **BUPT**, Beijing, China (2016/07/14-2016/07/28): *Convex Optimization from Fundamentals to Applications*
9. **University of Electronic Science and Technology of China (UESTC)**, Chengdu, China (2015/08/30-2015/09/13): *Convex Optimization from Fundamentals to Applications*
10. **Sun Yat-Sen University**, Guangzhou, China (2015/08/03-2015/08/14): *Convex Optimization from Fundamentals to Applications*
11. **BJTU**, Beijing, China (2015/07/06-2015/07/20): *Convex Optimization from Fundamentals to Applications*
12. **UESTC**, Chengdu, China (2014/09/01-2014/09/19): *Convex Optimization from Fundamentals to Applications*
13. **Xiamen University**, Fujian Province, China (2013/12/5-2013/12/19): *Convex Optimization from Fundamentals to Applications*
14. **UESTC**, Chengdu, China (2013/11/11-2013/11/22): *Convex Optimization from Fundamentals to Applications*
15. **BJTU**, Beijing, China (2013/7/12-2013/7/25): *Convex Optimization from Fundamentals to Applications*

16. **Tsinghua University**, Beijing, China (2012/8/20-2012/8/31): *The Optimization Theories and Methods with Applications in Aerospace Information Transmission and Processing*
17. **Tianjin University**, Tianjin, China (2011/8/22-2011/9/2): *Convex Optimization for Communications and Signal Processing*
18. **Tsinghua University**, Beijing, China (2010/8/23-2010/9/3): *Convex Optimization for Communications and Signal Processing*
19. **SDU**, Jinan, China (2010/1/5-2010/1/18): *Convex Optimization for Communications and Signal Processing*

## VI. Society Membership

- Fellow of the Institute of Electrical and Electronics Engineers (**2020 IEEE Fellow**) for contributions to *convex analysis and optimization for blind source separation*
- Active member of the Chinese Institute of Electrical Engineering

**PUBLICATIONS:** (Total citations: **5155 citations and 35 h-index papers** by [Google Scholar](#) by 2020/03/23) (**Green citations: 2097; Yellow citations: 1160; Orange citations: 1562**)

More than 240 technical papers published, including more than 85 journal papers (mostly in *IEEE Trans. Signal Processing*), 4 book chapters and more than 140 peer-reviewed conference papers, as well as 2 graduate-level textbooks, *Blind Equalization and System Identification* (approx. 480 pages), Springer-Verlag, 2006, and a new graduate-level textbook book, *Convex Optimization for Signal Processing and Communications: From Fundamentals to Applications*, (432 pages), CRC Press, 2017. The details are as follows:

### A-1. Journal Papers: (Total citations: **4149 by Google Scholar; 50502-downloads-IEEEExplore**)

- [1] Y.-A. Geng, Q.-Y. Li, M.-F. Liang, Chong-Yung Chi, J. Tan and H. Huang, "Local-density subspace distributed clustering for high-dimensional data," *IEEE Trans. Parallel and Distributed Systems*, vol. 31, no. 8, pp. 1799-1814, Aug. 2020. (**Impact factor: 3.402**) (**JCR Journal Ranking: 74/266**)
- [2] Y.-R. Syu, C.-H. Lin, Chong-Yung Chi, "An outlier-insensitive unmixing algorithm with spatially varying hyperspectral signatures," *IEEE Access*, vol. 7, pp. 15086-15101, Jan. 2019. **Citations: 1 by Google Scholar; 227-downloads-IEEEExplore** (**Impact factor: 4.098**) (**JCR Journal Ranking: 52/266**)
- [3] C.-H. Lin, Chong-Yung Chi, L. Chen, D. J. Miller, and Y. Wang, "Detection of sources in non-negative blind source separation by minimum description length criterion," *IEEE Trans. Neural Networks and Learning Systems*, vol. 29, no. 9, pp. 4022-4037, Sept. 2018. **Citations: 7 by Google Scholar; 424-downloads-IEEEExplore** (**Impact factor: 11.683**) (**JCR Journal Ranking: 3/266**)
- [4] C.-H. Lin, R. Wu, W.-K. Ma, Chong-Yung Chi, and Y. Wang, "Maximum volume inscribed ellipsoid: A new simplex-structured matrix factorization framework via facet enumeration and convex optimization," *SIAM Journal on Imaging Sciences*, vol. 11, no. 2, pp. 1651-1679, Jul. 2018. **Citations: 9 by Google Scholar** (**Impact factor: 2.514**) (**JCR Journal Ranking: 11/28**)
- [5] C.-H. Lin, F. Ma, Chong-Yung Chi, and C.-H. Hsieh, "A convex optimization-based coupled nonnegative matrix factorization algorithm for hyperspectral and multispectral data fusion," *IEEE Trans. Geoscience and Remote Sensing*, vol. 56, no.3, pp. 1652-1667, Mar. 2018. **Citations: 21 by Google Scholar; 813-downloads-IEEEExplore** (**Impact factor: 5.630**) (**JCR Journal Ranking: 28/266**)
- [6] G.-X. Xu, C.-H. Lin, W.-G. Ma, S.-Z. Chen, and Chong-Yung Chi, "Outage constrained robust hybrid coordinated beamforming for massive MIMO enabled heterogeneous cellular networks," *IEEE Access*, vol. 5, pp. 13601-13616, Mar. 2017. **Citations: 9 by Google Scholar; 1379-downloads-IEEEExplore** (**Impact factor: 4.098**) (**JCR Journal Ranking: 52/266**)
- [7] X. Xu, X. Chen, M. Zhao, S. Zhou, Chong-Yung Chi, J. Wang, "Power-efficient distributed beamforming for full-duplex MIMO relaying networks," *IEEE Trans. Vehicular Technology*, vol. 66, no. 2, pp. 1087-1103, Feb. 2017. **Citations: 16 by Google Scholar; 913-downloads-IEEEExplore** (**Impact factor: 5.339**) (**JCR Journal Ranking: 30/266**)
- [8] W. Xu, and L. Wang, Chong-Yung Chi, "A simplified GCS-DCSK modulation and its performance optimization," *International Journal of Bifurcation and Chaos*, vol. 26, no. 13, pp. 1650213-1-1650213-11, Dec. 2016. **Citations: 2 by Google Scholar** (**Impact factor: 2.145**) (**JCR Journal Ranking: 29/69**)
- [9] A. Ambikapathi, T.-H. Chan, C.-H. Lin, F.-S. Yang, Chong-Yung Chi, and Y. Wang,

- “Convex-optimization-based compartmental pharmacokinetic analysis for prostate tumor characterization using DCE-MRI,” *IEEE Trans. Biomedical Engineering*, vol. 63, no. 4, pp. 707-720, Apr. 2016. **Citations: 5 by Google Scholar; 343-downloads-IEEEExplore (Impact factor: 4.491) (JCR Journal Ranking: 11/80)**
- [10] C.-H. Lin, Chong-Yung Chi, Y.-H. Wang, and T.-H. Chan, “A fast hyperplane-based minimum-volume enclosing simplex algorithm for blind hyperspectral unmixing,” *IEEE Trans. Signal Processing*, vol. 64, no. 8, pp. 1946-1961, Apr. 2016. **Citations: 31 by Google Scholar; 589-downloads-IEEEExplore (Impact factor: 5.230) (JCR Journal Ranking: 32/266)**
- [11] C.-H. Lin, W.-K. Ma, W.-C. Li, C.-Y. Chi, and A. Ambikapathi, “Identifiability of the simplex volume minimization criterion for blind hyperspectral unmixing: The no pure-pixel case,” *IEEE Trans. Geoscience and Remote Sensing*, vol. 53, no.10, pp. 5530-5546, Oct. 2015. **Citations: 55 by Google Scholar; 432-downloads-IEEEExplore (Impact factor: 5.630) (JCR Journal Ranking: 28/266)**
- [12] W.-C. Li, T.-H. Chang, and Chong-Yung Chi, “Multicell coordinated beamforming with rate outage constraint–Part II: Efficient approximation algorithms,” *IEEE Trans. Signal Processing*, vol. 63, no. 11, pp. 2763-2778, Jun. 2015. **Citations: 17 by Google Scholar; 669-downloads-IEEEExplore (Impact factor: 5.230) (JCR Journal Ranking: 32/266)**
- [13] W.-C. Li, T.-H. Chang, and Chong-Yung Chi, “Multicell coordinated beamforming with rate outage constraint–Part I: Complexity analysis,” *IEEE Trans. Signal Processing*, vol. 63, no. 11, pp. 2749-2762, Jun. 2015. **Citations: 7 by Google Scholar; 521-downloads-IEEEExplore (Impact factor: 5.230) (JCR Journal Ranking: 32/266)**
- [14] K.-Y. Wang, A. M.-C. So, T.-H. Chang, W.-K. Ma, and Chong-Yung Chi, “Outage constrained robust transmit optimization for multiuser MISO downlinks: Tractable approximations by conic optimization,” *IEEE Trans. Signal Processing*, vol. 62, no. 21, pp. 5690-5705, Nov. 2014. **Citations: 243 by Google Scholar; 2673-downloads-IEEEExplore (Impact factor: 5.230) (JCR Journal Ranking: 32/266) (2018 IEEE Signal Processing Society Best Paper Award)**
- [15] W.-K. Ma, J. M. Bioucas-Dias, P. Gader, T.-H. Chan, N. Gillis, A. Plaza, A. Ambikapathi, and Chong-Yung Chi, “A signal processing perspective on hyperspectral unmixing: Insights from remote sensing,” *IEEE Signal Processing Magazine*, vol. 31, no. 1, pp. 67-81, January 2014. **Citations: 303 by Google Scholar; 2757-downloads-IEEEExplore (Impact factor: 7.602) (JCR Journal Ranking: 13/266)**
- [16] K.-K. Lee, W.-K. Ma, X. Fu, T.-H. Chan, and Chong-Yung Chi, “A Khatri-Rao subspace approach to blind identification of mixtures of quasi-stationary sources,” *Signal Processing*, vol. 93, no. 12, pp. 3515-3527, December 2013. **Citations: 7 by Google Scholar; 147-downloads-IEEEExplore (Impact factor: 4.086) (JCR Journal Ranking: 53/266)**
- [17] T.-H. Chan, A. Ambikapathi, W.-K. Ma, and Chong-Yung Chi, “Robust affine set fitting and fast simplex volume max-min for hyperspectral endmember extraction,” *IEEE Trans. Geoscience and Remote Sensing*, vol. 51, no. 7, pp. 3982-3997, July 2013. **Citations: 27 by Google Scholar; 584-downloads-IEEEExplore (Impact factor: 5.630) (JCR Journal Ranking: 28/266)**
- [18] H. Qin, Y. Sun, T.-H. Chang, X. Chen, Chong-Yung Chi, M. Zhao, and J. Wang, “Power allocation and time-domain artificial noise design for wiretap OFDM with discrete inputs,” *IEEE Trans. Wireless Communications*, vol. 12, no. 6, pp. 2717-2729, June 2013. **Citations: 78 by Google Scholar; 1146-downloads-IEEEExplore (Impact factor: 6.394) (JCR Journal Ranking: 20/266)**
- [19] F. He, Y. Sun, L. Xiao, X. Chen, Chong-Yung Chi, and S. Zhou, “Capacity region bounds and resource allocation for two-way OFDM relay channels,” *IEEE Trans. Wireless Communications*, vol. 12, no. 6, pp. 2904-2917, June 2013. **Citations: 21 by Google Scholar; 975-downloads-IEEEExplore (Impact factor: 6.394) (JCR Journal Ranking: 20/266)**
- [20] A. Ambikapathi, T.-H. Chan, Chong-Yung Chi, and K. Keizer, “Hyperspectral data geometry based estimation of number of endmembers using p-norm based pure pixel identification algorithm,” *IEEE Trans. Geoscience and Remote Sensing*, vol. 51, no. 5, pp. 2753-2769, May 2013. **Citations: 56 by Google Scholar; 642-downloads-IEEEExplore (Impact factor: 5.630) (JCR Journal Ranking: 28/266)**
- [21] K.-Y. Wang, N. Jacklin, Z. Ding, and Chong-Yung Chi, “Robust MISO transmit optimization under outage-based QoS constraints in two-tier heterogeneous networks,” *IEEE Trans. Wireless Communications*, vol. 12, no. 4, pp. 1883-1897, April 2013. **Citations: 42 by Google Scholar; 1001-downloads-IEEEExplore (Impact factor: 6.394) (JCR Journal Ranking: 20/266)**
- [22] W.-C. Li, T.-H. Chang, C. Lin, and Chong-Yung Chi, “Coordinated beamforming for multiuser MISO interference channel under rate outage constraints,” *IEEE Trans. Signal Processing*, vol. 61, no. 5, pp.

- 1087-1103, March 2013. **Citations: 98 by Google Scholar; 1997-downloads-IEEEXplore (Impact factor: 5.230) (JCR Journal Ranking: 32/266)**
- [23] Y.-C. Lin, T.-H. Chan, Chong-Yung Chi, S.-H. Ng, H.-L. Liu, K.-C. Wei, Y.-Y. Wai, C.-C. Wang, and J.-J. Wang, "Blind estimation of arterial input function in dynamic contrast-enhanced MRI using purity maximization," *Magnetic Resonance in Medicine*, vol. 68, no. 5, pp. 1439-1449, Nov. 2012. **Citations: 17 by Google Scholar (Impact factor: 3.858) (JCR Journal Ranking: 23/129)**
- [24] Y. Yang, T.-H. Chang, W.-K. Ma, J. Ge, Chong-Yung Chi, and P.-C. Ching, "Noncoherent bit-interleaved coded OSTBC-OFDM with maximum spatial-frequency diversity," *IEEE Trans. Wireless Communications*, vol. 11, no. 9, pp. 3335-3347, Sept. 2012. **Citations: 6 by Google Scholar; 794-downloads-IEEEXplore (Impact factor: 6.394) (JCR Journal Ranking: 20/266)**
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- [26] C. Shen, T.-H. Chang, K.-Y. Wang, Z. Qiu, and Chong-Yung Chi, "Distributed robust multicell coordinated beamforming with imperfect CSI: An ADMM approach," *IEEE Trans. Signal Processing*, vol. 60, no. 6, pp. 2988-3003, June 2012. **Citations: 224 by Google Scholar; 3945-downloads-IEEEXplore (Impact factor: 5.230) (JCR Journal Ranking: 32/266)**
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