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1 General Information

1.1 Academic Qualifications

- **Ph.D.** in Electrical Engineering and Computer Science, 2008
Massachusetts Institute of Technology, USA
Topic: Decentralized Detection in Resource-limited Sensor Network Architectures
Advisors: John Tsitsiklis and Moe Z. Win
- **MS** in Electrical Engineering, 2002
Stanford University, USA
- **BS** in Mathematics and Electrical Engineering with *distinction*, 2002
Stanford University, USA

1.2 Awards and Honors

- **IEEE Signal Processing Society Young Author Best Paper Award**, 2016.
Awarded with Jack Ho. I am a co-author of the paper and the main supervisor of Jack.
- **Early Career Teaching Excellence Award**, 2016.
School of Electrical and Electronic Engineering, Nanyang Technological University. In recognition of tenure-track assistant professors who have consistently demonstrated excellent teaching.
- **Tan Chin Tuan Exchange Fellowship in Engineering**, 2015.
- **Best Student Paper Award**, 46th Asilomar Conference on Signals, Systems, and Computers, 2012.
The Asilomar Conference on Signals, Systems, and Computers is a prestigious conference in signal processing and computer systems, and is technically co-sponsored by the IEEE Signal Processing Society.

1.3 Work Experience

- Sep. 2017 – present, Associate Professor, School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore
- Mar. 2010 – Aug. 2017, Assistant Professor, School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore
- Oct. 2008 – Mar. 2010, Associate, Quantitative Strategy, Morgan Stanley Asia Limited, Hong Kong
- Feb. 2008 – Sep. 2008, Associate, Quantitative Credit Research, Lehman Brothers Asia Limited
- Aug. 2004 – Dec. 2007, Research Assistant/Teaching Assistant, Massachusetts Institute of Technology

1.4 Consulting Experience

- Apr. 2010 – Mar. 2012, Financial Modelling, Morgan Stanley Asia Limited

1.5 Professional Memberships

- Senior Member, IEEE

2 Research Activities

2.1 Ongoing Research Grants

Abbreviations: NRF - National Research Foundation; NTU - Nanyang Technological University

- PI, “Research and Applications of 5G-V2X Communication and Computing”, NI Singapore Ltd, Oct. 2020 – Oct. 2022, S\$120,000
- PI, “5G-V2X Communication Trial and Use Cases Development”, M1 Limited, Jan. 2020 – Jan. 2022, S\$98,040
- PI, “End to End Learned Localization for AV”, NRF/Continental Corp Lab/NTU, Dec. 2019 – Nov. 2022, S\$530,569
- PI, “Next-Generation V2X Network Architecture and Ecosystem for Smart Mobility”, Industry Alignment Fund - Pre Positioning (IAF-PP), Nov. 2019 – Oct. 2022, S\$21,240,000
- Co-PI, “Design and Reinforcement Security on Smart Grids Against Cyber-physical Attack”, NRF, Oct. 2019 – Mar. 2022, S\$271,700 (total grant: S\$997,460)
- PI, “Decentralized Privacy for the Internet of Things: Theory and Algorithms”, Ministry of Education Academic Research Fund Tier 2, May 2019 – Apr. 2022, S\$568,512

2.2 Completed Research Grants

- PI, “Energy Efficient Resilient Distributed Inference”, NRF/Delta Electronics Corp Lab/NTU, Jul. 2016 – Aug. 2020, S\$434,600
- Co-PI, “Outdoor Geo-Localization and Navigation Using DVB and LTE Signals-of-Opportunity in GPS-denied Environments”, Ministry of Defence, Aug. 2018 – Aug. 2020, S\$300,000 (total grant: S\$1,200,000)
- PI, “Relative Positions Determination Using Communication Signals”, Defence Science Organization National Laboratories, Aug. 2018 – Apr. 2020, S\$479,159
- Co-PI, “Development of NTU/NXP-Intelligent Transport System Test-Bed”, Economic Development Board, Dec. 2014 – Nov. 2019, S\$2,568,300 (total grant: S\$14,098,000)
- PI, “Fake News Detection: A Graph Signal Processing And Learning Approach”, Ministry of Education Academic Research Fund Tier 1, Nov. 2017 – Jul. 2019, S\$80,000
- Co-PI, “Project Moscato: A Holistic Approach to Combatting Insider Threats”, Ministry of Defence, Dec. 2015 – Jun. 2019, S\$308,000 (total grant: S\$4,762,600)
- Co-PI, “UWB Based Collaborative Decentralised Localisation”, NRF/ST Dynamics Corp Lab/NTU, Jul. 2015 – Jun. 2019, S\$427,400 (total grant: S\$1,187,000)
- Co-PI, “Feasibility Study of Multi-Function Millimeter-Wave RaCoPo System”, Huawei International Pte. Ltd., Oct. 2017 – Apr. 2019, S\$148,944 (total grant: S\$446,832)
- PI, “Multi-Target Track Before Detect On TDOA-FDOA Based Measurements”, Defence Science Organization National Laboratories, Mar. 2015 – Feb. 2016, S\$100,000
- PI, “Robust Learning in Social Networks: Fundamental Limits and Strategies”, Ministry of Education Academic Research Fund Tier 2, Jan. 2015 – Jun. 2018, S\$652,998
- PI, “Identifying Infection Sources in a Network”, Ministry of Education Academic Research Fund Tier 2, Apr. 2014 – Mar. 2017, S\$507,593
- Co-PI, “Project Urban-Nav: Urban Outdoor Navigation of Unmanned Platform under a GPS Challenged Environment”, Defence Research and Technology Office, Dec. 2013 – Feb. 2017, S\$223,000 (total grant: S\$1,854,000)

- PI, “GPS Free TDOA/FDOA Geolocation and Tracking II”, Defence Science Organization National Laboratories, Mar. 2013 – Nov. 2015, S\$236,500
- PI, “Project Technifibre: Cooperative and Distributed Tracking in Urban Environments”, Defence Science and Technology Agency, May 2012 – May 2015, S\$622,725
- PI, “Intelligent Information Fusion and Inference in Sensor Networks”, Ministry of Education Academic Research Fund Tier 1, Mar. 2011 – Feb. 2014, S\$100,000
- PI, “UWB Monitoring System for Sleep Studies”, Nanyang Institute of Technology in Health and Medicine, Jul. 2011 – Jan. 2013, S\$70,000
- PI, “GPS Free TDOA/FDOA Geolocation and Tracking”, Defence Research and Technology Office, Nov. 2011 – Nov. 2012, S\$65,200
- PI, “Distributed Signal Processing and Algorithms for Decentralized Decision Making and Computation in Sensor Networks”, NTU Startup Grant, Mar. 2010 – Mar. 2013, S\$100,000

2.3 Published/Accepted Journal Papers

1. W. Zhang and W. P. Tay, “Cost-efficient RIS-aided channel estimation via rank-one matrix factorization,” *IEEE Wireless Commun. Lett.*, 2021, in press
2. P. Lin, C. Deng, Y. Yang, C. H. T. Lee, and W. P. Tay, “Resilience-oriented control for cyber-physical hybrid energy storage systems using a semi-consensus scheme: Design and practice,” *IEEE Trans. Ind. Electron.*, 2021, in press
3. J. Yang and W. P. Tay, “An unsupervised Bayesian neural network for truth discovery in social networks,” *IEEE Trans. Knowl. Data Eng.*, 2021, in press
4. Q. Kang and W. P. Tay, “Task recommendation in crowdsourcing based on learning preferences and reliabilities,” *IEEE Trans. Services Computing*, 2021, in press
5. T. S. Lau and W. P. Tay, “Asymptotically optimal sampling policy for quickest change detection with observation-switching cost,” *IEEE Trans. Signal Process.*, vol. 69, pp. 1332 – 1346, 2021
6. C. X. Wang, Y. Song, and W. P. Tay, “Arbitrarily strong utility-privacy tradeoff in multi-agent systems,” *IEEE Trans. Inf. Forensics Security*, vol. 16, pp. 671 – 684, 2021
7. Y. Song, C. X. Wang, and W. P. Tay, “Compressive privacy for a linear dynamical system,” *IEEE Trans. Inf. Forensics Security*, vol. 15, pp. 895 – 910, 2020
8. M. Sun and W. P. Tay, “On the relationship between inference and data privacy in decentralized IoT networks,” *IEEE Trans. Inf. Forensics Security*, vol. 15, pp. 852 – 866, 2020
9. M. Sun and W. P. Tay, “Decentralized detection with robust information privacy protection,” *IEEE Trans. Inf. Forensics Security*, vol. 15, pp. 85–99, 2020
10. X. Liu, W. P. Tay, Z.-W. Liu, and G. Xiao, “Quasi-synchronization of heterogeneous networks with a generalized Markovian topology and event-triggered communication,” *IEEE Trans. Cybern.*, vol. 50, no. 10, pp. 4200 – 4213, Oct. 2020
11. F. Ji, W. Tang, W. P. Tay, and E. K. P. Chong, “Network topology inference using information cascades with limited statistical knowledge,” *Information and Inference: A Journal of the IMA*, vol. 9, no. 2, pp. 327 – 360, Jun. 2020
12. F. Ji and W. P. Tay, “A Hilbert space theory of generalized graph signal processing,” *IEEE Trans. Signal Process.*, vol. 67, no. 24, pp. 6188 – 6203, Dec. 2019
13. X. He, W. P. Tay, H. Lei, M. Sun, and Y. Gong, “Privacy-aware sensor network via multilayer nonlinear processing,” *IEEE Internet Things J.*, vol. 6, no. 6, pp. 10 834 – 10 845, Dec. 2019

14. F. Wen, H. Wymeersch, B. Peng, W. P. Tay, H. C. So, and D. Yang, "A survey on 5G massive MIMO localization," *Digital Signal Processing*, vol. 94, pp. 21 – 28, Nov. 2019
15. Q. Kang and W. P. Tay, "Sequential multi-class labeling in crowdsourcing," *IEEE Trans. Knowl. Data Eng.*, vol. 31, no. 11, pp. 2190 – 2199, Nov. 2019
16. T. S. Lau and W. P. Tay, "Quickest change detection in the presence of a nuisance change," *IEEE Trans. Signal Process.*, vol. 67, no. 20, pp. 5281 – 5296, Oct. 2019
17. L. Ma, W. P. Tay, and G. Xiao, "Iterative expectation maximization for reliable social sensing with information flows," *Information Sciences*, vol. 501, pp. 621 – 634, Oct. 2019
18. J. Yang, J. Wang, and W. P. Tay, "Using social network information in community-based Bayesian truth discovery," *IEEE Trans. Signal Inf. Process. Netw.*, vol. 5, no. 3, pp. 525 – 537, Sep. 2019
19. R. Rabiee, X. Zhong, Y. Yan, and W. P. Tay, "LaIF: A lane-level self-positioning scheme for vehicles in GNSS-denied environments," *IEEE Trans. Intell. Transp. Syst.*, vol. 20, no. 8, pp. 2944 – 2961, Aug. 2019
20. F. Ji, W. Tang, and W. P. Tay, "On the properties of Gromov matrices and their applications in network inference," *IEEE Trans. Signal Process.*, vol. 67, no. 10, pp. 2624 – 2638, May 2019
21. G. Yang, W. P. Tay, Y. L. Guan, and Y.-C. Liang, "Optimal power allocation for diffusion-type sensor networks with wireless information and power transfer," *IEEE Access*, vol. 7, pp. 32 408 – 32 422, Mar. 2019
22. T. S. Lau, W. P. Tay, and V. V. Veeravalli, "A binning approach to quickest change detection with unknown post-change distribution," *IEEE Trans. Signal Process.*, vol. 67, no. 3, pp. 609 – 621, Feb. 2019
23. W. Tang, F. Ji, and W. P. Tay, "Estimating infection sources in networks using partial timestamps," *IEEE Trans. Inf. Forensics Security*, vol. 13, no. 2, pp. 3035 – 3049, Dec. 2018
24. J. Yang, X. Zhong, and W. P. Tay, "A dynamic Bayesian nonparametric model for blind calibration of sensor networks," *IEEE Internet Things J.*, vol. 5, no. 5, pp. 3942 – 3953, Oct. 2018
25. M. Z. A. Bhotto and W. P. Tay, "Non-Bayesian social learning with observation reuse and soft switching," *ACM Trans. Sensor Networks*, vol. 14, no. 2, pp. 14:1–14:21, Jun. 2018
26. M. Sun, W. P. Tay, and X. He, "Toward information privacy for the Internet of Things: A non-parametric learning approach," *IEEE Trans. Signal Process.*, vol. 66, no. 7, pp. 1734 – 1747, Apr. 2018
27. F. Quitin, P. De Doncker, F. Horlin, and W. P. Tay, "Virtual multi-antenna array for estimating the direction of a transmitter: system, bounds and experimental results," *IEEE Trans. Veh. Technol.*, vol. 67, no. 2, pp. 1510 – 1520, Feb. 2018
28. Y. Yu, G. Xiao, G. Li, W. P. Tay, and H. F. Teoh, "Opinion diversity and community formation in adaptive networks," *Chaos: An Interdisciplinary Journal of Nonlinear Science*, vol. 27, no. 20, p. 103115, Oct. 2017
29. W. Luo, W. P. Tay, and M. Leng, "On the universality of Jordan centers for estimating infection sources in tree networks," *IEEE Trans. Inf. Theory*, vol. 63, no. 7, pp. 4634 – 4657, Jul. 2017
30. F. Ji, W. P. Tay, and L. Varshney, "An algorithmic framework for estimating rumor sources with different start times," *IEEE Trans. Signal Process.*, vol. 65, no. 10, pp. 2517 – 2530, May 2017
31. J. Tang, W. P. Tay, T. Q. S. Quek, and B. Liang, "System cost minimization in cloud RAN with limited fronthaul capacity," *IEEE Trans. Wireless Commun.*, vol. 16, no. 5, pp. 3371 – 3384, May 2017
32. Y. Wang, W. P. Tay, and W. Hu, "A multitask diffusion strategy with optimized inter-cluster cooperation," *IEEE J. Sel. Topics Signal Process.*, vol. 11, no. 3, pp. 504 – 517, Mar. 2017
33. M. Leng, W. P. Tay, F. Quitin, C. Cheng, S. G. Razul, and C. M. S. See, "Anchor-aided joint localization and synchronization using SOOP: Theory and experiments," *IEEE Trans. Wireless Commun.*, vol. 15, no. 11, pp. 7670 – 7685, Nov. 2016

34. Y. Zhang, W. P. Tay, K. H. Li, M. Essegir, and D. Gaiti, "Learning temporal-spatial spectrum reuse," *IEEE Trans. Commun.*, vol. 64, no. 7, pp. 3092 – 3103, Jul. 2016
35. W. Luo, W. P. Tay, and M. Leng, "Infection spreading and source identification: A hide and seek game," *IEEE Trans. Signal Process.*, vol. 64, no. 16, pp. 4228 – 4243, Aug. 2016
36. J. Ho, W. P. Tay, T. Q. S. Quek, and E. K. P. Chong, "Robust decentralized detection and social learning in tandem networks," *IEEE Trans. Signal Process.*, vol. 63, no. 19, pp. 5019 – 5032, Oct. 2015, *IEEE Signal Processing Society Young Author Best Paper Award*
37. J. Tang, W. P. Tay, and T. Q. S. Quek, "Cross-layer resource allocation with elastic service scaling in cloud radio access network," *IEEE Trans. Wireless Commun.*, vol. 14, no. 9, pp. 5068 – 5081, Sep. 2015
38. W. Hu and W. P. Tay, "Multi-hop diffusion LMS for energy-constrained distributed estimation," *IEEE Trans. Signal Process.*, vol. 63, no. 15, pp. 4022 – 4036, Aug. 2015
39. W. Xu, F. Quitin, M. Leng, W. P. Tay, and S. G. Razul, "Distributed localization of a RF target in NLOS environments," *IEEE J. Sel. Areas Commun.*, vol. 33, no. 7, pp. 1 – 14, Jul. 2015
40. W. P. Tay, "Whose opinion to follow in multihypothesis social learning? A large deviations perspective," *IEEE J. Sel. Topics Signal Process.*, vol. 9, no. 2, pp. 344 – 359, Mar. 2015
41. M. Leng, W. P. Tay, T. Q. S. Quek, and H. Shin, "Distributed local linear parameter estimation using Gaussian SPAWN," *IEEE Trans. Signal Process.*, vol. 63, no. 1, pp. 244 – 257, Jan. 2015
42. Y. Zhang, W. P. Tay, K. H. Li, and D. Gaiti, "Distributed boundary estimation for spectrum sensing in cognitive radio networks," *IEEE J. Sel. Areas Commun.*, vol. 32, no. 11, pp. 1961 – 1973, Nov. 2014
43. W. Luo, W. P. Tay, and M. Leng, "How to identify an infection source with limited observations," *IEEE J. Sel. Topics Signal Process.*, vol. 8, no. 4, pp. 586 – 597, Aug. 2014
44. J. Tang, W. P. Tay, and Y. Wen, "Dynamic request redirection and elastic service scaling in cloud-centric media networks," *IEEE Trans. Multimedia*, vol. 16, no. 5, pp. 1434 – 1445, Aug. 2014
45. M. Leng, W. P. Tay, C. M. S. See, S. G. Razul, and M. Z. Win, "Modified CRLB for cooperative geolocation of two devices using signals of opportunity," *IEEE Trans. Wireless Commun.*, vol. 13, no. 7, pp. 3636 – 3649, Jul. 2014
46. W. Hu and W. P. Tay, "An integer linear programming approach for a class of bilinear integer programs," *Oper. Res. Lett.*, vol. 42, no. 3, pp. 226 – 230, May 2014
47. W. Luo, W. P. Tay, and M. Leng, "Identifying infection sources and regions in large networks," *IEEE Trans. Signal Process.*, vol. 61, no. 11, pp. 2850 – 2865, Jun. 2013
48. D. W. Soh, W. P. Tay, and T. Q. S. Quek, "Randomized information dissemination in dynamic environments," *IEEE/ACM Trans. Netw.*, vol. 21, no. 3, pp. 681 – 691, Jun. 2013
49. T. M. Nguyen, Y. Jeong, T. Q. S. Quek, W. P. Tay, and H. Shin, "Interference alignment in a Poisson field of MIMO femtocells," *IEEE Trans. Wireless Commun.*, vol. 12, no. 6, pp. 2633 – 2645, Jun. 2013
50. Y. Nijsure, W. P. Tay, E. Gunawan, F. Wen, Y. Zhang, Y. L. Guan, and A. P. Chua, "An impulse radio ultra wideband system for contactless non-invasive respiratory monitoring," *IEEE Trans. Biomed. Eng.*, vol. 60, no. 6, pp. 1509 – 1517, Jun. 2013
51. W. P. Tay, "The value of feedback in decentralized detection," *IEEE Trans. Inf. Theory*, vol. 58, no. 12, pp. 7226 – 7239, Dec. 2012
52. G. Hu, W. P. Tay, and Y. Wen, "Cloud robotics: architecture, challenges and applications," *IEEE Network, Special Issue on Machine and Robotic Networking*, vol. 26, no. 3, pp. 21 – 28, May 2012
53. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "Bayesian detection in bounded height tree networks," *IEEE Trans. Signal Process.*, vol. 57, no. 10, pp. 4042 – 4051, Oct. 2009
54. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "On the subexponential decay of detection error probabilities in long tandems," *IEEE Trans. Inf. Theory*, vol. 54, no. 10, pp. 4767 – 4771, Oct. 2008

55. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "Data fusion trees for detection: Does architecture matter?" *IEEE Trans. Inf. Theory*, vol. 54, no. 9, pp. 4155 – 4168, Sep. 2008
56. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "On the impact of node failures and unreliable communications in dense sensor networks," *IEEE Trans. Signal Process.*, vol. 56, no. 6, pp. 2535 – 2546, Jun. 2008
57. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "Asymptotic performance of a censoring sensor network," *IEEE Trans. Inf. Theory*, vol. 53, no. 11, pp. 4191 – 4209, Nov. 2007

2.4 Refereed Conference Proceedings

1. F. Ji and W. P. Tay, "Signal processing with a distribution of graph operators," in *Proc. IEEE Workshop on Statistical Signal Processing*, Rio de Janeiro, Brazil, Jul. 2021
2. S. H. Lee, F. Ji, and W. P. Tay, "Learning on heterogeneous graphs using high-order relations," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Toronto, Canada, Jun. 2021
3. C. Jin, I. Bajaj, K. Zhao, W. P. Tay, and K. V. Ling, "5G positioning using code-phase timing recovery," in *Proc. IEEE Wireless Commun. and Networking Conf.*, Nanjing, China, Mar. 2021
4. Y. Song, I. Bajaj, R. Rabiee, and W. P. Tay, "Anchor-free multi-level self-localization in ad-hoc networks," in *Proc. IEEE Wireless Commun. and Networking Conf.*, Nanjing, China, Mar. 2021
5. Y. Song, Q. Kang, and W. P. Tay, "Error-correcting output codes with ensemble diversity for robust learning in neural networks," in *Proc. AAAI Conference on Artificial Intelligence*, Feb. 2021
6. C. X. Wang and W. P. Tay, "Data-driven privacy with domain regularization," in *Proc. IEEE Global Telecomm. Conf.*, Taipei, Taiwan, Dec. 2020
7. C. Wang, W. P. Tay, Y. Wei, and Y. Wang, "Resilient multitask distributed adaptation over networks with noisy exchanges," in *Proc. IEEE Sensor Array and Multichannel Signal Processing Workshop*, Hangzhou, China, Jun. 2020
8. C. X. Wang, W. P. Tay, and Y. Song, "Maximum privacy under perfect utility in sensor networks," in *Proc. IEEE Sensor Array and Multichannel Signal Processing Workshop*, Hangzhou, China, Jun. 2020
9. T. S. Lau and W. P. Tay, "Privacy-aware quickest change detection," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Barcelona, Spain, May 2020
10. F. Ji, J. Yang, Q. Zhang, and W. P. Tay, "GFCN : A new graph convolutional network based on parallel flows," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Barcelona, Spain, May 2020
11. F. Ji, Pratibha, and W. P. Tay, "On folded graph signals," in *Proc. IEEE Global Conf. on Signal and Information Processing*, Ottawa, Canada, Nov. 2019
12. Q. Kang and W. P. Tay, "Orthogonal projection in linear bandits," in *Proc. IEEE Global Conf. on Signal and Information Processing*, Ottawa, Canada, Nov. 2019
13. C. Wang, W. P. Tay, Y. Wang, and Y. Wei, "A privacy-preserving diffusion strategy over multitask networks," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Brighton, UK, May 2019
14. T. S. Lau and W. P. Tay, "Asymptotically optimal quickest change detection under a nuisance change," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Brighton, UK, May 2019
15. Y. Song, M. Guan, W. P. Tay, C. L. Law, and C. Wen, "UWB/LiDAR fusion for cooperative range-only SLAM," in *Int. Conf. on Robotics and Automation*, Montreal, Canada, May 2019
16. F. Ji and W. P. Tay, "Generalized graph signal processing," in *Proc. IEEE Global Conf. on Signal and Information Processing*, Anaheim, USA, Nov. 2018
17. C. X. Wang, Y. Song, and W. P. Tay, "Preserving parameter privacy in sensor networks," in *Proc. IEEE Global Conf. on Signal and Information Processing*, Anaheim, USA, Nov. 2018

18. W. Qiu, A. Khong, and W. P. Tay, "Hidden Markov model for masquerade detection based on sequence alignment," in *Proc. IEEE Cyber Science and Technology Congress*, Athens, Greece, Aug. 2018
19. Y. Wang, W. Hu, and W. P. Tay, "An event-based diffusion LMS strategy," in *Proc. IEEE Sensor Array and Multichannel Signal Processing Workshop*, Sheffield, UK, Jul. 2018
20. Pratibha, J. Wang, S. Aggarwal, F. Ji, and W. P. Tay, "Learning correlation graph and anomalous employee behavior for insider threat detection," in *Proc. Int. Conf. on Information Fusion*, Cambridge, UK, Jul. 2018
21. F. Ji, W. Tang, and W. P. Tay, "Properties and applications of Gromov matrices in network inference," in *Proc. IEEE Workshop on Statistical Signal Processing*, Freiburg, Germany, Jun. 2018
22. T. S. Lau and W. P. Tay, "Quickest change detection under a nuisance change," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Calgary, Canada, Apr. 2018
23. Y. Song, C. X. Wang, and W. P. Tay, "Privacy-aware Kalman filtering," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Calgary, Canada, Apr. 2018
24. W. Tang, F. Ji, and W. P. Tay, "Multiple sources identification in networks with partial timestamps," in *Proc. IEEE Global Conf. on Signal and Information Processing*, Montreal, Canada, Nov. 2017
25. T. S. Lau and W. P. Tay, "Optimal sampling policy for quickest change detection," in *Proc. IEEE Global Conf. on Signal and Information Processing*, Montreal, Canada, Nov. 2017
26. Y. Song, W. P. Tay, and C. L. Law, "Robust decentralized localization in impulsive noise," in *Int. Conf. on Indoor Positioning and Indoor Navigation*, Sapporo, Japan, Sep. 2017
27. Y. Song, C. X. Wang, W. P. Tay, and C. L. Law, "Grid-based belief propagation," in *Int. Conf. on Indoor Positioning and Indoor Navigation*, Sapporo, Japan, Sep. 2017
28. Q. Kang and W. P. Tay, "Sequential multi-class labeling in crowdsourcing: A Ulam-Renyi game approach," in *IEEE/WIC/ACM Int. Conf. on Web Intelligence*, Leipzig, Germany, Aug. 2017
29. M. Sun and W. P. Tay, "Inference and data privacy in IoT networks," in *Proc. IEEE Workshop on Signal Processing Advances in Wireless Commun.*, Hokkaido, Japan, Jul. 2017, *invited paper*
30. F. Ji, W. Tang, W. P. Tay, and E. K. P. Chong, "Inferring network topology from information cascades," in *Proc. IEEE Int. Symp. on Inform. Theory*, Aachen, Germany, Jun. 2017
31. M. Z. A. Bhotto and W. P. Tay, "Non-Bayesian social learning with observation reuse and soft switching," in *Proc. IEEE Int. Conf. on Commun.*, Paris, France, May 2017
32. X. He and W. P. Tay, "Multilayer sensor network for information privacy," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, New Orleans, USA, Mar. 2017
33. T. S. Lau, W. P. Tay, and V. V. Veeravalli, "Quickest change detection with unknown post-change distribution," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, New Orleans, USA, Mar. 2017
34. W. Tang and W. P. Tay, "A particle filter for sequential infection source estimation," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, New Orleans, USA, Mar. 2017
35. J. Yang, W. P. Tay, and X. Zhong, "A dynamic Bayesian nonparametric model for blind calibration of sensor networks," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, New Orleans, USA, Mar. 2017
36. F. Ji, W. P. Tay, and L. R. Varshney, "Estimating the number of infection sources in a tree," in *Proc. IEEE Global Conf. on Signal and Information Processing*, Washington, DC, USA, Dec. 2016
37. P. Oguz-Ekim, K. Ali, Z. Madadi, F. Quitin, and W. P. Tay, "Proof of concept study using DSRC, IMU and map fusion for vehicle localization in GNSS-denied environments," in *Proc. IEEE Intelligent Transportation Systems Conf.*, Rio de Janeiro, Brazil, Nov. 2016

38. X. Zhong, Y. Yan, and W. P. Tay, "Posterior Cramér-Rao lower bound for mobile emitter tracking based on a TDOA-FDOA multi-measurement model," in *Proc. of IEEE Int. Conf. on Ubiquitous Wireless Broadband*, Nanjing, China, Oct. 2016, *invited paper*
39. Z. Madadi, F. Quitin, and W. P. Tay, "Receiver tracking using signals of opportunity from asynchronous RF beacons in GNSS-denied environments," in *Proc. IEEE Veh. Technol. Conf.*, Montreal, Canada, Sep. 2016
40. F. Quitin, X. Zhong, V. Govindaraj, and W. P. Tay, "Virtual multi-antenna array for estimating the angle-of-arrival of a RF transmitter," in *Proc. IEEE Veh. Technol. Conf.*, Montreal, Canada, Sep. 2016
41. X. He, W. P. Tay, and M. Sun, "Privacy-aware decentralized detection using linear precoding," in *Proc. IEEE Sensor Array and Multichannel Signal Processing Workshop*, Rio de Janeiro, Brazil, Jul. 2016
42. X. Zhong, W. P. Tay, M. Leng, S. G. Razul, and C. M. S. See, "TDOA-FDOA multiple target detection and tracking in the presence of measurement errors and biases," in *Proc. IEEE Workshop on Signal Proc. Advances in Wireless Commun.*, Edinburgh, UK, Jul. 2016, *invited paper*
43. J. Tang, T. Q. S. Quek, and W. P. Tay, "Joint resource segmentation and transmission rate adaptation in cloud RAN with caching as a service," in *Proc. IEEE Workshop on Signal Proc. Advances in Wireless Commun.*, Edinburgh, UK, Jul. 2016, *invited paper*
44. F. Ji and W. P. Tay, "Identifying rumor sources with different start times," in *Proc. IEEE Workshop on Statistical Signal Processing*, Palma de Mallorca, Spain, Jun. 2016
45. Y. Wang, W. P. Tay, and W. Wu, "Multitask diffusion LMS with optimized inter-cluster cooperation," in *Proc. IEEE Workshop on Statistical Signal Processing*, Palma de Mallorca, Spain, Jun. 2016
46. X. Liu, G. Xiao, W. P. Tay, G. Ma, and H. Xi, "Synchronization of pinning networks with Markovian switching topologies and event-triggered communication," in *World Congress on Intelligent Control and Automation*, Guilin, China, Jun. 2016
47. M. Sun and W. P. Tay, "Privacy-preserving nonparametric decentralized detection," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Shanghai, China, Mar. 2016
48. Y. Zhang, W. P. Tay, K. H. Li, M. Essegir, and D. Gaiti, "Opportunistic spectrum access with temporal-spatial reuse in cognitive radio networks," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Shanghai, China, Mar. 2016
49. Y. Wang, W. P. Tay, and W. Hu, "An energy-efficient diffusion strategy over adaptive networks," in *Proc. Int. Conf. on Information, Communications and Signal Processing*, Singapore, Dec. 2015
50. G. Yang, W. P. Tay, and Y. L. Guan, "Optimal wireless power transfer and harvested power allocation for diffusion LMS in wireless sensor networks," in *Proc. IEEE Global Conf. on Signal and Information Processing*, Orlando, USA, Dec. 2015
51. J. Tang, W. P. Tay, T. Q. S. Quek, and B. Liang, "Towards system cost minimization in cloud radio access network," in *Proc. Asilomar Conf. on Signals, Systems and Computers*, Asilomar, USA, Nov. 2015, *invited paper*
52. M. Leng, F. Quitin, C. Cheng, W. P. Tay, S. G. Razul, and C. M. S. See, "Joint navigation and synchronization using SOOP in GPS-denied environments: Algorithm and empirical study," in *Proc. Sensor Signal Processing for Defence Conf.*, Edinburgh, UK, Sep. 2015
53. W. Luo, W. P. Tay, and M. Leng, "Rumor spreading maximization and source identification in a social network," in *Proc. IEEE/ACM Int. Conf. on Advances in Social Networks Analysis and Mining*, Paris, France, Aug. 2015
54. W. Luo, W. P. Tay, M. Leng, and M. K. Guevara, "On the universality of the Jordan center for estimating the rumor source in a social network," in *Proc. IEEE Int. Conf. on Digital Signal Processing*, Singapore, Jul. 2015

55. G. Garcia, W. Hu, W. P. Tay, and H. Wymeersch, "Joint scheduling and localization in UWB networks," in *Proc. IEEE Int. Conf. on Commun.*, London, UK, Jun. 2015, *invited paper*
56. Z. Madadi, F. Quitin, and W. P. Tay, "RF transmitter geolocation based on signal periodicity: concept and implementation," in *Proc. IEEE Int. Conf. on Commun.*, London, UK, Jun. 2015
57. C. Cheng, W. Hu, and W. P. Tay, "Localization of a moving non-cooperative RF target in NLOS environment using RSS and AOA measurements," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Brisbane, Australia, Apr. 2015
58. W. Hu, W. P. Tay, A. Harilal, and G. Xiao, "Network infection source identification under the SIRI model," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Brisbane, Australia, Apr. 2015
59. Z. Madadi, F. Quitin, and W. P. Tay, "Periodic RF transmitter geolocation using a mobile receiver," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Brisbane, Australia, Apr. 2015
60. Y. Zhang, W. P. Tay, K. H. Li, M. Essegir, and D. Gaiti, "Distributed opportunistic spectrum access with spatial reuse in cognitive radio networks," in *Proc. IEEE Global Conf. on Signal and Information Processing*, Atlanta, US, Dec. 2014
61. J. Tang, W. P. Tay, and T. Q. S. Quek, "Cross-layer resource allocation in cloud radio access network," in *Proc. IEEE Global Conf. on Signal and Information Processing*, Atlanta, US, Dec. 2014, *invited paper*
62. W. Xu, F. Quitin, M. Leng, W. P. Tay, and S. G. Razul, "Distributed localization of a non-cooperative RF target in NLOS environments," in *Proc. Int. Conf. on Information Fusion*, Salamanca, Spain, Jul. 2014
63. W. Hu and W. P. Tay, "Generalized diffusion adaptation for energy-constrained distributed estimation," in *Proc. Int. Conf. on Information Fusion*, Salamanca, Spain, Jul. 2014
64. J. Ho, W. P. Tay, and T. Q. S. Quek, "Robust detection and social learning in tandem networks," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Florence, Italy, May 2014
65. W. Luo and W. P. Tay, "Estimating infection sources in a network with incomplete observations," in *Proc. IEEE Global Conf. on Signal and Information Processing*, Austin, USA, Dec. 2013
66. W. Xu, M. Leng, W. P. Tay, and S. G. Razul, "Distributed localization of an unknown target in NLOS environments," in *Proc. Int. Conf. on Information, Communications and Signal Processing*, Tainan, Taiwan, Dec. 2013
67. W. Luo and W. P. Tay, "Finding an infection source under the SIS model," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Vancouver, Canada, May 2013
68. Y. Zhang, W. P. Tay, K. H. Li, and D. Gaiti, "Distributed boundary estimation for spectrum sensing in cognitive radio networks," in *Proc. IEEE Wireless Commun. and Networking Conf.*, Shanghai, China, Apr. 2013
69. M. Leng, W. P. Tay, C. M. S. See, and S. G. Razul, "Fundamental limits for location and velocity estimation using asynchronous beacons," in *Proc. IEEE Wireless Commun. and Networking Conf.*, Shanghai, China, Apr. 2013
70. M. Leng, W. P. Tay, C. M. S. See, and S. G. Razul, "GPS-free localization using asynchronous beacons," in *Proc. IEEE Int. Conf. on Mobile Ad-hoc and Sensor Networks*, Chengdu, China, Dec. 2012, *invited paper*
71. W. Luo and W. P. Tay, "Identifying multiple infection sources in a network," in *Proc. Asilomar Conf. on Signals, Systems and Computers*, Asilomar, USA, Nov. 2012, *invited paper, best student paper award*
72. Y. Nijsure, W. P. Tay, E. Gunawan, and J. Lai, "A Bayesian nonparametric approach to tumor detection using UWB imaging," in *Proc. of IEEE Int. Conf. on Ubiquitous Wireless Broadband*, New York, USA, Sep. 2012
73. F. Wen and W. P. Tay, "Localization for mixed near-field and far-field sources using data supported optimization," in *Proc. Int. Conf. on Information Fusion*, Singapore, Jul. 2012

74. F. Wen and W. P. Tay, "Tensor decomposition based R-dimensional matrix pencil method," in *Proc. Int. Conf. on Information Fusion*, Singapore, Jul. 2012
75. W. Luo and W. P. Tay, "Identifying infection sources in large tree networks," in *Proc. IEEE Int. Conf. on Sensing, Communication, and Networking*, Seoul, Korea, Jun. 2012
76. C. Cheng, W. P. Tay, and G. B. Huang, "Extreme learning machines for intrusion detection," in *Proc. IEEE Int. Joint Conf. on Neural Networks*, Brisbane, Australia, Jun. 2012
77. M. Leng, W. P. Tay, and T. Q. S. Quek, "Cooperative and distributed localization for wireless sensor networks in multipath environments," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Kyoto, Japan, Mar. 2012
78. M. Leng, W. P. Tay, and T. Q. S. Quek, "Cooperative and distributed localization for wireless sensor networks in multipath environments," in *Proc. Int. Conf. on Information, Communications and Signal Processing*, Singapore, Dec. 2011
79. D. W. Soh, T. Q. S. Quek, and W. P. Tay, "Randomized rumor spreading in non-static networks," in *Proc. IEEE Int. Conf. on ICT Convergence*, Seoul, Korea, Sep. 2011, *invited paper*
80. D. W. Soh, T. Q. S. Quek, and W. P. Tay, "Randomized broadcast in dynamic network environments," in *Proc. IEEE Workshop on Signal Processing Advances in Wireless Commun.*, San Francisco, USA, Jun. 2011
81. W. P. Tay and J. N. Tsitsiklis, "Error exponents for decentralized detection in feedback architectures," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Prague, Czech Republic, May 2011
82. W. P. Tay and J. N. Tsitsiklis, "The value of feedback for decentralized detection in large sensor networks," in *Proc. Int. Sym. on Wireless and Pervasive Computing*, Hong Kong, Feb. 2011
83. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "On the sub-exponential decay of detection probabilities in long tandems," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Honolulu, USA, Apr. 2007, pp. 837–840
84. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "Bayesian detection in bounded height tree networks," in *Proc. of Data Compression Conf.*, Snowbird, USA, Mar. 2007, pp. 243–252
85. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "Detection in dense wireless sensor networks," in *Proc. IEEE Wireless Commun. and Networking Conf.*, Hong Kong, Mar. 2007, pp. 3483–3488
86. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "Data fusion trees for detection: Does architecture matter?" in *Proc. Allerton Conf. on Commun., Control and Computing*, Monticello, USA, Sep. 2006
87. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "Asymptotically optimal distributed censoring," in *Proc. IEEE Int. Symp. on Inform. Theory*, Seattle, USA, Jul. 2006, pp. 625–629
88. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "Censoring sensors: Asymptotics and the value of cooperation," in *Proc. Conf. on Inform. Sci. and Sys.*, Princeton, USA, Mar. 2006, pp. 62–67

2.5 Book Chapters

1. F. Ji, W. Tang, J. Yang, and W. P. Tay, "Online information spreading and source identification," in *Online Social Networks: Perspectives, Applications and Developments*, C. W. Tan, Ed. Hauppauge, NY: Nova Science Publishers, Inc., 2020, ch. 4
2. R. Rabiee, I. Bajaj, and W. P. Tay, "Vehicle localization in GNSS-denied environments," in *Cooperative Localization and Navigation: Theory, Research, and Practice*, C. Gao, G. Zhao, and H. Fourati, Eds. Boca Raton, FL: CRC Press, 2019, ch. 11, pp. 199 – 222
3. M. Leng and W. P. Tay, "Fundamental limits of self-localization for cooperative robotic platforms using signals of opportunity," in *Cooperative Robots and Sensor Networks 2015*, ser. Studies in Computational Intelligence, A. Koubâa and J. R. M. de Dios, Eds. Cham: Springer, 2015, vol. 604, pp. 159 – 181

4. W. P. Tay and J. N. Tsitsiklis, "Error exponents for decentralized detection in tree networks," in *Networked Sensing Information and Control*, V. Saligrama, Ed. Boston, MA: Springer, 2008, pp. 73 – 92

2.6 Thesis

1. W. P. Tay, "Decentralized detection in resource-limited sensor network architectures," Ph.D. dissertation, Massachusetts Institute of Technology, Dec. 2007

2.7 Other Publications

1. Z. Madadi, F. Quitin, and W. P. Tay, "Vehicle localization using periodic transmissions from an RSU in GNSS denied environments," in *Proc. ITS Asia-Pacific Forum*, Nanjing, China, Apr. 2015
2. Y. Nijsure, W. P. Tay, and E. Gunawan, "An impulse radio ultra wideband system for contactless non-invasive respiratory monitoring," *Asia Pacific BioTech News*, vol. 16, no. 10, pp. 28–31, Oct. 2012, *invited paper*

2.8 Patents and Copyrights

1. C. X. Wang, Y. Xu, Y. Song, and W. P. Tay, "Privacy-aware service provisioning in V2X networks," Singapore Provisional Patent 10 202 106 300S, Jun. 11, 2021
2. C. Jin, I. Bajaj, K. Zhao, W. P. Tay, and K. V. Ling, "5G positioning using code phase and carrier phase receiver," Singapore Provisional Patent 10 202 011 842U, Nov. 27, 2020
3. F. Ji, Pratibha, and W. P. Tay, "Methods and systems for recovering folded signals," Singapore Provisional Patent WO 2021/091 486 A1, Nov. 6, 2019
4. Y. Wang, W. P. Tay, J. S. Kee, and K. Thangamariappan, "Wireless sensor network and parameter optimization method thereof, and warehouse system," U.S. Patent 20 200 146 103A1, Nov. 1, 2018
5. W. P. Tay, X. Zhong, R. Rabiee, and Y. Yan, "Lane-level vehicle tracker for V2X communication systems," NTU Copyright TD/206/17, Oct. 12, 2017
6. X. He, W. P. Tay, and M. Sun, "Privacy engine for IoT device networks," NTU Copyright TD/071/16, May 26, 2016
7. W. P. Tay, F. Quitin, and Z. Madadi, "Geolocation using virtual TDOA with asynchronous clocks," NTU Copyright TD/249/14, Jan. 9, 2015
8. W. P. Tay and F. Quitin, "Localization of non-cooperative RF targets in cluttered environments," NTU Copyright TD/078/14, Jun. 24, 2014
9. W. Hu and W. P. Tay, "A generalized diffusion adaptation strategy for energy-constrained estimation," NTU Copyright TD/077/14, May 30, 2014
10. W. P. Tay, E. Gunawan, and Y. L. Guan, "Method for contactless respiratory monitoring using multiple UWB transceivers," NTU Copyright TD/215/12, Feb. 26, 2012

3 Educational Activities

3.1 Completed Ph.D. Dissertation Supervisions

1. Luo Wuqiong, 08/2010 – 08/2014, "Identifying infection sources in a network."
2. Tang Jianhua, 01/2011 – 01/2015, "Elastic service scaling optimization in cloud-based communication systems."

3. Muhammad Sibtain Hamayun, 08/2010 – 08/2015, “Exploiting statistical side information to optimize secondary spectrum access.”
4. Zhang Yi, 01/2011 – 01/2015, “Learning methods for temporal-spatial opportunistic spectrum access in cognitive radio networks.”
5. Sun Meng, 08/2014 – 08/2018, “Privacy-preserving decentralized detection in sensor networks.”
6. Wang Yuan, 08/2012 – 08/2018, “Cooperative inference and learning for Internet-of-Things with limited resources.”
7. Ho Jun Feng Jack, 08/2012 – 11/2018, “Learning models in social networks.”
8. Yang Jielong, 08/2015 – 08/2019, “On truth finding in multi-agent networks.”
9. Tang Wenchang, 08/2015 – 08/2019, “Identifying misinformation and their sources in social networks.”
10. Kang Qiyu, 08/2015 – 08/2019, “Sequential crowdsourcing and recommendation strategies.”
11. Lau Tze Siong, 08/2015 – 01/2020, “Operationally constrained quickest change detection with multiple post-change distributions.” Commendation for EEE Doctorate Research Excellence Award.

3.2 Current Ph.D. Dissertation Supervisions

1. Wang Chongxiao, 08/2016 – present, “Estimation privacy in sensor networks.”
2. Lu Yiqi, 08/2018 – present, “Machine learning for inference in graphs.”
3. Lee See Hian, 08/2019 – present, “E-commerce knowledge graphs.”
4. Vivek Mohan, 01/2020 – present, “Unconventional sampling algorithms and hardware for brain-machine interfaces.”
5. Jian Xingchao, 08/2020 – present, “Processing stochastic time-varying signals over graphs.”

3.3 Completed M.Eng. Dissertation Supervisions

1. Cheng Chi, 08/2011 – 05/2015, “Exploring the use of signals-of-opportunity for practical localization.”

3.4 Courses Taught

- EE0005, Introduction to Data Science and Artificial Intelligence (about 300 students per course).
- EE2008/IM1001, Data Structures and Algorithms (about 300 students per course).
- EE4105/IM4105, Cellular Communication System Design (about 110 students per course).
- EE6713, Network Design and Simulation (about 40 students per course).
- EE7101, Fundamentals of Information Theory (about 10 students per course).

4 Professional Activities

4.1 University Committee and Administrative Activities

1. Associate Chair (Academic), School of Electrical and Electronic Engineering, Feb. 2020 – present.
2. Assistant Chair (Academic), School of Electrical and Electronic Engineering, Jun. 2017 – Jan. 2020.
3. Cluster Director, Cyber Physical System for Critical Information Infra-structure Research Program, Energy Research Institute, Apr. 2019 – 31 Mar. 2021.

4. Program Director, Cyber and Network Security, INFINITUS, Centre for Infocomm Technology, Jan. 2015 – Sep. 2016.
5. Program Director, Communications and Network Systems, INFINITUS, Centre for Infocomm Technology, Jan. 2013 – Dec. 2014.
6. Member, School of EEE outreach committee Jan. 2013 – Dec. 2013.

4.2 Professional Society Activities

1. Associate Editor, IEEE Transactions on Signal and Information Processing over Networks, 2019 – present.
2. Editor, IEEE Transactions on Wireless Communications, 2017 – present.
3. Editor, IEEE Open Journal of Vehicular Technology, 2019 – present.
4. Associate Editor, IEEE Transactions on Signal Processing, 2015 – 2019.
5. Guest Editor, IEEE Transactions on Signal and Information Processing over Networks Special Issue on Distributed Information Processing in Social Networks, 2016 – 2017.
6. Member, Machine Learning for Signal Processing Technical Committee, IEEE Signal Processing Society, Jan. 2015 – Dec. 2020.
7. Member, Internet of Things Special Interest Group, IEEE Signal Processing Society, Jan. 2015 – Dec. 2019.
8. Chair, Interest Group on Distributed and Sensor Networks for Mobile Media Computing and Applications, IEEE Communications Society Technical Committee on Multimedia Communications, Oct. 2014 – present.
9. Vice-Chair, Interest Group on Green Multimedia Communications, IEEE Communications Society Technical Committee on Multimedia Communications, Oct. 2012 – Sep. 2014.

4.3 Conference Organizing Committees

1. Web chair, IEEE Global Communications Conference (Globecom), 2017.
2. Tutorial chair, International Conference on Information, Communications and Signal Processing, 2015.
3. Organizer of special session on “Signal processing for social networks” in IEEE Conference on Digital Signal Processing, 2015.
4. Publicity chair, International Conference on Information, Communications and Signal Processing, 2013.
5. Organizer of special session on “Emerging technologies in cooperative communication networks” in IEEE International Conference on Information, Communications and Signal Processing, 2011.
6. Session chair
 - IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2015, 2016, 2017, 2018, 2019
 - IEEE Global Conference on Signal and Information Processing (GlobalSIP) 2018, 2019
 - IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM) 2015
 - IEEE Wireless Communications and Networking Conference (WCNC) 2013
 - Asilomar Conference on Signals, Systems, and Computers 2012
 - International Conference on Information, Communications and Signal Processing (ICICS) 2011

4.4 Technical Program Committees

- AAAI Conference on Artificial Intelligence 2021
- European Signal Processing Conference (EUSIPCO) 2017, 2018
- IEEE Data Science & Learning Workshop (DSLW) 2021
- IEEE Global Communications Conference (Globecom) 2011, 2012, 2014, 2015, 2016, 2017, 2018, 2019
- IEEE Global Conference on Signal and Information Processing (GlobalSIP) 2017, 2018, 2019
- IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2016, 2017, 2018, 2019, 2020, 2021
- IEEE International Conference on Communications (ICC) 2008, 2015, 2016, 2017, 2018, 2019
- IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP) 2015, 2017, 2019
- IEEE International Workshop on Machine Learning for Signal Processing (MLSP) 2015, 2016, 2017, 2018, 2019, 2020
- IEEE World Forum on Internet of Things 2016, 2018
- International Conference on Information Fusion (Fusion) 2012, 2013, 2014, 2015, 2016, 2017, 2018

4.5 Expert Reviewer

1. External expert grant proposal reviewer in 2012 for the Information and Communication Technology Call by the Vienna Science and Technology Fund.
2. External expert book reviewer in 2013 for the book titled "Special Integral Functions Used in Wireless Communications Theory," published by World Scientific Publishing Co. Pte. Ltd.
3. External expert book reviewer in 2018 for the book titled "Diffusion Source Localization in Large Networks," published by Morgan & Claypool Publishers.
4. Reviewer for various top tier journals, including:
 - IEEE Transactions on Signal Processing
 - IEEE Transactions on Communications
 - IEEE Transactions on Wireless Communications
 - IEEE Journal of Selected Topics in Signal Processing
 - IEEE Journal on Selected Areas in Communications
 - IEEE Transactions on Vehicular Technology