Curriculum Vitae

Ben M. Chen

IEEE Fellow ∞ Fellow of Academy of Engineering, Singapore ∞ CAA Fellow ∞ HKIE Fellow

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Education

- ⋈ *Ph.D. in Electrical and Computer Engineering*, Washington State University, Pullman, USA, August 1991
- ⋈ *M.S. in Electrical Engineering*, Gonzaga University, Spokane, Washington, USA, May 1988
- ⋈ *B.S. in Mathematics and Computer Science*, Xiamen University, Xiamen, Fujian, China, July 1983

Professional Experience

- ⋈ *Chairman*, Department of Mechanical and Automation Engineering, The Chinese University of Hong Kong, August 2024–
- ⋈ *Vice Chairman (Graduate)*, Department of Mechanical and Automation Engineering, The Chinese University of Hong Kong, August 2021–August 2024
- ⋈ *Professor*, Department of Mechanical and Automation Engineering, The Chinese University of Hong Kong, August 2018–
- ⋈ *Provost's Chair*, The National University of Singapore, April 2016–August 2018
- ⋈ *Professor*, Department of Electrical and Computer Engineering, The National University of Singapore, January 2005–August 2021
- ⋈ *Head*, Control Science Group, Temasek Laboratories, The National University of Singapore, September 2012–August 2018
- ⋈ *Area Director*, Control, Intelligent Systems and Robotics, Department of Electrical and Computer Engineering, The National University of Singapore, July 2011–August 2018
- ⋈ *Changjiang Guest Chair Professor*, Nanjing University of Science and Technology, China, August 2010–August 2013
- ⋈ *Associate Professor*, Department of Electrical and Computer Engineering, National University of Singapore, July 1999–December 2004
- ⋈ *Senior Lecturer*, Department of Electrical Engineering, National University of Singapore, July 1996–June 1999
- ⋈ *Lecturer*, Department of Electrical Engineering, National University of Singapore, August 1993–June 1996

⋈ *Assistant Professor*, Department of Electrical Engineering, State University of New York, Stony Brook, USA, August 1992–August 1993

⋈ *Postdoctoral Associate*, School of Electrical Engineering and Computer Science, Washington State University, USA, August 1991–August 1992

⋈ *Software Engineer*, Software Division, South China Computer Corporation, Guangzhou, China, July 1983–March 1986

Research Interests

⋈ Unmanned Systems; Linear Systems; Robust Control; Control Applications

Membership in Professional Societies

IEEE (Institute of Electrical & Electronic Engineers), USA

⋈ FELLOW (2007) ⋈ SENIOR MEMBER (2000) ⋈ MEMBER (1992) ⋈ STUDENT MEMBER (1989)

CAA (Chinese Association of Automation), China

⋈ FELLOW (2015)

Academy of Engineering, Singapore

⋈ FELLOW (2020)

HKIE (The Hong Kong Institution of Engineers)

⋈ FELLOW (2024)

Awards & Honors

⋈ *Gold Medal with Congratulations of the Jury*, The 15th International Invention Fair in the Middle East, Kuwait, 2025

⋈ *Fellow*, The Hong Kong Institution of Engineers, 2024

⋈ *Outstanding Contribution Award*, Technical Committee of Control Theory, Chinese Association of Automation, China, 2022

⋈ *Fellow*, Academy of Engineering, Singapore, 2020

⋈ *Provost's Chair*, National University of Singapore, 2016

⋈ *Fellow*, Chinese Association of Automation, China, 2015

⋈ *Changjiang Guest Chair Professorship*, Nanjing University of Science and Technology, China, 2010

⋈ *Best Application Paper Award*, 8th World Congress on Intelligent Control and Automation, Jinan, China, 2010

⋈ *Best Application Paper Award*, 7th Asian Control Conference, Hong Kong, 2009

⋈ *Fellow*, Institute of Electrical & Electronics Engineers (IEEE), USA, 2007

⋈ *Best Industrial Control Application Prize*, 5th Asian Control Conference, Melbourne, Australia, 2004

- ⋈ *Temasek Young Investigator Award*, Defence Science & Technology Agency, Singapore, 2003
- ⋈ *IES Prestigious Engineering Achievement Award*, Institute of Engineers, Singapore, 2001
- ⋈ *University Researcher Award*, National University of Singapore, 2000
- ⋈ *Asian Young Scholars Award*, The University of Melbourne, Australia, 1997
- ⋈ *Best Poster Paper Award*, The 2nd Asian Control Conference, Seoul, Korea, 1997

- ⋈ *Deans Exemplary Teaching Awards 2020*, Faculty of Engineering, Chinese University of Hong Kong
- ⋈ *Teaching Commendation 2008/2009*, Faculty of Engineering, National University of Singapore
- ⋈ *Teaching Commendation 2003/2004*, Faculty of Engineering, National University of Singapore
- ⋈ *Teaching Commendation 2002/2003*, Faculty of Engineering, National University of Singapore
- ⋈ *Teaching Commendation 2001/2002*, Faculty of Engineering, National University of Singapore
- ⋈ *Innovative Teaching Award 1999/2000*, Faculty of Engineering, National University of Singapore

- ⋈ *Marquis Who's Who in the World*, 19th Edition, Marquis Who's Who, USA, 2002
- ⋈ *Cardinal Yu-Pin Scholarship*, Sino-American Amity Fund, Inc., New York, 1986–1991
- ⋈ *Presidential Scholarship*, Gonzaga University, Spokane, Washington, 1986–1988

Awards Won by My UAV Research Teams and Students

- ⋈ Ben M. Chen, Xi Chen
  Gold Medal with Congratulations of the Jury
  15th International Invention Fair in the Middle East, Kuwait, 2025

- ⋈ Qingxiang Li, Guidong Yang, Xi Chen, Ben M. Chen
  Best Paper Award
  1st International Conference of Net Zero Carbon Built Environment, University of Nottingham, U.K., 2024

- ⋈ Minghao Dou (with X. Liu, D. Huang, B. Wang, J. Cui, Q. Ren, L. Dou, J. Chen, B. M. Chen)
  Guan Zhao-Zhi Award
  Cash Prize: CNY 5,000
  42nd Chinese Control Conference, Tianjin, China, 2023

- ⋈ Ka Lung Cheung, Benyun Zhao, Guidong Yang, Jihan Zhang
  YDC Dare to Change Business Pitch Competition
  Best Business Idea Award
  Cash Prize: HK$15,000
  Young Entrepreneurs Development Council, Hong Kong, 2023

- ⋈ Jihan Zhang, Benyun Zhao, Guidong Yang, Jia Dou, Bingxin Han, Ka Lung Cheung
  Professor Charles K. Kao Student Creativity Award
  Postgraduate Group Champion
  Cash Prize: HK$18,000
  Chinese University of Hong Kong, 2023

⋈ Chuanxiang Gao, Ruoyu Wang, Xinyi Wang, Yizhou Chen, Zuoquan Zhao, Wendi Ding
Professor Charles K. Kao Student Creativity Award
Postgraduate Group 2nd Runner-up
Cash Prize: HK$6,000
Chinese University of Hong Kong, 2023

⋈ Ruoyu Wang, Yizhou Chen, Xi Chen, Zixuan Guo, Mark Kyeredey Ansah, Yu Zhai, Ben M. Chen
Autonomous Indoor Drone Inspection and Modeling System
Prize: Bronze Medal
48th Geneva International Exhibition of Inventions, Geneva, Switzerland, 2023

⋈ Guidong Yang, Jihan Zhang, Xi Chen, Benyun Zhao, Chuanxiang Gao, Ka Lung Cheung, Ben M. Chen
Drone and AI-based Digital Platform for Outdoor Built Asset Inspection and Information Management
Prize: Bronze Medal
48th Geneva International Exhibition of Inventions, Geneva, Switzerland, 2023

⋈ Panpan Zhou (with Ben M. Chen)
2021 IEEE CSS Beijing Chapter Young Author Prize
Cash Prize: CNY 2,000
40th Chinese Control Conference, Shanghai, China, 2021

⋈ Kangcheng Liu
Professor Charles K. Kao Student Creativity Award
Postgraduate Individual Merit
Chinese University of Hong Kong, 2021

⋈ Shupeng Lai (with Menglu Lan, Ben M. Chen)
Guan Zhao-Zhi Award
Cash Prize: CNY 5,000
37th Chinese Control Conference, Wuhan, China, 2018

⋈ Team Instinct Cougar
Indoor Competition Champion
International Micro Aerial Vehicle Competition, Toulouse, France, 2017

⋈ Team Instinct Lion
Outdoor Competition Champion
International Micro Aerial Vehicle Competition, Toulouse, France, 2017

⋈ Team U-Lion: Shupeng Lai, Yingcai Bi, Menglu Lan, Jiaxin Li, Hailong Qin, Kun Zhang
Overall Championship Award (Gold), Best Platform Design Award (Gold)
Total Prize: SGD 8,000 in Cash and 5 iPad Mini 4
Category D2: Fully Autonomous
Singapore Amazing Flying Machine Competition, 2017

⋈ Team AeroLion: Kangli Wang, Yijie Ke, Mo Shan (NUS), Xiang Li, Fei Wang (AeroLion Technologies)
Champion
Total Prize: CNY 100,000 in Cash
Category: Rotor-Wing Competition
The 3rd AVIC Cup — International UAV Innovation Grand Prix, Anji, Zhejiang, China, 2015

⋈ Team V-Lion: Jinqiang Cui, Hailong Qin, Yingcai Bi, Jiaxin Li, Menglu Lan, Mo Shan, Wenqi Liu
1st Runner Up
International Micro Aerial Vehicle Competition, Aachen, Germany, 2015

⋈ Team AP-Lion: Menglu Lan, Jiaxin Lin, Kaijun Liu, Shuai Wang, Mengmi Zhang
Overall Championship Award (Gold), Best Performance Award (Gold), Best Theory of Flight Award (Gold), Best Video Award (Silver)
Total Prize: SGD 8,000 in Cash and 5 Samsung Tablets
Category D2: Fully Autonomous
Singapore Amazing Flying Machine Competition, 2015

⋈ Team LV-Lion: Yingcai Bi, Jiaxin Li, Wenqi Liu, Hailong Qin, Mo Shan
Overall Championship Award (Silver), Best Performance Award (Silver)
Total Prize: SGD 3,000 in Cash
Category D2: Fully Autonomous
Singapore Amazing Flying Machine Competition, 2015

⋈ Limiao Bai (Sen Yan, Xiaolian Zheng, Ben M. Chen)
Best Student Paper Award
The 2014 International Conference on Financial Engineering, London, U.K., 2014

⋈ Team AeroLion
Champion
International Micro Aerial Vehicle Competition, Delft, the Netherlands, 2014

⋈ Fei Wang (with P. Liu, S. Zhao, B. M. Chen, S. K. Phang, S. Lai, T. H. Lee, C. X. Cai)
Guan Zhao-Zhi Award
Total Prize: CNY 5,000 in Cash
33rd Chinese Control Conference, Nanjing, China, 2014

⋈ Team U-Lion: Kangli Wang, Yijie Ke, Kun Lin, Tao Pang
Overall Championship Award (Gold), Best Performance Award (Gold), Most Creative Award (Bronze)
Total Prize: SGD 4,000 in Cash and 5 iPads
Category E: Unconventional
Singapore Amazing Flying Machine Competition, 2014

⋈ Team Q_1-Lion: Fei Wang, Swee-King Phang, Zizhang Ai, Wenqi Liu, Wei-Lian Mook
Overall Championship Award (Silver), Best Performance Award (Gold), Best Theory of Flight Award (Gold)
Total Prize: SGD 4,000 in Cash
Category D2: Fully Autonomous
Singapore Amazing Flying Machine Competition, 2014

⋈ Team Q_2-Lion: Kevin Ang, Jinqiang Cui, Peidong Liu, Shupeng, Lai, Dong Wang
Best Theory of Flight Award (Silver)
Category D2: Fully Autonomous
Singapore Amazing Flying Machine Competition, 2014

⋈ Team NUS^2T-Lion
2nd Place Overall (1st in Final Round)
Total Prize: CNY 80,000 in Cash

Category: Rotor-Wing Competition
The 2nd AVIC Cup — International UAV Innovation Grand Prix, Beijing, China, 2013

⋈ Team NUS^{2}T-Lion
New Innovation Star Award
Total Prize: CNY 10,000 in Cash
Category: Creativity Competition
The 2nd AVIC Cup — International UAV Innovation Grand Prix, Beijing, China, 2013

⋈ Kangli Wang, Xiang Li, Di Deng, Hongyu Tian, Youyang Cheng
Overall Championship Award, Best Performance Award, Most Creative Award
Total Prize: SGD 10,000 in Cash and 5 iPads
Category D2: Fully Autonomous
Singapore Amazing Flying Machine Competition, 2013

⋈ Kevin Ang, Fei Wang, Swee King Phang, Peidong Liu
Most Creative Award
Cash Prize: SGD 2,000
Category E: Unconventional
Singapore Amazing Flying Machine Competition, 2013

⋈ Team GremLion
Finalist (of 9 selected among 144 teams from 153 countries)
DARPA UAVForge Challenge
Defense Advanced Research Projects Agency & Space and Naval Warfare Systems Center, Atlantic, USA, 2012

⋈ Sing-Jie Lee, Yuxiang Wang, Yi-Ling Tan, Sharon Ang, Shiyi Li
Overall Championship Award, Most Creative Award
Total Prize: SGD 10,000 in Cash and 5 iPads
Category D: Autonomous and Flying by Video
Singapore Amazing Flying Machine Competition, 2011

⋈ Swee-King Phang, Jun-Jie Ong, Ronald Yeo
Best Performance Award
Category D: Autonomous and Flying by Video
Cash Prize: SGD 1,000
Singapore Amazing Flying Machine Competition, 2010

⋈ Tao Wang, Fei Wang, Li Liu
Best Theory Award
Category D: Autonomous and Flying by Video
Singapore Amazing Flying Machine Competition, 2009

Publications

⋆ ⋆ **Google Scholar Citation as of May 7, 2025 — Citations: 18821; h-index: 65; i10-index: 281** ⋆ ⋆

A. MONOGRAPHS

1. X. Zheng and B. M. Chen, *Stock Market Modeling and Forecasting: A System Adaptation Approach*, Springer, New York, 2013 (*Lecture Notes in Control and Information Sciences Series*, 161 pages, ISBN 978-1-4471-5154-8).

2. G. Cai, B. M. Chen and T. H. Lee, *Unmanned Rotorcraft Systems*, Springer, New York, 2011 (*Advances in Industrial Control Series*, 267 pages, ISBN 978-0-85729-634-4).

3. B. M. Chen, T. H. Lee, K. Peng and V. Venkataramanan, *Hard Disk Drive Servo Systems*, 2nd Edition, Springer, New York, 2006 (*Advances in Industrial Control Series*, 310 pages, ISBN 1-84628-304-3).

4. B. M. Chen, Z. Lin and Y. Shamash, *Linear Systems Theory: A Structural Decomposition Approach*, Birkhäuser, Boston, 2004 (*Control Engineering Series*, 415 pages, ISBN 0-81763-779-6).

5. C. C. Ko, B. M. Chen and J. Chen, *Creating Web-Based Laboratories*, Springer, New York, 2004 (*Advanced Information and Knowledge Processing Series*, 300 pages, ISBN 1-85233-837-7).

6. B. M. Chen, T. H. Lee and V. Venkataramanan, *Hard Disk Drive Servo Systems*, Springer, New York, 2002 (*Advances in Industrial Control Series*, 273 pages, ISBN 1-85233-500-9).

7. B. M. Chen, *Robust and H_∞ Control*, Springer, New York, 2000 (*Communications and Control Engineering Series*, 446 pages, ISBN 1-85233-255-7).

8. B. M. Chen, *H_∞ Control and Its Applications*, Springer, New York, 1998 (*Lecture Notes in Control and Information Sciences Series*, 351 pages, ISBN 1-85233-026-0).

9. A. Saberi, P. Sannuti and B. M. Chen, *H_2 Optimal Control*, Prentice Hall, London, 1995 (*Systems and Control Engineering Series*, 471 pages, ISBN 0-13-489782-X).

10. A. Saberi, B. M. Chen and P. Sannuti, *Loop Transfer Recovery: Analysis and Design*, Springer, New York, 1993 (*Communications and Control Engineering Series*, 352 pages, ISBN 0-387-19831-8/ISBN 3-540-19831-8).

B. EDITED BOOK

1. J. Chen, B. M. Chen and L. Xie (Ed.), *Unmanned Systems: Best of 10 Years*, World Scientific, Singapore, 2023 (304 pages, ISBN 978-981-127-331-5).

C. MONOGRAPHS TRANSLATED INTO CHINESE

1. G. Cai, B. M. Chen, T. H. Lee and B. Wang, *Unmanned Rotorcraft Systems*, Tsinghua University Press, Beijing, 2012 (Chinese edition; 203 pages, ISBN 978-7-302-29388-0).

2. B. M. Chen and B. Xi, *H_∞ Control and Its Applications*, Science Press, Beijing, 2010 (*Systems and Control Series*, Chinese Edition; 345 pages, ISBN 978-7-03-028742-7).

3. B. M. Chen, Z. Lin and Y. Shamash, *Linear Systems Theory: A Structural Decomposition Approach*, Tsinghua University Press, Beijing, 2008 (Chinese edition translated by Bin Xi; 340 pages, ISBN 978-7-302-16367-1).

D. TEXTBOOKS

1. C. C. Ko and B. M. Chen, *Basic Circuit Analysis for Electrical Engineering*, Prentice Hall, Singapore, 2nd Edition, 1998 (342 pages, ISBN 981-4024-39-2).

2. C. C. Ko and B. M. Chen, *Basic Circuit Analysis for Electrical Engineering*, Prentice Hall, Singapore, 1996 (304 pages, ISBN 981-3076-01-1).

E. PHD DISSERTATION

1. B. M. Chen, *Theory of Loop Transfer Recovery for Multivariable Linear Systems*, Washington State University, Pullman, Washington, USA, 1991.

F. JOURNAL PUBLICATIONS

1. C. Wang, B. Wang, Y. Ding, D. Xiao, B. M. Chen and K. Zhang, "A pose estimation method for fisheye cameras based on the EPnP algorithm," Submitted for publication.

2. J. Wen, G. Yang, B. Zhao, D. Huang, Y. Hu, B. Zhang, X. Chen and B. M. Chen, "A semi-supervised domain-adaptive real-world underwater image enhancement," Submitted for publication.

3. B. Han, C. Gao, X. Zhou, J. Zhang, X. Chen and B. M. Chen, "A comprehensive framework for automated facade defect evaluation using deep learning," Submitted for publication.

4. G. Yang, R. Cao, J. Wen, B. Zhao, Q. Li, Y. Huang, X. Chen, A. Lam, Y. H. Liu and B. M. Chen, "Multi-view stereo with geometric encoding for dense scene reconstruction," Submitted for publication.

5. X. Zhou, B. Zhao, X. Chen, J. Chen and B. M. Chen, "Accurate defects detection with deep global feature fusion and effective activation function," Submitted for publication.

6. G. Yang, B. Zhao, J. Zhang, J. Wen, Q. Li, L. Lei, X. Chen and B. M. Chen, "Det-Recon-Reg: An Intelligent Framework Towards Automated UAV-Based Large-Scale Infrastructure Inspection," Revised for *IEEE Transactions on Instrumentation and Measurement*.

7. G. Yang, J. Wen, B. Zhao, Q. Li, Y. Huang, X. Chen, A. Lam and B. M. Chen, "Towards end-to-end underwater multi-view stereo for real-world dense scene reconstruction," Revised for *IEEE Transactions on Automation Science and Engineering*.

8. J. Zhang, B. Zhao, G. Yang, X. Zhou, Y. Huang, C. Gao, X. Chen and B. M. Chen, "Automated construction of high-precision digital twin of building faade defects with GeoBIM-assisted registration," Revised for *Advanced Engineering Informatics*.

9. L. Lei, G. Yang, Z. Zhao, X. Chen and B. M. Chen, "Sparse-to-dense prediction of ocean subsurface temperature using multi-level spatiotemporal information fusion," *IEEE Transactions on Geoscience and Remote Sensing*, in press.

10. J. Zhang, M. Han, K. H. Laurie, B. Zhao, L. Lei, X. Chen, H. C. J. Wan, S. G. Cheung, W. Hong and B. M. Chen, "Towards interpretable and robust UAV-based foundation model for endangered species monitoring in complex ecosystems," *Machine Learning*, in press.

11. D. Huang, M. Dou, X. Liu, X. Wang, C. Wang and B. M. Chen, "Aqua slide: An underwater leveling motion scheme for M-UAAV utilizing singularity," *IEEE Transactions on Industrial Electronics*, Vol. 72, No. 6, pp. 6233–6243, June 2025.

12. X. Zhou, X. Chen, J. Chen and B. M. Chen, "A low-complexity and high-accuracy defect detection network," *Journal of Systems Science and Complexity*, Vol. 38, No. 2, pp. 573–596, April 2025.

13. X. Zhou, B. Han, L. Li, J. Chen and B. M. Chen, "DRNet: A miniature and resource-efficient MAV detector," *IEEE Transactions on Instrumentation and Measurement*, Vol. 74, Article Number 5015014, March 2025.

14. M. Han, J. Zhang, Y. Huang, Q. Li, P. Wang, J. Xu, X. Chen and B. M. Chen, "Enhancing worker surveillance and management in large-scale construction sites using UAVs and digital twin modeling," *Automation in Construction*, Vol. 174, Article Number 106108, March 2025.

15. Q. Li, L. Long, X. Li, G. Yang, C. Bian, B. Zhao, X. Chen and B. M. Chen, "Life cycle cost analysis of circular photovoltaic faade in dense urban environment using 3D modeling," *Renewable Energy*, Vol. 238, Article Number 121914, January 2025.

16. Q. Li, G. Yang, C. Bian, L. Long, X. Wang, C. Gao, C. L. Wong, Y. Huang, B. Zhao, X. Chen and B. M. Chen, "Autonomous design framework for deploying building integrated photovoltaics," *Applied Energy*, Vol. 377, Article Number 124760, January 2025.

17. X. Zhou, L. Li and B. M. Chen, "LENet: Lightweight and effective detector for aerial objects," *Unmanned Systems*, Vol. 12, No. 6, pp. 1105–1121, December 2024.

18. Z. Pan and B. M. Chen, "Cooperative target fencing of multiple double-integrator systems with connectivity preservation," *International Journal of Robust and Nonlinear Control*, Vol. 34, No. 12, pp. 8163–8179, December 2024.

19. G. Yang, X. Zhou, C. Gao, X. Chen and B. M. Chen, "Learnable cost metric based multi-view stereo for point cloud reconstruction," *IEEE Transactions on Industrial Electronics*, Vol. 71, No. 9, pp. 11519-11528, September 2024.

20. X. Zhou, G. Yang, Y. Chen, L. Li and B. M. Chen, "VDTNet: A high-performance visual network for detecting and tracking of intruding drones," *IEEE Transactions on Intelligent Transportation Systems*, Vol. 25, No. 8, pp. 9828–9839, August 2024.

21. B. Zhao, X. Zhou, G. Yang, J. Wen, J. Zhang, J. Dou, G. Li, X. Chen and B. M. Chen, "High-resolution infrastructure defect detection dataset sourced by unmanned systems and validated with deep learning approaches," *Automation in Construction*, Vol. 163, Article Number 105405, July 2024.

22. X. Wang, L. Xi, Y. Ding, and B. M. Chen, "Distributed encirclement and capture of multiple pursuers with collision avoidance," *IEEE Transactions on Industrial Electronics*, Vol. 71, No. 7, pp. 7520–7530, July 2024.

23. Q. Li, G. Yang, C. Gao, Y. Huang, J. Zhang, D. Huang, B. Zhao, X. Chen and B. M. Chen, "Single drone-based 3D reconstruction approach to improve public engagement in conservation of heritage buildings: A case of Hakka Tulou," *Journal of Building Engineering*, Vol. 87, Article Number 108954, June 2024.

24. P. Zhou and B. M. Chen, "Distributed optimal solutions for multiagent pursuit-evasion games for capture and formation control," *IEEE Transactions on Industrial Electronics*, Vol. 71, No. 5, pp. 5224–5234, May 2024.

25. C. Gao, X. Wang, X. Chen and B. M. Chen, "A hierarchical multi-UAV cooperative framework for infrastructure inspection and reconstruction," *Control Theory and Technology*, Vol. 22, pp. 394–405, March 2024.

26. J. Wen, J. Cui, G. Yang, B. Zhao, Y. Zhai, Z. Gao, L. Dou and B. M. Chen, "WaterFormer: Global-local transformer for underwater image enhancement with environment adaptor," *IEEE Robotics and Automation Magazine*, Vol. 31, No. 1, pp. 29–40, March 2024.

27. X. Zhao, Z. Gao, H. Li, H. Ji, H. Yang, C. Li, H. Fang and B. M. Chen, "How challenging is a challenge? CEMS: A challenge evaluation module for SLAM visual perception," *Journal of Intelligent & Robotic Systems*, Vol. 110, Article Number 42, March 2024.

28. Z. Lin, Z. Gao, B. M. Chen, J. Chen and C. Li, "Accurate LiDAR-camera fused odometry and true-color mapping," *IEEE Robotics and Automation Letters*, Vol. 9, No. 3, pp. 2495–2502, March 2024.

29. X. Liu, M. Dou, R. Yan, D. Huang, S. Gao, B. Wang, J. Cui, Q. Ren, L. Dou, Z. Gao, J. Chen and B. M. Chen, "TJ-FlyingFish: An unmanned morphable aerial-aquatic vehicle system," *Unmanned Systems*, Vol. 12, No. 2, pp. 409–428, March 2024.

30. Z. Pan and B. M. Chen, "Cooperative target fencing of multiple vehicles for a general target with connectivity preservation and collision avoidance," *Journal of Systems Science & Complexity*, Vol. 37, No. 1, pp. 136–151, February 2024.

31. Z. Gao, X. Zhao, M. Cao, Z. Li, K. Liu and B. M. Chen, "Synergizing low rank representation and deep learning for automatic pavement crack detection," *IEEE Transactions on Intelligent Transportation Systems*, Vol. 24, No. 10, pp. 10676–10690, October 2023.

32. K. Liu and B. M. Chen, "Industrial UAV/UGV-based domain adaptive crack recognition: From system and database constructions to real-Site inspections," *IEEE Transactions on Industrial Electronics*, Vol. 70, No. 9, pp. 9410–9420, September 2023.

33. M. Dou, X. Liu, D. Huang, B. Wang, L. Dou, J. Chen and B. M. Chen, "Mathematical modeling of underwater motion for a cross-medium vehicle (in Chinese)," *Control Engineering of China*, Vol. 30, No. 8, pp. 1488–1500, August 2023.

34. Z. Pan and B. M. Chen, "Connectivity-preserving formation tracking for multiple double integrators by a self-tuning adaptive distributed observer," *IEEE Control Systems Letters*, Vol. 7, pp. 2221-2226, June 2023.

35. P. Zhou, S. Lai, J. Cui and B. M. Chen, "Formation control of unmanned rotorcraft systems with state constraints and inter-agent collision avoidance," *Autonomous Intelligent Systems*, Volume 3, Article No. 4 (12 pages), May 2023.

36. C. Gao, X. Wang, R. Wang. Z. Zhao, Y. Zhai, X. Chen and B. M. Chen, "A UAV-based explore-then-exploit system for autonomous indoor facility inspection and scene reconstruction," *Automation in Construction*, Vol. 148, Article No. 104753 (14 pages), April 2023.

37. P. Zhou and B. M. Chen, "Semi-global leader-following output consensus of discrete-time heterogeneous linear systems subject to actuator position and rate saturation," *IEEE Transactions on Automatic Control*, Vol. 68, No. 2, pp. 1231–1236, February 2023.

38. J. Shen, B. Wang, B. M. Chen, R. Bu and B. Jin, Survey of research on wind resistance for quadrotor UAVs, *Unmanned Systems*, Vol. 11, No. 1, pp. 5–15, January 2023.

39. K. Liu, Z. Gao, F. Lin and B. M. Chen, "FG-Net: A fast and accurate framework for large-scale LiDAR point cloud understanding," *IEEE Transactions on Cybernetics*, Vol. 53, No. 1, pp. 553–564, January 2023.

40. G. Yang, K. Liu, J. Zhang, B. Zhao, Z. Zhao, X. Chen and B. M. Chen, Datasets and processing methods for boosting visual inspection of civil infrastructure: A comprehensive review and case study on crack classification, segmentation, and detection, *Construction and Building Materials*, Vol. 356, Article No. 129226 (25 pages), November 2022.

41. Y. Ding, B. Xin, L. Dou, J. Chen and B. M. Chen, "A memetic algorithm for curvature-constrained path planning of messenger UAV in air-ground coordination," *IEEE Transactions on Automation Science and Engineering*, Vol. 19, No. 4, pp. 3735–3749, October 2022.

42. P. Zhou and B. M. Chen, "Semi-global leader-following output consensus of heterogeneous systems with all agents subject to input saturation," *International Journal of Robust and Nonlinear Control*, Vol. 32, No. 8, pp. 4648–4664, August 2022.

43. Y. Chen, S. Lai, J. Cui, B. Wang and B. M. Chen, "GPU-accelerated incremental Euclidean distance transform for online motion planning of mobile robots," *IEEE Robotics and Automation Letters*, Vol. 7, No. 3, pp. 6894–6901, July 2022.

44. P. Zhou and B. M. Chen, "Formation-containment control of Euler-Lagrange systems of leaders with bounded unknown inputs," *IEEE Transactions on Cybernetics*, Vol. 52, No. 7, pp. 6342–6353, July 2022.

45. L. Xi, X. Wang, L. Jiao, S. Lai, Z. Peng and B. M. Chen, "GTO-MPC based target chasing using a quadrotor in cluttered environments," *IEEE Transactions on Industrial Electronics*, Vol. 69, No. 6, pp. 6026–6035, June 2022.

46. B. M. Chen, "On the trends of autonomous unmanned systems research," *Engineering*, Vol. 12, pp. 20–23, May 2022.

47. P. Zhou and B. M. Chen, "Semi-global leader-following consensus-based formation flight of unmanned aerial vehicles," *Chinese Journal of Aeronautics*, Vol. 35, No. 1, pp. 31–43, January 2022.

48. P. Zhou and B. M. Chen, "Semi-global leader-following output consensus of heterogeneous systems subject to actuator position and rate saturation," *Autonomous Intelligent Systems*, Vol. 1, Article No. 8 (13 pages), October 2021.

49. X. Liu, Z. Gao and B. M. Chen, "IPMGAN: Integrating physical model and generative adversarial network for underwater image enhancement," *Neurocomputing*, Vol. 453, pp. 538–551, September 2021.

50. Y. Zhou, S. Lai, H. Cheng, A. H. M. Redhwan, P. Wang, J. Zhu, Z. Gao, Z. Ma, Y. Bi, F. Lin and B. M. Chen, "Towards autonomy of micro aerial vehicles in unknown and GPS-denied environments," *IEEE Transactions on Industrial Electronics*, Vol. 68, No. 8, pp. 7642–7651, August 2021.

51. X. Wang, L. Xi, Y. Chen, S. Lai, F. Lin and B. M. Chen, "Decentralized MPC-based trajectory generation for multiple quadrotors in cluttered environments," *Guidance, Navigation and Control*, Vol. 1, Article No. 2150007 (20 pages), July 2021.

52. L. Xi, Z. Peng, L. Jiao and B. M. Chen, "Smooth quadrotor trajectory generation for tracking a moving target in cluttered environments," *Science China Information Sciences*, Vol. 64, Article No. 172209 (16 pages), July 2021.

53. Y. H. Tan and B. M. Chen, "Survey on the development of aerial-aquatic hybrid vehicles," *Unmanned Systems*, Vol. 9, No. 3, pp. 263–282, July 2021.

54. Y. Lyu, J. Hu, B. M. Chen, C. Zhao and Q. Pan, "Multivehicle flocking with collision avoidance via distributed model predictive control," *IEEE Transactions on Cybernetics*, Vol. 51, No. 5, pp. 2651–2662, May 2021.

55. M. Lan, S. Lai, T. H. Lee and B. M. Chen, "A survey on motion and task planning techniques for unmanned rotorcraft systems," *Unmanned Systems*, Vol. 9, No. 2, pp. 165–198, April 2021.

56. X. Liu, Z. Gao and B. M. Chen, "MLFcGAN: Multi-level feature fusion based conditional GAN for underwater image color correction," *IEEE Geoscience and Remote Sensing Letters*, Vol. 17, No. 9, pp. 1488–1492, September 2020.

57. Y. H. Tan and B. M. Chen, "Thruster allocation and mapping of aerial and aquatic modes for a morphable multimodal quadrotor," *IEEE/ASME Transactions on Mechatronics*, Vol. 25, No. 4, pp. 2065–2974, August 2020.

58. M. Lan, S. Lai and B. M. Chen, "Integrated task and motion planning for quadrotors under metric interval temporal logic specifications," *Control Theory and Applications*, Vol. 36, No. 11, pp. 1952–1964, November 2019.

59. S. Lai, M. Lan and B. M. Chen, "Model predictive local motion planning with boundary state constrained primitives," *IEEE Robotics and Automation Letters*, Vol. 4, No. 4, pp. 3577–3584, October 2019.

60. Y. Bi, M. Lan, J. Li, S. Lai and B. M. Chen, "A lightweight autonomous MAV for indoor search and rescue," *Asian Journal of Control*, Vol. 21, No. 4, pp. 1732–1744, July 2019.

61. S. Lai, M. Lan, K. Gong and B. M. Chen, "Axis-coupled trajectory generation for chains of integrators through smoothing splines," *Control Theory and Technology*, Vol. 17, No. 1, pp. 48–61, February 2019.

62. S. Lai, M. Lan, Y. Li and B. M. Chen, "Safe navigation of quadrotors with jerk limited trajectories," *Frontiers of Information Technology & Electronic Engineering*, Vol. 20, No. 1, pp. 107–119, January 2019.

63. H. Qin, Y. Bi, F. Lin, Y. F. Zhang and B. M. Chen, "A 3D rotating laser-based navigation solution for micro aerial vehicles in dynamic environments," *Unmanned Systems*, Vol. 6, No. 4, pp. 297–305, December 2018.

64. L. Zhang, F. Deng, J. Chen, Y. Bi, S. K. Phang, X. Chen and B. M. Chen, "Vision-based target three-dimensional geolocation using unmanned aerial vehicles," *IEEE Transactions on Industrial Electronics*, Vol. 65, No. 10, pp. 8052–8061, October 2018.

65. Y. H. Tan, S. Lai, K. Wang and B. M. Chen, "Cooperative control of multiple unmanned aerial systems for heavy duty carrying," *Annual Reviews in Control*, Vol. 46, pp. 44–57, July 2018.

66. L. Wu, Y. Ke and B. M. Chen, "Systematic modeling of rotor dynamics for small UAVs," *Unmanned Systems*, Vol. 6, No. 2, pp. 81–93, June 2018.

67. Y. Ke, K. Wang and B. M. Chen, "Design and implementation of a hybrid UAV with model-based flight capabilities," *IEEE/ASME Transactions on Mechatronics*, Vol. 23, No. 3, pp. 1114–1125, June 2018.

68. K. Z. Y. Ang, X. Dong, W. Liu, G. Qin, S. Lai, K. Wang, D. Wei, S. Zhang, S. K. Phang, X. Chen, M. Lao, Z. Yang, D. Jia, F. Lin, L. Xie and B. M. Chen, "High-precision multi-UAV teaming for the first outdoor night show in Singapore," *Unmanned Systems*, Vol. 6, No. 1, pp. 39–65, March 2018.

69. K. Peng, F. Lin and B. M. Chen, "Online schedule for autonomy of multiple unmanned aerial vehicles," *Science China Information Sciences*, Vol. 60, Article No. 072203 (13 pages), July 2017.

70. K. Wang, Y. Ke and B. M. Chen, "Autonomous reconfigurable hybrid tail-sitter UAV U-Lion," *Science China Information Sciences*, Vol. 60, Article No. 033201 (16 pages), March 2017.

71. J. Q. Cui, S. Lai, X. Dong and B. M. Chen, "Autonomous navigation of UAV in foliage environment," *Journal of Intelligent and Robotic Systems*, Vol. 84, No. 1, pp. 259–276, December 2016.

72. Y. Liu, K. Peng, Y. Lu and B. M. Chen, "Flight control law using composite nonlinear feedback technique for a Mars airplane," *Journal of Guidance, Control, and Dynamics*, Vol. 39, No. 9, pp. 2194–2204, September 2016.

73. S. Lai, K. Wang, H. Qin, J. Q. Cui and B. M. Chen, "A robust online path planning approach in cluttered environments for micro rotorcraft drones," *Control Theory and Technology*, Vol. 14, No. 1, pp. 83–96, February 2016.

74. S. Zhao, F. Lin, K. Peng, X. Dong, B. M. Chen and T. H. Lee, "Vision-aided estimation of attitude, velocity, and inertial measurement bias for UAV stabilization," *Journal of Intelligent and Robotic Systems*, Vol. 81, pp. 531–549, March 2016.

75. J. Q. Cui, S. K. Phang, K. Z. Y. Ang, F. Wang, X. Dong, Y. Ke, S. Lai, K. Li, X. Li, J. Lin, P. Liu, T. Pang, K. Wang, Z. Yang, F. Lin and B. M. Chen, "Cooperative search and rescue using multiple drones in post-disaster situation," *Unmanned Systems*, Vol. 4, No. 1, pp. 83–96, February 2016.

76. S. K. Phang, S. Lai, F. Wang, M. Lan and B. M. Chen, "Systems design and implementation with jerk-optimized trajectory generation for UAV calligraphy," *Mechatronics*, Vol. 30, pp. 65–75, September 2015.

77. L. Bai, S. Yan, X. Zheng and B. M. Chen, "Market turning points forecasting using wavelet analysis," *Physica A: Statistical Mechanics and its Applications*, Vol. 437, pp. 184–197, May 2015.

78. K. Z. Y. Ang, J. Cui, T. Pang, K. Li, K. Wang, Y. Ke and B. M. Chen, "Design and implementation of a thrust-vectored unmanned tail-sitter with reconfigurable wings," *Unmanned Systems*, Vol. 3, No. 2, pp. 143–162, April 2015.

79. S. Zhao, Z. Hu, M. Yin, K. Z. Y. Ang, P. Liu, F. Wang, X. Dong, F. Lin, B. M. Chen and T. H. Lee, "A robust real-time vision system for autonomous cargo transfer by an unmanned helicopter," *IEEE Transactions on Industrial Electronics*, Vol. 62, No. 2, pp. 1210–1219, February 2015.

80. F. Wang, P. Liu, S. Zhao, B. M. Chen, S. K. Phang, S. Lai, T. Pang, B. Wang, C. Cai and T. H. Lee, "Development of an unmanned helicopter for vertical replenishment," *Unmanned Systems*, Vol. 3, No. 1, pp. 63–87, January 2015.

81. A. Karimoddini, H. Lin, B. M. Chen and T. H. Lee, "Hierarchical hybrid modeling and control of an unmanned helicopter," *International Journal of Control*, Vol. 87, No. 9, pp. 1779–1793, September 2014.

82. X. Zheng and B. M. Chen, "Identification of stock market forces in the system adaptation framework," *Information Sciences*, Vol. 265, pp. 105–122, May 2014.

83. S. K. Phang, K. Li, K. H. Yu, B. M. Chen and T. H. Lee, "Systematic design and implementation of a micro unmanned quadrotor system," *Unmanned Systems*, Vol. 2, No. 2, pp. 121–141, April 2014.

84. S. Zhao, F. Lin, K. Peng, B. M. Chen and T. H. Lee, "Finite-time stabilization of cyclic formations using bearing-only measurements," *International Journal of Control*, Vol. 87, No. 4, pp. 715–727, April 2014.

85. S. Zhao, B. M. Chen and T. H. Lee, "Optimal deployment of mobile sensors for target tracking in 2D and 3D spaces," *IEEE/CAA Journal of Automatica Sinica*, Vol. 1, No. 1, pp. 24–30, January 2014.

86. Y. Sun, H. Lin and B. M. Chen, "Bisimilarity enforcing supervisory control for deterministic specifications," *Automatica*, Vol. 50, No. 1, pp. 287–290, January 2014.

87. S. Zhao, F. Lin, K. Peng, B. M. Chen and T. H. Lee, "Distributed control of angle-constrained circular formation using bearing-only measurements," *Systems & Control Letters*, Vol. 63, No. 1, pp. 12–24, January 2014.

88. G. Cheng, K. Peng, B. M. Chen and T. H. Lee, "Discrete-time mode switching control with application to a PMSM position servo system," *Mechatronics*, Vol. 23, No. 8, pp. 1191–1201, December 2013.

89. X. Liu, H. Lin and B. M. Chen, "Structural controllability of switched linear systems," *Automatica*, Vol. 49, No. 12, pp. 3531–3537, December 2013.

90. R. Chisholm, J. Q. Cui, S. K. Y. Lum and B. M. Chen, "UAV LiDAR for below-canopy forest surveys," *Journal of Unmanned Vehicle Systems*, Vol. 1, pp. 61–68, November 2013.

91. F. Wang, J. Q. Cui, B. M. Chen and T. H. Lee, "A comprehensive UAV indoor navigation system based on vision optical flow and laser FastSLAM," *Acta Automatica Sinica*, Vol. 39, No. 11, pp. 1889–1900, November 2013.

92. F. Lin, K. Z. Y. Ang, F. Wang, B. M. Chen, T. H. Lee, B. Yang, M. Dong, X. Dong, J. Cui, S. K. Phang, B. Wang, D. Luo, K. Peng, G. Cai, S. Zhao, M. Yin and K. Li, "Development of an unmanned coaxial rotorcraft for the DARPA UAVForge Challenge," *Unmanned Systems*, Vol. 1, No. 2, pp. 211–245, October 2013.

93. S. Zhao, B. M. Chen and T. H. Lee, "Optimal sensor placement for target localization and tracking in 2D and 3D," *International Journal of Control*, Vol. 86, No. 10, pp. 1687–1704, October 2013.

94. M. Zhu, S. Lai, R. Boucher, B. M. Chen, C. Xiang and W. Kang, "Minimum time trajectory for helicopter UAVs: computation and flight test," *Applied Mathematical Sciences*, Vol. 7, No. 130, pp. 6475–6487, September 2013.

95. A. Karimoddini, H. Lin, B. M. Chen and T. H. Lee, "A bumpless hybrid supervisory control algorithm for the formation of unmanned helicopters," *Mechatronics*, Vol. 23, No. 6, pp. 677–688, September 2013.

96. K. Peng and B. M. Chen, "Variant-factor technique for tracking control of a class of nonlinear systems with input saturation," *Control and Intelligent Systems*, Vol. 41, No. 3, pp. 169–177, July 2013.

97. A. Karimoddini, H. Lin, B. M. Chen and T. H. Lee, "Hybrid 3-D formation control for unmanned helicopters," *Automatica*, Vol. 49, No. 2, pp. 424–433, February 2013.

98. X. Liu, H. Lin and B. M. Chen, "Graph-theoretic characterisations of structural controllability for multi-agent system with switching topology," *International Journal of Control*, Vol. 86, No. 2, pp. 222–231, February 2013.

99. G. Cai, B. Wang, B. M. Chen and T. H. Lee, "Design and implementation of a flight control system for an unmanned rotorcraft using RPT control approach," *Asian Journal of Control*, Vol. 15, No. 1, pp. 95–119, January 2013.

100. Y. Sun, H. Lin and B. M. Chen, "An input-output simulation approach to controlling multi-affine systems for linear temporal logic specifications," *International Journal of Control*, Vol. 85, No. 10, pp. 1464–1476, October 2012.

101. X. Zheng and B. M. Chen, "Modeling and forecasting of stock markets under a system adaptation framework," *Journal of Systems Science and Complexity*, Vol. 25, No. 4, pp. 641–674, September 2012.

102. F. Lin, X. Dong, B. M. Chen, K. Y. Lum and T. H. Lee, "A robust real-time embedded vision system on an unmanned rotorcraft for ground target following," *IEEE Transactions on Industrial Electronics*, Vol. 59, No. 2, pp. 1038–1049, February 2012.

103. G. Cai, B. M. Chen, T. H. Lee and K. Y. Lum, "Comprehensive nonlinear modeling of a miniature unmanned helicopter," *Journal of the American Helicopter Society*, Vol. 57, No. 1, pp. 012004-1–13, January 2012.

104. F. Wang, S. K. Phang, J. J. Ong, B. M. Chen and T. H. Lee, "Design and construction methodology of an indoor UAV system with embedded vision," *Control and Intelligent Systems*, Vol. 40, No. 1, pp. 22–32, January 2012.

105. B. Yun, G. Cai, B. M. Chen, K. Peng and K. Y. Lum, "GPS signal enhancement and attitude determination for a mini and low-cost unmanned aerial vehicle," *Transactions of the Institute of Measurement and Control*, Vol. 33, No. 6, pp. 665–682, August 2011.

106. A. Karimoddini, H. Lin, B. M. Chen and T. H. Lee, "Hybrid formation control of the autonomous helicopters," *Mechatronics*, Vol. 21, No. 5, pp. 886–898, August 2011.

107. G. Cai, B. M. Chen, X. Dong and T. H. Lee, Design and implementation of a robust and nonlinear flight control system for an unmanned helicopter, *Mechatronics*, Vol. 21, No. 5, pp. 803–820, August 2011.

108. X. Liu, H. Lin and B. M. Chen, Null controllability of planar bimodal piecewise linear systems, *International Journal of Control*, Vol. 84, No. 4, pp. 766–782, April 2011.

109. X. Dong, B. M. Chen, G. Cai, H. Lin and T. H. Lee, "A comprehensive real-time software system for flight coordination and cooperative control of multiple unmanned aerial vehicles," *International Journal of Robotics and Automation*, Vol. 26, No. 1, pp. 49–63, February 2011.

110. G. Cheng, B. M. Chen, K. Peng and T. H. Lee, "A Matlab toolkit for composite nonlinear feedback control – improving transient response in tracking control," *Journal of Control Theory and Applications*, Vol. 8, No. 3, pp. 271–279, August 2010.

111. W. Lan, C. K. Thum and B. M. Chen, "A hard disk drive servo system design using composite nonlinear feedback control with optimal nonlinear gain tuning methods," *IEEE Transactions on Industrial Electronics*, Vol. 57, No. 5, pp. 1735–1745, May 2010.

112. C. K. Thum, C. Du, B. M. Chen, E. H. Ong and K. P. Tan, "A unified control scheme for combined seeking and track-following of a hard disk drive servo system," *IEEE Transactions on Control Systems Technology*, Vol. 18, No. 2, pp. 294–306, March 2010.

113. G. Cai, B. M. Chen and T. H. Lee, "An overview on development of miniature unmanned rotorcraft systems," *Frontiers of Electrical and Electronic Engineering in China*, Vol. 5, No. 1, pp. 1–14, March 2010.

114. B. Yun, B. M. Chen, K. Y. Lum and T. H. Lee, "Design and implementation of a leader-follower formation flight control system for unmanned helicopters," *Journal of Control Theory and Applications*, Vol. 8, No. 1, pp. 61–68, February 2010.

115. C. K. Thum, C. Du, F. L. Lewis, B. M. Chen and E. H. Ong, "H_∞ disturbance observer design for high precision track-following in hard disk drives," *IET Control Theory & Applications*, Vol. 3, No. 12, pp. 1591–1598, December 2009.

116. F. Lin, K. Y. Lum, B. M. Chen and T. H. Lee, "Development of a vision-based ground target detection and tracking system for a small unmanned helicopter," *Science in China – Series F: Information Sciences*, Vol. 52, No. 11, pp. 2201–2215, November 2009.

117. C. K. Pang, Y. Lu, C. Chen, J. Chen, H. Zhu, J. Yang, J. Mou, G. Guo, B. M. Chen and T. H. Lee, "Design, fabrication, sensor fusion, and control of a micro X-Y stage media platform for probe-based storage systems," *Mechatronics*, Vol. 19, No. 7, pp. 1158–1168, October 2009.

118. G. Cai, B. M. Chen, T. H. Lee and M. Dong, "Design and implementation of a hardware-in-the-loop simulation system for small-scale UAV helicopters," *Mechatronics*, Vol. 19, No. 7, pp. 1057–1066, October 2009.

119. C. K. Pang, S. C. Tam, G. Guo, B. M. Chen, F. L. Lewis, T. H. Lee and C. Du, "Improved disturbance rejection with online adaptive pole-zero compensation on a Φ-shaped PZT active suspension," *Microsystem Technologies*, Vol. 15, Nos. 10–11, pp. 1499–1508, October 2009.

120. K. Peng, G. Cai, B. M. Chen, M. Dong, K. Y. Lum and T. H. Lee, "Design and implementation of an autonomous flight control law for a UAV helicopter," *Automatica*, Vol. 45, No. 10, pp. 2333–2338, October 2009.

121. X. Liu, Z. Lin and B. M. Chen, "Assignment of complete structural properties of linear systems via sensor selection," *IEEE Transactions on Automatic Control*, Vol. 54, No. 9, pp. 2072–2086, September 2009.

122. J. Gadewadikar, F. L. Lewis, K. Subbarao, K. Peng and B. M. Chen, "H-infinity static output-feedback control for rotorcraft," *Journal of Intelligent and Robotic Systems*, Vol. 54, No. 4, pp. 629–646, April 2009.

123. C. K. Thum, C. Du, B. M. Chen, E. H. Ong and K. P. Tan, "Mid-frequency runout compensation in hard disk drives via a time-varying group filtering scheme," *IEEE Transactions on Magnetics*, Vol. 44, No. 12, pp. 4769–4779, December 2008.

124. G. Cai, F. Lin, B. M. Chen and T. H. Lee, "Systematic design methodology and construction of UAV helicopters," *Mechatronics*, Vol. 18, No. 10, pp. 545–558, December 2008.

125. G. Cai, B. M. Chen, K. Peng, M. Dong and T. H. Lee, "Comprehensive modeling and control of the yaw channel of a UAV helicopter," *IEEE Transactions on Industrial Electronics*, Vol. 55, No. 9, pp. 3426–3434, September 2008.

126. C. K. Thum, C. Du, J. Zhang, K. P. Tan, B. M. Chen and E. H. Ong, "Servo control design for a high TPI servo track writer with microactuators," *IEEE Transactions on Magnetics*, Vol. 44, No. 9, pp. 2227–2234, September 2008.

127. W. Lan, B. M. Chen and F. L. Lewis, "Explicit constructions of global stabilization and nonlinear H_∞ control laws for a class of nonminimum phase nonlinear multivariable systems," *International Journal of Robust and Nonlinear Control*, Vol. 18, No. 12, pp. 1257–1284, August 2008.

128. J. Gadewadikar, F. L. Lewis, K. Subbarao and B. M. Chen, "Structured H_∞ command and control loop design for unmanned helicopters," *AIAA Journal of Guidance, Control and Dynamics*, Vol. 31, No. 4, pp. 1093–1102, July-August 2008.

129. W. Lan and B. M. Chen, "Explicit constructions of global stabilization and nonlinear H_∞ control laws for a class of nonminimum phase nonlinear systems," *Automatica*, Vol. 44, No. 3, pp. 738–744, March 2008.

130. B. M. Chen, X. Liu and Z. Lin, "Interconnection of Kronecker canonical form and special coordinate basis of multivariable linear systems," *Systems & Control Letters*, Vol. 57, No. 1, pp. 28–33, January 2008.

131. X. Liu, Z. Lin and B. M. Chen, "Further results on structural assignment of linear systems via sensor selection," *Automatica*, Vol. 43, No. 9, pp. 1631–1639, September 2007.

132. M. Dong, B. M. Chen, G. Cai and K. Peng, "Development of a real-time onboard and ground station software system for a UAV helicopter," *AIAA Journal of Aerospace Computing, Information, and Communication*, Vol. 4, No. 8, pp. 933–955, August 2007.

133. Y. He, B. M. Chen and W. Lan, "On improving transient performance in tracking control for a class of nonlinear discrete-time systems with input saturation," *IEEE Transactions on Automatic Control*, Vol. 52, No. 7, pp. 1307–1313, July 2007.

134. M. He, B. M. Chen and Z. Lin, "Structural decomposition and its properties of linear multivariable singular systems," *Journal of Systems Science and Complexity*, Vol. 20, No. 2, pp. 198–214, June 2007.

135. C. K. Pang, F. L. Lewis, S. S. Ge, G. Guo, B. M. Chen and T. H. Lee, "Singular perturbation control for vibration rejection in HDDs using a PZT active suspension as fast subsystem observer," *IEEE Transactions on Industrial Electronics*, Vol. 54, No. 3, pp. 1375–1386, June 2007.

136. C. K. Pang, G. Guo, B. M. Chen and T. H. Lee, "Enhanced disturbance suppression in sampled-data systems and its application to high density data storage servos," *Microsystem Technologies*, Vol. 13, Nos. 8-10, pp. 911–921, May 2007.

137. C. K. Pang, W. E. Wong, G. Guo, B. M. Chen and T. H. Lee, "Nonrepeatable run-out rejection using online iterative control for high-density storage," *IEEE Transactions on Magnetics*, Vol. 43, No. 5, pp. 2029–2037, May 2007.

138. G. Cheng, K. Peng, B. M. Chen and T. H. Lee, "Improving transient performance in tracking general references using composite nonlinear feedback control and its application to XY-table positioning mechanism," *IEEE Transactions on Industrial Electronics*, Vol. 54, No. 2, pp. 1039–1051, April 2007.

139. K. Peng, G. Cheng, B. M. Chen and T. H. Lee, "Improvement of transient performance in tracking control for discrete-time systems with input saturation and disturbances," *IET Control Theory & Applications*, Vol. 1, No. 1, pp. 65–74, January 2007.

140. Y. He, B. M. Chen and C. Wu, "Improving transient performance in tracking control for linear multivariable discrete-time systems with input saturation," *Systems & Control Letters*, Vol. 56, No. 1, pp. 25–33, January 2007.

141. X. Liu, Z. Lin and B. M. Chen, "Symbolic realization of asymptotic time-scale and eigenstructure assignment design method in multivariable control," *International Journal of Control*, Vol. 79, No. 11, pp. 1471–1484, November 2006.

142. S. Lu, B. M. Chen and C. C. Ko, "A partition approach for the restoration of camera images of planar and curled document," *Image and Vision Computing*, Vol. 24, No. 8, pp. 837–848, August 2006.

143. C. K. Pang, G. Guo, B. M. Chen and T. H. Lee, "Self-sensing actuator for nanopositioning and active damping in dual-stage HDDs," *IEEE/ASME Transactions on Mechatronics*, Vol. 11, No. 3, pp. 328–338, June 2006.

144. W. Lan, B. M. Chen and Z. Ding, "Adaptive estimation and rejection of unknown sinusoidal disturbances through measurement feedback for a class of nonminimum phase nonlinear MIMO systems," *International Journal of Adaptive Control and Signal Processing*, Vol. 20, No. 2, pp. 77–97, March 2006.

145. W. Lan, B. M. Chen and Y. He, "On improvement of transient performance in tracking control for a class of nonlinear systems with input saturation," *Systems & Control Letters*, Vol. 55, No. 6, pp. 132–138, February 2006.

146. C. C. Ko, B. M. Chen, J. P. Chen, J. Zhang and K. C. Tan, "A web-based laboratory on control of a two-degree-of-freedom helicopter," *International Journal of Engineering Education*, Vol. 21, No. 6, pp. 1017–1030, November 2005.

147. G. Cheng, K. Peng, B. M. Chen and T. H. Lee, "A microdrive track following controller design using robust and perfect tracking control with nonlinear compensation," *Mechatronics*, Vol. 15, No. 8, pp. 933–948, October 2005.

148. K. Peng, B. M. Chen, G. Cheng and T. H. Lee, "Modeling and compensation of nonlinearities and friction in a micro hard disk drive servo system with nonlinear feedback control," *IEEE Transactions on Control Systems Technology*, Vol. 13, No. 5, pp. 708–721, September 2005.

149. X. Liu, B. M. Chen and Z. Lin, "Linear systems toolkit in MATLAB: Structural decompositions and their applications," *Journal of Control Theory & Applications*, Vol. 3, No. 3, pp. 287–294, August 2005.

150. Y. He, B. M. Chen and C. Wu, "Composite nonlinear control with state and measurement feedback for general multivariable systems with input saturation," *Systems & Control Letters*, Vol. 54, No. 5, pp. 455–469, May 2005.

151. S. Lu, B. M. Chen and C. C. Ko, "Perspective rectification of document images using fuzzy set and morphological operations," *Image and Vision Computing*, Vol. 23, No. 5, pp. 541–553, May 2005.

152. K. Peng, B. M. Chen, G. Cheng and T. H. Lee, "Friction and nonlinearity compensation in hard disk drive servo systems using robust composite nonlinear feedback control," *Australian Journal of Electrical and Electronics Engineering*, Vol. 2, No. 1, pp. 81–90, January 2005.

153. K. Peng, B. M. Chen, T. H. Lee and V. Venkataramanan, "Design and implementation of a dual-stage actuated HDD servo system via composite nonlinear control approach," *Mechatronics*, Vol. 14, No. 9, pp. 965-988, September 2004.

154. Y.-Y. Cao, Z. Lin and B. M. Chen, "An output feedback H_∞ controller design for linear systems subject to sensor nonlinearities," *IEEE Transactions on Circuits and Systems I: Fundamental Theory and Applications*, Vol. 50, No. 7, pp. 914–921, July 2003.

155. B. M. Chen, T. H. Lee, K. Peng and V. Venkataramanan, "Composite nonlinear feedback control for linear systems with input saturation: Theory and an application," *IEEE Transactions on Automatic Control*, Vol. 48, No. 3, pp. 427–439, March 2003.

156. X. Liu, B. M. Chen and Z. Lin, "On the problem of general structural assignments of linear systems through sensor/actuator selection," *Automatica*, Vol. 39, No. 2, pp. 233–241, February 2003.

157. V. Venkataramanan, K. Peng, B. M. Chen and T. H. Lee, "Discrete-time composite nonlinear feedback control with an application in design of a hard disk drive servo system," *IEEE Transactions on Control Systems Technology* Vol. 11, No. 1, pp. 16–23, January 2003.

158. M. He and B. M. Chen, "Structural decomposition of linear singular systems: The single-input and single-output case," *Systems & Control Letters*, Vol. 47, No. 4, pp. 327–334, November 2002.

159. V. Venkataramanan, B. M. Chen, T. H. Lee and G. Guo, "A new approach to the design of mode switching control in hard disk drive servo systems," *Control Engineering Practice*, Vol. 10, No. 9, pp. 925–939, September 2002.

160. T. Hu, Z. Lin and B. M. Chen, "Analysis and design for linear discrete-time systems subject to actuator saturation and disturbance," *Systems & Control Letters*, Vol. 45, No. 2, pp. 97–112, February 2002.

161. T. Hu, Z. Lin and B. M. Chen, "An analysis and design method for linear systems subject to actuator saturation and disturbance," *Automatica*, Vol. 38, No. 2, pp. 351–359, February 2002.

162. B. M. Chen, Z. Lin and K. Liu, "Robust and perfect tracking of discrete-time systems," *Automatica*, Vol. 38, No. 2, pp. 293–299, February 2002.

163. C. C. Ko, B. M. Chen, S. Y. Hu, V. Ramakrishnan, C. D. Cheng, Y. Zhuang and J. Chen, "A web-based virtual laboratory on a frequency modulation experiment," *IEEE Transactions on Systems, Man, and Cybernetics — Part C: Applications and Reviews*, Vol. 31, No. 3, pp. 295–303, August 2001.

164. Z. Li, G. Guo, B. M. Chen and T. H. Lee, "Optimal control design to achieve highest track-per-inch in hard disk drives," *Journal of Information Storage and Processing Systems*, Vol. 3, No. 1-2, pp. 27–41, April 2001.

165. T. B. Goh, Z. Li, B. M. Chen, T. H. Lee and T. Huang, "Design and implementation of a hard disk drive servo system using robust and perfect tracking approach," *IEEE Transactions on Control Systems Technology*, Vol. 9, No. 2, pp. 221–233, March 2001.

166. C. C. Ko, B. M. Chen, J. Chen, Y. Zhuang and K. C. Tan, "Development of a Web-based laboratory for control experiments on a coupled tank apparatus," *IEEE Transactions on Education*, Vol. 44, No. 1, pp. 76–86, February 2001.

167. K. Liu, B. M. Chen and Z. Lin, "On the problem of robust and perfect tracking for linear systems with external disturbances," *International Journal of Control*, Vol. 74, No. 2, pp. 158–174, January 2001.

168. B. M. Chen, I. M. Y. Mareels, Y. F. Zheng and C. Zhang, "Solutions to disturbance decoupling problem with constant measurement feedback for linear systems," *Automatica*, Vol. 36, No. 11, pp. 1717–1724, November 2000.

169. Z. Lin and B. M. Chen, "Solutions to general H_∞ almost disturbance decoupling problem with measurement feedback and internal stability for discrete-time systems," *Automatica*, Vol. 36, No. 8, pp. 1103–1122, August 2000.

170. B. M. Chen, K. Liu and Z. Lin, "Solvability conditions and solutions to perfect regulation problem under measurement output feedback," *Systems & Control Letters*, Vol. 40, No. 4, pp. 269–277, July 2000.

171. C. C. Ko, B. M. Chen, S. H. Chen, V. Ramakrishnan, R. Chen, S. Y. Hu and Y. Zhuang, "A large scale web-based virtual oscilloscope laboratory experiment," *IEE Engineering Science and Education Journal*, Vol. 9, No. 2, pp. 69–76, April 2000.

172. B. C. Siew, B. M. Chen and T. H. Lee, "Design and implementation of a robust controller for a free gyro-stabilized mirror system," *ASME Transactions – Journal of Dynamic Systems, Measurement, and Control*, Vol. 121, No. 3, pp. 550–556, September 1999.

173. Z. Lin, X. Bao and B. M. Chen, "Further results on almost disturbance decoupling with global asymptotic stability for nonlinear systems," *Automatica*, Vol. 35, No. 4, pp. 709–717, April 1999.

174. B. M. Chen, T. H. Lee, C. C. Hang, Y. Guo and S. Weerasooriya, "An H_∞ almost disturbance decoupling robust controller design for a piezoelectric bimorph actuator with hysteresis," *IEEE Transactions on Control Systems Technology*, Vol. 7, No. 2, pp. 160–174, March 1999.

175. B. M. Chen, J. He and Y.-L. Chen, "Explicit solvability conditions for general discrete-time H_∞ almost disturbance decoupling problem with internal stability," *International Journal of Systems Science*, Vol. 30, No. 1, pp. 105–115, January 1999.

176. B. M. Chen, "Direct computation of infimum in discrete-time H_∞-optimization using measurement feedback," *Systems & Control Letters*, Vol. 35, No. 5, pp. 269–278, December 1998.

177. B. M. Chen, "On properties of the special coordinate basis of linear systems," *International Journal of Control*, Vol. 71, No. 6, pp. 981–1003, December 1998.

178. B. M. Chen, Z. Lin and C. C. Hang, "Design for general H_∞ almost disturbance decoupling problem with measurement feedback and internal stability – An eigenstructure assignment approach," *International Journal of Control*, Vol. 71, No. 4, pp. 653–685, November 1998.

179. Z. Lin, B. M. Chen, A. Saberi and U. Ly, "Simultaneous H_2/H_∞ optimal control for discrete-time systems: The state feedback case," *Control Theory & Applications*, Vol. 15, No. 2, pp. 217–225, April 1998.

180. B. M. Chen and S. R. Weller, "Mappings of the finite and infinite zero structures and invertibility structures of general linear multivariable systems under the bilinear transformation," *Automatica*, Vol. 34, No. 1, pp. 111–124, January 1998.

181. B. M. Chen, "Exact computation of infimum for a class of continuous-time H_∞ optimal control problem with a nonzero direct feedthrough term from the disturbance input to the controlled output," *Systems & Control Letters*, Vol. 32, No. 2, pp. 99–109, November 1997.

182. B. M. Chen, "Solvability conditions for the disturbance decoupling problems with static measurement feedback," *International Journal of Control*, Vol. 68, No. 1, pp. 51–60, November 1997.

183. B. M. Chen, A. Saberi and Y. Shamash, "Necessary and sufficient conditions under which a discrete time H_2-optimal control problem has a unique solution," *Control Theory & Applications*, Vol. 13, No. 6, pp. 745–753, December 1996.

184. Z. Lin, B. M. Chen, A. Saberi and Y. Shamash, "Inner-outer factorization of discrete-time transfer matrices," *IEEE Transactions on Circuits and Systems — I: Fundamental Theory and Applications*, Vol. 43, No. 11, pp. 941–945, November 1996.

185. B. M. Chen, Y. Guo and Z. Lin, "Non-iterative computation of infimum in discrete-time H_∞ optimisation and solvability conditions for the discrete-time disturbance decoupling problem," *International Journal of Control*, Vol. 65, No. 3, pp. 433–454, October 1996.

186. B. M. Chen and Y.-L. Chen, "Loop transfer recovery design via new observer based and CSS architecture based controllers," *International Journal of Robust and Nonlinear Control*, Vol. 5, No. 7, pp. 649–669, November 1995.

187. B. M. Chen and D. Z. Zheng, "Simultaneous finite and infinite zero assignments of linear systems," *Automatica*, Vol. 31, No. 4, pp. 643–648, April 1995.

188. B. M. Chen, "A simple algorithm for the stable/unstable decomposition of a linear discrete-time system," *International Journal of Control*, Vol. 61, No. 1, pp. 255–260, January 1995.

189. B. M. Chen, A. Saberi, Y. Shamash and P. Sannuti, "Construction and parameterization of all static and dynamic H_2-optimal state feedback solutions for discrete time systems," *Automatica*, Vol. 30, No. 10, pp. 1617–1624, October 1994.

190. A. A. Stoorvogel, A. Saberi and B. M. Chen, "The discrete-time H_∞ control problem with strictly proper measurement feedback," *IEEE Transactions on Automatic Control*, Vol. 39, No. 9, pp. 1936–1939, September 1994.

191. A. Saberi, B. M. Chen and Z. Lin, "Closed-form solutions to a class of H_∞-optimization problem," *International Journal of Control*, Vol. 60, No. 1, pp. 41–70, July 1994.

192. B. M. Chen, A. Saberi and Y. Shamash, "A non-recursive method for solving the general discrete time algebraic Riccati equation related to the H_∞ control problem," *International Journal of Robust and Nonlinear Control*, Vol. 4, No. 4, pp. 503–519, July-August 1994.

193. A. A. Stoorvogel, A. Saberi and B. M. Chen, "The discrete-time H_∞ control problem with measurement feedback," *International Journal of Robust and Nonlinear Control*, Vol. 4, No. 4, pp. 457–479, July-August 1994.

194. A. A. Stoorvogel, A. Saberi and B. M. Chen, "A reduced order observer based controller design for H_∞-optimization," *IEEE Transactions on Automatic Control*, Vol. 39, No. 2, pp. 355–360, February 1994.

195. A. Saberi, B. M. Chen, P. Sannuti and U. Ly, "Simultaneous H_2/H_∞ optimal control: The state feedback case," *Automatica*, Vol. 29, No. 6, pp. 1611–1614, November 1993.

196. A. A. Stoorvogel, A. Saberi and B. M. Chen, "Full and reduced order observer based controller design for H_2-optimization," *International Journal of Control*, Vol. 58, No. 4, pp. 803–834, October 1993.

197. B. M. Chen and A. Saberi, "Noniterative computation of infimum in H_∞-optimisation for plants with invariant zeros on the $j\omega$ axis," *IEE Proceedings–Part D: Control Theory and Applications*, Vol. 140, No. 5, pp. 298–304, September 1993.

198. B. M. Chen and A. Saberi, "Necessary and sufficient conditions under which an H_2-optimal control problem has a unique solution," *International Journal of Control*, Vol. 58, No. 2, pp. 337–348, August 1993.

199. A. A. Stoorvogel, A. Saberi and B. M. Chen, "Characterization of all closed loop transfer function matrices in H_∞-optimization," *Control–Theory and Advanced Technology*, Vol. 9, No. 2, pp. 565–576, June 1993.

200. Z. Lin, B. M. Chen and A. Saberi, "Explicit expressions for cascade factorizations of general non-strictly proper systems," *Control–Theory and Advanced Technology*, Vol. 9, No. 2, pp. 501–515, June 1993.

201. B. M. Chen, A. Saberi, P. Sannuti and Y. Shamash, "Construction and parameterization of all static and dynamic H_2-optimal state feedback solutions, optimal fixed modes and fixed decoupling zeros," *IEEE Transactions on Automatic Control*, Vol. 38, No. 2, pp. 248–261, February 1993.

202. B. M. Chen, A. Saberi and U. Ly, "A non-iterative method for computing the infimum in H_∞-optimization," *International Journal of Control*, Vol. 56, No. 6, pp. 1399–1418, December 1992.

203. B. M. Chen, A. Saberi and P. Sannuti, "On blocking zeros and strong stabilizability of linear multivariable systems," *Automatica*, Vol. 28, No. 5, pp. 1051–1055, September 1992.

204. B. M. Chen, A. Saberi and P. Sannuti, "Necessary and sufficient conditions for a nonminimum phase plant to have a recoverable target loop — A stable compensator design for LTR," *Automatica*, Vol. 28, No. 3, pp. 493–507, May 1992.

205. B. M. Chen, A. Saberi and P. Sannuti, "Loop transfer recovery for general nonminimum phase non-strictly proper systems; Part 2: Design," *Control–Theory and Advanced Technology*, Vol. 8, No. 1, pp. 101–144, March 1992.

206. B. M. Chen, A. Saberi and P. Sannuti, "Loop transfer recovery for general nonminimum phase non-strictly proper systems; Part 1: Analysis," *Control–Theory and Advanced Technology*, Vol. 8, No. 1, pp. 59–100, March 1992.

207. B. M. Chen, A. Saberi and U. Ly, "Exact computation of the infimum in H_∞-optimization via state feedback," *Control–Theory and Advanced Technology*, Vol. 8, No. 1, pp. 17–35, March 1992.

208. B. M. Chen, A. Saberi and P. Sannuti, "Explicit expressions for cascade factorization of general nonminimum phase systems," *IEEE Transactions on Automatic Control*, Vol. 37, No. 3, pp. 358–363, March 1992.

209. B. M. Chen, A. Saberi and U. Ly, "Exact computation of the infimum in H_∞-optimization via output feedback," *IEEE Transactions on Automatic Control*, Vol. 37, No. 1, pp. 70–78, January 1992.

210. A. Saberi, B. M. Chen and P. Sannuti, "Theory of LTR for nonminimum phase systems, recoverable target loops, recovery in a subspace; Part 2: Design," *International Journal of Control*, Vol. 53, No. 5, pp. 1117–1160, May 1991.

211. A. Saberi, B. M. Chen and P. Sannuti, "Theory of LTR for nonminimum phase systems, recoverable target loops, recovery in a subspace; Part 1: Analysis," *International Journal of Control*, Vol. 53, No. 5, pp. 1067–1115, May 1991.

212. B. M. Chen, A. Saberi and P. Sannuti, "A new stable compensator design for exact and approximate loop transfer recovery," *Automatica*, Vol. 27, No. 2, pp. 257–280, March 1991.

213. B. M. Chen, A. Saberi, S. Bingulac and P. Sannuti, "Loop transfer recovery for non-strictly proper plants," *Control–Theory and Advanced Technology*, Vol. 6, No. 4, pp. 573–594, December 1990.

G. BOOK CHAPTERS

1. J. Wen, Z. Zhao, J. Cui and B. M. Chen, Model-based reinforcement learning with self-attention mechanism for autonomous driving in dense traffic, *Lecture Notes in Computer Science: Neural Information Processing*, Volume 13624 (Edited by M. Tanveer, *et al.*), pp. 317-330, Springer Nature, Cham, Switzerland, 2023h (https://doi.org/10.1007/978-3-031-30108-7_27) (ISBN: 978-3-031-30108-7).

2. K. Liu, Y. Zhao, Q. Nie, Z. Gao and B. M. Chen, Weekly supervised 3D scene segmentation with region-level boundary awareness and instance discrimination, *Lecture Notes in Computer Science: Computer Vision – ECCV 2022*, Volume 13688 (Edited by S. Avidan, *et al.*), pp. 37–55, Springer Nature, Cham, Switzerland, 2022 (https://doi.org/10.1007/978-3-031-19815-1_3) (ISBN: 978-3-031-19815-1).

3. P. Zhou and B. M. Chen, Leader-following output consensus of discrete-time heterogeneous systems, *Complex Systems: Spanning Control and Computational Cybernetics: Foundations* (Edited by P. Shi, J. Stefanovski, and J. Kacprzyk), pp. 73–87, Springer, Berlin, Germany, 2022 (https://doi.org/10.1007/978-3-030-99776-2_6) (ISBN: 978-3-030-99776-2).

4. B. M. Chen, H_2 optimal control, *Encyclopedia of Systems and Control* (2nd Edn edited by J. Baillieul and T. Samad), pp. 891–896, Springer, New York, USA, 2021 (https://doi.org/10.1007/978-1-4471-5102-9_204-2) (ISBN: 978-1-4471-5102-9).

5. F. Lin, F. Wang, X. Dong, K. Peng and B. M. Chen, Mechatronics design of unmanned aircraft systems, *Mechatronics: Fundamentals and Applications*, (Edited by C. W. de Silva, et al.), pp. 403–451, CRC Press, Boca Raton, Florida, USA, 2016 (ISBN: 9781482239317).

6. B. M. Chen, H_2 optimal control, *Encyclopedia of Systems and Control* (Edited by J. Baillieul and T. Samad), pp. 515–520, Springer, New York, USA, 2015 (ISBN: 978-1-4471-5058-9).

7. F. Wang, J. Cui, B. M. Chen and T. H. Lee, Flight dynamics modeling of coaxial rotorcraft UAVs, *Handbook of Unmanned Aerial Vehicles* (Edited by K. P. Valavanis and G. J. Vachtsevanos), pp. 1217–1256, Springer, New York, USA, 2015 (ISBN: 978-90-481-9706-4).

8. S. K. Phang, K. Li, B. M. Chen and T. H. Lee, Systematic design methodology and construction of micro aerial quadrotor vehicles, *Handbook of Unmanned Aerial Vehicles* (Edited by K. P. Valavanis and G. J. Vachtsevanos), pp. 181–206, Springer, New York, USA, 2015 (ISBN: 978-90-481-9706-4).

9. F. Lin, K. Z. Y. Ang, F. Wang, B. M. Chen, *et al.*, Development of an unconventional unmanned coaxial rotorcraft: GremLion, *Design, User Experience, and Usability: User Experience in Novel Technological Environments*, (Edited by A. Marcus), Volume 8014, pp. 120–129, Springer, Berlin, Germany, 2013 (ISBN: 978-3-642-39237-5).

10. B. M. Chen, Disturbance decoupling problem with static output feedback, *10000 Selected Problems in Sciences – Information Science*, pp. 631–632, Science Press, Beijing, China, 2011 (ISBN: 978-7-03-031911-1).

11. A. Karimoddini, G. Cai, B. M. Chen, H. Lin and T. H. Lee, Hierarchical control design of a UAV helicopter, *Advances in Flight Control Systems* (Edited by A. Balint), pp. 239–260, InTech (Open Access Publisher), Vienna, Austria, 2011 (ISBN: 978-953-307-218-0).

12. C. C. Ko, B. M. Chen and C. D. Cheng, Web-based remote experimentation, *Encyclopedia of Distance and Online Learning* (2nd Edition, Edited by P. Rogers, et al.), Volume IV, pp. 2306–2318, IGI Global, Hershey, Pennsylvania, USA, 2009 (ISBN: 978-1-60566-198-8).

13. C. C. Ko, B. M. Chen and C. D. Cheng, Web-based 3D real time experimentation, *Encyclopedia of Information Science and Technology* (2nd Edition, Edited by M. Khosrow-Pour et al.), Volume VIII, pp. 4088–4092, IGI Global, Hershey, Pennsylvania, USA, 2009 (ISBN: 978-1-60566-026-4).

14. C. Xiang, L. Cao, K. Qin, Z. Xu and B. M. Chen, A modified dynamic model for shear stress induced ATP release from vascular endothelial cells, *Lecture Notes in Computer Science: Bio-Inspired Computational Intelligence and Applications* (Edited by K. Li, et al.), Volume 4688, pp. 462–472, Springer, Berlin, Germany, 2007 (ISBN: 978-3-540-74768-0).

15. C. C. Ko, B. M. Chen and C. D. Cheng, Web-based remote laboratory, *Encyclopedia of Distance Learning* (Edited by C. Howard, et al.), Volume IV, pp. 2009–2018, IGI Global, Hershey, Pennsylvania, USA, 2005 (ISBN: 1-59140-555-6).

16. B. M. Chen, Non-iterative computation of optimal value in H_∞ control, *Unsolved Problems in Mathematical Systems and Control Theory* (Edited by V. D. Blondel and A. Megretski), pp. 271–275, Princeton University Press, Princeton, USA, 2004 (ISBN 0-691-11748-9).

17. B. M. Chen, A. Saberi, P. Sannuti and Y. Shamash, Loop transfer recovery for general nonminimum phase discrete time systems; Part 2: Design, *Control and Dynamic Systems: Advances in Theory and Applications* (Edited by C.T. Leondes), Volume 55: Digital and Numerical Techniques and Their Applications in Control Systems, Part 1 of 2, pp. 263–304, Academic Press, San Diego, USA, 1993 (ISBN 0-12-012755-5).

18. B. M. Chen, A. Saberi, P. Sannuti and Y. Shamash, Loop transfer recovery for general nonminimum phase discrete time systems; Part 1: Analysis, *Control and Dynamic Systems: Advances in Theory and Applications* (Edited by C.T. Leondes), Volume 55: Digital and Numerical Techniques and Their Applications in Control Systems, Part 1 of 2, pp. 195–261, Academic Press, San Diego, USA, 1993 (ISBN 0-12-012755-5).

19. B. M. Chen, A. Saberi, M. C. Berg and U. Ly, Closed loop transfer recovery for discrete time systems, *Control and Dynamic Systems: Advances in Theory and Applications* (Edited by C.T. Leondes), Volume 56: Digital and Numerical Techniques and Their Applications in Control Systems, Part 2 of 2, pp. 443–481, Academic Press, San Diego, USA, 1993 (ISBN 0-12-012756-3).

20. B. M. Chen, A. Saberi and U. Ly, Closed loop transfer recovery with observer based controllers; Part 2: Design, *Control and Dynamic Systems: Advances in Theory and Applications* (Edited by C.T. Leondes), Volume 51: Robust Control System Techniques and Applications, Part 2 of 2, pp. 295–348, Academic Press, San Diego, USA, 1992 (ISBN 0-12-012751-2).

21. B. M. Chen, A. Saberi and U. Ly, Closed loop transfer recovery with observer based controllers; Part 1: Analysis, *Control and Dynamic Systems: Advances in Theory and Applications* (Edited by C.T. Leondes), Volume 51: Robust Control System Techniques and Applications, Part 2 of 2, pp. 247–293, Academic Press, San Diego, USA, 1992 (ISBN 0-12-012751-2).

H. CONFERENCE PUBLICATIONS

1. D. Huang, M. Dou, X. Liu, T. Sun, J. Zhang, N. Ding and B. M. Chen, Underwater motions analysis and control of a coupling-tiltable unmanned aerial-aquatic vehicle, to be presented at *the 2025 IEEE International Conference on Robotics and Automation (ICRA)*, Atlanta, USA, May 2025.

2. Z. Guo, B. Han, Y. Huang, X. Chen and B. M. Chen, SE-STDGNN: A self-evolving spatial-temporal directed graph neural network for multi-vehicle trajectory prediction, to be presented at *the 2025 IEEE International Conference on Robotics and Automation (ICRA)*, Atlanta, USA, May 2025.

3. W. Ding, Z. Zhao, R. Yan, S. Gao, Z. Guo, X. Liu and B. M. Chen, Sea-U-Whale: A reconfigurable marine robot with multi-modal motion, to be presented at *the 2025 IEEE International Conference on Robotics and Automation (ICRA)*, Atlanta, USA, May 2025.

4. B. Zhao, Q. Duan, G. Yang, Z. Song, J. Wen, X. Liu, H. J. Tang, Q. Li, X. Chen and B. M. Chen, Lightweight yet high-performance defect detector for UAV-based large-scale infrastructure real-time inspection, to be presented at *the 2025 IEEE International Conference on Robotics and Automation (ICRA)*, Atlanta, USA, May 2025.

5. G. Yang, R. Cao, J. Wen, B. Zhao, Q. Li, Y. Huang, X. Chen, A. H.-F. Lam, Y. Liu and B. M. Chen, Multi-view stereo with geometric encoding for dense scene reconstruction, to be presented at *the 2025 IEEE International Conference on Robotics and Automation (ICRA)*, Atlanta, USA, May 2025.

6. G. Yang, J. Wen, B. Zhao, Q. Li, Y. Huang, X. Chen, A. H.-F. Lam and B. M. Chen, End-to-end underwater multi-view stereo for dense scene reconstruction, to be presented at *the 2025 IEEE International Conference on Robotics and Automation (ICRA)*, Atlanta, USA, May 2025.

7. Y. Chen, H. Tang, R. Wang, Z. Guo, X. Wang, S. Gao, X. Liu and B. M. Chen, Synergistic temporal logic planning for an aerial gripper, Presented at *the 2024 IEEE International Conference on Robotics and Biomimetics (ROBIO)*, Bangkok, Thailand, December 2024.

8. Z. Guo, R. Wang, C. Gao, Y. Chen, Z. Zhao and B. M. Chen, A self-evolving digital twin system architecture for indoor UAV management based on online learning, Presented at *the 2024 IEEE International Conference on Robotics and Biomimetics (ROBIO)*, Bangkok, Thailand, December 2024.

9. J. Wen, J. Cui, G. Yang, B. Zhao, Y. Zhai, Z. Gao, L. Dou and B. M. Chen, WaterFormer: Global-local transformer for underwater image enhancement with environment adaptor, Presented at *the 2024 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Abu Dhabi, UAE, October 2024.

10. J. Wang, Z. Gao, Z. Lin, Z. Zhou, X. Wang, J. Cheng, H. Zhang, X. Liu and B. M. Chen, Accurate and efficient loop closure detection with deep binary image descriptor and augmented point cloud registration, Presented at *the 2024 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Abu Dhabi, UAE, October 2024.

11. G. Yang, J. Zhang, B. Zhao, C. Gao, Y. Huang, J. Wen, Q. Li, X. Chen and B. M. Chen, Det-Recon-Reg: An intelligent framework towards automated large-scale infrastructure inspection, Presented at *the 2024 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Abu Dhabi, UAE, October 2024.

12. S. Gao, R. Yan, Z. Zhao, W. Ding, M. Dou and B. M. Chen, Sea-U-Dragon: A lightweight unmanned underwater vehicle for robot-environment interaction, *Proceedings of the 2024 IEEE International Conference on Cybernetics and Intelligent Systems (CIS) and IEEE International Conference on Robotics, Automation and Mechatronics (RAM)*, Hangzhou, China, pp. 69–74, August 2024.

13. S. Gao, R. Yan, M. Dou, Z. Zhao, X. Liu, D. Huang, Q. Ren and B. M. Chen, Dynamic modeling of a lightweight unmanned underwater vehicle: Sea-U-Dragon, *Proceedings of the 43rd Chinese Control Conference (CCC)*, Kunming, China, pp. 1458–1463, July 2024.

14. Q. Li, G. Yang, X. Chen and B. M. Chen, Scan-to-BIM for solar potential assessment in high density urban environment, Presented at *the 1st International Conference of New Zero Carbon Built Environment*, University of Nottingham, U.K., July 2024 (Best Paper Award).

15. J. Wen, J. Cui, G. Yang, B. Zhao, Z. Gao and B. M. Chen, Underwater object detection integrated with image enhancement, *Proceedings of the 2024 IEEE International Conference on Real-time Computing and Robotics (RCAR)*, Alesund, Norway, pp. 160–165, June 2024.

16. Q. Li, G. Yang, X. Chen and B. M. Chen, 3D reverse modeling approach in smart cities for economic performance of building integrated photovoltaics, *Proceedings of the IEEE 18th International Conference on Control & Automation (ICCA)*, Reykjavk, Iceland, pp. 540–545, June 2024.

17. B. Zhao, X. Zhou, G. Yang, J. Wen, J. Zhang, X. Chen and B. M. Chen, CUBIT-Det: A high-definition infrastructure defect dataset fully evaluated with deep learning processes, *Proceedings of the IEEE 18th International Conference on Control & Automation (ICCA)*, Reykjavk, Iceland, pp. 508–515, June 2024.

18. Y. Huang, J. Zhang, X. Chen, A. H.-F. Lam, B. M. Chen, From simulation to prediction: Enhancing digital twins with advanced generative AI technologies, *Proceedings of the IEEE 18th International Conference on Control & Automation (ICCA)*, Reykjavk, Iceland, pp. 490–495, June 2024.

19. W. Hong, Z. F. Huang, J. Zhang, X. Chen and B. M. Chen, Pathway to a smart campus framework: A review and case study, *Proceedings of the IEEE 18th International Conference on Control & Automation (ICCA)*, Reykjavk, Iceland, pp. 424–430, June 2024.

20. C. Gao, G. Yang, X. Chen and B. M. Chen, Active view planner for infrastructure 3D reconstruction, *Proceedings of the IEEE 18th International Conference on Control & Automation (ICCA)*, Reykjavk, Iceland, pp. 400–405, June 2024.

21. J. Zhang, X. Zhou, Y. Huang, X. Chen and B. M. Chen, UAV-enabled smart coastal environment monitoring for marine litter, *Proceedings of the IEEE 18th International Conference on Control & Automation (ICCA)*, Reykjavk, Iceland, pp. 370–375, June 2024.

22. C. Gao, X. Wang, X. Chen and B. M. Chen, An active search strategy with multiple unmanned aerial systems for multiple targets, *Proceedings of the 2024 International Conference on Unmanned Aircraft Systems (ICUAS)*, Chania, Crete, Greece, pp. 935–940, June 2024.

23. Q. Li, X. Chen and B. M. Chen, Scan-to-BIM framework for the deployment of building integrated photovoltaic in high-density urban cities, Presented at *CUE2024 — Applied Energy Symposium and Forum: Low-Carbon Cities and Urban Energy Systems*, Peking University, Shenzhen, China, May 2024.

24. X. Zhou, G. Yang, J. Zhang, B. Zhao, L. Li and B. M. Chen, SANet: Small but accurate detector for aerial flying object, *Proceedings of the 2024 IEEE International Conference on Robotics and Automation (ICRA)*, Yokohama, Japan, pp. 17882–17888, May 2024.

25. R. Wang, Z. Guo, Y. Chen, X. Wang and B. M. Chen, Air bumper: A collision detection and reaction framework for autonomous MAV navigation, *Proceedings of the 2024 IEEE International Conference on Robotics and Automation (ICRA)*, Yokohama, Japan, pp. 15735–15741, May 2024.

26. Z. Lin, Z. Gao, X. Liu, J. Wang, W. Song, B. M. Chen, C. Li, Y. Huang and Y. Zhu, SGCalib: A two-stage camera-LiDAR calibration method using semantic information and geometric features, *Proceedings of the 2024 IEEE International Conference on Robotics and Automation (ICRA)*, Yokohama, Japan, pp. 14527–14533, May 2024.

27. J. Wen, J. Cui, B. Zhao, B. Han, X. Liu, Z. Gao and B. M. Chen, EnYOLO: A real-time framework for domain-adaptive underwater object detection with image enhancement, *Proceedings of the 2024 IEEE International Conference on Robotics and Automation (ICRA)*, Yokohama, Japan, pp. 12613–12619, May 2024.

28. X. Wang, J. Xu, C. Gao, Y. Chen, J. Zhang, C. Wang and B. M. Chen, Sensor-based multi-robot search and coverage with spatial separation in unstructured environments, *Proceedings of the 2024 IEEE International Conference on Robotics and Automation (ICRA)*, Yokohama, Japan, pp. 10623–10629, May 2024.

29. Z. Zhao, Y. Zhai, C. Gao, W. Ding, R. Yan, S. Gao, B. Han, X. Liu, Z. Guo and B. M. Chen, Sea-U-Foil: A hydrofoil marine vehicle with multi-modal locomotion, *Proceedings of the 2024 IEEE International Conference on Robotics and Automation (ICRA)*, Yokohama, Japan, pp. 8341–8347, May 2024.

30. D. Huang, X. Liu, M. Dou and B. M. Chen, Systematizing rotor-based morphable unmanned aerial-aquatic vehicles design: From theory to prototype, *Proceedings of OCEANS 2024*, Singapore, April 2024.

31. P. Zhou and B. M. Chen, Distributed optimal solutions for multiagent pursuit-evasion games, *Proceedings of the 62nd IEEE Conference on Decision and Control*, Singapore, pp. 6424–6429, December 2023.

32. C. Gao, W. Ding, Z. Zhao and B. M. Chen, Energy-optimal trajectory-based traveling salesman problem for multi-rotors unmanned aerial vehicle, *Proceedings of the 62nd IEEE Conference on Decision and Control*, Singapore, pp. 6110–6115, December 2023.

33. X. Wang, Y. Ding, Y. Chen, R. Han, L. Xi and B. M. Chen, OA-ECBVC: A cooperative collision-free encirclement and capture approach in cluttered environments, *Proceedings of the 62nd IEEE Conference on Decision and Control*, Singapore, pp. 5416–5422, December 2023.

34. Z. Pan and B. M. Chen, Connectivity-preserving formation tracking for multiple double integrators by a self-tuning adaptive distributed observer, Presented at *the 62nd IEEE Conference on Decision and Control*, Singapore, December 2023.

35. X. Zhou, G. Yang, Y. Chen, C. Gao, B. Zhao, L. Li and B. M. Chen, ADMNet: Anti-drone real-time detection and monitoring, *Proceedings of the 2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Detroit, Michigan, USA, pp. 8636–8642, October 2023.

36. G. Yang, X. Zhou, C. Gao, B. Zhao, J. Zhang, Y. Chen, X. Chen and B. M. Chen, Multi-view stereo with learnable cost metric, *Proceedings of the 2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Detroit, Michigan, USA, pp. 3017–3024, October 2023.

37. Y. Chen, X. Wang, Z. Guo, R. Wang, X. Zhou, G. Yang, S. Lai and B. M. Chen, An interactive system for multiple-task linear temporal logic path planning, *Proceedings of the 2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Detroit, Michigan, USA, pp. 3009–3016, October 2023.

38. X. Wang, C. Gao, X. Chen and B. M. Chen, Fast and secure distributed multi-agent coverage control with an application to infrastructure inspection and reconstruction, *Proceedings of the 42nd Chinese Control Conference*, Tianjin, China, pp. 5998–6005, July 2023 (Guan Zhao-Zhi Award Finalist).

39. Z. Zhao and B. M. Chen, Benchmark for evaluating initialization of visual-inertial odometry, *Proceedings of the 42nd Chinese Control Conference*, Tianjin, China, pp. 3935–3940, July 2023.

40. M. Dou, X. Liu, D. Huang, B. Wang, J. Cui, Q. Ren, L. Dou, J. Chen and B. M. Chen, Modeling and operating point analysis for aquatic translational motion of a cross-medium vehicle, *Proceedings of the 42nd Chinese Control Conference*, Tianjin, China, pp. 1351–1357, July 2023 (won the Guan Zhao-Zhi Award).

41. Z. Pan and B. M. Chen, Cooperative target fencing for a general target with connectivity preservation, *Preprints of the 22nd IFAC World Congress*, Yokohama, Japan, pp. 2919–2924, July 2023.

42. X. Liu, M. Dou, D. Huang, S. Gao, R. Yan, B. Wang, J. Cui, Q. Ren, L. Dou, Z. Gao, J. Chen and B. M. Chen, TJ-FlyingFish: Design and implementation of an aerial-aquatic quadrotor with tiltable propulsion units, *Proceedings of the 2023 IEEE International Conference on Robotics and Automation (ICRA)*, London, UK, pp. 7324–7330, May–June 2023.

43. J. Wen, J. Cui, Z. Zhao, R. Yan, Z. Gao, L. Dou and B. M. Chen, SyreaNet: A physically guided underwater image enhancement framework integrating synthetic and real images, *Proceedings of the 2023 IEEE International Conference on Robotics and Automation (ICRA)*, London, UK, pp. 5177–5183, May–June 2023.

44. Y. Chen, R. Wang, X. Wang and B. M. Chen, Sampling-based path planning under temporal logic constraints with real-time adaptation, *Proceedings of the 2023 IEEE International Conference on Robotics and Automation (ICRA)*, London, UK, pp. 3700–3706, May–June 2023.

45. Z. Pan and B. M. Chen, Connectivity-preserving formation tracking of multiple double-integrator systems, *Proceedings of the 61st IEEE Conference on Decision and Control*, Cancun, Mexico, pp. 3550–3555, December 2022.

46. Y. Zhai, C. Gao, X. Chen and B. M. Chen, An application of thermography in building facade inspection based on YOLOv3, *Proceedings of the 2022 International Conference on Computer and Drone Applications*, Dewan Jubli, Sarawak, Malaysia, pp. 131–136, November 2022.

47. J. Wen, Z. Zhao, J. Cui and B. M. Chen, Model-based reinforcement learning with self-attention mechanism for autonomous driving in dense traffic, Presented at *the 29th International Conference on Neural Information Processing*, Indore, India, November 2022.

48. K. Liu, Y. Zhao, Q. Nie, Z. Gao and B. M. Chen, WS3D: Weakly supervised 3D scene segmentation with region-level boundary awareness and instance discrimination, Presented at the *2022 European Conference on Computer Vision (ECCV 2022)*, Tel-Aviv, Israel, October 2022.

49. Y. Chen, S. Lai, J. Cui, B. Wang and B. M. Chen, GPU-accelerated incremental Euclidean distance transform for online motion planning of mobile robots, Presented at the *2022 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Kyoto, Japan, October 2022.

50. P. Zhou, S. Lai, J. Cui and B. M. Chen, Formation control of unmanned rotorcraft systems with state constraints and inter-agent collision avoidance, *Proceedings of the 2022 IEEE 17th International Conference on Control and Automation*, Naples, Italy, pp. 684–691, June 2022.

51. K. Liu, X. Zhou, B. Zhao, H. Ou and B. M. Chen, An integrated visual system for unmanned aerial vehicles following ground vehicles: Simulations and experiments, *Proceedings of the 2022 IEEE 17th International Conference on Control and Automation*, Naples, Italy, pp. 593–598, June 2022.

52. K. Liu, X. Zhou and B. M. Chen, An enhanced LiDAR inertial localization and mapping system for unmanned ground vehicles, *Proceedings of the 2022 IEEE 17th International Conference on Control and Automation*, Naples, Italy, pp. 587–592, June 2022.

53. K. Liu, G. Yang, J. Zhang, Z. Zhao, Xi Chen and B. M. Chen, Datasets and methods for boosting infrastructure inspection: A survey on defect segmentation and detection, *Proceedings of the 2022 IEEE 17th International Conference on Control and Automation*, Naples, Italy, pp. 23–30, June 2022.

54. G. Yang, K. Liu, Z. Zhao, J. Zhang, X. Chen and B. M. Chen, Datasets and methods for boosting infrastructure inspection: A survey on defect classification, *Proceedings of the 2022 IEEE 17th International Conference on Control and Automation*, Naples, Italy, pp. 15–22, June 2022.

55. J. Zhang, R. Wang, G. Yang, K. Liu, C. Gao, Y. Zhai, X. Chen and B. M. Chen, Sim-in-Real: Digital twin based UAV inspection process, *Proceedings of the 2022 International Conference on Unmanned Aircraft Systems*, Dubrovnik, Croatia, pp. 785–792, June 2022.

56. K. Liu, Y. Zhao, Z. Gao and B. M. Chen, WeakLabel3D-Net: A complete framework for real-scene LiDAR point clouds weakly supervised multi-tasks understanding, *Proceedings of the 2022 IEEE International Conference on Robotics and Automation (ICRA)*, Philadelphia, USA, pp. 5108–5115, May 2022.

57. C. Gao, Y. Zhai, B. Wang and B. M. Chen, Synthesis and online re-planning framework for time-constrained behavior tree, *Proceedings of the 2021 IEEE International Conference on Robotics and Biomimetics*, Sanya, China, pp. 1896–1901, December 2021.

58. L. Xi, X. Wang, Y. Ding, Y. Wei, Z. Peng and B. M. Chen, Quadrotor trajectory planning for visibility-aware target following, *Proceedings of the 2021 IEEE International Conference on Robotics and Biomimetics*, Sanya, China, pp. 1810–1815, December 2021.

59. X. Wang, L. Xi, Y. Chen, S. Lai, F. Lin and B. M. Chen, Decentralized trajectory generation technique for multiple unmanned multicopter systems in cluttered environments, *Proceedings of the 12th International Micro Air Vehicle Conference*, Puebla, Mexico, pp. 204–209, November 2021.

60. P. Zhou and B. M. Chen, Semi-global leader-following output consensus of discrete-time heterogeneous linear systems with position and rate-limited actuators via state feedback, *Proceedings of the 40th Chinese Control Conference*, Shanghai, China, pp. 5303–5308, July 2021 (Guan Zhao-Zhi Award Finalist and won the 2021 IEEE CSS Beijing Chapter Young Author Prize).

61. P. Zhou and B. M. Chen, Semi-global leader-following output consensus of heterogeneous systems with position and rate-limited actuators via state feedback, *Proceedings of the 40th Chinese Control Conference*, Shanghai, China, pp. 5295–5302, July 2021.

62. Y. Chen, S. Lai, B. Wang, F. Lin and B. M. Chen, A GPU mapping system for real-time robot motion planning, *Proceedings of the 2021 IEEE International Conference on Real-time Computing and Robotics*, Xining, China, pp. 762–768, July 2021.

63. K. Liu, Z. Gao, F. Lin and B. M. Chen, FG-Conv: Large-scale LiDAR point clouds understanding combining feature correlation mining and geometric-aware modeling, *Proceedings of the 2021 IEEE International Conference on Robotics and Automation*, Xi'an, China, pp. 12896–12902, May 30–June 5, 2021.

64. Y. H. Tan and B. M. Chen, Underwater stability of a morphable aerial-aquatic quadrotor with variable thruster angles, *Proceedings of the 2021 IEEE International Conference on Robotics and Automation*, Xi'an, China, pp. 314–320, May 30–June 5, 2021.

65. X. Zhao, Z. Gao, Y. Zhang, B. M. Chen, A target tracking and positioning framework for video satellites based on SLAM, *Proceedings of the 2020 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Las Vegas, USA, pp. 1887–1894, October 2020.

66. X. Liu, Z. Gao, H. Cheng, P. Wang and B. M. Chen, Learning based low light Image enhancement for visual odometry, *Proceedings of the 16th IEEE International Conference on Control and Automation*, Sapporo, Japan, pp. 1149–1154, October 2020.

67. P. Zhou and B. M. Chen, Output formation-containment control of multiple agents with leaders of unknown inputs over switching topologies, *Proceedings of the 16th IEEE International Conference on Control and Automation*, Sapporo, Japan, pp. 683–689, October 2020.

68. Y. H. Tan and B. M. Chen, A lightweight waterproof casing for an aquatic UAV using rapid prototyping, *Proceedings of the 2020 International Conference on Unmanned Aircraft Systems*, Athens, Greece, pp. 1154–1161, September 2020.

69. Y. H. Tan and B. M. Chen, Thruster allocation and mapping of aerial and aquatic modes for a morphable multimodal quadrotor, *Proceedings of the 2020 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, Boston, USA, pp. 845–654, July 2020.

70. S. Gao, Y. Ding and B. M. Chen, A frontier-based coverage path planning algorithm for robot exploration in unknown environment, *Proceedings of the 39th Chinese Control Conference*, Shenyang, China, pp. 3920–3925, July 2020.

71. P. Zhou, L. Xi and B. M. Chen, Formation control of Euler-Lagrange systems of leaders with bounded unknown input, *Proceedings of the 2020 IFAC World Congress*, Berlin, Germany, pp. 4204–4210, July 2020.

72. Y. H. Tan and B. M. Chen, A morphable aerial-aquatic quadrotor with coupled symmetric thrust vectoring, *Proceedings of the 2020 International Conference on Robotics and Automation (ICRA)*, Paris, France, pp. 2223–2229, May–June 2020 (Unmanned Aerial Vehicles Award Candidate).

73. K. Liu, X. Han and B. M. Chen, Deep learning based automatic crack detection and segmentation for unmanned aerial vehicle inspections, *Proceedings of the IEEE International Conference on Robotics and Biomimetics*, Dali, China, pp. 380–386, December 2019.

74. Y. H. Tan and B. M. Chen, Motor-propeller matching of aerial propulsion systems for direct aerial-aquatic operation, *Proceedings of the 2019 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Macau, China, pp. 1963–1970, November 2019.

75. Y. H. Tan and B. M. Chen, Design of a morphable multirotor aerial-aquatic vehicle, *Proceedings of OCEANS 2019*, Seattle, USA, November 2019 (DOI: 10.1109/IROS40897.2019.8968257).

76. X. Liu, Z. Gao and B. M. Chen, MLFFNet: Multi-level feature fusion net for underwater image enhancement, *Proceedings of OCEANS 2019*, Seattle, USA, October 2019 (DOI: 10.23919/OCEANS40490.2019.8962577).

77. S. Lai, M. Lan and B. M. Chen, Control based motion primitives for quadrotor trajectory generation, *Proceedings of the 38th Chinese Control Conference*, Guangzhou, China, pp. 8323–8329, July 2019.

78. X. Liu and B. M. Chen, A systematic approach to synthesize underwater images benchmark dataset and beyond, *Proceedings of the 15th IEEE International Conference on Control & Automation*, Edinburgh, Scotland, pp. 1517–1522, July 2019.

79. M. Lan, S. Lai, T. H. Lee and B. M. Chen, Autonomous task planning and acting for micro aerial vehicles, *Proceedings of the 15th IEEE International Conference on Control & Automation*, Edinburgh, Scotland, pp. 738–745, July 2019.

80. Y. H. Tan, X. Liu and B. M. Chen, Compliant wing based concept design for underwater-launched aerial vehicles, *Proceedings of the 15th IEEE International Conference on Control & Automation*, Edinburgh, Scotland, pp. 124–129, July 2019.

81. X. Liu, Y. H. Tan and B. M. Chen, Adaptive weight multi-band blending based fast aerial image stitching and mapping, *Proceedings of the 15th International Conference on Control, Automation, Robotics and Vision*, Singapore, pp. 1997–2002, November 2018.

82. Y. Chen, X. Chen, J. Zhu and B. M. Chen, Development of an autonomous unmanned surface vehicle with object detection using deep learning, *Proceedings of the 44th Annual Conference of the IEEE Industrial Electronics Society*, Washington D.C., USA, pp. 5636–5641, October 2018.

83. S. Lai, M. Lan and B. M. Chen, Optimal constrained trajectory generation for quadrotors through smoothing splines, *Proceedings of the 2018 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Madrid, Spain, pp. 4743–4750, October 2018.

84. K. Peng, M. R. Bin Abdul Hamid, J. Zhu, F. Lin and B. M. Chen, Comprehensive modeling of quadrotors for maneuvering flight control design, *Proceedings of the 23rd International Conference on Methods & Models in Automations & Robotics*, Miedzyzdroje, Poland, pp. 720–725, August 2018.

85. S. Lai, M. Lan and B. M. Chen, Efficient safe corridor navigation with jerk limited trajectory for quadrotors, *Proceedings of the 37th Chinese Control Conference*, Wuhan, China, pp. 10065–10070, July 2018 (won the Guan Zhao-Zhi Award).

86. K. Peng, F. Lin, S. K. Phang and B. M. Chen, Nonlinear flight control design for maneuvering flight of quadrotors in high speed large acceleration, *Proceedings of the 2018 International Conference on Unmanned Aircraft Systems*, Dallas, USA, pp.212–221, June 2018.

87. J. Li, B. M. Chen and G. H. Lee, SO-Net: Self-organizing network for point cloud analysis, *Proceedings of the 2018 Conference on Computer Vision and Pattern Recognition*, Salt Lake City, Utah, USA, pp. 9397–9406, June 2018.

88. Y. Bi, S. Lai and B. M. Chen, A fast and robust stereo visual-inertial odometry for MAVs, *Proceedings of the 14th IEEE International Conference on Control & Automation*, Anchorage, Alaska, USA, pp. 265-270, June 2018.

89. M. Lan, Y. Xu, S. Lai and B. M. Chen, A modular mission management system for micro aerial vehicles, *Proceedings of the 14th IEEE International Conference on Control & Automation*, Anchorage, Alaska, USA, pp. 294-299, June 2018.

90. Y. H. Tan, S. Lai, K. Wang and B. M. Chen, Cooperative heavy lifting using unmanned multi-agent systems, *Proceedings of the 14th IEEE International Conference on Control & Automation*, Anchorage, Alaska, USA, pp. 1119-1126, June 2018.

91. J. Li, Y. Bi, K. Li, K. Wang, F. Lin and B. M. Chen, Accurate 3D localization for MAV swarms by UWB and IMU fusion *Proceedings of the 14th IEEE International Conference on Control & Automation*, Anchorage, Alaska, USA, pp. 100-105, June 2018.

92. X. Zheng, C. Xiang, H. Lu, B. M. Chen and T. H. Lee, Human vision inspired multi-scale line segments merging and filtering, *Proceedings of the 14th IEEE International Conference on Control & Automation*, Anchorage, Alaska, USA, pp. 259-270, June 2018.

93. Y. H. Tan, B. H. Liew, X. Liu and B. M. Chen, Wing design studies for small submersible-launched UAVs, *Proceedings of the 14th IEEE International Conference on Control & Automation*, Anchorage, Alaska, USA, pp. 350-354, June 2018.

94. X. Liu, Y. H. Tan and B. M. Chen, Underwater depth map estimation from video sequence with graph cuts, Presented at *2018 OCEANS*, Kobe, Japan, May 2018.

95. Y. Bi, M. Lan, J. Li, K. Zhang, H. Qin, S. Lai and B. M. Chen, Robust autonomous flight and mission management for MAVs in GPS-denied environments, *Proceedings of the 2017 Asian Control Conference*, Gold Coast, Australia, pp. 67-72, December 2017.

96. M. Lan, S. Lai and B. M. Chen, Towards the real-time sampling-based kinodynamic planning for quadcopters, *Proceedings of the 2017 Asian Control Conference*, Gold Coast, Australia, pp. 772-777, December 2017.

97. Y. H. Tan, X. Liu and B. M. Chen, Hardware adaptation of a small commercial ROV for autonomous use, *Proceedings of the 2017 Asian Control Conference*, Gold Coast, Australia, pp. 1252-1257, December 2017.

98. Y. H. Tan, X. Liu and B. M. Chen, A methodology for enabling autonomy in small-scale underwater vehicles, *Presented at the 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2017)*, Vancouver, Canada, September 2017.

99. Y. Bi, M. Lan, J. Li and B. M. Chen, Real-time vision-based autonomous 3D navigation for MAVs in GPS-denied environments, *Presented at the 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2017)*, Vancouver, Canada, September 2017.

100. J. Li, H. Zhan, B. M. Chen, I. Reid and G. H. Lee, Deep learning for 2D scan matching and loop closure, *Proceedings of the 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2017)*, Vancouver, Canada, pp. 763-768, September 2017.

101. S. Lai, K. Wang and B. M. Chen, Dynamically feasible trajectory generation method for quadrotor unmanned vehicles with state constraints, *Proceedings of the 36th Chinese Control Conference*, Dalian, China, pp. 6252–6257, July 2017.

102. Y. Ke and B. M. Chen, Full envelope dynamics modeling and simulation for tail-sitter hybrid UAVs, *Proceedings of the 36th Chinese Control Conference*, Dalian, China, pp. 2242–2247, July 2017.

103. Y. Ke, K. Wang, K. Gong, S. Lai and B. M. Chen, Model based robust forward transition control for tail-sitter hybrid unmanned aerial vehicles, *Proceedings of the 13th IEEE International Conference on Control and Automation*, Ohrid, Macedonia, pp. 828–833, July 2017.

104. K. Wang, S. Lai, Y. Ke, K. Gong, Y. Tan and B. M. Chen, Model-based optimal auto-transition and control synthesis for tail-sitter UAV KH-Lion *Proceedings of the 13th IEEE International Conference on Control and Automation*, Ohrid, Macedonia, pp. 541–547, July 2017.

105. X. Liu, Y. H. Tan, B. Di and B. M. Chen, Hydrodynamic modelling for a small-scale underwater vehicle, *Proceedings of the 13th IEEE International Conference on Control and Automation*, Ohrid, Macedonia, pp. 373–378, July 2017.

106. K. Peng, F. Lin and B. M. Chen, Modeling and control analysis of a flapping-wing micro aerial vehicle, *Proceedings of the 13th IEEE International Conference on Control and Automation*, Ohrid, Macedonia, pp. 295–300, July 2017.

107. K. Wang, S. K. Phang, Y. Ke, X. Chen, K. Gong and B. M. Chen, Vision-aided tracking of a moving ground vehicle with a hybrid UAV *Proceedings of the 13th IEEE International Conference on Control and Automation*, Ohrid, Macedonia, pp. 28–33, July 2017.

108. X. Chen, S. K. Phang and B. M. Chen, System integration of a vision-guided UAV for autonomous tracking on moving platform in low illumination condition, *Proceedings of the ION Pacific PNT 2017 Conference*, Honolulu, Hawaii, USA, pp. 1082–1092, May 2017.

109. M. Lan, S. Lai, Y. Bi, H. Qin, J. Li, F. Lin and B. M. Chen, BIT*-based path planning for micro aerial vehicles, *Proceedings of the 42nd Annual Industrial Electronics Conference (IECON2016)*, Florence, Italy, pp. 6079–6084, October 2016.

110. M. Shan, Y. Bi, H. Qin, J. Li, Z. Gao, F. Lin and B. M. Chen, A brief survey of visual odometry for micro aerial vehicles, *Proceedings of the 42nd Annual Industrial Electronics Conference (IECON2016)*, Florence, Italy, pp. 6049–6054, October 2016.

111. J. Li, M. Shan, M. Lan, Y. Bi, H. Qin, F. Lin, B. M. Chen, Semi-dense motion segmentation for moving cameras by discrete energy minimization, *Proceedings of the 42nd Annual Industrial Electronics Conference (IECON2016)*, Florence, Italy, pp. 6116–6121, October 2016.

112. Z. Yang, F. Lin, B. M. Chen, Survey of autopilot for multi-rotor unmanned aerial vehicles, *Proceedings of the 42nd Annual Industrial Electronics Conference (IECON2016)*, Florence, Italy, pp. 6122–6127, October 2016.

113. L. Wu, Y. Ke and B. M. Chen, Systematic modeling of rotor dynamics for small unmanned aerial vehicles, *Proceedings of the 2016 International Micro Air Vechicle Competition and Conference*, Beijing, China, pp. 284–290, October 2016.

114. J. Li, Y. Bi, M. Lan, H. Qin, M. Shan, F. Lin and B. M. Chen, Real-time simultaneous localization and mapping for UAV: A survey, *Proceedings of the 2016 International Micro Air Vechicle Competition and Conference*, Beijing, China, pp. 237–242, October 2016.

115. K. Li, A. Chen, K. Zhang and B. M. Chen, Improved efficiency electronic speed controller development for 3-phase brushless dc motor in unmanned aerial systems, *Proceedings of the 2016 International Micro Air Vechicle Competition and Conference*, Beijing, China, pp. 167–172, October 2016.

116. Y. Bi, J. Li, H. Qin, M. Lan, M. Shan, F. Lin and B. M. Chen, An MAV localization and mapping system based on dual realsense cameras, *Proceedings of the 2016 International Micro Air Vechicle Competition and Conference*, Beijing, China, pp. 50–55, October 2016.

117. Y. Ke, K. Wang and B. M. Chen, A preliminary modeling and control framework for a hybrid UAV J-lion, *Proceedings of the 2016 International Micro Air Vechicle Competition and Conference*, Beijing, China, pp. 28–34, October 2016.

118. H. Qin, M. Shan, F. Lin, Y. Bi, J. Li, M. Lan, Y. Zhang and B. M. Chen, A 3D rotating laser based navigation solution for micro aerial vehicles in dynamic environments, *Proceedings of the 2016 International Micro Air Vechicle Competition and Conference*, Beijing, China, pp. 4–9, October 2016.

119. S. Lai, K. Wang, K. Li and B. M. Chen, Path planning of rotorcrafts in unknown environment, *Proceedings of the 35th Chinese Control Conference*, Chengdu, China, pp. 10900–10905, July 2016.

120. K. Wang, Y. Ke and B. M. Chen, Development of autonomous hybrid UAV U-Lion with VTOL and cruise flying capabilities, *Proceedings of the 2016 IEEE International Conference on Advanced Intelligent Mechatronics*, Banff, Canada, pp. 1053–1060, July 2016.

121. K. Li, K. Wang, K. Zhang and B. M. Chen, Aggressive maneuvers of a quadrotor MAV based on composite nonlinear feedback control, *Proceedings of the 2016 IEEE International Conference on Advanced Intelligent Mechatronics*, Banff, Canada, pp. 513–518, July 2016.

122. K. Wang, Y. Ke, M. Shan, X. Li, F. Wang and B. M. Chen, Development of autonomous quadrotor system for vertical replenishment, *Proceedings of the 12th IEEE International Conference on Control & Automation*, Kathmandu, Nepal, pp. 37–43, June 2016.

123. Y. Ke, H. Yu, C. Chi, M. Yue and B. M. Chen, A systematic design approach for an unconventional UAV J-Lion with extensible morphing wings, *Proceedings of the 12th IEEE International Conference on Control & Automation*, Kathmandu, Nepal, pp. 44–49, June 2016.

124. Y. Bi, H. Qin, M. Shan, J. Li, W. Liu, M. Lan and B. M. Chen, An autonomous quadrotor for indoor exploration with laser scanner and depth camera, *Proceedings of the 12th IEEE International Conference on Control & Automation*, Kathmandu, Nepal, pp. 50–55, June 2016.

125. Y. Yang, S. Zhai, B. Ramesh, X. Zheng, C. Xiang, B. M. Chen and T. H. Lee, Long-term cooperative tracking using multiple unmanned aerial vehicles, *Proceedings of the 12th IEEE International Conference on Control & Automation*, Kathmandu, Nepal, pp. 56–61, June 2016.

126. H. Qin, J. Q. Cui, J. Li, Y. Bi, M. Lan, M. Shan, W. Liu, K. Wang, F. Lin, Y. F. Zhang and B. M. Chen, Design and implementation of an unmanned aerial vehicle for autonomous firefighting missions, *Proceedings of the 12th IEEE International Conference on Control & Automation*, Kathmandu, Nepal, pp. 62–67, June 2016.

127. K. Li, K. Zhang and B. M. Chen, On-board visual odometry and autonomous control of a quadrotor micro aerial vehicle, *Proceedings of the 12th IEEE International Conference on Control & Automation*, Kathmandu, Nepal, pp. 68–73, June 2016.

128. X. Chen, S. K. Phang, M. Shan and B. M. Chen, System integration of a vision-guided UAV for autonomous landing on moving platform, *Proceedings of the 12th IEEE International Conference on Control & Automation*, Kathmandu, Nepal, pp. 761–766, June 2016.

129. T. Pang, K. Peng, F. Lin and B. M. Chen, Towards long-endurance flight: Design and implementation of a variable-pitch gasoline-engine quadrotor, *Proceedings of the 12th IEEE International Conference on Control & Automation*, Kathmandu, Nepal, pp. 767–772, June 2016.

130. M. Shan, F. Wang, F. Lin, Z. Gao, Y. Z. Tang and B. M. Chen, Google map aided visual navigation for UAVs in GPS-denied environment, *Proceedings of the 2015 IEEE International Conference on Robotics and Biomimetics*, Zhuhai, China, pp. 114–119, December 2015.

131. M. Zhang, H. Qin, M. Lan, J. Lin, S. Wang, K. Liu, F. Lin and B. M. Chen, A high fidelity simulator for a quadrotor UAV using ROS and Gazebo, *Proceedings of the 41st Annual Conference of the IEEE Industrial Electronics Society*, Yokohama, Japan, pp. 2846–2851, November 2015.

132. J. Li, F. Lin and B. M. Chen, A statistical approach for trajectory analysis and motion segmentation for freely moving cameras, *Proceedings of the 41st Annual Conference of the IEEE Industrial Electronics Society*, Yokohama, Japan, pp. 1592–1597, November 2015.

133. Y. Yang, M. Karimadini, C. Xiang, S. H. Teo, B. M. Chen and T. H. Lee, Wide area survillance of urban environments using multiple mini-VTOL UAVs, *Proceedings of the 41st Annual Conference of the IEEE Industrial Electronics Society*, Yokohama, Japan, pp. 795–800, November 2015.

134. S. K. Phang, F. Wang, K. Wang, S. Lai and B. M. Chen, An effective method for autonomous localization and navigation in unknown indoor environment using MAV, *Proceedings of the 2015 International Micro Air Vehicles Conference*, Session 7A, Aachen, Germany, September 2015.

135. K. Z. Y. Ang, X. Dong, F. Lin, J. Lin and B. M. Chen, Autonomous onboard map stitching in IMAV 2014, *Proceedings of the 2015 International Micro Air Vehicles Conference*, Session 4A, Aachen, Germany, September 2015.

136. K. Wang, S. Lai, J. Cui, Y. Ke and B. M. Chen, Navigation of micro air vehicles with inconsistent GPS guidance and online path planning, *Proceedings of the 2015 International Micro Air Vehicles Conference*, Session 2A, Aachen, Germany, September 2015.

137. S. Huang, F. Lin and B. M. Chen, Model-based fault detection, isolation and fault-tolerant control for a class of nonlinear uncertain systems using information estimation, *Proceedings of the 34th Chinese Control Conference*, Hangzhou, China, pp. 6164–6169, July 2015.

138. J. Q. Cui, S. K. Phang, K. Z. Y. Ang, F. Wang, X. Dong, Y. Ke, S. Lai, K. Li, X. Li, F. Lin, J. Lin, P. Liu, T. Pang, B. Wang, K. Wang, Z. Yang and B. M. Chen, Drones for cooperative search and rescue in post-disaster situation, *Proceedings of the 7th IEEE International Conference on Robotics, Automation and Mechatronics*, Angkor Wat, Cambodia, pp. 167–174, July 2015.

139. L. Bai, X. Zheng and B. M. Chen, Identification of China stock market forces under system adaptation framework, Presented at the *21st International Conference on Computing in Economics and Finance*, Taipei, Taiwan, June 2015.

140. R. Huang, P. Tan and B. M. Chen, Monocular vision-based autonomous navigation system on a toy quadcopter in unknown environments, *Proceedings of the 2015 International Conference on Unmanned Aircraft Systems*, Denver, USA, pp. 1260–1269, June 2015.

141. K. Li, P. Liu, T. Pang, Z. Yang and B. M. Chen, Development of an unmanned aerial vehicle for rooftop landing and surveillance, *Proceedings of the 2015 International Conference on Unmanned Aircraft Systems*, Denver, USA, pp. 832–838, June 2015.

142. S. Lai, B. M. Chen and J. Cui, Relax formation in cluttered environments using rotorcraft UAV, *Proceedings of the 10th Asian Control Conference*, Kota Kinabalu, Malaysia, pp. 2545–2550, June 2015.

143. S. K. Phang, J. Q. Cui, Z. Y. K. Ang, F. Wang, X. Dong, Y. Ke, S. Lai, K. Li, X. Li, F. Lin, J. Lin, P. Liu, T. Pang, B. Wang, K. Wang, Z. Yang and B. M. Chen, Urban post-disaster search and rescue solutions with unmanned aircraft systems, *Proceedings of the 14th International Conference on Electronics, Information, and Communication*, Singapore, pp. 91–92, January 2015.

144. M. Zhang, F. Lin and B. M. Chen, Vision-based detection and pose estimation for formation of micro aerial vehicles, *Proceedings of the 13th International Conference on Control, Automation, Robotics and Vision*, Singapore, pp. 1473–1478, December 2014.

145. P. Liu, X. Dong and B. M. Chen, Development of a comprehensive software system for cargo transportation by unmanned helicopters, *Proceedings of the 2014 International Conference on Intelligent Unmanned Systems*, Montreal, Canada, Paper 151, September–October 2014.

146. K. Li, R. Huang, S. K. Phang, S. Lai, F. Wang, P. Tan, B. M. Chen and T. H. Lee, Vision-based autonomous control of an ultralight quadrotor MAV, *Proceedings of the 2014 International Micro Air Vehicle Conference and Competition*, Delft, the Netherlands, pp. 50–57, August 2014.

147. F. Wang, P. Liu, S. Zhao, B. M. Chen, S. K. Phang, S. Lai, T. H. Lee and C. X. Cai, Guidance, navigation and control of an unmanned helicopter for automatic cargo transportation, *Proceedings of the 33rd Chinese Control Conference*, Nanjing, China, pp. 1013–1020, July 2014 (won the Guan Zhao-Zhi Award).

148. S. Zhao, Z. Hu, M. Yin, K. Z. Y. Ang, P. Liu, F. Wang, X. Dong, F. Lin, B. M. Chen and T. H. Lee, A robust vision system for a UAV transporting cargoes between moving platforms, *Proceedings of the 33rd Chinese Control Conference*, Nanjing, China, pp. 544–549, July 2014.

149. L. Bai, S. Yen, X. Zheng and B. M. Chen, Market turning points forecasting using wavelet analysis, *Proceedings of the 2014 International Conference of Financial Engineering*, London, U.K., pp. 940–945, July 2014 (won the Best Student Paper Award).

150. F. Lin, K. Peng, X. Dong, S. Zhao and B. M. Chen, Vision-based formation for UAVs, *Proceedings of the 11th IEEE International Conference on Control & Automation*, Taichung, Taiwan, pp. 1375–1380, June 2014.

151. K. Peng, T. Pang, F. Lin and B. M. Chen, Autonomous mission execution for multiple unmanned aerial vehicles with hierarchical-distributed methodology, *Proceedings of the 11th IEEE International Conference on Control & Automation*, Taichung, Taiwan, pp. 1369–1374, June 2014.

152. F. Wang, K. Wang, S. Lai, S. K. Phang, B. M. Chen and T. H. Lee, An efficient UAV navigation solution for confined but partially known indoor environments, *Proceedings of the 11th IEEE International Conference on Control & Automation*, Taichung, Taiwan, pp. 1351–1356, June 2014.

153. K. Ang, J. Cui, T. Pang, K. Li, K. Wang and B. M. Chen, Development of an unmanned tail-sitter with reconfigurable wings: U-Lion, *Proceedings of the 11th IEEE International Conference on Control & Automation*, Taichung, Taiwan, pp. 750–755, June 2014.

154. S. K. Phang, S. Lai, F. Wang, M. Lan and B. M. Chen, UAV calligraphy, *Proceedings of the 11th IEEE International Conference on Control & Automation*, Taichung, Taiwan, pp. 422–428, June 2014.

155. S. K. Phang, K. Li, F. Wang, B. M. Chen and T. H. Lee, Explicit model identification and control of a micro aerial vehicle, *Proceedings of the 2014 International Conference on Unmanned Aircraft Systems*, Orlando, USA, pp. 1048–1054, May 2014.

156. J. Cui, S. Lai, B. M. Chen and T. H. Lee, Autonomous navigation of UAV in forest, *Proceedings of the 2014 International Conference on Unmanned Aircraft Systems*, Orlando, USA, pp. 726–733, May 2014.

157. K. Peng, S. Zhao, F. Lin and B. M. Chen, Vision based target tracking/following and estimation of target motion, *Proceedings of the 2013 AIAA Guidance, Navigation and Control Conference*, Boston, USA, AIAA 2013-5036, August 2013.

158. S. Zhao, X. Dong, J. Q. Cui, K. Z. Y. Ang, F. Lin, K. M. Peng, B. M. Chen and T. H. Lee, Design and implementation of homography-based vision-aided inertial navigation of UAVs, *Proceedings of the 32nd Chinese Control Conference*, Xi'an, China, pp. 5101–5106, July 2013.

159. J. Q. Cui, F. Wang, X. Dong, K. Z. Y. Ang, B. M. Chen and T. H. Lee, Landmark extraction and state estimation for UAV operation in forest, *Proceedings of the 32nd Chinese Control Conference*, Xi'an, China, pp. 5210–5215, July 2013.

160. F. Lin, K. Z. Y. Ang, F. Wang, B. M. Chen, T. H. Lee, et al., Development of an unconventional unmanned coaxial rotorcraft: GremLion, *Presented at the 15th International Conference on Human-Computer Interaction*, Las Vegas, USA, July 2013.

161. S. Zhao, F. Lin, K. M. Peng, B. M. Chen and T. H. Lee, Distributed control of angle-constrained circular formation using bearing-only measurements, *Proceedings of the 9th Asian Control Conference*, Istanbul, Turkey, pp. 1–6, June 2013.

162. A. Karimoddini, H. Lin, B. M. Chen and T. H. Lee, A bumpless hybrid supervisory control algorithm for the formation of unmanned helicopters, *Proceedings of the 2013 American Control Conference*, Washington, DC, USA, pp. 982–987, June 2013.

163. B. X. Hon, H. Tian, F. Wang, B. M. Chen and T. H. Lee, A customized FastSLAM algorithm using scanning laser range finder in structured indoor environments, *Proceedings of the 10th IEEE International Conference on Control and Automation*, Hangzhou, China, pp. 640–645, June 2013.

164. S. Zhao, F. Lin, K. Peng, B. M. Chen and T. H. Lee, Finite-time stabilization of circular formations using bearing-only measurements, *Proceedings of the 10th IEEE International Conference on Control and Automation*, Hangzhou, China, pp. 840–845, June 2013.

165. F. Wang, J. Q. Cui, S. K. Phang, B. M. Chen and T. H. Lee, A mono-camera and scanning laser range finder based UAV indoor navigation system, *Proceedings of the 2013 International Conference on Unmanned Aircraft Systems*, Atlanta, USA, pp. 693–700, May 2013.

166. K. Li, S. K. Phang, B. M. Chen and T. H. Lee, Platform design and mathematical modeling of an ultralight quadrotor micro aerial vehicle, *Proceedings of the 2013 International Conference on Unmanned Aircraft Systems*, Atlanta, USA, pp. 1066–1075, May 2013.

167. D. Luo and B. M. Chen, The autopilot design of bank-to-turn missile using mixed sensitivity H_∞ optimization, *Proceedings of the 3rd Annual IEEE International Conference on CYBER Technology in Automation, Control, and Intelligent Systems*, Nanjing, China, pp. 241–246, May 2013.

168. P. Liu, X. Dong, B. M. Chen and T. H. Lee, Development of an enhanced ground control system for unmanned aerial vehicles, *Proceedings of the IASTED International Conference on Engineering and Applied Science*, Colombo, Sri Lanka, pp. 136–143, December 2012.

169. K. Peng and B. M. Chen, Variant-factor technique for tracking control of a class of nonlinear systems with input saturation, *Proceedings of the IASTED International Conference on Engineering and Applied Science*, Colombo, Sri Lanka, pp. 129–135, December 2012.

170. X. Li, H. Lin, J. Lian and B. M. Chen, Stability analysis for uncertain linear systems with random parameters, *Proceedings of the 51st IEEE Conference on Decision and Control*, Maui, Hawaii, USA, pp. 4041–4046, December 2012.

171. N. Xu, G. Cai, W. Kang and B. M. Chen, Minimum-time trajectory planning for helicopter UAVs using computational dynamic optimization, *Proceedings of the 2012 IEEE International Conference on Systems, Man, and Cybernetics*, Seoul, Korea, pp. 2732–2737, October 2012.

172. S. Zhao, F. Lin, K. Peng, B. M. Chen and T. H. Lee, Homography-based vision-aided inertial navigation of UAVs in unknown environments, *Proceedings of the 2012 AIAA Guidance, Navigation, and Control Conference*, Minneapolis, USA, AIAA 2012-5033, August 2012.

173. A. Partovi, Z. Y. K. Ang, B. M. Chen, H. Lin and G. Cai, Development of a cross style quadrotor, *Proceedings of the 2012 AIAA Guidance, Navigation, and Control Conference*, Minneapolis, USA, AIAA 2012-4780, August 2012.

174. K. Peng, S. Zhao, F. Lin and B. M. Chen, Vision based stabilization for aircraft in unknown environment without GPS signal, *Proceedings of the 2012 AIAA Guidance, Navigation, and Control Conference*, Minneapolis, USA, AIAA 2012-4597, August 2012.

175. J. Cui, F. Wang, Z. Qian, B. M. Chen and T. H. Lee, Construction and modeling of a variable collective pitch coaxial UAV, *Proceedings of the Proceedings of the 9th International Conference on Informatics in Control, Automation and Robotics*, Rome, Italy, pp. 286–291, July 2012.

176. D. Luo, F. Wang, B. Wang and B. M. Chen, Implementation of obstacle avoidance technique for indoor coaxial rotorcraft with scanning laser range finder, *Proceedings of the 31st Chinese Control Conference*, Hefei, China, pp. 5135–5140, July 2012.

177. Y. Sun, H. Lin and B. M. Chen, Decentralized bisimilarity control of discrete event systems, *Proceedings of the 31st Chinese Control Conference*, Hefei, China, pp. 2134–2139, July 2012.

178. B. Wang and B. M. Chen, Structural analysis of a helicopter dynamic model using the special coordinate basis decomposition, *Proceedings of the 31st Chinese Control Conference*, Hefei, China, pp. 279–284, July 2012.

179. S. K. Phang, C. Cai, B. M. Chen and T. H. Lee, Design and mathematical modeling of a 4-standard-propeller (4SP) quadrotor, *Proceedings of the 10th World Congress on Intelligent Control and Automation*, Beijing, China, pp. 3270–3275, July 2012.

180. B. Wang, F. Wang, B. M. Chen and T. H. Lee, Robust flight control design for an indoor miniature coaxial helicopter, *Proceedings of the 10th World Congress on Intelligent Control and Automation*, Beijing, China, pp. 2918–2924, July 2012.

181. S. Zhao, B. M. Chen and T. H. Lee, Optimal placement of bearing-only sensors for target localization, *Proceedings of the 2012 American Control Conference*, Montreal, Canada, pp. 5108–5113, June 2012.

182. F. Wang, S. K. Phang, J. Cui, G. Cai, B. M. Chen and T. H. Lee, Nonlinear modeling of a miniature fixed-pitch coaxial UAV, *Proceedings of the 2012 American Control Conference*, Montreal, Canada, pp. 3863–3870, June 2012.

183. B. Wang, X. Dong, B. M. Chen, T. H. Lee and S. K. Phang, Formation flight of unmanned rotorcraft based on robust and perfect tracking approach, *Proceedings of the 2012 American Control Conference*, Montreal, Canada, pp. 3284–3290, June 2012.

184. X. Zheng and B. M. Chen, Identification of stock market forces in the system adaptation framework, *Proceedings of the 9th IEEE International Conference on Control and Automation*, Santiago, Chile, pp. 340–347, December 2011.

185. K. Tang, B. Wang, W. Kang and B. M. Chen, Minimum time control of helicopter UAVs using computational dynamic optimization, *Proceedings of the 9th IEEE International Conference on Control and Automation*, Santiago, Chile, pp. 848–852, December 2011.

186. S. Zhao, F. Lin, K. Peng, K. Y. Lum, B. M. Chen and T. H. Lee, Vision-aided inertial navigation for unmanned aerial vehicles in unknown environments, *Proceedings of the 2011 Chinese Automation Congress*, Beijing, China, November 2011.

187. A. Karimoddini, X. Dong, G. Cai, F. Lin, H. Lin, B. M. Chen and T. H. Lee, A composed hybrid structure for the autonomous flight control of unmanned helicopters, *Proceedings of the 18th IFAC World Congress*, Milan, Italy, pp. 2632–2637, August-September 2011.

188. K. Peng, B. M. Chen and K. Y. Lum, Autonomous flight control design for a small-scale unmanned helicopter, *Proceedings of the 2011 AIAA Guidance, Navigation and Control Conference*, Portland, Oregon, USA, AIAA 2011-6484, August 2011.

189. X. Dong, M. Dong, B. Wang, B. M. Chen and T. H. Lee, A comprehensive software system architecture for unmanned aerial vehicles, *Proceedings of the 2011 IEEE International Conference on Service Operations, Logistics, and Informatics*, Beijing, China, pp. 595–600, July 2011.

190. G. Cai, B. Wang, B. M. Chen and T. H. Lee, Design and implementation of an unmanned rotorcraft flight control system using RPT control approach, *Proceedings of the 30th Chinese Control Conference*, Yantai, China, pp. 6492–6497, July 2011.

191. F. Wang, S. K. Phang, J. Cui, B. M. Chen and T. H. Lee, Search and rescue: a UAV aiding approach, *Proceedings of the 23rd Canadian Congress on Applied Mechanics*, Vancouver, Canada, pp. 183–186, June 2011.

192. B. Wang, B. M. Chen and T. H. Lee, An RPT approach to time-critical path following of an unmanned helicopter, To be presented at the *8th Asian Control Conference*, Kaohsiung, Taiwan, pp. 211–216, May 2011.

193. X. Liu, H. Lin and B. M. Chen, Graphic interpretations of structural controllability for switched linear systems, *Proceedings of the 11th International Conference on Control, Automation, Robotics and Vision*, Singapore, pp. 549–554, December 2010.

194. G. Cai, F. Lin, B. M. Chen and T. H. Lee, Development of fully functional miniature unmanned rotorcraft systems, *Proceedings of the 29 Chinese Control Conference*, Beijing, China, pp. 32–40, July 2010.

195. S. K. Phang, J. J. Ong, R. T. C. Yeo, B. M. Chen and T. H. Lee, Autonomous mini-UAV for indoor flight with embedded on-board vision processing as navigation system, *Proceedings of the IEEE R8 International Conference on Computational Technologies in Electrical and Electronics Engineering*, Listvyanka, Irkutsk, Russia, pp. 722–727, July 2010.

196. F. Lin, B. M. Chen, K.-Y. Lum and T. H. Lee, A robust vision system on an unmanned helicopter for ground target seeking and following, *Proceedings of the 8th World Congress on Intelligent Control and Automation*, Jinan, China, pp. 276–281, July 2010 (won Best Application Paper Award).

197. F. Lin, B. M. Chen and T. H. Lee, Vision aided motion estimation for unmanned helicopters in GPS denied environments, *Proceedings of the 2010 IEEE International Conference on Cybernetics & Intelligent Systems*, Singapore, pp. 64–69, June 2010.

198. B. Wang, X. Dong and B. M. Chen, Cascaded control of 3D path following for an unmanned helicopter, *Proceedings of the 2010 IEEE International Conference on Cybernetics & Intelligent Systems*, Singapore, pp. 70–75, June 2010.

199. Y. Sun, H. Lin, F. Liu and B. M. Chen, Computation for supremal simulation-based controllable subautomata, *Proceedings of the 8th IEEE International Conference on Control and Automation*, Xiamen, China, pp. 1450–1455, June 2010.

200. X. Dong, G. Cai, F. Lin, B. M. Chen, H. Lin and T. H. Lee, Implementation of formation flight of multiple unmanned aerial vehicles, *Proceedings of the 8th IEEE International Conference on Control and Automation*, Xiamen, China, pp. 904–909, June 2010.

201. K. Peng, K.-Y. Lum and B. M. Chen, Flight control design with hierarchical dynamic inversion, *Proceedings of the 8th IEEE International Conference on Control and Automation*, Xiamen, China, pp. 297–302, June 2010.

202. F. Wang, T. Wang, B. M. Chen and T. H. Lee, An indoor unmanned coaxial rotorcraft system with vision positioning, *Proceedings of the 8th IEEE International Conference on Control and Automation*, Xiamen, China, pp. 291–296, June 2010.

203. G. Cai, K.-Y. Lum, B. M. Chen and T. H. Lee, A brief overview on miniature fixed-wing unmanned aerial vehicles, *Proceedings of the 8th IEEE International Conference on Control and Automation*, Xiamen, China, pp. 285–290, June 2010.

204. X. Zheng and B. M. Chen, Identification of market forces in the financial system adaptation framework, *Proceedings of the 8th IEEE International Conference on Control and Automation*, Xiamen, China, pp. 103–108, June 2010.

205. W. Lan, C. K. Thum and B. M. Chen, Optimal nonlinear gain tuning of composite nonlinear feedback controller and its application to a hard disk drive servo system, *Proceedings of the 48th IEEE Conference on Decision and Control held jointly with 28th Chinese Control Conference*, Shanghai, China, pp. 3169–3174, December 2009.

206. X. Liu, H. Lin and B. M. Chen, A graph-theoretic characterization of structural controllability for multi-agent system with switching topology, *Proceedings of the 48th IEEE Conference on Decision and Control held jointly with 28th Chinese Control Conference*, Shanghai, China, pp. 7012–7017, December 2009.

207. A. Karimoddini, H. Lin, B. M. Chen and T. H. Lee, Developments in hybrid modeling and control of unmanned aerial vehicles, *Proceedings of the 7th IEEE International Conference on Control and Automation*, Christchurch, New Zealand, pp. 228–233, December 2009.

208. X. Zheng and B. M. Chen, Modeling and analysis of financial markets using system adaptation and frequency domain approach, *Proceedings of the 7th IEEE International Conference on Control and Automation*, Christchurch, New Zealand, pp. 1068–1073, December 2009.

209. X. Dong, B. M. Chen, G. Cai, H. Lin and T. H. Lee, Development of a comprehensive software system for implementing cooperative control of multiple unmanned aerial vehicles, *Proceedings of the 7th IEEE International Conference on Control and Automation*, Christchurch, New Zealand, pp. 1629–1634, December 2009.

210. G. Cai, B. M. Chen and T. H. Lee, Design and implementation of robust automatic flight control system for a small-scale UAV helicopter, *Proceedings of the 7th Asian Control Conference*, Hong Kong, China, pp. 691–697, August 2009 (won the Best Application Paper Award).

211. F. Lin, B. M. Chen and T. H. Lee, Robust vision-based target tracking control system for an unmanned helicopter using feature fusion, *Proceedings of the 11th IAPR Conference on Machine Vision Applications*, Yokohama, Japan, pp. 398–401, May 2009.

212. G. Cai, A. K. Cai, B. M. Chen and T. H. Lee, Construction, modeling and control of a mini autonomous UAV helicopter, *Proceedings of the 2008 IEEE International Conference on Automation and Logistics*, Qingdao, China, pp. 449–454, September 2008.

213. B. Yun, B. M. Chen, K. Y. Lum and T. H. Lee, A leader-follower formation flight control scheme for UAV helicopters, *Proceedings of the 2008 IEEE International Conference on Automation and Logistics*, Qingdao, China, pp. 39–44, September 2008.

214. G. Cai, B. M. Chen, T. H. Lee and M. Dong, Design and implementation of a hardware-in-the-loop simulation system for small-scale UAV helicopters, *Proceedings of the 2008 IEEE International Conference on Automation and Logistics*, Qingdao, China, pp. 29–34, September 2008.

215. G. Cai, B. M. Chen, T. H. Lee and K. Y. Lum, Comprehensive nonlinear modeling of an unmanned-aerial-vehicle helicopter, *Proceedings of the 2008 AIAA Guidance, Navigation and Control Conference*, Honolulu, Hawaii, USA, AIAA2008-7414, August 2008.

216. C. K. Thum, C. Du, B. M. Chen, E. H. Ong and K. P. Tan, Time-varying compensation for mid-frequency repeatable runout in hard disk drives via a linear feedback scheme, *Proceedings of the 17th IFAC World Congress*, Seoul, Korea, pp. 3104–3109, July 2008.

217. W. Lan, B. M. Chen and F. L. Lewis, Explicit construction of H_∞ control law for a class of nonminimum phase nonlinear multivariable systems, *Proceedings of the 7th World Congress on Intelligent Control and Automation*, Chongqing, China, pp. 341–346, June 2008.

218. J. Gadewadikar, F. L. Lewis, K. Subbarao and B. M. Chen, Design of H_∞ command and control loops for unmanned aerial vehicles using static output feedback, *Proceedings of the 46th IEEE Conference on Decision and Control*, New Orleans, Louisiana, USA, pp. 5395–5400, December 2007.

219. G. Cai, B. M. Chen, K. Peng, M. Dong and T. H. Lee, Design and implementation of a nonlinear flight control law for the yaw channel of a UAV helicopter, *Proceedings of the 46th IEEE Conference on Decision and Control*, New Orleans, Louisiana, USA, pp. 1963–1968, December 2007.

220. W. Lan and B. M. Chen, On selection of nonlinear gain in composite nonlinear feedback control for a class of linear systems, *Proceedings of the 46th IEEE Conference on Decision and Control*, New Orleans, Louisiana, USA, pp. 1198–1203, December 2007.

221. C. K. Thum, C. Du, B. M. Chen, E. H. Ong, K. P. Tan, A linear time-varying control scheme and its application to a hard disk drive servo system, *Proceedings of the 33rd Annual Conference of the IEEE Industrial Electronics Society*, Taipei, Taiwan, pp. 892–897, November 2007.

222. F. Lin, B. M. Chen and K. Y Lum, Integration and implementation of a low-cost and vision UAV tracking system, *Proceedings of the 26th Chinese Control Conference*, Zhangjiajie, Hunan, China, Volume 6, pp. 731–736, July 2007.

223. K. Peng, M. Dong, B. M. Chen, G. Cai, K. Y. Lum and T. H. Lee, Design and implementation of a fully autonomous flight control system for a UAV helicopter, *Proceedings of the 26th Chinese Control Conference*, Zhangjiajie, Hunan, China, Volume 6, pp. 662–667, July 2007.

224. W. Lan and B. M. Chen, Explicit construction of H_∞ control law for a class of nonminimum phase nonlinear systems, *Proceedings of the 2007 American Control Conference*, New York, New York, USA, pp. 4703–4708, July 2007.

225. C. K. Pang, W. E. Wong, G. Guo, B. M. Chen and T. H. Lee, NRRO rejection using online iterative control for high density data storage on a PC-based spinstand servo system, *Proceedings of the 2007 American Control Conference*, New York, New York, USA, pp. 1514–1519, July 2007.

226. C. K. Pang, S. C. Tam, G. Guo, B. M. Chen, F. L. Lewis, T. H. Lee and C. Du, Improved disturbance rejection with online adaptive pole-zero compensation on a Φ-shaped PZT active suspension, *Proceedings of the 2007 ASME Information Storage and Processing Systems Conference*, Santa Clara, California, USA, SCST-A1, pp. 59–61, June 2007.

227. W. Lan, B. M. Chen and F. L. Lewis, Explicit construction of global stabilization control law for a class of nonminimum phase nonlinear multivariable systems, *Proceedings of the 2007 IEEE International Conference on Control and Automation*, Guangzhou, China, pp. 1735–1740, May-June 2007.

228. B. Yun, K. Peng and B. M. Chen, Enhancement of GPS signals for automatic control of a UAV helicopter system, *Proceedings of the 2007 IEEE International Conference on Control and Automation*, Guangzhou, China, pp. 1185–1189, May-June 2007.

229. J. Gadewadikar, F. Lewis, K. Subbarao and B. M. Chen, Attitude control system design for unmanned aerial vehicles using H_∞ and loop shaping methods, *Proceedings of the 2007 IEEE International Conference on Control and Automation*, Guangzhou, China, pp. 1174–1179, May-June 2007.

230. C. K. Pang, F. L. Lewis, S. S. Ge, G. Guo, B. M. Chen and T. H. Lee, Singular perturbation control for vibration rejection in HDDs with a PZT active suspension, *Proceedings of the 45th IEEE Conference on Decision and Control*, San Diego, California, USA, pp. 6599–6604, December 2006.

231. G. Cheng, K. Peng, B. M. Chen and T. H. Lee, Discrete-time robust nonlinear feedback control for an HDD servo system design, *Proceedings of the 9th International Conference on Control, Automation, Robotics and Vision*, Singapore, pp. 972–977, December 2006.

232. W. Lan and B. M. Chen, Explicit constructions of globle stabilization control laws for a class of nonminimum phase nonlinear systems, *Proceedings of the 9th International Conference on Control, Automation, Robotics and Vision*, Singapore, pp. 469–474, December 2006.

233. K. Peng, G. Cai, B. M. Chen, M. Dong and T. H. Lee, Comprehensive modeling and control of the yaw dynamics of a UAV helicopter, *Proceedings of the 25th Chinese Control Conference*, Harbin, China, pp. 2087–2092, August 2006.

234. M. Dong, B. M. Chen and C. Cheng, Development of 3D monitoring for an unmanned aerial vehicle, *Proceedings of the 1st International Conference on Computer Science and Education*, Xiamen, China, pp. 135–140, July 2006.

235. X. Liu, Z. Lin and B. M. Chen, Complete assignment of structural properties of linear systems via sensor or actuator selection, *Proceedings of the 2006 American Control Conference*, Minneapolis, Minnesota, USA, pp. 3719–3724, June 2006.

236. G. Cheng, K. Peng, B. M. Chen and T. H. Lee, Generalized composite nonlinear feedback control technique to track non-step references, *Proceedings of the 6th World Congress on Intelligent Control and Automation*, Dalian, China, pp. 234–238, June 2006.

237. G. Cai, B. M. Chen, K. Peng, M. Dong and T. H. Lee, Modeling and control system design for a UAV helicopter, *Proceedings of the 14th Mediterranean Conference on Control and Automation*, Ancona, Italy, pp. 210–215, June 2006.

238. C. K. Pang, G. Guo, B. M. Chen and T. H. Lee, Enhanced disturbance suppression in sampled-data systems and its application to high density data storage servos, *Proceedings of the 2006 ASME/JSME Joint Conference on Micromechatronics for Information and Precision Equipment*, Santa Clara, California, USA, S34–04, June 2006.

239. Y. He, B. M. Chen and W. Lan, "Improving transient performance in tracking control for a class of nonlinear discrete-time systems with input saturation," *Proceedings of the 44th IEEE Conference on Decision and Control*, Seville, Spain, pp. 8094–8099, December 2005.

240. X. Liu, Z. Lin and B. M. Chen, "Further results on structural assignment of linear systems," *Proceedings of the 44th IEEE Conference on Decision and Control*, Seville, Spain, pp. 6516–6521, December 2005.

241. Y. Lu, C. K. Pang, J. Chen, H. Zhu, J. P. Yang, J. Q. Mou, G. X. Guo, B. M. Chen and T. H. Lee, "Design, fabrication and control of a micro X-Y stage with large ultra-thin film recording media platform," *Proceedings of the 2005 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, Monterey, California, USA, pp. 19–24, July 2005.

242. X. Liu, B. M. Chen and Z. Lin, "Linear system toolkit in Matlab: Structural decomposition and their applications," *Proceedings of the 24th Chinese Control Conference*, Guangzhou, China, pp. 1819–1824, July 2005.

243. B. M. Chen, X. Liu and Z. Lin, "Interconnection of the Kronecker canonical form and special coordinate basis of general multivariable linear systems," *Proceedings of the 16th IFAC World Congress*, Prague, Czech, pp. 113–118, July 2005.

244. W. Lan, B. M. Chen and Y. He, "Composite nonlinear feedback control for a class of nonlinear systems with input saturation," *Proceedings of the 16th IFAC World Congress*, Prague, Czech, pp. 622–627, July 2005.

245. G. Cai, K. Peng, B. M. Chen and T. H. Lee, "Design and assembling of a UAV helicopter system," *Proceedings of the 5th International Conference on Control and Automation*, Budapest, Hungary, pp. 697–702, June 2005.

246. W. Lan, B. M. Chen and Z. Ding, "Adaptive estimation and rejection of unknown disturbances through measurement feedback for a class of nonminimum phase nonlinear MIMO systems," *Proceedings of the 5th International Conference on Control and Automation*, Budapest, Hungary, pp. 685–690, June 2005.

247. K. Peng, G. Cheng, B. M. Chen and T. H. Lee, "On the improvement of transient performance in tracking control for discrete-time systems with input saturation and disturbances," *Proceedings of the 5th International Conference on Control and Automation*, Budapest, Hungary, pp. 437–422, June 2005.

248. G. Cheng, B. M. Chen, K. Peng and T. H. Lee, "A MATLAB toolkit for composite nonlinear feedback control," *Proceedings of the 8th International Conference on Control, Automation, Robotics and Vision*, Kunming, China, pp. 878–883, December 2004.

249. S. Lu, B. M. Chen and C. C. Ko, "Document image rectification using fuzzy sets and morphological operator," *Proceedings of the 2004 IEEE International Conference on Image Processing*, Singapore, pp. 2877–2880, October 2004.

250. C. K. Pang, G. Guo, B. M. Chen and T. H. Lee, "Nanoposition sensing and control in HDD dual-stage servo systems," *Proceedings of the 2004 IEEE Conference on Control Applications*, Taipei, Taiwan, pp. 551–556, September 2004.

251. Y. He, B. M. Chen and C. Wu, "Composite nonlinear feedback control for general discrete-time multivariable systems with actuator nonlinearities," *Proceedings of the 5th Asian Control Conference*, Melbourne, Australia, pp. 539–544, July 2004.

252. G. Cheng, K. Peng, B. M. Chen and T. H. Lee, "Improvement of HDD tracking performance using nonlinear compensation and RPT control," *Proceedings of the 5th Asian Control Conference*, Melbourne, Australia, pp. 84–89, July 2004.

253. K. Peng, B. M. Chen, G. Cheng and T. H. Lee, "Friction and nonlinearity compensation in hard disk drive servo systems using robust composite nonlinear feedback control," *Proceedings of the 5th Asian Control Conference*, Melbourne, Australia, pp. 58–63, July 2004 ($\star$ Best Industrial Control Application Prize $\star$).

254. Y. He, B. M. Chen and C. Wu, "Composite nonlinear control with state and measurement feedback for general multivariable systems with input saturation," *Proceedings of the 42nd IEEE Conference on Control and Decision*, Maui, Hawaii, USA, pp. 4469–4474, December 2003.

255. K. Peng, G. Cheng, B. M. Chen and T. H. Lee, "Improvement on an HDD servo system design through friction and disturbance compensation," *Proceedings of the 2003 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, Kobe, Japan, pp. 1160–1165, July 2003.

256. C. Wu, B. M. Chen and Y. He, "Asymptotic time optimal tracking of a class of linear systems with actuator nonlinearities," *Proceedings of the 4th International Conference on Control and Automation*, Montreal, Quebec, Canada, pp. 58–62, June 2003.

257. S. J. Lu, B. M. Chen, C. C. Ko, S. T. Kee and M. Poon, "Web-based robot for remote experiments," *Proceedings of the 4th International Conference on Control and Automation*, Montreal, Quebec, Canada, pp. 158–162, June 2003.

258. K. Peng, G. Cheng, B. M. Chen and T. H. Lee, "Modeling and analysis of micro hard disk drives," *Proceedings of the 4th International Conference on Control and Automation*, Montreal, Quebec, Canada, pp. 952–956, June 2003.

259. K. Peng, G. Cheng, B. M. Chen and T. H. Lee, "Comprehensive modeling of friction in a hard disk drive actuator," *Proceedings of the 2003 American Control Conference*, Denver, Colorado, USA, pp. 1380–1385, June 2003.

260. M. He, B. M. Chen and Z. Lin, "Structural decomposition and its properties of general multivariable linear singular systems," *Proceedings of the 2003 American Control Conference*, Denver, Colorado, USA, pp. 4494–4499, June 2003.

261. K. Peng, G. Cheng, B. M. Chen and T. H. Lee, "Design of multi-stage composite nonlinear feedback control for hard disk drives," *Proceedings of the 17th IEEE International Symposium on Intelligent Control*, Vancouver, British Columbia, Canada, pp. 734–739, October 2002.

262. M. He and B. M. Chen, "Structural decomposition of single-input and single-output singular systems," *Proceedings of the 4th Asian Control Conference*, Singapore, pp. 1698–1703, September 2002.

263. K. Peng, G. Cheng, B. M. Chen and T. H. Lee, "Design of a hard disk drive servo system with composite nonlinear feedback plus integral to remove bias," *Proceedings of the 4th Asian Control Conference*, Singapore, pp. 676–681, September 2002.

264. B. M. Chen, "Exact computation of optimal value in H_∞ control – An open problem," Presented at the *15th International Symposium on Mathematical Theory of Networks and Systems*, Notre Dame, Indiana, USA, August 2002 (invited).

265. B. M. Chen, T. H. Lee, K. Peng and V. Venkataramanan, "Composite nonlinear feedback control: Theory and an application," *Proceedings of the 15th IFAC World Congress*, Barcelona, Spain, Volume B, pp. 31–36, July 2002.

266. K. Peng, V. Venkataramanan, B. M. Chen and T. H. Lee, "Design and implementation of a dual stage HDD servo system via composite nonlinear control approach," *Proceedings of the 15th IFAC World Congress*, Barcelona, Spain, Volume S, pp. 115–120, July 2002.

267. C. C. Ko, B. M. Chen, C. M. Loke, C. D. Chang, X. Xiang, A. K. Eapen and T. S. Lim, "Automation in creating Java 3D-based virtual instruments," *Proceedings of the International Conference on Software Engineering Research and Practice*, Las Vegas, Nevada, USA, pp. 336–341, June 2002.

268. B. M. Chen, "Two open problems in linear control theory," *Proceedings of the 2002 International Conference on Control and Automation*, Xiamen, China, pp. 1809–1812, June 2002.

269. V. Prahlad, C. C. Ko, B. M. Chen, C. D. Cheng, X. Xiang, K. W. Chan and Y. P. Khanal, "Development of web-based mobile robot control experiment," *Proceedings of the 2002 FIRA Robot World Congress*, Seoul, Korea, pp. 488–493, May 2002.

270. X. Liu, B. M. Chen and Z. Lin, "Computation of structural invariants of singular linear systems," *Proceedings of the 2002 Information, Decision and Control Symposium*, Adelaide, Australia, pp. 35–40, February 2002.

271. Y.-Y. Cao, Z. Lin and B. M. Chen, "An output feedback H_∞ controller design for linear systems subject to sensor nonlinearities," *Proceedings of the 3rd International Conference on Control Theory and Applications*, Pretoria, South Africa, pp. 52–56, December 2001.

272. K. Peng, V. Venkataramanan, B. M. Chen and T. H. Lee, "Track following design for a dual-stage actuator hard disk drive servo system," *Proceedings of the 3rd International Conference on Control Theory and Applications*, Pretoria, South Africa, pp. 141–145, December 2001.

273. G. Zeng, J. Chen, B. M. Chen, C. C. Ko and X. Xiang, "Design and Implementation of a web-based cryptographic algorithm testing platform," *Proceedings of the 3rd International Conference on Control Theory and Applications*, Pretoria, South Africa, pp. 542–546, December 2001.

274. X. Xiang, C. D. Cheng, C. C. Ko, B. M. Chen and S. Lu, "API for virtual laboratory instrument using Java 3D," *Proceedings of the 3rd International Conference on Control Theory and Applications*, Pretoria, South Africa, pp. 552–556, December 2001.

275. T. Hu, Z. Lin and B. M. Chen, "Discturbance rejection with saturating actuators for discrete-time linear systems," *Proceedings of the 40th IEEE Conference on Decision and Control*, Orlando, Florida, USA, pp. 1723–1728, December 2001.

276. J. Zhang, J. P. Chen, C. C. Ko, B. M. Chen and S. S. Ge, "A web-based laboratory on control of a two-degree-freedom helicopter," *Proceedings of the 40th IEEE Conference on Decision and Control*, Orlando, Florida, USA, pp. 2821–2826, December 2001 (invited).

277. C. C. Ko, B. M. Chen, K. P. Chan, C. D. Cheng, G. W. Zeng and J. Zhang, "A webcast virtual laboratory on a frequency modulation experiment," *Proceedings of the 40th IEEE Conference on Decision and Control*, Orlando, Florida, USA, pp. 3236–3241, December 2001.

278. T. Hu, Z. Lin and B. M. Chen, "Analysis and design for discrete-time linear systems subject to actuator saturation," *Proceedings of the 40th IEEE Conference on Decision and Control*, Orlando, Florida, USA, pp. 4675–4680, December 2001.

279. V. Venkataramanan, K. Peng, B. M. Chen and T. H. Lee, "Design and implementation of a servo controller via discrete-time composite nonlinear feedback law for a hard disk drive," *Proceedings of the 40th IEEE Conference on Decision and Control*, Orlando, Florida, USA, pp. 4687–4692, December 2001.

280. C. D. Cheng, P. Vadakkepat, C. C. Ko, B. M. Chen and X. Xiang, "Robot motion control and image reconstruction over internet," *Proceedings of the International Conference on Computational Intelligence, Robotics and Autonomous Systems*, Singapore, pp. 423–428, November 2001.

281. Z. Li, K. Liu, B. M. Chen and T. H. Lee, "Robust and perfect tracking control design of a hard disk drive with a dual-stage actuator," *Proceedings of the 2001 American Control Conference*, Arlington, Virginia, USA, pp. 3849–3854, June 2001.

282. B. M. Chen, Z. Lin and K. Liu, "Robust and perfect tracking of discrete-time systems," *Proceedings of the 2001 American Control Conference*, Arlington, Virginia, USA, pp. 2594–2599, June 2001.

283. C. C. Ko, B. M. Chen, V. Ramakrishnan, Y. Zhuang, S. Y. Hu and J. P. Chen, "An innovative advance in conducting experiments — Virtual laboratories in the National University of Singapore," *Proceedings of the IFAC/IEEE Symposium on Advances in Control Engineering Education 2000*, Gold Coast, Queensland, Australia, pp. 379–383, December 2000.

284. X. Liu, B. M. Chen and Z. Lin, "On the problem of general structural assignments of linear systems through sensor/actuator selection," *Proceedings of the 39th IEEE Conference on Decision and Control*, Sydney, Australia, pp. 1979–1984, December 2000.

285. V. Venkataramanan, B. M. Chen, T. H. Lee and G. Guo, "Improvement of servo performance via nonlinear feedback control in hard disk drive servo systems," *Proceedings of the 39th IEEE Conference on Decision and Control*, Sydney, Australia, pp. 3088-30934, December 2000.

286. M. He, B. M. Chen and C. C. Ko, "Chinese character recognition using natural stroke sequence," *Proceedings of the Sixth International Conference on Control, Automation, Robotics and Vision* (CD-ROM), TM1, 5 pages, Singapore, December 2000.

287. B. M. Chen, K. Liu and Z. Lin, "Solvability conditions and solutions to perfect regulation problem under measurement feedback," *Proceedings of the Sixth International Conference on Control, Automation, Robotics and Vision* (CD-ROM), TP3, 6 pages, Singapore, December 2000 (invited).

288. Z. Lin and B. M. Chen, "Semi-global stabilization of a class of nonlinear systems via linear feedback of corrupted output measurement," *Proceedings of the 3rd Asian Control Conference*, Shanghai, China, Volume I, pp. 201–206, July 2000.

289. V. Ramakrishnan, Y. Zhuang, S. Y. Hu, J. P. Chen, C. C. Ko, B. M. Chen and K. C. Tan, "Development of a web-based control experiment for a coupled tank apparatus," *Proceedings of the 2000 American Control Conference*, Chicago, Illinois, USA, pp. 4409–4413, June 2000.

290. K. Liu, B. M. Chen and Z. Lin, "On the problem of robust and perfect tracking for linear systems with external disturbances," *Proceedings of the 2000 American Control Conference*, Chicago, Illinois, USA, pp. 887–891, June 2000.

291. T. Hu, Z. Lin and B. M. Chen, "An analysis and design method for linear systems subject to actuator saturation and disturbance," *Proceedings of the 2000 American Control Conference*, Chicago, Illinois, USA, pp. 725–729, June 2000.

292. Z. Li, G. Guo, B. M. Chen and T. H. Lee, "Optimal control design to achieve highest track-per-inch in hard disk drives," Presented at the *11th Annual Symposium on Information Storage and Processing Systems*, Santa Clara, California, USA, June 2000.

293. C. Lin, G. Guo, B. M. Chen and C. C. Ko, "Optimal track following control for hard disk drives," *Proceedings of the 6th International Workshop on Advanced Motion Control*, Nagoya, Japan, pp. 502–506, March 2000.

294. V. Venkataramanan, B. M. Chen, T. H. Lee and G. Guo, "Improvement of seeking time and settling response using modified seek controller and robust perfect tracking controller in hard disk drive servo systems," *Proceedings of the International Conference on Evolutionary Computing for Computer, Communication, Control and Power*, Chennai, India, pp. 143–148, January 2000.

295. B. M. Chen, I. M. Y. Mareels, Y. F. Zheng and C. Zhang, "Solutions to disturbance decoupling problem with constant measurement feedback for linear systems," *Proceedings of the 38th IEEE Conference on Decision and Control*, Phoenix, Arizona, USA, pp. 4062–4067, December 1999.

296. T. B. Goh, Z. Li, B. M. Chen, T. H. Lee and T. Huang, "Design and implementation of a hard disk drive servo system using robust and perfect tracking approach," *Proceedings of the 38th IEEE Conference on Decision and Control*, Phoenix, Arizona, USA, pp. 5247–5252, December 1999.

297. Z. Lin and B. M. Chen, "Solutions to general H_∞ almost disturbance decoupling problem with measurement feedback and internal stability for discrete-time systems," *Proceedings of the 14th IFAC Triennial World Congress*, Beijing, China, Volume G, pp. 359–364, July 1999.

298. B. M. Chen, "On some key properties of the special coordinate basis of linear systems," *Proceedings of the 14th IFAC Triennial World Congress*, Beijing, China, Volume D, pp. 351–356, July 1999.

299. S. H. Chen, R. Chen, V. Ramakrishnan, S. Y. Hu, Y. Zhuang, C. C. Ko and B. M. Chen, "Development of remote laboratory experimentation through Internet," *Proceedings of the 1999 IEEE Hong Kong Symposium on Robotics and Control*, Hong Kong, China, pp. 756–760, July 1999.

300. T. B. Goh, Z. Li, B. M. Chen and T. H. Lee, "Control design for a dual-stage actuator in hard disk drives," *Proceedings of the 1999 IEEE Hong Kong Symposium on Robotics and Control*, Hong Kong, China, pp. 577–582, July 1999.

301. X. Hu, W. Guo, T. Huang, and B. M. Chen, "Discrete-time LQG/LTR dual-stage controller design and implementation for high track density HDDS," *Proceedings of the 1999 American Control Conference*, San Diego, California, USA, pp. 4111–4115, June 1999.

302. K. W. Choo, G. Guo and B. M. Chen, "PC-based hard disk drive bode-plot generator," *Proceedings of the Seventh Asian Test Symposium*, Singapore, pp. 184–188, December 1998.

303. L. Wang, L. Yuan, B. M. Chen and T. H. Lee, "Modeling and control of a dual actuator servo system for hard disk drives," *Proceedings of the 1998 International Conference on Mechatronic Technology*, Hsinchu, Taiwan, pp. 533–538, November 1998.

304. X. P. Hu, S. Weerasooriya, T. S. Low and B. M. Chen, "Dual stage actuator modeling and control in a CD-ROM drive," *Proceedings of the 24th Annual Conference of the IEEE Industrial Electronics Society*, Aachen, Germany, Volume 3, pp. 1394–1398, August 1998.

305. W. Guo, L. Yuan, L. Wang, G. Guo, T. Huang, B. M. Chen and T. H. Lee, "Linear quadratic optimal dual stage servo control system for hard disk drives," *Proceedings of the 24th Annual Conference of the IEEE Industrial Electronics Society*, Aachen, Germany, Volume 3, pp. 1405–1410, August 1998.

306. G.-P. Lu, Y.-F. Zheng and B. M. Chen, "Strongly robust performance design for linear systems with multiple time delays and parameter uncertainties," *Proceedings of the IFAC Conference on System Structure and Control*, Nantes, France, Volume 3, pp. 663–668, July 1998.

307. B. C. Siew, B. M. Chen and T. H. Lee, "Design and implementation of a robust controller for a free gyro-stabilized mirror system," *Proceedings of the 1998 American Control Conference*, Philadelphia, PA, USA, pp. 2231–2235, June 1998.

308. B. M. Chen, "Solvability conditions for the disturbance decoupling problems with static measurement feedback," *Proceedings of the 1998 American Control Conference*, Philadelphia, PA, USA, pp. 1541–1542, June 1998.

309. B. M. Chen, Z. Lin and C. C. Hang, "Solutions to general H_∞ almost disturbance decoupling problem with measurement feedback and internal stability — An eigenstructure assignment approach," *Proceedings of the 1998 American Control Conference*, Philadelphia, PA, USA, pp. 1536–1540, June 1998.

310. Z. Lin, X. Bao and B. M. Chen, "Further results on almost disturbance decoupling with global asymptotic stability for nonlinear systems," *Proceedings of the 36th Conference on Decision and Control*, San Diego, California, USA, pp. 2847–2852, December 1997.

311. Z. Lin, B. M. Chen, Y. Shamash and J. He, "Solutions to general H_∞ almost disturbance decoupling problem with measurement feedback and internal stability for discrete-time systems," *Proceedings of the IEEE Singapore International Symposium on Control Theory and Applications*, Singapore, pp. 331–335, July 1997.

312. B. C. Siew, B. M. Chen and T. H. Lee, "Robust and perfect tracking control of a free gyro stabilized mirror system," *Proceedings of the IEEE Singapore International Symposium on Control Theory and Applications*, Singapore, pp. 311–315, July 1997.

313. T. B. Goh, S. Weerasooriya, B. M. Chen and T. H. Lee, "Design of dual actuator controller for hard disk drives," *Proceedings of the IEEE Singapore International Symposium on Control Theory and Applications*, Singapore, pp. 88–92, July 1997.

314. Q. G. Wang, T. H. Lee, J. B. He and B. M. Chen, "Simultaneous and robust stabilization of uncertain linear plants," *Proceedings of the 2nd Asian Control Conference*, Seoul, Korea, Volume III, pp. 411–414, July 1997.

315. J. He and B. M. Chen "Checkable solvability conditions for H_∞ almost disturbance decoupling problem for general discrete-time systems with unit circle invariant zeros," *Proceedings of the 2nd Asian Control Conference*, Seoul, Korea, Volume II, pp. 415–418, July 1997.

316. B. M. Chen and S. R. Weller, "Mappings of the finite and infinite zero structures and invertibility structures of general linear multivariable systems under the bilinear transformation," *Proceedings of the 2nd Asian Control Conference*, Seoul, Korea, Volume II, pp. 139–142, July 1997.

317. B. M. Chen, "Exact computation of infimum for a class of continuous-time H_∞ optimal control problem with a nonzero direct feedthrough term from the disturbance input to the controlled output," *Proceedings of the 2nd Asian Control Conference*, Seoul, Korea, Volume I, pp. 737–740, July 1997 (won the Best Poster Paper Award).

318. B. M. Chen, Y. Guo and Z. Lin, "Non-iterative computation of infimum in discrete-time H_∞ optimisation and solvability conditions for the discrete-time disturbance decoupling problem," *Proceedings of the 2nd Asian Control Conference*, Seoul, Korea, Volume I, pp. 721–724, July 1997.

319. B. M. Chen, T. H. Lee, C. C. Hang, C. S. Goh and E. K. Poh, "Gain scheduling for robust controllers in flight control systems," *Proceedings of the Fourth International Conference on Control, Automation, Robotics and Vision*, Singapore, pp. 1423–1427, December 1996.

320. B. M. Chen and J. He, "Exact computation of infimum in discrete-time H_∞-optimization for plants with unit circle invariant zeros," *Proceedings of the Fourth International Conference on Control, Automation, Robotics and Vision*, Singapore, pp. 822–826, December 1996.

321. B. M. Chen, "Exact computation of infimum in discrete-time H_∞-optimization using measurement feedback," *Proceedings of the 13th IFAC Triennial World Congress*, San Francisco, California, USA, Volume G, pp. 151–156, July 1996.

322. B. M. Chen, T. H. Lee, C. C. Hang, Y. Guo and S. Weerasooriya, "An H_∞ almost disturbance decoupling robust controller design for a piezoelectric bimorph actuator with hysteresis," *Proceedings of the 4th International Workshop on Advanced Motion Control*, Tsu-city, Japan, pp. 476–481, March 1996.

323. B. M. Chen, T. H. Lee, C. C. Hang, C. S. Goh and E. K. Poh, "Gain scheduling for robust controllers in flight control systems," *Proceedings of the Seventh MINDEF-NUS Joint R & D Seminar*, National University of Singapore, Singapore, pp. 9–16, January 1996.

324. Z. Lin, B. M. Chen and Y. Shamash, "On global stabilization of a chain of integrators subject to actuator saturation via linear feedback of saturated state measurement," *Proceedings of the 1995 IEEE Singapore International Conference on Intelligent Control and Instrumentation*, Singapore, pp. 402–407, July 1995.

325. B. M. Chen, "A non-iterative method for the computation of the infimum and closed-form solution to a class of discrete-time H_∞ optimal control problem," *Proceedings of the First Asian Control Conference*, Tokyo, Japan, Vol. III, pp. 57–60, July 1994 (invited).

326. B. M. Chen and D. Z. Zheng, "Simultaneous finite and infinite zero assignments of linear systems," *Proceedings of the First Asian Control Conference*, Tokyo, Japan, Vol. I, pp. 459–462, July 1994.

327. Z. Lin, B. M. Chen, A. Saberi and U. Ly, "Simultaneous H_2/H_∞ optimal control for discrete time systems: The state feedback case," *Proceedings of the 1994 American Control Conference*, Baltimore, Maryland, USA, pp. 2246–2250, June 1994.

328. A. A. Stoorvogel, A. Saberi and B. M. Chen, "The discrete-time H_∞ control problem with strictly proper measurement feedback," *Proceedings of the 1994 American Control Conference*, Baltimore, Maryland, USA, pp. 2241–2245, June 1994.

329. B. M. Chen and Y.-L. Chen, "Loop transfer recovery design via continuous time current type observer based controller," *Proceedings of the 32nd Conference on Decision and Control*, San Antonio, Texas, USA, pp. 3345–3346, December 1993.

330. B. M. Chen, A. Saberi and Y. Shamash, "Necessary and sufficient conditions under which a discrete time H_2-optimal control problem has a unique solution," *Proceedings of the 32nd Conference on Decision and Control*, San Antonio, Texas, USA, pp. 805–810, December 1993.

331. B. M. Chen, A. Saberi, Y. Shamash and P. Sannuti, "Construction and parameterization of all static and dynamic H_2-optimal state feedback solutions for discrete time systems," *Proceedings of the 32nd Conference on Decision and Control*, San Antonio, Texas, USA, pp. 126–131, December 1993.

332. A. A. Stoorvogel, A. Saberi and B. M. Chen, "The discrete-time H_∞ control problem with measurement feedback," *Systems and Networks: Mathematical Theory and Applications*, Vol. II, Editors U. Helmke, R. Mennicken, J. Saurer, Akademie Verlag, Berlin, Series: Mathematical Research, Vol. 79, pp. 497–502, 1994. (Presented at the *International Symposium on Mathematical Theory of Networks and Systems*, Regensburg, Germany, August 1993)

333. A. Saberi, B. M. Chen, P. Sannuti and U. Ly, "Simultaneous H_2/H_∞ optimal control: The state feedback case," *Proceedings of the 12th IFAC Triennial World Congress*, Sydney, Australia, Volume 2, pp. 487–490, July 1993.

334. B. M. Chen, A. Saberi and Y. Shamash, "A non-recursive method for solving the general discrete time algebraic Riccati equation related to the H_∞ control problem," *Proceedings of the 1993 American Control Conference*, San Francisco, California, USA, pp. 2649–2653, June 1993.

335. A. Saberi, B. M. Chen and Z. Lin, "Closed-form solutions to a class of H_∞-optimization problem (output feedback case)," *Proceedings of the 31st Conference on Decision and Control*, Tucson, Arizona, USA, pp. 2261–2262, December 1992.

336. B. M. Chen and A. Saberi, "Necessary and sufficient conditions under which an H_2-optimal control problem has a unique solution," *Proceedings of the 31st Conference on Decision and Control*, Tucson, Arizona, USA, pp. 1105–1110, December 1992.

337. Z. Lin, B. M. Chen and A. Saberi, "Explicit expressions for cascade factorizations of general non-strictly proper systems," *Proceedings of the 31st Conference on Decision and Control*, Tucson, Arizona, USA, pp. 447–452, December 1992.

338. B. M. Chen, A. Saberi, P. Sannuti and Y. Shamash, "Construction and parameterization of all static and dynamic H_2-optimal state feedback solutions, optimal fixed modes and fixed decoupling zeros," *Proceedings of the 31st Conference on Decision and Control*, Tucson, Arizona, USA, pp. 419–424, December 1992.

339. Z. Lin, A. Saberi and B. M. Chen, "Linear systems toolbox: System analysis and control design in the MATLAB environment," *Proceedings of the First IEEE Conference on Control Applications*, Dayton, Ohio, USA, pp. 659–664, September 1992.

340. A. Saberi, B. M. Chen, P. Sannuti and U. Ly, "Simultaneous H_2/H_∞ optimal control: The state feedback case," *Proceedings of the 1992 AIAA Guidance, Navigation and Control Conference*, Hilton Head, South Carolina, USA, pp. 885–895, August 1992.

341. B. M. Chen, A. Saberi, P. Sannuti and Y. Shamash, "Loop transfer recovery for general nonminimum phase discrete time systems; Part 2: Design," *Proceedings of the 1992 American Control Conference*, Chicago, Illinois, USA, pp. 3108–3112, June 1992.

342. B. M. Chen, A. Saberi, P. Sannuti and Y. Shamash, "Loop transfer recovery for general nonminimum phase discrete time systems; Part 1: Analysis," *Proceedings of the 1992 American Control Conference*, Chicago, Illinois, USA, pp. 3101–3107, June 1992.

343. B. M. Chen and A. Saberi, "Non-iterative computation of the infimum in H_∞-optimization for plants with invariant zeros on the $j\omega$ axis," *Proceedings of the 1992 American Control Conference*, Chicago, Illinois, USA, pp. 1872–1875, June 1992.

344. A. A. Stoorvogel, A. Saberi and B. M. Chen, "Full and reduced order observer based controller design for H_2-optimization," *Proceedings of the 1992 American Control Conference*, Chicago, Illinois, USA, pp. 343–350, June 1992.

345. B. M. Chen, A. Saberi, P. Sannuti and Y. Shamash, "Construction and parameterization of all static and dynamic H_2-optimal state feedback solutions," *Proceedings of the 26th Annual Conference on Information Sciences and Systems*, Princeton, New Jersey, USA, pp. 35–43, March 1992.

346. B. M. Chen, A. Saberi and P. Sannuti, "On blocking zeros and strong stabilizability of linear multivariable systems," *Proceedings of the 30th Conference on Decision and Control*, Brighton, U.K., pp. 557–562, December 1991.

347. B. M. Chen, A. Saberi and P. Sannuti, "Necessary and sufficient conditions for a nonminimum phase plant to have a recoverable target loop — A stable compensator design for LTR," *Proceedings of the 30th Conference on Decision and Control*, Brighton, U.K., pp. 248–249, December 1991.

348. B. M. Chen, A. Saberi and U. Ly, "A non-iterative method for computing the infimum in H_∞-optimization," *Proceedings of the 30th Conference on Decision and Control*, Brighton, U.K., pp. 182–187, December 1991.

349. A. Saberi, B. M. Chen and Z. Lin, "Closed-form solutions to a class of H_∞-optimization problem," *Proceedings of the 29th Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, USA, pp. 74–83, October 1991.

350. A. A. Stoorvogel, A. Saberi and B. M. Chen, "Characterization of all closed-loop transfer function matrices in H_∞-optimization," *Proceedings of the 29th Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, USA, pp. 50–59, October 1991.

351. B. M. Chen, A. Saberi and U. Ly, "Closed loop transfer recovery with observer based controllers; Part 2: Design," *Proceedings of the 1991 AIAA Guidance, Navigation and Control Conference*, New Orleans, Louisiana, USA, pp. 1110–1126, August 1991.

352. B. M. Chen, A. Saberi and U. Ly, "Closed loop transfer recovery with observer based controllers; Part 1: Analysis," *Proceedings of the 1991 AIAA Guidance, Navigation and Control Conference*, New Orleans, Louisiana, USA, pp. 1095–1109, August 1991.

353. B. M. Chen, A. Saberi and U. Ly, "An exact algebraic solution of the infimum in H_∞-optimization with output feedback," *Proceedings of the 1991 AIAA Guidance, Navigation and Control Conference*, New Orleans, Louisiana, USA, pp. 730–740, August 1991.

354. A. A. Stoorvogel, A. Saberi and B. M. Chen, "A reduced order observer based controller design for H_∞-optimization," *Proceedings of the 1991 AIAA Guidance, Navigation and Control Conference*, New Orleans, Louisiana, USA, pp. 716–722, August 1991.

355. B. M. Chen, A. Saberi, U. Ly and Y. S. Ebrahimi, "Design of localizer capture and track hold for a transport airplane: An H_∞/LTR approach," *Proceedings of the 29th Conference on Decision and Control*, Honolulu, Hawaii, USA, pp. 3349–3350, December 1990.

356. A. Saberi, B. M. Chen and P. Sannuti, "Theory of LTR for nonminimum phase systems, recoverable target loops, recovery in a subspace; Part I: Analysis," *Proceedings of the 29th Conference on Decision and Control*, Honolulu, Hawaii, USA, pp. 2500–2505, December 1990.

357. B. M. Chen, A. Saberi, S. Bingulac and P. Sannuti, "Loop transfer recovery for non-strictly proper plants," *Proceedings of the 29th Conference on Decision and Control*, Honolulu, Hawaii, USA, pp. 1036–1041, December 1990.

358. B. M. Chen, A. Saberi and U. Ly, "Exact computation of the infimum in H_∞-optimization via state feedback," *Proceedings of the 28th Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, USA, pp. 745–754, October 1990.

359. B. M. Chen, A. Saberi and P. Sannuti, "A new stable compensator design for exact and approximate loop transfer recovery," *Proceedings of the 1990 American Control Conference*, San Diego, California, USA, pp. 812–817, May 1990.

360. B. M. Chen, S. Bingulac and A. Saberi, "A C-A-D package for LTR design via asymptotic eigenstructure and time-scale structure assignment," *Proceedings of the 27th Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, USA, pp. 439–440, September 1989.

I. BOOK REVIEW

1. B. M. Chen, Title Reviewed, *Robust Stabilization and H_∞ Problems*, by V. Ionescu and A. Stoica, Kluwer Academic, Dordrecht, The Netherlands, 1999. Review Published in *Automatica*, Vol. 37, No. 4, pp. 634–635, April 2001 (U.K.).

J. EDITORIALS

1. J. Chen, B. M. Chen, L. Xie and J.-F. Zhang, "Editorial: Advances in Control and Automation — Dedicated to Professor Jie Huangs 60th Birthday," *Journal of Systems Science and Complexity*, Vol. 38, No. 2, pp. 511–512, April 2025.

2. J. Chen, J. Huang and B. M. Chen, "Editorial: Special Issue on Autonomous Systems and Automation Technologies, Dedicated to Professor Zongli Lins 60th Birthday," *Unmanned Systems*, Vol. 12, No. 2, pp. 185–188, March 2024.

3. J. Huang and B. M. Chen, "Editorial: Special Issue on Control Theory and Technologies in Honor of the 70th Birthday of Professor Frank L. Lewis," *Control Theory and Technology*, Vol. 17, No. 1, pp. 1–3, February 2019.

4. J. Chen, B. M. Chen and J. Sun, "Editorial: Complex System and Intelligent Control: Theories and Applications," *Frontiers of Information Technology and Electronic Engineering*, Vol. 20, No. 1, pp. 1–3, January 2019.

5. B. M. Chen, L. Xie and S. Banda, "Editorial: The Inaugural Issue of Unmanned Systems," *Unmanned Systems*, Vol. 1, No. 1, pp. 1–2, July 2013.

6. K. Y. Lum and B. M. Chen, "Editorial: Special Issue on Measurement and Estimation for Unmanned Navigation," *Transactions of the Institute of Measurement and Control*, Vol. 33, No. 6, pp. 647–649, August 2011.

7. C. Chen, B. M. Chen and T. H. Lee, "Editorial: Special Issue on Development of Autonomous Unmanned Aerial Vehicles," *Mechatronics*, Vol. 21, No. 5, pp. 763–764, August 2011.

8. B. M. Chen and G. Feng, "Editorial: Special Issue on Control Theory and Applications in Honor of the 60th Birthday of Professor Frank L. Lewis," *Control Theory and Applications*, Vol. 8, No. 3, pp. 259–261, August 2010.

9. I. K. Craig and B. M. Chen, "Guest Editorial: Special Issue for Papers Selected from the 2001 International Conference on Control Theory and Applications," *The Transactions of the South African Institute of Electrical Engineers*, Vol. 93, No. 2, p. 45, June 2002.

Software Development

1. X. L. Zheng and B. M. Chen, *Toolkit for Technical Analysis of Stocks*, A comprehensive toolkit with full graphic capacity in Matlab and Simulink, 2013.

2. Z. Lin, B. M. Chen, X. Liu, *Linear Systems Toolkit*, downloadable at http://linearsystemskit.net, 2004.

3. G. Cheng, B. M. Chen, T. H. Lee and K. Peng, *Composite Nonlinear Feedback Control Toolkit*, downloadable at http://www.bmchen.net, 2004.

4. B. M. Chen, *Technical Analysis of Stock Markets*, A Matlab Toolbox for Analyzing Financial Market Trends, Singapore 1995-1999.

5. B. M. Chen, *Linear Systems and Control Toolbox*, Department of Electrical Engineering, National University of Singapore, 1995.

6. B. M. Chen, A. Saberi and Z. Lin, *Linear Control Toolbox*, Washington State University Technical Report No. EE/CS 0098, Pullman, Washington, USA, June 1991.

7. Z. Lin, A. Saberi and B. M. Chen, *Linear Systems Toolbox*, Washington State University Technical Report No. EE/CS 0097, Pullman, Washington, USA, June 1991 (Commercially Available through A.J. Control, Inc., Seattle, Washington, USA).

8. B. M. Chen, *Software Manual for the Special Coordinate Basis of Multivariable Linear Systems*, Washington State University Technical Report No. ECE 0094, Pullman, Washington, USA, November 1988.

Funded Research Projects

1. *Aerial-Marine Collaborative Heterogeneous Multi-Agent Systems with Digital Twin Technology for Smart Oceans*, with Xi Chen and Xinyi Wang (Co-Is), University Grants Committee, Hong Kong SAR, 2025–2027, HK$1,134,931.

2. *Collaborative Task Assignment of Multi-Agent Unmanned Systems for Infrastructure Inspection*, University Grants Committee, Hong Kong SAR, 2024–2026, HK$1,369,862.

3. *Collaborative Search and Pursuit-evasion for Unmanned Systems in Cluttered Environments*, with Panpan Zhou (Co-I), University Grants Committee, Hong Kong SAR, 2023–2025, HK$1,382,623.

4. *Advanced Motion Planning Techniques for the Cooperation of Multi-agent Systems*, University Grants Committee, Hong Kong SAR, 2022–2024, HK$815,601.

5. *Intelligent Navigation and Robust Flight Control Systems for Unmanned Systems*, University Grants Committee, Hong Kong SAR, 2021–2023, HK$873,995.

6. *Unmanned Ariel System (UAS) and AI Driven High Efficiency and Precision Built Asset Inspection and Management*, with Patrick Chen, PI, TSSSU, Innovation and Technology Commission, Hong Kong, 2024–2025, HK$500,000.

7. *Developing a Digital Twin Empowered Approach for Horseshoe Crab Survey and Conservation with Drones and AI*, with Patrick Chen, PI, Environment and Conservation Fund, Hong Kong, 2024–2026, HK$499,600.

8. *Development of Drone-based and AI-based Surveillance and Inspection System at Wo Hop Shek Cemetery*, with Patrick Chen, PI, Electrical and Mechanical Services Department, Hong Kong, 2024–2025, HK$1,345,300.

9. *Development of an Integrated Autonomous Building Inspection and Information Management System with Drones*, InnoHK Center for Logistics Robotics, Hong Kong, 2020–2025, Part of a mega project with a total fund of HK$300,500,000.

10. *Onboard 3-Dimensional Navigation System for Unmanned Aerial Vehicles in Unknown and Realistic Indoor Environments*, Defence Innovative Research Program (DIRP), Future Systems and Technology Directorate (FSTD), 2015–2019, S$1,668,000.

11. *Navigation and Control of MAVs in Indoor and Outdoor Cluttered Environments*, DSO National Laboratories, 2014–2016, S$492,000.

12. *Fruit Dove UAV Control*, Temasek Laboratories, National University of Singapore, 2014–2016, S$150,000.

13. *Optimal Coverage and Surveillance Using Cooperative Planning and Control of UAVs*, with C. Xiang (PI), T. H. Lee, C. Chen, W. Kang and O. Yakimenko, Temasek Defence Systems Institute, National University of Singapore, 2013–2016, S$300,000.

14. *Investigation of Navigation Systems for Unmanned Aerial Vehicles in Outdoor Cluttered Environments*, with T. H. Lee, C. Chen and O. Yakimenko, Temasek Defence Systems Institute, National University of Singapore, 2012–2015, S$300,000.

15. *Special Project for DARPA UAVForge Competition*, DSO National Laboratories, 2012, S$230,040.

16. *Development of Autonomous Micro Aerial Vehicles*, with T. H. Lee and P. Tan, DSO National Laboratories, 2011–2013, S$625,800.

17. *Optimal Motion Planning in Obstacle-Rich Environment*, with W. Kang (PI, Naval Postgraduate School, USA), Temasek Defence Systems Institute, National University of Singapore, 2010–2013, US$148,521.

18. *Development of a Sophisticated 3D Indoor Navigation System for UAVs*, with H. Lin and T. H. Lee, Temasek Defence Systems Institute, National University of Singapore, 2009–2012, S$300,000.

19. *Development of Multi-UAV Testbeds and Vision-Based Navigation and Motion Coordination*, with K. Y. Lum and K. Peng, Temasek Laboratories, National University of Singapore, 2009–2013, S$200,000.

20. *Cooperative Reconfiguration Control for Multiple Unmanned Air Vehicles*, with H. Lin (PI), T. H. Lee and C. Chen, Temasek Defence Systems Institute, National University of Singapore, 2008–2011, S$300,000.

21. *Technologies to Lead Unmanned Air Vehicles via Manned Air Vehicles*, with T. H. Lee and R. Teo, Temasek Defence Systems Institute, National University of Singapore, 2007–2010, S$300,000.

22. *Nonlinear Flight Model Identification & Control for Vertical Take-off and Landing UAV in Formation*, with K. Y. Lum and K. Peng, Temasek Laboratories, National University of Singapore, 2007–2009, S$100,000.
23. *Nonlinear Control of Unmanned Flying Vehicles*, Defence Science & Technology Agency, Singapore, 2003–2006, S$700,000.
24. *Compensation of Friction in Hard Disk Drives*, with T. H. Lee, National University of Singapore, 2003–2005, S$130,432.
25. *Virtual Reality Interface for Web-Based Remote Experimentation*, with C. C. Ko (PI), Singapore Advanced Research & Education Network (SingAREN), 2001–2003, S$336,000.
26. *Dual Stage Servo System for Hard Disk Drives*, with T. H. Lee and G. Guo, National University of Singapore, 2000–2004, S$312,175.
27. *Web-based Virtual Laboratory*, with C. C. Ko (PI), National University of Singapore, 1998–2000, S$174,650.
28. *Dual Actuator Control System for Read/Write Head Actuation in Rotating Memory Devices*, with Siri Weerasooriya and Lee Tong Heng, National University of Singapore, 1996–1999, S$178,000.
29. *Gain Scheduling for Robust Controllers in Flight Control Systems*, with Lee Tong Heng and Poh Eng Kee, Defence Science Organisation, Ministry of Defence, Singapore, 1994–1995, S$5,000.

PhD Students Supervised/Co-Supervised

1. Jialiang Wang, Ph.D., CUHK, on-going
2. Zongzhou Wu, Ph.D., CUHK, on-going
3. Jiwen Xu, Ph.D., CUHK, on-going
4. Yiwei Chen, Ph.D., CUHK (HKPFS), on-going
5. Yijun Huang, Ph.D., CUHK, on-going
6. Wendi Ding, Ph.D., CUHK, on-going
7. Zixuan Guo, Ph.D., CUHK, on-going
8. Bingxin Han, Ph.D., CUHK, on-going
9. Benyun Zhao, Ph.D., CUHK, on-going
10. Zhipeng Lin, Ph.D., CUHK, on-going
11. Junjie Wen, Ph.D., CUHK, on-going
12. Ruoyu Wang, Ph.D., CUHK, on-going
13. Zuoquan Zhao, Ph.D., CUHK, on-going
14. Guidong Yang, Ph.D., CUHK, on-going
15. Ruixin Yan, PhD, CUHK, on-going
16. Xunkuai Zhou, PhD, TJU, 2024

17. Jihan Zhang, PhD, CUHK, 2024
18. Minghao Dou, PhD, CUHK, 2024
19. Xuchen Liu, PhD, CUHK, 2024
20. Dongyue Huang, PhD, CUHK, 2024
21. Songqun Gao, PhD, CUHK, 2024
22. Chuanxiang Gao, PhD, CUHK, 2024
23. Zhenjun Zhao, PhD, CUHK, 2023
24. Zini Pan, PhD, CUHK, 2023
25. Yizhou Chen, PhD, CUHK, 2023
26. Xinyi Wang, PhD, CUHK, 2023
27. Kangcheng Liu, PhD, CUHK (HKPFS), 2022
28. Panpan Zhou, PhD, CUHK, 2021
29. Yu Herng Tan, PhD, NUS (President Fellow), 2020
30. Xiaodong Liu, PhD, NUS, 2020
31. Menglu Lan, PhD, NUS (NGS Scholar), 2020
32. Jiaxin Li, PhD, NUS (NGS Scholar), 2018
33. Yingcai Bi, PhD, NUS (NGS Scholar), 2018
34. Yijie Ke, PhD, NUS, 2017
35. Kangli Wang, PhD, NUS (President Fellow), 2017
36. Shupeng Lai, PhD, NUS (NGS Scholar), 2016
37. Limiao Bai, PhD, NUS (NGS Scholar), 2016
38. Kun Li, PhD, NUS, 2015
39. Jinqiang Cui, PhD, NUS (NGS Scholar), 2015
40. Kevin Ang, PhD, NUS (DSO Scholar), NUS, 2015
41. Swee King Phang, PhD, NUS (NGS Scholar), 2014
42. Shiyu Zhao, PhD, NUS (NGS Scholar), 2014
43. Fei Wang, PhD, NUS (NGS Scholar), 2014
44. Xiaoyang Li, PhD, NUS, 2013 (co-supervised)
45. Ali Karimoddini, PhD, NUS, 2013 (co-supervised)
46. Xiaomeng Liu, PhD, NUS, 2013 (co-supervised)

47. Yajun Sun, PhD, NUS, 2013 (co-supervised)
48. Xiaolian Zheng, PhD, NUS, 2012
49. Xiangxu Dong, PhD, NUS, 2012
50. Feng Lin, PhD, NUS, 2011
51. Ben Yun, PhD, NUS, 2010
52. Guowei Cai, PhD, NUS, 2009
53. Chin-Kwan Thum, PhD, NUS, 2009
54. Chee-Khiang Pang, PhD, NUS, 2007
55. Guoyang Cheng, PhD, NUS, 2006
56. Yingjie He, PhD, NUS, 2006
57. Shijian Lu, PhD, NUS, 2005
58. Minghua He, PhD, NUS, 2003
59. Zhongming Li, PhD, NUS, 2003
60. Jianping Chen, PhD, NUS, 2003
61. Venkatakrishnan Venkataramanan, PhD, NUS, 2002
62. Kexiu Liu, PhD, NUS, 2001

Master of Engineering Students Supervised/Co-Supervised

1. Mingqiao Han, Master of Philosophy, CUHK,
2. Daniel Chueng, Master of Philosophy, CUHK, 2024
3. Jia Dou, Master of Philosophy, CUHK, 2023
4. Yu Zhai, Master of Philosophy, CUHK, 2022
5. Junji Zhu, Master of Engineering, NUS, 2019
6. Yu Chen, Master of Engineering, NUS, 2019
7. Shuai Zhang, Master of Engineering, NUS, 2018
8. Xu Yan, Master of Engineering, NUS, 2018
9. Mingjie Lao, Master of Engineering, NUS, 2018
10. Xudong Chen, Master of Engineering, NUS, 2018
11. Hongyu Tian, Master of Engineering, NUS, 2018
12. Hailong Qin, Master of Engineering, NUS, 2017
13. Tao Pang, Master of Engineering, NUS, 2016

14. Peidong Liu, Master of Engineering, NUS, 2015
15. Remus Chua, Master of Engineering, NUS, 2003
16. Chao Wu, Master of Engineering, NUS, 2003
17. Guowen Zeng, Master of Engineering, NUS, 2001
18. Xinmin Liu, Master of Engineering, NUS, 2000
19. Chen Lin, Master of Engineering, NUS, 2000
20. Shihong Chen, Master of Engineering, NUS, 2000
21. Teck-Beng Goh, Master of Engineering, NUS, 1999
22. Feng Gu, Master of Engineering, NUS, 1999
23. Lan Wang, Master of Engineering, NUS, 1998
24. Xiaoping Hu, Master of Engineering, NUS, 1998
25. Boon-Choy Siew, Master of Engineering, NUS, 1997
26. Jun He, Master of Engineering, NUS, 1997
27. Yi Guo, Master of Engineering, NUS, 1996

Undergraduate and Graduate Courses Taught

1. *Complex Variables for Engineers*, Chines University of Hong Kong, Course Level: 2nd Year
2. *Control and Industrial Automation*, Chines University of Hong Kong, Course Level: Graduate
3. *Linear System Theory and Design*, Chines University of Hong Kong, Course Level: Graduate
4. *Complex Analysis and Differential Equations for Engineers*, Chines University of Hong Kong, Course Level: 2nd Year
5. *Feedback Control Systems*, National University of Singapore, Course Level: 3rd Year
6. *Advanced in Intelligent Systems*, National University of Singapore, Course Level: 4th Year
7. *Special Topic in Automation and Control*, National University of Singapore, Course Level: Graduate
8. *Electrical Engineering (Applications)*, National University of Singapore, Course Level: 1st Year
9. *EE Foundation*, National University of Singapore, Course Level: Pre-admission
10. *Analytical Methods in ECE*, National University of Singapore, Course Level: 2nd Year
11. *Digital Control Systems*, National University of Singapore, Course Level: 3rd Year
12. *Circuits*, National University of Singapore, Course Level: 2nd Year
13. *Control Systems*, National University of Singapore, Course Level: Postgraduate Diploma Course
14. *Linear Algebra and Numerical Analysis*, National University of Singapore, Course Level: 3rd Year

15. *Engineering Mathematics III*, National University of Singapore, Course Level: 2nd Year
16. *Electrical Engineering (Circuits)*, National University of Singapore, Course Level: 1st Year
17. *Multivariable Control Systems*, National University of Singapore, Course Level: Graduate
18. *Optimal Control Systems*, National University of Singapore, Course Level: Graduate
19. *Control Systems I*, National University of Singapore, Course Level: 4th Year
20. *Computer Control Systems*, National University of Singapore, Course Level: Graduate
21. *Optimal Control*, State University of New York, Stony Brook, Course Level: Graduate
22. *Linear Systems*, State University of New York, Stony Brook, Course Level: Graduate
23. *Introduction to Control Systems*, Washington State University, Course Level: 4th Year

Editorial Work

⋈ *Editor*, International Journal of Robust and Nonlinear Control, 2022–

⋈ *Associate Editor*, Guidance, Navigation and Control, 2021–

⋈ *Associate Editor*, Autonomous Intelligent Systems, 2020–

⋈ *Deputy Editor-in-Chief*, Control Theory and Technology, 2013–

⋈ *Editor-in-Chief*, Unmanned Systems, 2013–

⋈ *Associate Editor*, Science China: Information Science, 2015–2023

⋈ *Editorial Board Member*, Journal of Systems Science and Complexity, 2014–2019

⋈ *Associate Editor*, IEEE/CAA Journal of Automatica Sinica, 2014–2016

⋈ *Associate Editor*, Frontier of Electrical and Electronic Engineering, 2010–2012

⋈ *Guest Editor*, Mechatronics, 2011

⋈ *Guest Editor*, Transactions of the Institute of Measurement and Control, 2011

⋈ *Guest Editor*, Journal of Control Theory and Applications, 2010

⋈ *Editor-at-Large*, Journal of Control Theory and Applications, 2008–2013

⋈ *Associate Editor*, Chinese Control Conference Editorial Board, 2008–2012

⋈ *Associate Editor*, Transactions of the Institute of Measurement and Control, 2007–2010

⋈ *Associate Editor*, Journal of Control Science and Engineering, 2006–2009

⋈ *Associate Editor*, Automatica, 2005–2008

⋈ *Associate Editor*, Systems & Control Letters, 2004–2010

⋈ *Member of International Advisory Board*, Kuwait Journal of Science & Engineering, 2003–2013

⋈ *Associate Editor*, Control and Intelligent Systems, 2002–2007

- ⋈ *Associate Editor*, Asian Journal of Control, 2002
- ⋈ *Guest Editor*, Transactions of the South African Institute of Electrical Engineers, 2002
- ⋈ *Associate Editor*, IEEE Transactions on Automatic Control, 1999–2001
- ⋈ *Associate Editor*, Conference Editorial Board, IEEE Control Systems Society, 1997–1998

Activities in Professional Societies

- ⋈ *Member*, IEEE Systems, Man, and Cybernetics Society Fellow Evaluating Committee, 2018–2019
- ⋈ *Member*, IEEE Aerospace and Electronic Systems Society Fellow Evaluating Committee, 2015
- ⋈ *Member*, IEEE Systems Council Fellow Evaluating Committee, 2010
- ⋈ *Member*, Technical Committee on Control Theory, Chinese Association of Automation, China, 2008–
- ⋈ *Deputy Chairman*, IEEE Control Systems Chapter Committee, Singapore, 2006-2007; 2014–2015
- ⋈ *Chairman*, IEEE Control Systems Chapter, Singapore, 2002–2003
- ⋈ *Treasurer*, IEEE Control Systems Chapter, Singapore, 2000–2001
- ⋈ *Member*, IEEE Control Systems Chapter Committee, Singapore, 1998–1999; 2004–2005; 2010–2013
- ⋈ *Honorary Secretary*, IEEE Control Chapter, Singapore, 1994–1997; 2008–2009

Keynote, Plenary and Invited Speakers

- ⋈ *Keynote Speaker*, 7th International Conference on Aeronautical, Aerospace and Mechanical Engineering, Hong Kong, China, March 2024
- ⋈ *Keynote Speaker*, 5th International Conference on Electrical Engineering and Control Technologies, Chengdu, China, December 2023
- ⋈ *Keynote Speaker*, 7th Symposium of Chinese Nonlinear Systems and Control, Xiamen, China, October 2023
- ⋈ *Distinguished Lecture*, 5th International Forum on Frontiers of Automation and Artificial Intelligence, Shenyang, China, August 2023
- ⋈ *Keynote Speaker*, Symposium on Advanced Robotics and Automation, 8th World Robot Conference, Beijing, China, August 2023
- ⋈ *Keynote Speaker*, 8th World Robot Conference, Beijing, China, August 2023
- ⋈ *Keynote Speaker*, 2023 International Conference on Advanced Unmanned Aerial Systems, Toronto, Canada, July 2023
- ⋈ *Plenary Speaker*, Frontier Forum on Autonomous Intelligent Unmanned Systems, World Artificial Intelligence Conference, Shanghai, China, July 2023
- ⋈ *Plenary Speaker*, International Frontier Forum of Engineering Science and Technology on Unmanned Intelligent Cluster, Beijing, China, January 2023
- ⋈ *Plenary Speaker*, Southeastern China Science and Technology Forum: Integration of Digital Twin and Control Sciences Technologies, Xiamen, China, November 2022

- ⋈ *Plenary Speaker*, 29th Frontier Forum of Science China Information Sciences: Fundamental Problems in Control of Systems with Uncertainties, Beijing, China, November 2022
- ⋈ *Plenary Speaker*, 4th International Conference on Data-driven Optimization of Complex Systems, Chengdu, China, October 2022
- ⋈ *Plenary Speaker*, Forum on Intelligent Control and Optimization for Unmanned Systems, World Artificial Intelligence Conference, Shanghai, China, September 2022
- ⋈ *Keynote Speaker*, 17th International Conference on Computer Science and Education, Ningbo, China, August 2022
- ⋈ *Distinguished Speaker*, 4th International Forum on Frontiers of Automation and Artificial Intelligence, Shenyang, China, August 2022
- ⋈ *Keynote Speaker*, 2021 IEEE International Conference on Robotics and Biomimetics, Sanya, China, December 2021
- ⋈ *Plenary Speaker*, Forum on Frontiers of AI Technologies, Alibaba Damo Academy, Hangzhou, China, December 2021
- ⋈ *Plenary Speaker*, Innovative Robotics Technologies and Applications Forum, Hong Kong Centre for Logistics Robotics, Hong Kong, December 2021
- ⋈ *Plenary Speaker*, Forum for Optimal Control and AI Technologies, Shandong University & Shandong University of Science and Technology, Qingdao, China, December 2021
- ⋈ *Keynote Speaker*, Southeastern China Science and Technology Forum, Xiamen, China, November 2021
- ⋈ *Keynote Speaker*, 4th IEEE International Conference on Unmanned Systems, Beijing, China, October 2021
- ⋈ *Distinguished Speaker*, 3rd International Forum on Frontiers of Automation and Artificial Intelligence, Shenyang, China, August 2021
- ⋈ *Plenary Speaker*, Forum for New Generation Intelligent Unmanned System and Its Applications, World Artificial Intelligence Conference, Shanghai, China, July 2021
- ⋈ *Plenary Speaker*, 3rd Workshop on Game, Optimization and Intelligent Control of Multi-agent Systems, Beijing, China, June 2021
- ⋈ *Keynote Speaker*, 16th International Conference on Control, Automation, Robotics and Vision (ICARCV 2020), Singapore, December 2020
- ⋈ *Keynote Speaker*, 9th IEEE Data Driven Control and Learning Systems Conference, Liuzhou, China, November 2020
- ⋈ *Distinguished Speaker*, 2nd International Forum on Frontiers of Automation and Artificial Intelligence, Shenyang, China, October 2020
- ⋈ *Invited Speaker*, 20th Anniversary of the Temasek Laboratories @ NUS, Singapore (Online), October 2020
- ⋈ *Invited Speaker*, 2020 International Forum on Innovation and Emerging Industries Development, Shanghai, China, September 2020
- ⋈ *Keynote Speaker*, AERONEXT 2020 – Russian Drone Conference, Moscow, Russia, September 2020

- ⋈ *Invited Speaker*, Shanghai University League's Forum for International Young Scholars, Shanghai, China, May 2020
- ⋈ *Keynote Speaker*, 2019 World Robot Conference, Beijing, China, August 2019
- ⋈ *Plenary Speaker*, 2019 TCCT Workshop on Cooperative Control and Multi-Agent Systems, Shanghai, China, August 2019
- ⋈ *Keynote Speaker*, 34th Youth Academic Annual Conference of Chinese Association of Automation, Jinzhou, China, June 2019
- ⋈ *Keynote Speaker*, 31st Chinese Control and Decision Conference, Nanchang, China, June 2019
- ⋈ *Keynote Speaker*, 2019 International Workshop on Intelligent Systems and Control, Ningbo, China, April 2019
- ⋈ *Plenary Speaker*, Forum on the Frontiers of Information Technology and Electronic Engineering, Chinese Academy of Engineering, Beijing, China, March 2019
- ⋈ *Keynote Speaker*, Inaugural Meeting of the Intelligent Manufacturing Industry Society, Chinese Mechatronic Association, Shenzhen, China, December 2018
- ⋈ *Keynote Speaker*, 2018 Unmanned Systems & Intelligent Manufacturing Summit, Shanghai, China, September 2018
- ⋈ *Plenary Speaker*, 2018 IEEE/CSAA Guidance, Navigation and Control Conference, Xiamen, China, August 2018
- ⋈ *Keynote Speaker*, 2018 IEEE International Conference on Advanced Robotics and Mechatronics, Singapore, July 2018
- ⋈ *Plenary Speaker*, 2018 Symposium on Autonomous Systems, Chongqing, China, May 2018
- ⋈ *Semi-plenary Speaker*, 2017 Asian Control Conference, Gold Coast, Australia, December 2017
- ⋈ *Plenary Speaker*, Global Unmanned Systems Conference 2017, Zhuhai, China, December 2017
- ⋈ *Keynote Speaker*, 2017 International Conference on Computer and Drone Applications, Kuching, Malaysia, November 2017
- ⋈ *Speaker*, 4th World Congress on Robotics and Artificial Intelligence, Osaka, Japan, October 2017
- ⋈ *Keynote Speaker*, 2017 International Micro Air Vehicles Conference and Competition, Toulouse, France, September 2017
- ⋈ *Keynote Speaker*, 2016 International Conference on Electrical, Electronic, Communication and Control Engineering, Johor Bahru, Malaysia, December 2016
- ⋈ *Keynote Speaker*, ETAI 2016 Conference, Struga, Macedonia, September 2016
- ⋈ *Keynote Speaker*, 12th International Conference on Intelligent Unmanned Systems, Xi'an, China, August 2016
- ⋈ *UAV Forum Speaker*, 2015 Chinese Conference on Intelligent Equipment and Robotic Industry Development, Guangzhou, China, June 2016
- ⋈ *Keynote Speaker*, 2015 China Trade about International Unmanned Vehicle Systems, Shenzhen, China, November 2015

- ⋈ *Keynote Speaker*, The Commercial UAV Show 2015, London, U.K., October 2015
- ⋈ *Keynote Speaker*, 10th International Conference on Conference on Computer Science and Education, Cambridge, U.K., July 2015
- ⋈ *Keynote Speaker*, 3rd Singapore-French Symposium, Singapore, February 2015
- ⋈ *Keynote Speaker*, 10th International Conference on Intelligent Unmanned Systems, Montreal, Canada, September 2014
- ⋈ *Keynote Speaker*, 2014 Workshop on Distributed Cooperative Control of Multi-Agent Dynamic Systems, Beijing, China, July 2014
- ⋈ *Plenary Speaker*, 2014 Defence R&T Seminar, Nanyang Technological University, Singapore, May 2014
- ⋈ *Keynote Speaker*, 2013 Workshop on Distributed Cooperative Control of Multi-Agent Dynamic Systems, Beijing, China, July 2013
- ⋈ *Keynote Speaker*, 2013 International Conference on Unmanned Aircraft Systems, Atlanta, USA, May 2013
- ⋈ *Plenary Speaker*, SMi's 12th Annual Conference on Unmanned Aerial Systems 2012, London, U.K., October 2012
- ⋈ *Keynote Speaker*, 2012 China Guidance, Navigation and Control Congress, Beijing, China, August 2012
- ⋈ *Keynote Speaker*, 2012 Workshop on Distributed Coordinated Control of Dynamic Multi-Agent Systems, Beijing, China, July 2012
- ⋈ *Distinguished Robotics and Mechatronics Lecturer*, Singapore Robotic Games, Singapore, February 2012
- ⋈ *Plenary Speaker*, 2012 International Conference on Autonomous Unmanned Vehicles, Bangalore, India, February 2012
- ⋈ *Plenary Speaker*, 23rd Canadian Congress of Applied Mechanics, Vancouver, Canada, June 2011
- ⋈ *Plenary Speaker*, 13th IASTED International Conference on Control & Applications, Vancouver, Canada, June 2011
- ⋈ *Semi-Plenary Speaker*, 23rd Chinese Control and Decision Conference, Mianyang, China, May 2011
- ⋈ *Plenary Speaker*, 29th Chinese Control Conference, Beijing, China, July 2010
- ⋈ *Keynote Speaker*, 2nd International Conference on Control, Instrumentation & Mechatronic Engineering, Malacca, Malaysia, June 2009
- ⋈ *Plenary Speaker*, Unmanned Systems Asia 2009, Singapore, February 2009
- ⋈ *Keynote Speaker*, 2008 IEEE International Conference on Automation & Logistics, Qingdao, China, September 2008
- ⋈ *Keynote Speaker*, International Colloquium on Computing, Communication, Control & Management, Guangzhou, China, August 2008

Plenary Panelists at International Conferences

⋈ *Plenary Panel Chair*, 43nd Chinese Control Conference, Kunming, China, 2024

⋈ *Plenary Panel Chair*, 2024 Workshop on Autonomous Intelligent Unmanned Systems, Shanghai, China, 2024

⋈ *Plenary Panel Chair*, 42nd Chinese Control Conference, Tianjin, China, 2023

⋈ *Plenary Panel Chair*, 41st Chinese Control Conference, Hefei, China, 2022

⋈ *Plenary Panelist*, 12th International Micro Air Vehicle Conference and Competition, Puebla, Mexico (Online), 2021

⋈ *Plenary Panel Chair*, 40th Chinese Control Conference, Shanghai, China, 2021

⋈ *Plenary Panel Chair*, 39th Chinese Control Conference, Shenyang, China (Online), 2020

⋈ *Plenary Panel Chair*, 16th IEEE International Conference on Control and Automation, Sapporo, Japan (Online), 2020

⋈ *Plenary Panel Chair*, 38th Chinese Control Conference, Guangzhou, China, 2019

⋈ *Plenary Panel Chair*, 15th IEEE International Conference on Control and Automation, Edinburgh, Scotland, 2019

⋈ *Plenary Panelist*, the 15th International Conference on Control, Automation, Robotics and Vision, Singapore, 2018

⋈ *Plenary Panel Chair*, 37th Chinese Control Conference, Wuhan, China, 2018

⋈ *Forum Panelist*, The Commercial UAV Show Asia 2016, Singapore, 2016

⋈ *Plenary Panelist*, 35th Chinese Control Conference, Chengdu, China, 2016

⋈ *Plenary Panelist*, 13th International Conference on Control, Automation, Robotics and Vision, Singapore, 2014

⋈ *Plenary Panel Chair*, 11th IEEE International Conference on Control and Automation, Taichung, Taiwan, 2014

⋈ *Plenary Panelist*, 10th World Congress on Intelligent Control and Automation, Beijing, China, 2012

⋈ *Plenary Panelist*, 8th Asian Control Conference, Kaohsiung, Taiwan, 2011

⋈ *Plenary Panel Chair*, 29th Chinese Control Conference, Beijing, China, 2010

⋈ *Plenary Panel Chair*, 27th Chinese Control Conference, Kunming, China, 2008

⋈ *Plenary Panel Chair*, 3rd International Conference on Computer Science and Education, Kaifeng, China, 2008

⋈ *Plenary Panelist*, 26th Chinese Control Conference, Zhangjiajie, China, 2007

⋈ *Plenary Panelist*, 1st International Conference on Computer Science and Education, Xiamen, China, 2006

⋆ ⋆ ⋆ *For information on my international conference activities, invited talks, workshops, short courses, and other activities, please visit my personal website at www.bmchen.net.*