

# Publications

## Journal Papers in the Year 2013

1. WK Ho, VU Hoang Dung and KV Ling, "Influence Function Analysis of Parameter Estimation with Generalized t Distribution Noise Model", *Industrial & Engineering Chemistry Research*, Vol. 52, No. 11, pp. 4168-4177, 20 March 2013.
2. VA Shim, KC Tan, JY Chia and A Al Mamun, "Multi-objective optimization with estimation of distribution algorithm in noisy environment", *Evolutionary Computation*, Vol. 21, No. 1, pp. 149-177, 2 July 2013.
3. J Hu, HJ Tang, KC Tan, HZ Li and LP Shi, "A spike-timing based integrated model for pattern recognition", *Neural Computation*, Vol. 25, No. 2, pp. 450-472, 8 January 2013.
4. H He, SS Ge and Z Zhang, "A saliency-driven robotic head with bio-inspired saccadic behaviors for social robotics", *Autonomous Robots*, Vol. 35, No. 110, 2013.
5. J Tang, Y Zhang, SS Ge and L Zhao, "Hollow interference fitted multi-ring composite rotor of the superconducting attitude control and energy", *Reinforced plastics and Composites*, Vol. 32, No. 12, pp. 881-897, June 2013.
6. M Chen, SS Ge, BVE How and YS Choo, "Robust adaptive position mooring control for marine vessels", *IEEE Transactions on control system Technology*, Vol. 21, No. 2, pp. 395-409, March 2013.
7. GX Sun, LJ Wang, C Xiang and KR Qin, "A Dynamic Model for Intracellular Calcium Response in Fibroblasts Induced by Electrical Stimulation", *Mathematical Biosciences*, Vol. 244, No. 1, pp. 47-57, 2013.
8. PK Pisharady, P Vadakkepat and AP Loh, "Attention Based Detection and Recognition of Hand Postures against Complex Backgrounds", *International Journal of Computer Vision*, Vol. 101, No. 3, pp. 403-419, 2013.
9. Y Yu, C Bi, A Al Mamun and NLH Aung, "Incline unbalanced magnetic pull induced by misalignment of rotor in PMSM", *IEEE Transactions on Magnetics*, Vol. 49, No. 6, pp. 2709-2714, June 2013.
10. NLH Aung, A Al Mamun and C Bi, "Demodulation technique for spindle rotor position using resolver", *IEEE Transactions on Magnetics*, Vol. 49, No. 6, pp. 2614- 2619, June 2013.
11. MA Rahman, A Al Mamun and WH Poh, "Hysteresis modelling and inverse feed forward compensation for PZT actuator in dual-stage hard disk drive", *Advanced Materials Research/Materials, Mechatronics and Automation II*, Vol. 740, pp. 152-158, February 2013.
12. VA Shim, KC Tan, JY Chia and A Al Mamun, "Multi-objective optimization with estimation of distribution algorithm in noisy environment", *Evolutionary Computation*, Vol. 21, No. 1, pp. 149-177, 2013.

13. A Al Mamun, E Keikha, CS Bhatia and TH Lee, "Integral resonant control for suppression of resonance in piezoelectric micro-actuator used in precision servomechanism", *Mechatronics*, Vol. 23, No. 1, pp. 1-9, February 2013.
14. S Ang, CL Ong, Z Yuan and CK Pang, "Probabilities of Transition Jitter at Different Off-Track Positions", *IEEE Transactions on Magnetics*, Vol. 49, No. 7, pp. 3802-3805, July 2013.
15. CV Le, CK Pang, OP Gan, XM Chee and Et al, "Classification of Energy Consumption Patterns for Energy Audit and Machine Scheduling in Industrial Manufacturing System", *Transactions of the Institute of Measurement and Control*, Vol. 35, No. 5, pp. 583-592, July 2013.
16. YZ Tan, CK Pang, F Hong and TH Lee, "Aliased Narrow-Band Disturbance Rejection Using Phase-Stabilization above Nyquist Frequency", *IEEE Transactions on Magnetics*, Vol. 49, No. 6, pp. 2693-2696, June 2013.
17. G Cai, B Wang, BM Chen and TH 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.
18. QG Wang, L Xian, Q Qin and NG Huy, "Feature Selection for Time Series Modeling", *Intelligent Learning Systems and Applications*, Vol. 5, No. 3, pp. 152-164, August 2013.
19. Y Chao, NL Binh, L Xian and QG Wang, "Randomized Algorithm for Determining Stabilizing Parameter Regions for General Delay Control Systems," *Intelligent Learning Systems and Applications*, Vol. 5 No. 2, pp. 99-107, May 2013.
20. YN Zhuo, W Min, QG Wang and H Yong, "A novel computational method for loop gain and phase margins of TITO systems", *Journal of the Franklin Institute*, Vol. 350, No. 3, pp. 503-520, April 2013.
21. Q Qin, QG Wang, L Jin and SS Ge, "Linear and Nonlinear Trading Models with Gradient Boosted Random Forests and Application to Singapore Stock Market", *Intelligent Learning Systems and Applications*, Vol. 5 No. 1, pp. 1-10, February 2013.
22. Z Dan, Y Liu, S Hongbo and QG Wang, "Distributed  $H_\infty$  filtering for sensor networks with switching topology", *International Journal of Systems Science*, Vol. 44, No.11, pp. 2104-2118, November 2013.
23. W Lei, Q Wei and QG Wang, "Exponential synchronization in complex networks with a single coupling delay", *Journal of the Franklin Institute*, Vol. 350, No. 6, pp. 1406-1423, 2013.
24. W Wang and QG Wang, "A general approach for synchronization of nonlinear networked systems with switching topology", *International Journal of Systems Science*, Vol. 44, No. 12, pp. 2199-2210, December 2013.
25. JX Xu, D Huang, V Venkatakrishnan and TCT Huynh, "Extreme precise motion tracking of piezoelectric positioning stage using sampled-data

iterative learning control", *IEEE Transactions on Control Systems Technology*, Vol. 21, No. 4, pp. 1432-1439, July 2013.

26. X Li, JX Xu, S Yang and D Huang, "Decentralized iterative learning control for a class of large scale interconnected dynamical systems", *Journal of Mathematical Analysis and Applications*, Vol. 403, No. 2, pp. 717-721, July 2013.
27. JX Xu, Z Guo and TH Lee, "Design and implementation of a Takagi-Sugeno type fuzzy logic controller on a two-wheeled mobile robot", *IEEE Transactions on Industrial Electronics*, Vol. 60, No. 12, pp. 5717-5728, December 2013.
28. JX Xu and X Jin, "State-constrained iterative learning control for a class of MIMO systems", *IEEE Transactions on Automatic Control*, Vol. 58, No. 5, pp. 1322-1327, May 2013.
29. SR Liyanage, CT Guan, HH Zhang, KK Ang, JX Xu and TH Lee, "Dynamically weighted ensemble classification for non-stationary EEG processing", *Journal of Neural Engineering*, Vol. 10, No. 3, pp. 036007, June 2013.
30. H Ju, JX Xu, WE Chong and MJVD Antonius, "Effects of synaptic connectivity on liquid state machine performance", *Neural Networks*, Vol. 38, pp. 39-51, February 2013.
31. Z Guo, JX Xu and TH Lee, "Design and implementation of a new sliding mode controller on an under actuated wheeled inverted pendulum", *Journal of the Franklin Institute-Engineering and Applied Mathematics*, Vol. 60, pp.5717-5728. 2013.
32. JX Xu, X Zhao and D Srinivasan, "On optimal freeway local ramp metering using fuzzy logic control with particle swarm optimization", *IET Intelligent Transport Systems*, Vol. 7, No. 1, pp. 95-104, March 2013.
33. JX Xu, X Jin and D Huang, "Composite energy function based iterative learning control for systems with nonparametric uncertainties", *International Journal of Adaptive Control and Signal Processing*, 2013.
34. JX Xu and X Deng, "Biological modeling of complex chemotaxis behaviors for *C. elegans* under speed regulation – a dynamic neural networks approach", *Journal of computational Neuroscience*, Vol. 35, No. 1, pp. 19-37, August 2013.
35. A Tay, HT Chua, Y Wang, G Yang and WK Ho, "Modeling and Real-Time control of Multizone Thermal Processing System for Photoresist Processing", *Industrial & Engineering Chemistry Research*, Vol. 52, No. 13, pp. 4805-4814, March 2013.
36. YS Ngo, KT Ang and A Tay, "Method for real-time critical dimensions signature monitoring and control: sensor, actuator, and experimental results", *Review of Scientific Instruments*, Vol. 84, No. 1, pp. 015116, October 2013.
37. L Liu, KK Tan, S Chen, CS Teo and TH Lee, "Discrete Composite Control of Piezoelectric Actuators for High Speed and Precision Scanning", *IEEE*

*Transactions on Industrial Informatics*, Vol. 9, No. 2, pp. 859-868, April 2013.

38. L Liu, KK Tan and TH Lee, "SVD-based Accurate Identification and Compensation of the Coupled Hysteresis and Creep Dynamics in Piezoelectric Actuators", *Asian Journal of Control*, Vol. 15, No. 5, pp. 1-11, 2013.
39. Q Yu, HJ Tang, KC Tan and HZ Li, "Rapid feedforward computation by temporal encoding and learning with spiking neurons", *IEEE Transactions on Neural Networks and Learning Systems*, Vol. 24, No. 10, pp. 1539-1552, October 2013.
40. A Basak, S Das and KC Tan, "Multimodal optimization using a bi-objective differential evolution algorithm enhanced with mean distance based selection", *IEEE Transactions on Evolutionary Computation*, Vol. 17, No. 5, pp. 666-685, October 2013.
41. Su Nguyen, MJ Zhang, M Johnston and KC Tan, "A computational study of representations in genetic programming to evolve dispatching rules for the job shop scheduling problem", *IEEE Transactions on Evolutionary Computation*, Vol. 17, No. 5, pp. 621-639, October 2013.
42. Z Li and SS Ge, "Adaptive robust controls of biped robots", *IET Control Theory & Applications*, Vol. 7, No. 2, pp. 161-175, January 2013.
43. X Liu, H Lin and BM Chen, "Structural controllability of switched linear systems", *Automatica*, Vol. 49, No. 12, pp. 3531-3537, December 2013.
44. F Wang, JQ Cui, BM Chen and TH Lee, "A comprehensive UAV indoor navigation system based on vision optical flow and laser FastSLAM", *Automatica Sinica*, Vol. 39, No. 11, pp. 1889-1900, November 2013.
45. F Lin, KZY Ang, F Wang, BM Chen, TH Lee, B Yang, M Dong, X Dong, J Cui, SK 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 UAV Forge Challenge", *Unmanned Systems*, Vol. 1, No. 2, pp. 211-245, October 2013.
46. S Zhao, BM Chen and TH 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.
47. A Karimodini, H Lin, BM Chen and TH Lee, "A bumpless hybrid supervisory control algorithm for the formation of unmanned helicopters", *Mechatronics*, Vol. 23, No. 6, pp. 677-688, September 2013.
48. K Peng and BM 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.

49. A Karimodini, H Lin, BM Chen and TH Lee, "Hybrid 3-D formation control for unmanned helicopters", *Automatica*, Vol. 49, No. 2, pp. 424-433, February 2013.
50. X Liu, H Lin and BM 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.

## Conference Paper in the Year 2013

1. K Peng, S Zhao, F Lin and BM Chen, "Vision based target tracking/following and estimation of target motion", *AIAA Guidance, Navigation and Control Conference*, USA, August 2013.
2. S Zhao, X Dong, JQ Cui, KZ Y Ang, F Lin, KM Peng, BM Chen and T H Lee , "Design and implementation of homography-based vision-aided inertial navigation of UAVs", *32nd Chinese Control Conference*, China, July 2013.
3. JQ Cui, F Wang, X Dong, KZY Ang, BM Chen and T H Lee, "Landmark extraction and state estimation for UAV operation in forest", *32nd Chinese Control Conference*, China, July 2013.
4. F Lin, KZY Ang, F Wang, BM Chen, TH Lee, et al., "Development of an unconventional unmanned coaxial rotorcraft: GremLion", *15th International Conference on Human-Computer Interaction*, USA, July 2013.
5. S Zhao, F Lin, KM Peng, BM Chen and TH Lee, "Distributed control of angle-constrained circular formation using bearing-only measurements", *9th Asian Control Conference*, Turkey, June 2013.
6. A Karimodini, H Lin, BM Chen and TH Lee, "A bumpless hybrid supervisory control algorithm for the formation of unmanned helicopters", *American Control Conference*, USA, June 2013.
7. X Hon, H Tian, F Wang, BM Chen and TH Lee, "A customized FastSLAM algorithm using scanning laser range finder in structured indoor environments", *10th IEEE International Conference on Control and Automation*, China, pp. 640-645, June 2013.
8. S Zhao, F Lin, K Peng, BM Chen and TH Lee, "Finite-time stabilization of circular formations using bearing-only measurements", *10th IEEE International Conference on Control and Automation*, China, pp. 840-845, 12-14, June 2013.
9. F Wang, JQ Cui, SK Phang, BM Chen and TH Lee, "A mono-camera and Scanning laser range finder based UAV indoor navigation system", *International conference on Unmanned Aircraft Systems*, USA, pp. 693-700, May 2013.
10. K Li, SK Phang, BM Chen and TH Lee, "Platform design and mathematical modeling of an ultralight quadrotor micro aerial vehicle", *International Conference on Unmanned Aircraft Systems*, USA, pp. 1066-1075, May 2013.

11. Luo and BM Chen, "The autopilot design of bank-to-turn missile using mixed sensitivity  $H_{\infty}$  optimization", *3rd Annual IEEE International Conference on CYBER Technology in Automation, Control, and Intelligent Systems*, China, pp. 241-246, May 2013.
12. YZ Tan, M Tang, CK Pang, TS Ng and et al, "Integrated Servo-Mechanical Design of Distribution-Based Robust Mechatronics Using GKYP Lemma", *6<sup>th</sup> IFAC Symposium on Mechatronic Systems*, pp. 511-516, China, 10-12 April 2013.
13. CK Pang and CV Le, "Non-Convex Large-Scale Scheduling for Energy-Efficient Flexible Stamping Systems", *10th IEEE International Conference on Control and Automation*, China, pp. 1656-1661, 12-14 June 2013.
14. CK Pang, TS Ng and CL Sy, "A Robust Linear Programming Model for Small Signal Stability of Dynamic Systems", *10th IEEE International Conference on Control and Automation*, pp. 1802-1807, China, 12-14 June 2013.
15. W Yan, C Du and CK Pang, "Identification of Critical Resonant Modes Above the Nyquist Frequency Using Multirate Inputs," *ASME Conference ON ISPA*, pp. 1-3, USA, 24-25 June 2013.
16. Y Daud, A Al Mamun and JX Xu, "Steering control of Automatic Lateral Pendulum unicycle by separate set-point controls of its longitudinal and lateral," *10th IEEE International Conference on Control and Automation*, pp. 1784-1789, China, 12-14 June 2013.
17. E Keikha, S Behrooz, A Al Mamun and R Horowitz, "A probabilistic approach to robust controller design for a servo system with irregular sampling," *10th IEEE International Conference on Control and Automation*, pp. 1790-1795, China, 12-14 June 2013.
18. A Anand, J Mathew, SPR Krishna, S Paul, C Xiang and et al, "Object Shape Discrimination using Sensorized Glove," *10th IEEE International Conference on Control and Automation*, pp. 1514-1519, China, 12-14 June 2013.
19. Y Yang, C Xiang and TH Lee, "Robust Identification of Piecewise Affine Systems from Noisy Data", *10th IEEE International Conference on Control and Automation*", pp. 646-651, China, 12 - 14 Jun 2013.
20. J Hou, C Xiang and KR Qin, "Exercise Controls Arterial Stiffness via Hemodynamic Modulation", *10th IEEE International Conference on Control and Automation*, pp. 947-951, China, 12 - 14 Jun 2013.
21. B Ramesh, C Xiang and N Lim, "Scalable Scene Understanding Using Saliency-Guided Object Localization", *10th IEEE International Conference on Control and Automation*, pp. 1503-1508, China, 12 - 14 June 2013.
22. YS Liao, KC Tan, J Hu, X Qiu and SB Gee, "Machine Learning Enhanced Multi-objective Evolutionary Algorithm based on Decomposition," *The International Conference on Intelligent Data Engineering and Automated Learning 2013*, China, 20-23 October 2013.

23. SB Gee, X Qiu and KC Tan, "A Novel Diversity Maintenance Scheme for Evolutionary Multi-objective Optimization," *The International Conference on Intelligent Data Engineering and Automated Learning 2013*, China, 20-23 October 2013.
24. J Hu, H Tang and KC Tan, "A hierarchical organized memory model using spiking neurons," *IEEE International Joint Conference on Neural Networks*, USA, 4-9 August 2013.
25. H Tang, B Tian, VA Shim and KC Tan, "A neuro-cognitive system and its application in robotics", *10th International Conference on Control and Automation*, China, pp. 406-411, 12-14 June 2013.
26. J Hu, H Tang and KC Tan, "Spiking-timing based pattern recognition with real-world visual stimuli," *IEEE Symposium on Computational Intelligence, Cognitive Algorithms, Mind, and Brain (CCMB)*, Singapore, pp. 23 - 28, 16-19 April 2013.
27. A Tay, "Tele-rehabilitation: A Novel Method of Therapy At Home", *2<sup>nd</sup> Singapore Rehabilitation Conference*, Singapore, 27-28 February 2013.
28. Y Qu, CH Heng, A Tay and TH Lee, "OPC mask simplification using over-designed timing slack of standard cells", *VLSI Circuits and Systems VI*, ed. France, 24-26 April 2013.
29. A Tay, S Yen, JZ Li, WW Lee, K Yogaprakash, and et al, "Real-time gait monitoring for Parkinson Disease", *10<sup>th</sup> IEEE International Conference on Control and Automation*, China, pp. 1796-1801, 12-14 June 2013.
30. KK Tan, W Liang, LP Pham, W Gao, and et al, "Surgical device for office-based treatment of Otitis Media with Effusion", *3<sup>rd</sup> Annual International Conference on Advances in Biotechnology*, Singapore, pp. 77-85, 18-19 March 2013.
31. EL Tan, KK Tan and et al, "Silicon nanowires based force sensor for membrane contact measurement", *3<sup>rd</sup> Annual International Conference on Advances in Biotechnology*, Singapore, pp. 46-48, 18-19 March 2013.
32. W Gao, KK Tan W Liang, CW Gan and LHY Lim, "Vision-servo system for middle ear treatment", *IEEE International Symposium on Industrial Electronics*, Taiwan, 28-31 May 2013.
33. W Liang, S Huang, SL Chen and KK Tan, "Precision motion control of a linear piezoelectric ultrasonic motor stage", *IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, Australia, pp. 164-169, 9-12 July 2013.
34. KK Tan, W Liang, S Huang, LP Pham and et al, "Development of a medical device for surgery of myringotomy and grommet insertion", *IEEE/ASME International conference on Advanced Intelligent Mechatronics*, Australia, pp. 1448-1453, 9-12 July 2013.
35. KK Tan, HTM Nguyen, W Liang and CS Teo, "Robust precision positioning control of linear ultrasonic motor", *IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, Australia, pp. 170-175, 9-12 July 2013.

36. HTM Nguyen, KK Tan and CS Teo, "PID gain scheduling by parametric model predictive control", *IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, Australia, pp. 944-948, 9-12 July 2013.
37. KK Tan, R Yang, PV ER and CS Teo, "RBF-based compensation method on displacement and thermal error", *IEEE International Conference on Mechatronics and Automation*, Japan, 4-7 August 2013.
38. CS Teo, KK Tan PV ER and R Yang, "Selective precision motion control using weighted sensor fusion approach", *IEEE International Conference on Mechatronics and Automation*, Japan, 4-7 August 2013.
39. KK Tan, R Wu, KKH Kyaw, AS Narayanan and CK Chung, " Adaptive streaming framework for control and monitoring applications", *IEEE International Conference on Mechatronics and Automation*, Japan, 4-7 August 2013.