

# Publications

## Journal Papers in 2009

1. Y Zhang, KK Tan and S Huang, "Vision-Servo System for Automated Cell Injection", *IEEE Transactions on Industrial Electronics*, Vol. 56, No. 1, pp. 231-238, United States, January 2009.
2. KK Tan, KY Chua, S Zhao, Y Su and MT Tham, "Repetitive control approach towards automatic tuning of Smith predictor controllers", *ISA Transactions*, Vol. 48, No. 1, pp. 16-23, United States, January 2009.
3. KK Tan, S Huang and TH Lee, "Decentralized adaptive control of large-scale uncertain robotic systems", *Automatica*, Vol. 45, No. 1, pp. 161-166, United States, January 2009.
4. KK Tan, S Huang and T H Lee, "Distributed Fault Detection in Industrial System Based on Sensor Wireless Network", *Computer Standards & Interfaces*, Vol. 31, No. 3, pp. 573-578, Netherlands, March 2009.
5. KK Tan, S Huang and KZ Tang, "Robust Computer-Controlled System for Intracytoplasmic Sperm Injection and subsequent Cell Electro-Activation", *International Journal of Medical Robotics and Computer Assisted Surgery*, Vol. 5, No. 1, pp. 85-98, United Kingdom. March 2009.
6. J Cabibihan, S Pattofatto, M Jomaa, A Benallal and MC Carrozza, "Towards Humanlike Social Touch for Sociable Robotics and Prosthetics: Comparisons on the Compliance, Conformance and Hysteresis of Synthetic and Human Fingertip Skins", *International Journal of Social Robotics*, Vol. 1, No. 1, pp. 3-18, Netherlands, January 2009.
7. HY Quek, CH Woo, KC Tan and A Tay, "Evolving nash-optimal poker strategies using evolutionary computation", *Frontiers of Computer Science in China*, Vol. 3, No. 1, pp. 73-91, China, March 2009.
8. KC Tan, SC Chiam, AA Mamun and CK Goh, "Balancing exploration and exploitation with adaptive variation for evolutionary multi-objective optimization", *European Journal of Operational Research*, Vol. 197, No. 2, pp. 701-713, September 2009.
9. CK Goh, and KC Tan, "A competitive-cooperative coevolutionary paradigm for dynamic multi-objective optimization", *IEEE Transactions on Evolutionary Computation*, Vol. 13, no. 1, pp. 103-127, February 2009.
10. KC Tan, EJ Teoh, Q Yu and KC Goh, "A hybrid evolutionary algorithm for attribute selection in data mining", *Expert Systems with Applications*, Vol. 36, No. 4, pp. 8616-8630, USA, May 2009.
11. L Zou, HJ Tang, KC Tan and WN Zhang, "Analysis of continuous attractors for 2-D linear threshold neural networks", *IEEE Transactions on Neural Networks*, Vol. 20, no. 1, pp. 175-180, January 2009.
12. CY Cheong, KC Tan and B Veeravalli, "A multi-objective evolutionary algorithm for examination timetabling", *Journal of Scheduling*, Vol. 12, No. 2, pp. 121-146, April 2009.

13. H Lin and PJ Antsaklis, "Stability and Stabilizability of Switched Linear Systems: A Survey of Recent Results, *IEEE Transactions on Automatic Control*, Vol. 54, No. 2, pp. 308-322, February 2009.
14. J Gadewadikar, FL Lewis, K Subbarao, K Peng and BM Chen, "H-infinity static output-feedback control for rotorcraft", *Journal of Intelligent and Robotic Systems*, Vol. 54, No. 4, pp. 629-646, April 2009.
15. C Yang, SS Ge, and TH Lee, "Output feedback adaptive control of a class of nonlinear discrete-time systems with unknown control directions," *Automatica*, Vol. 45, No.1, pp. 270-276, January 2009.
16. KP Tee, SS Ge and FEH Tay, "Adaptive Control of Electrostatic Microactuators With Bidirectional Drive", *IEEE Transactions on Control Systems Technology*, Vol. 17, No. 2, pp. 340-352, March 2009.
17. TP Zhang and SS Ge, "Adaptive Neural Network Tracking Control of MIMO Nonlinear Systems With Unknown Dead Zones and Control Directions", *IEEE Transactions on Neural Networks*, Vol. 20, No. 3, pp. 483-497, March 2009.
18. ZJ Zhao, HC Lau and SS Ge, "Integrated Resource Allocation and Scheduling in a Bidirectional Flowshop with Multimachine and COS Constraints", *Transactions on Systems, Man and Cybernetics - Part C: Applications and Reviews*, Vol. 39, No. 2, pp. 190-200, March 2009.
19. L Zou, H Tang, KC Tan and WN Zhang, "Nontrivial Global Attractors in 2-D Multistable Attractor Neural Networks", *IEEE Transactions on Neural Networks*, Vol. 20, No. 11, pp. 1842-1851, November 2009.
20. S Chen, KK Tan and S Huang, "Friction Modelling and Compensation of Servomechanical Systems via Dual-relay Feedback", *IEEE Transactions on Control Systems Technology*, Vol. 17, No. 6, pp. 1295-1305, November 2009.
21. KK Tan, Y Zhang, S Huang, YS Wong and TH Lee, "Decoupled tracking and thermal monitoring of non-stationary targets", *ISA Transactions*, Vol. 48, No. 4, pp. 449-457, October 2009.
22. S Huang, KK Tan and TH Lee, "Sliding mode monitoring and control of linear drives," *IEEE Transaction on Industrial Electronics*, Vol. 56, No. 9, pp. 3532-3540, September 2009.
23. S Huang, KK Tan and TH Lee, "Adaptive sliding mode control of piezoelectric actuators", *IEEE Transaction on Industrial Electronics*, Vol. 56, No. 9, pp. 3514-3522, September 2009.
24. SC Chiam, KC Tan and AM Abdullah, "Investigating technical trading strategy via an multi-objective evolutionary platform", *Expert Systems with applications*, Vol. 36, No. 7, pp. 10408-10423, September 2009.
25. Zhang, Yinping and QG Wang, "Stationary oscillation for high-order Hopfield neural networks with time delays and impulses", *Journal of Computational and Applied Mathematics*, Vol. 231, No. 1, pp. 473-477, September 2009.
26. KK Tan, KZ Tang, S Huang, AS Putra, TH Lee, SC Ng, CKY Jerry, LG Tan and SKM Chong, "Ex Utero Harvest of Hematopoietic Stem Cells from Placenta/Umbilical Cord with an Automated Collection System", *IEEE Transactions on Biomedical Engineering*, Vol. 56, No. 9, pp. 2331-4, September 2009.

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30. V Prahlad, BS Ng, G Dip, R Zhang and LY Tan, "Soccer Playing Humanoid Robots: Processing Architecture, Gait Generation and Vision System", *Robotics and Autonomous Systems*, Vol. 57, No. 8, pp. 776-785, July 2009.
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32. G Cai, BM Chen, TH 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.
33. CK Pang, SC Tam, G Guo, BM Chen, FL Lewis, TH Lee and C Du, "Improved disturbance rejection with online adaptive pole-zero compensation on a  $\Phi$ -shaped PZT active suspension", *Microsystem Technologies*, Vol. 15, No. 10-11, pp. 1499-1508, October 2009.
34. CK Peng, G Cai, BM Chen, M Dong, KY Lum and TH Lee, "Design and implementation of an autonomous flight control law for a UAV helicopter", *Automatica*, Vol. 45, No. 10, pp. 2333-2338, October 2009.
35. X Liu, Z Lin and BM 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.
36. B Ren, SS Ge, TH Lee and CY Su, "Adaptive Neural Control for a Class of Nonlinear Systems with Uncertain Hysteresis Inputs and Time-Varying State Delays", *IEEE Transactions on Neural Networks*, Vol. 20, No. 7, pp. 1148-1164, July 2009.
37. F Lin, KY Lum, BM Chen and TH 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.
38. Y Yang, KS Lee, C Xiang and H Lin, "Biological Mechanisms Revealed by a Mathematical Model for p53-Mdm2 Core Regulation", *IET Systems Biology*, Vol. 3, No. 4, pp. 229-238, July 2009.
39. Y Guo, KK Tan, "Order-crossing removal in Gabor order tracking by independent component analysis", *Journal of Sound and Vibration*, Vol. 325, No.1-2, pp. 471-488, August 2009.
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41. HY Quek, KC Tan and A Tay, "Public goods provision: An evolutionary game theoretic study under asymmetric information", *IEEE Transactions on Computational Intelligence and AI in Games*, Vol. 1, No. 2, pp. 105-120, June 2009.
42. Y Zhang and KK Tan, "Permitted and Forbidden Sets in Discrete-Time Linear Threshold Recurrent Neural Networks", *IEEE Transactions on Neural Networks*, Vol. 20, No. 6, pp. 252-263, June 2009.
43. Sun Jitao, QG Wang and G Hanqiao, "Periodic solution for nonautonomous cellular neural networks with impulses", *Chaos Solition & Fractals*, Vol. 40, No. 3, pp. 1423-1427, May 2009.
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45. HT Chua, A Tay and Y Wang, "Integrated bake/chill system for across-wafer temperature uniformity control in photoresist processing", *Journal of Vacuum Science and Technology B*, Vol. 27, No. 3, pp. 1211-1214, May 2009.
46. JC Lv, KK Tan, Y Zhang and S Huang, "Convergence analysis of a class of Hyvarinen-Oja's ICA learning algorithms with constant learning rates", *IEEE Transactions on Signal Processing*, Vol. 57, No. 5, pp. 1811-1824, April 2009.
47. G DIP and V Prahlad, "Genetic Algorithm-based Optimal Bipedal Walking Gait Synthesis considering Tradeoff between Stability Margin and Speed", *Robotica*, Vol. 27, No. 3, pp. 355-365, May 2009.
48. G Dip and V Prahlad, "Planar Bipedal Jumping Gaits with Stable Landing", *IEEE Transactions on Robotics*, Vol 25, No. 5, pp 1030-1046, October 2009.
49. CC Hua, QG Wang and XP Guan, "Adaptive Fuzzy Output-Feedback Controller Design for Nonlinear Time-delay Systems with Unknown Control Direction", *IEEE Transactions on Systems, Man and Cybernetics*, Vol. 39, No. 2, pp 362-374, April 2009.
50. KZ Tang, KK Tan, A Tay, S Huang and TH Lee, "Development of a Framework and System for Remote Electronics Experiments", *International Journal of Engineering Education*, Vol. 25, No. 3, pp. 499-510, 2009.
51. KK Tan, S ZHAO, S Huang and TH Lee, "A New Repetitive Control for LTI Systems with Input Delay", *Journal of Process Control*, Vol. 19, No. 4, pp. 711-716, April 2009.
52. HT Chua, A Tay, Y Wang and XD Wu, "A Heater Plate Assisted Bake/Chill System for Photoresist Processing", *Applied Thermal Engineering*, Vol. 29, No.5-6, pp. 985-997, April 2009.
53. Z Ji, H Lin and TH Lee, "A new perspective on criteria and algorithms for reachability of discrete-time switched linear systems", *Automatica*, Vol. 45, No. 6, pp. 1584-1587, June 2009.
54. Z Ji, Z Wang, H Lin and Zhen Wang "Interconnection topologies for multi-agent coordination under leader-follower framework", *Automatica*, Vol. 45, No. 12, pp. 2857-2863, December 2009.
55. JJ Cabibihan, S Pattofatto, M Jomaa, A Benallal and MC Carrozza, " Towards humanlike social touch for sociable robotics and prosthetics: Comparisons on the

compliance, conformance and hysteresis of synthetic and human fingertip skins", *Intl J. of Social Robotics*, Vol. 1, No. 1, pp. 29-40, January 2009.

56. JJ Cabibihan, WC So, MA Nazar and SS Ge, "Pointing gestures for robot-mediated communication interface", *Intelligent Robotics and Applications*, Vol. 5928, pp. 67-77, December 2009.
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58. JJ Cabibihan and SS Ge, "Towards humanlike social touch for prosthetics and sociable robotics: Three-dimensional finite element simulations of synthetic finger phalanges", *Advances in Robotics*, Vol. 5744, pp. 80-86, August 2009.
59. SC Chiam, KC Tan, and A Al Mamun, "A memetic model of evolutionary PSO for computational finance applications", *Expert Systems With Applications*, Vol. 36, No. 2, pp. 3695-3711, March 2009.
60. HY Quek, KC Tan, CK Goh, and HA Abbass, "Evolution and incremental learning in the iterated prisoner's dilemma", *IEEE Transactions on Evolutionary Computation*, Vol. 13, No. 2, pp. 303-320, April 2009.

## Conference Papers in 2009

1. JJ Cabibihan, SS Ge, "The influence of internal geometry modifications on the skin compliance behavior of an anthropomorphic fingertip", *4th International Conference Humanoids, Nanotech, IT, Communication and Control, Env and Mgmt (HNICEM)*, March 12-15, 2009, Philippines.
2. CY. Cheong, KC Tan and DK Liu, "Solving the Berth Allocation Problem with Service Priority via Multi-Objective Optimization", *Proceedings of IEEE Symposium on Computational Intelligence in Scheduling*, pp. 95-102, 30 March – 1 April, 2009, USA.
3. HC Tang, CH Tan, KC Tan and A Tay, "Neural Network versus Behavior Based Approach in Simulated Car Racing Game", *Proceedings of IEEE Workshop on Evolving and Self-Developing Intelligent Systems*, pp. 58-65, 30 March – 1 April, 2009, USA.
4. W Lan, CK 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*, China, pp. 3169-3174, 16-18 December 2009, China.
5. X Liu, H Lin and BM 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*, pp. 7012-7017, 16-18 December 2009, China.
6. A Karimodini, H Lin, BM Chen and TH Lee, "Developments in hybrid modeling and control of unmanned aerial vehicles", *7th IEEE International Conference on Control and Automation*, 9-11 December 2009, New Zealand.
7. X Dong, BM. Chen, G Cai, H Lin and TH Lee, "Development of a comprehensive software system for implementing cooperative control of multiple unmanned

aerial vehicles", *7th IEEE International Conference on Control and Automation*, 9-11 December 2009, New Zealand.

8. X Zheng and BM Chen, "Modeling and analysis of financial markets using system adaptation and frequency domain approach", *7th IEEE International Conference on Control and Automation*, 9-11 December 2009, New Zealand.
9. G Cai, BM Chen and TH Lee, "Design and implementation of robust automatic flight control system for a small-scale UAV helicopter", *Proceedings of the 7th Asian Control Conference*, pp. 691-697, August 2009, China.
10. F Lin, BM Chen and TH 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*, pp. 398-401, May 2009, Japan.
11. KK Tan, S Huang, J Yuan, B Yang and TH Lee, "Development of wearable electronics as assistive technology for elderly", *Proceedings of the 2009 Digital Signal Processing Creative Design Contest*, pp. 23-28, 19 November 2009, Taiwan.
12. CW de Silva, KK Tan, S Huang, R Wu and TH Lee, "Distributed DSP for fault monitoring and control", *Proceedings of the 2009 Digital Signal Processing Creative Design Contest*, pp. 59-65, 19 November 2009, Taiwan.
13. KK Tan, SC Ng, AS PUTRA, KZ Tang, S Huang, KW Teo and T H Lee, "Automated ex-utero harvesting of stem cells from placenta", *Proceedings of the 2009 Digital Signal Processing Creative Design Contest*, pp.1-8, 19 November 2009, Taiwan.
14. KK Tan and S Huang, "Design and control of an air bearing positioning system", *Proceedings of the 10th International Conference on Computers, Communications and Systems*, pp. 101-107, 6 November 2009, South Korea.
15. J Yuan, KK Tan and TH Lee, "Robust Approach Towards Text Extraction From Natural Scene Images Captured Via Mobile Devices", *Proceedings of the IASTED International Conference Modeling, Simulation, and Identification*, 12 - 14 October 2009, China.
16. L Ju, AS Putra, KK Tan, A Tay, LP Pham and TH Lee, "Development of a Portable Tissue Micro Arrayer", *Preprints of the 9th International Symposium on Robot Control (SYROCO'09)* pp. 283-288, 9-12 September 2009, Japan.
17. S Chen, KK Tan, S Huang, CS Teo and T H Lee, "Concurrent friction and ripple modeling for servomechanisms using a hysteretic relay". *Preprints of the 9th International Symposium on Robot Control (SYROCO'09)*, pp. 277-288, 9 - 12 September 2009, Japan.
18. Z Zhao, J Kim, M Luo, HC Lau and SS Ge, "A Heuristic Method for Job-Shop Scheduling with an Infinite Wait Buffer", *Proceedings of 2008 IEEE Conference on Cybernetics and Intelligent Systems*, 21 - 24 September 2009, China.
19. KK Tan, KZ Tang, S Huang, AS Putra and TH Lee, "Automated Haematopoietic Stem Cells Harvesting Machine", *IEEE International Conference on Mechatronics and Automation (ICMA 2009)*, 9 - 12 August 2009, China.
20. M Chen, SS Ge and YS Choo, "Neural Network Tracking Control of Ocean Surface Vessels with Input Saturation", *International Conference on Automation and Logistics*, 5 - 8 August 2009, China.

21. Z Guo, JX Xu and TH Lee, "A gain scheduling optimal fuzzy logic controller design for unicycle", *IEEE/ASME Conference on Advanced Intelligent Mechatronics*, 14 - 17 July 2009, Singapore.
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23. IR Wior, Z Zhao, M Luo, ZB Zhang, SS Ge and HC Lau, "Conceptual framework of a dynamic resource allocation test bed and its practical realization with ProModel", *Proceedings of IEEE International Symposium on Intelligent Control*, pp. 1613-1618, 8 - 10 July 2009, Russia.
24. F Liu and H Lin, "Reliable decentralized supervisory control of discrete event systems with communication", *Proceeding of 2009 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, 14 - 17 July 2009, Singapore.
25. K Mohammad, H Lin and TH Lee, "Decentralized supervisory control: Nondeterministic transitions versus deterministic moves", *Proceeding of 2009 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, 14 - 17 July 2009, Singapore.
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27. SH Ling, SC Lau, Ming Luo and SS Ge, "Dynamic Resource Allocation with Machine Degradation using Decentralized Multi-Agent Approach", *Proceeding of 2009 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, pp. 1176-1181, 14 - 17 July 2009, Singapore.
28. L Liu, KK Tan, AS Putra and TH Lee, "Compensation of hysteresis in piezoelectric actuator with iterative learning control", *Proceedings of Advanced Intelligent Mechatronics*, 14 - 17 July 2009, Singapore.
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32. S Dai, H Lin and SS Ge, "Robust stability of discrete-time switched delay system and its application to network-based reliable control", *Proceeding of 2009 American Control Conference*, 10 - 12 June 2009, United States.
33. F Hong, C Du, KP Tee and SS Ge, "Adaptive Disturbance Rejection in the Presence of Uncertain Resonance Mode in Hard Disk Drives", *Proceedings of the 2009 American Control Conference*, 10 - 12 June 2009, United States.
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37. SS Ge, C Yang, SL Dai and TH Lee, "Adaptive Control of a Class of Strict-Feedback Discrete-Time Nonlinear Systems with Unknown Control Gains and Preceded by Hysteresis ", *Proceedings of the 2009 American Control Conference*, pp. 586-591, 10 - 12 June 2009, United States.
38. SP Andi, S Huang and KK Tan, "Power control to actuators with application to science laboratory experiment", *Proceedings of the second global conference on power control and optimization*, 1 - 3 June 2009, Indonesia.
39. R Cui, SS Ge, VE How and TH Lee, "Leader-Follower Formation Control of Underactuated AUVs with Leader Position Measurement", *International Conference on Robotics and Automation*, pp. 979-984, 12 - 17 May 2009, Japan.
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43. S Dai, H Lin, and SS Ge, "A switched system approach to scheduling of networked control systems with communication constraints," *48th IEEE Conference on Decision and Control*, 16-18 December 2009, China.
44. W Gu, C Xiang and H Lin, "Modified HMAX Models For Facial Expression Recognition", *Proceedings of the Seventh IEEE International Conference on Control and Automation*, pp.1509-1514, 9 - 11 December 2009, New Zealand.
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46. Z Huang, YV Venkatesh, C Xiang and TH Lee, "On a Frequency-Domain L2-Stability Condition for a Class of Switched Linear Systems", *Proceedings of 2009 7th Asian Control Conference*, pp. 1723-1728, 27-29 August 2009, Hong Kong.
47. CY Lai, C Xiang and TH Lee, "Input-Output Transition Models for Discrete-Time Switched Nonlinear Systems", *Proceedings of 2009 IEEE/ASME Conference on Advanced Intelligent Mechatronics*, pp. 112-117, 14 - 17 Jul 2009, Singapore.
48. Zhen Zhu, Myint Phone Naing and A Al-Mamun, "Integrated ADAMS+MATLAB environment for design of an autonomous single wheel robot", *Annual Conference of the IEEE Industrial Electronics Society*, 3-5 November 2009, Portugal.



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52. Q Ling, M Lemmon, and H Lin, "Stabilize an n-dimensional quantized nonlinear feedforward system with 1 bit," *48th IEEE Conference on Decision and Control*, 16-18 December 2009, China.
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54. KL Tan, CH Tan, KC Tan and A Tay, "Adaptive Game AI for Gomoku", *Proc. of the Fourth International Conference on Autonomous Robots and Agents*, pp. 507-512, 10 - 12 Feb 2009, New Zealand.