

Prof. Xiaoqi CHEN

University of Canterbury, New Zealand

Selected Scholarly Contributions [Data Provided by ]

Meaclem, C.V., Gutschmidt, S., Chen, X., Parker, R.

[Kinematic and dynamic analysis of a brachiating tree-to-tree machine](#)

(2015) 2015 IEEE International Conference on Robotics and Biomimetics, IEEE-ROBIO 2015, art. no. 7418952, pp. 1311-1316.

Asgari, H., Chen, X., Morini, M., Pinelli, M., Sainudiin, R., Spina, P.R., Venturini, M.

[NARX models for simulation of the start-up operation of a single-shaft gas turbine](#)

(2016) Applied Thermal Engineering, 93, pp. 368-376.

Sharifi, M., Chen, X.

[Introducing a novel vision based obstacle avoidance technique for navigation of autonomous mobile robots](#)

(2015) Proceedings of the 2015 10th IEEE Conference on Industrial Electronics and Applications, ICIEA 2015, art. no. 7334223, pp. 817-822.

Shao, L., Guo, B., Wang, Y., Chen, X.

[An overview on theory and implementation of snake-like robots](#)

(2015) 2015 IEEE International Conference on Mechatronics and Automation, ICMA 2015, art. no. 7237459, pp. 70-75.

Shao, L., Wang, Y., Guo, B., Chen, X.

[A review over state of the art of in-pipe robot](#)

(2015) 2015 IEEE International Conference on Mechatronics and Automation, ICMA 2015, art. no. 7237824, pp. 2180-2185.

Masoomi, S.F., Gutschmidt, S., Chen, X., Sellier, M.

[The kinematics and dynamics of undulatory motion of a tuna-mimetic robot](#)

(2015) International Journal of Advanced Robotic Systems, 12, .

Paulin, S., Botterill, T., Lin, J., Chen, X., Green, R.

[A comparison of sampling-based path planners for a grape vine pruning robot arm](#)

(2015) ICARA 2015 - Proceedings of the 2015 6th International Conference on Automation, Robotics and Applications, art. no. 7081131, pp. 98-103.

Milne, B.J.E., Beelen, H.P.G.J., Merks, R.W.H., Weiland, S., Chen, X.Q., Hann, C.E., Parker, R.J.

[Verification of sinusoidal steady state system identification of a Phantom Omni haptic device using data driven modeling](#)

(2015) ICARA 2015 - Proceedings of the 2015 6th International Conference on Automation, Robotics and Applications, art. no. 7081161, pp. 283-288.

Sharifi, M., Chen, X.

[A novel vision based row guidance approach for navigation of agricultural mobile robots in orchards](#)

(2015) ICARA 2015 - Proceedings of the 2015 6th International Conference on Automation, Robotics and Applications, art. no. 7081155, pp. 251-255.

Chang, Y., Chen, X.

[Design of a scalable wall climbing robot for inter-plane traversing](#)

(2015) Advances in Intelligent Systems and Computing, 363, pp. 145-158.

Masoomi, S.F., Gutschmidt, S., Chen, X.Q.

[State of the art in biomimetic swimming robots: Design principles and case study](#)

(2014) Handbook of Research on Advancements in Robotics and Mechatronics, pp. 118-152.

Asgari, H., Venturini, M., Chen, X.Q., Sainudiin, R.

[Modeling and simulation of the transient behavior of an industrial power plant gas turbine](#)

(2014) Journal of Engineering for Gas Turbines and Power, 136 (6), art. no. 061601, .

Zhang, T., Wu, M., Zhao, Y., Chen, X., Chen, S.

[Optimal motion planning of mobile welding robot based on multivariable broken line seams](#)

(2014) International Journal of Robotics and Automation, 29 (2), pp. 215-223.

Shamsudin, S.S., Chen, X.Q.

[Recursive Gauss-Newton based training algorithm for neural network modelling of an unmanned rotorcraft dynamics](#)

(2014) International Journal of Intelligent Systems Technologies and Applications, 13 (1-2), pp. 56-80.

Asgari, H., Chen, X.Q., Sainudiin, R., Morini, M., Pinelli, M., Spina, P.R., Venturini, M.

[Modeling and simulation of the start-up operation of a heavy-duty gas turbine by using NARX models](#)

(2014) Proceedings of the ASME Turbo Expo, 3A, .

Shao, L., Chen, X., Milne, B., Guo, P.

[A novel tree trunk recognition approach for forestry harvesting robot](#)

(2014) Proceedings of the 2014 9th IEEE Conference on Industrial Electronics and Applications, ICIEA 2014, art. no. 6931283, pp. 862-866.

Jackson, S., Ellis, L., Lui, C., Molloy, P., Paterson, K., Chandrapal, M., Chen, X.Q.

[Development of an active powered biped lower limb exoskeleton](#)

(2014) IEEE International Conference on Automation Science and Engineering, 2014-January, art. no. 6899447, pp. 990-995.

Ghanbari, A., Horan, B., Nahavandi, S., Chen, X., Wang, W.

[Haptic microrobotic cell injection system](#)

(2014) IEEE Systems Journal, 8 (2), art. no. 6255757, pp. 371-383.

Myung, H., Wang, Y., Kang, S.-C.J., Chen, X.Q.

[Survey on robotics and automation technologies for civil infrastructure](#)

(2014) Smart Structures and Systems, 13 (6), pp. 891-899.

Meaclem, C.V., Shao, L., Parker, R., Gutschmidt, S., Hann, C.E., Milne, B.J.E., Chen, X.

[Sensor guided biped felling machine for steep terrain harvesting](#)

(2014) IEEE International Conference on Automation Science and Engineering, 2014-January, art. no. 6899446, pp. 984-989.

Masoomi, S.F., Haunholter, A., Merz, D., Gutschmidt, S., Chen, X., Sellier, M.
[Design, fabrication, and swimming performance of a free-swimming tuna-mimetic robot](#)
(2014) Journal of Robotics, 2014, art. no. 687985, .

Choi, R.L.W., Hann, C.E., Chen, X.
[Minimal models to capture the dynamics of a rotary unmanned aerial vehicle](#)
(2014) Journal of Intelligent and Robotic Systems: Theory and Applications, 75 (3-4), pp. 569-593.

Lv, M., Chen, W., Ding, X., Wang, J., Chen, X.
[A new designed quadruped robot with elastic joints](#)
(2014) IEEE International Conference on Automation Science and Engineering, 2014-January, art. no. 6899449, pp. 1002-1007.

Choi, R.L.W., Hann, C.E., Chen, X.Q.
[Iterative parameter estimation and model prediction of a rotary unmanned aerial vehicle](#)
(2014) International Journal of Intelligent Systems Technologies and Applications, 13 (1-2), pp. 81-102.

Milne, B., Buchanan, G., Paulin, S., Chen, X., Hann, C., Geldenhuis, A., Parker, R.
[Robotic arm kinematics and bilateral haptic feedback over an ethernet communications link](#)
(2013) IEEE International Conference on Automation Science and Engineering, art. no. 6654005, pp. 960-965.

Asgari, H., Chen, X.Q., Sainudiin, R.
[Modelling and simulation of gas turbines](#)
(2013) International Journal of Modelling, Identification and Control, 20 (3), pp. 253-270.

Chandrapal, M., Chen, X., Wang, W.
[Preliminary evaluation of a lower-limb exoskeleton - Stair climbing](#)
(2013) 2013 IEEE/ASME International Conference on Advanced Intelligent Mechatronics: Mechatronics for Human Wellbeing, AIM 2013, art. no. 6584300, pp. 1458-1463.

Milne, B., Chen, X., Hann, C., Parker, R.

[Robotisation of forestry harvesting in New Zealand - An overview](#)

(2013) IEEE International Conference on Control and Automation, ICCA, art. no. 6564913, pp. 1609-1614.

Asgari, H., Chen, X., Menhaj, M.B., Sainudiin, R.

[Artificial neural network-based system identification for a single-shaft gas turbine](#)

(2013) Journal of Engineering for Gas Turbines and Power, 135 (9), art. no. 092601, .

Asgari, H., Chen, X., Sainudiin, R.

[Modelling and simulation approaches for gas turbine system optimization](#)

(2013) Engineering Creative Design in Robotics and Mechatronics, pp. 240-264.

Masoomi, S.F., Chen, C., Gutschmidt, S., Sellier, M.

[Novel swimming mechanism for a robotic fish](#)

(2013) Engineering Creative Design in Robotics and Mechatronics, pp. 41-58.

Milne, B., Chen, X., Hann, C., Parker, R., Milliken, P.

[Design and development of teleoperation for forest machines: An overview](#)

(2013) Engineering Creative Design in Robotics and Mechatronics, pp. 186-206.

Chandrapal, M., Chen, X., Wang, W., Stanke, B., Le Pape, N.

[Preliminary Evaluation of Intelligent Intention Estimation Algorithms for an Actuated Lower-Limb Exoskeleton](#)

(2013) International Journal of Advanced Robotic Systems, 10, art. no. 147, .

Zhang, T., Chen, S., Wu, M., Zhao, Y., Chen, X.

[Optimal motion planning of all position autonomous mobile welding robot system for fillet seams](#)

(2013) IEEE Transactions on Automation Science and Engineering, 10 (4), art. no. 6506116, pp. 1147-1155.

Chandrapal, M., Chen, X., Wang, W.

[Intelligent assistive knee exoskeleton](#)

(2013) Mechatronics, pp. 195-237.

Asgari, H., Chen, X., Menhaj, M.B., Sainudiin, R.

[ANN-based system identification, modelling and control of gas turbines - A review](#)

(2013) Advanced Materials Research, 622, pp. 611-617.

Shamsudin, S.S., Chen, X.

[Recursive Gauss-Newton based training algorithm for neural network modelling of an unmanned helicopter dynamics](#)

(2012) 2012 19th International Conference on Mechatronics and Machine Vision in Practice, M2VIP 2012, art. no. 6484573, pp. 92-99.

Wang, D., Chen, X.

[Optical measurement for robotic grinding and polishing of turbine vanes](#)

(2012) Mechatronic & Innovative Applications, pp. 217-250.

Lang, M., Chen, X., Wang, W., Woodfield, T.B.F.

[Injection system for cellular assembly of 3D bio-tissue engineered constructs](#)

(2012) IEEE International Conference on Automation Science and Engineering, art. no. 6386394, pp. 291-296.

Tang, R., Chen, X.Q., Hayes, M., Palmer, I.

[Development of a navigation system for semi-autonomous operation of wheelchairs](#)

(2012) Proceedings of 2012 8th IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications, MESA 2012, art. no. 6275571, pp. 257-262.

Shamsudin, S.S., Chen, X.

[Identification of an unmanned helicopter system using optimised neural network structure](#)

(2012) International Journal of Modelling, Identification and Control, 17 (3), pp. 223-241.

Ghanbari, A., Nock, V., Johari, S., Blaikie, R., Chen, X., Wang, W.

[A micropillar-based on-chip system for continuous force measurement of *C. elegans*](#)

(2012) Journal of Micromechanics and Microengineering, 22 (9), art. no. 095009, .

Hann, C.E., Snowdon, M., Rao, A., Winn, O., Wongvanich, N., Chen, X.

[Minimal modelling approach to describe turbulent rocket roll dynamics in a vertical wind tunnel](#)

(2012) Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, 226 (9), pp. 1042-1060.

Chandrapal, M., Chen, X., Wang, W., Hann, C.

[Nonparametric control algorithms for a pneumatic artificial muscle](#)

(2012) Expert Systems with Applications, 39 (10), pp. 8636-8644.

Li, H.Z., Albrecht, A., Chen, X.Q.

[Flank wear development in milling of Inconel 718](#)

(2012) Advanced Science Letters, 12, pp. 110-114.

Asgari, H., Chen, X., Sainudiin, R.

[Considerations in modelling and control of gas turbines - A review](#)

(2012) Proceedings - 2011 2nd International Conference on Control, Instrumentation and Automation, ICCIA 2011, art. no. 6356635, pp. 84-89.

Ou, Q., Chen, X., Gutschmidt, S., Wood, A., Leigh, N., Arrieta, A.F.

[An experimentally validated double-mass piezoelectric cantilever model for broadband vibration-based energy harvesting](#)

(2012) Journal of Intelligent Material Systems and Structures, 23 (2), pp. 117-126.

Nayyerloo, M., Chase, J.G., Millane, A., Muller, C., Malherbe, A., Chen, X.-Q., MacRae, G.A.

[Seismic structural displacement measurement using a line-scan camera: Camera-pattern calibration and experimental validation](#)

(2011) Journal of Civil Structural Health Monitoring, 1 (3-4), pp. 113-124.

Ghanbari, A., Chen, X.Q., Wang, W.

[Intelligent precision control for haptic microrobotic cell injection system](#)

(2011) Proceedings of the 2011 Australasian Conference on Robotics and Automation, 7 p.

Hann, C.E., Rao, A.A., Snowdon, M., Wongvanich, N., Winn, O., Chen, X.Q.

[Minimal modeling of rocket roll response and aerodynamic disturbance in wind tunnel](#)

(2011) IEEE International Conference on Control and Automation, ICCA, art. no. 6137996, pp. 213-218.

Journee, M., Chen, X., Robertson, J., Jermy, M., Sellier, M.

[An investigation into improved non-contact adhesion mechanism suitable for wall climbing robotic applications](#)

(2011) Proceedings - IEEE International Conference on Robotics and Automation, art. no. 5979842, pp. 4915-4920.

Nayerloo, M., Chase, J.G., MacRae, G.A., Chen, X-Q.

[Lms-based approach to structural health monitoring of nonlinear hysteretic structures](#)

(2011) Structural Health Monitoring, 10 (4), pp. 429-444.

Ghanbari, A., Abdi, H., Horan, B., Nahavandi, S., Chen, X., Wang, W.

[Haptic guidance for microrobotic intracellular injection](#)

(2010) 2010 3rd IEEE RAS and EMBS International Conference on Biomedical Robotics and Biomechatronics, BioRob 2010, art. no. 5627016, pp. 162-167.

Hann, C.E., Snowdon, M., Rao, A., Tang, R., Korevaar, A., Skinner, G., Keall, A., Chen, X., Chase, J.G.

[Rocket roll dynamics and disturbance - Minimal modelling and system identification](#)

(2010) 11th International Conference on Control, Automation, Robotics and Vision, ICARCV 2010, art. no. 5707270, pp. 1736-1741.

Ghanbari, A., Chen, X., Wang, W., Horan, B., Abdi, H., Nahavandi, S.

[Haptic microrobotic intracellular injection assistance using virtual fixtures](#)

(2010) 11th International Conference on Control, Automation, Robotics and Vision, ICARCV 2010, art. no. 5707390, pp. 781-786.

O'Steen, B., Brogt, E., Chen, X., Chase, J.G.

[Using "System sensing" during the implementation of a new mechatronics engineering curriculum](#)

(2010) IMETI 2010 - 3rd International Multi-Conference on Engineering and Technological Innovation, Proceedings, 1, pp. 140-145.

Ou, Q., Chen, X.Q., Gutschmidt, S., Wood, A., Leigh, N.

[A two-mass cantilever beam model for vibration energy harvesting applications](#)

(2010) 2010 IEEE International Conference on Automation Science and Engineering, CASE 2010, art. no. 5584730, pp. 301-306.

Lang, M., Wang, W., Chen, X.Q., Woodfield, T.

[Integrated system for 3D assembly of bio-scaffolds and cells](#)

(2010) 2010 IEEE International Conference on Automation Science and Engineering, CASE 2010, art. no. 5584476, pp. 786-791.

Buksh, S.R., Chen, X., Wang, W.

[Study of flea jumping mechanism for biomimetic robot design](#)

(2010) Journal of Biomechanical Science and Engineering, 5 (1), pp. 41-52.

Hann, C.E., Hewett, D., Chase, J.G., Rabczuk, T., Sundaresan, A., Chen, X., Wang, W., Shaw, G.M.

[Image-based measurement of alveoli volume expansion in an animal model of a diseased lung](#)

(2010) International Journal of Computer Applications in Technology, 39 (1-3), pp. 58-65.

Gao, M., Chen, W., Liu, J., Chen, X.

[An environmental cognition method based on 3D laser radar](#)

(2010) Proceedings of the ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference 2009, DETC2009, 3, pp. 405-410.

Horan, B., Nahavandi, S., Ghanbari, A., Chen, X.Q., Wang, W.

[Towards haptic microrobotic intracellular injection](#)

(2010) Proceedings of the ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference 2009, DETC2009, 3, pp. 135-142.

Wolm, P., Chen, X., Geoffrey Chase, J., Pettigrew, W., Hann, C.E.

[Analysis of a PM DC motor model for application in feedback design for electric-powered mobility vehicles](#)

(2010) International Journal of Computer Applications in Technology, 39 (1-3), pp. 116-122.

Nayyerloo, M., Geoffrey Chase, J., Chen, X.Q., Hann, C.E.

[Structural health monitoring using adaptive LMS filters](#)

(2010) International Journal of Computer Applications in Technology, 39 (1-3), pp. 130-136.

Chen, X., Chase, J.G., Wang, W., Gaynor, P., McInnes, A.

[RETRACTED ARTICLE: Embedding design projects into multidisciplinary engineering education](#)

(2010) ICEIT 2010 - 2010 International Conference on Educational and Information Technology, Proceedings, 3, art. no. 5608345, pp. V3398-V3402.

Ghanbari, A., Nock, V., Blaikie, R., Geoffrey Chase, J., Chen, X.Q., Hann, C.E.

[Force pattern characterisation of Caenorhabditis elegans in motion](#)

(2010) International Journal of Computer Applications in Technology, 39 (1-3), pp. 137-144.

Gao, M., Chen, W., Liu, J., Chen, X.Q.

[An environmental cognition method based on 3D laser radar](#)

(2009) Proceedings of the ASME Design Engineering Technical Conference, 3, pp. 405-410.

Buksh, S.R., Chen, X., Wang, W.

[Design and modeling of a flea-like jumping robot](#)

(2009) 2009 IEEE International Conference on Control and Automation, ICCA 2009, art. no. 5410146, pp. 1862-1867.

Tay, A., Ho, W.K., Wu, X., Chen, X.

[In situ monitoring of photoresist thickness uniformity of a rotating wafer in lithography](#)

(2009) IEEE Transactions on Instrumentation and Measurement, 58 (12), art. no. 05175342, pp. 3978-3984.

Ghanbari, A., Chen, X., Wang, W.

[Neuro-fuzzy microrobotic system identification for haptic intracellular injection](#)

(2009) 2009 IEEE International Conference on Control and Automation, ICCA 2009, art. no. 5410444, pp. 860-866.

Gao, Y., Chen, W., Lu, Z., Chen, X.

[Dynamics analysis and trajectory tracking control for a cockroach-like robot](#)

(2009) 2009 IEEE International Conference on Control and Automation, ICCA 2009, art. no. 5410570, pp. 769-774.

Chen, X.Q., Li, H.Z.

[Development of a tool wear observer model for online tool condition monitoring and control in machining nickel-based alloys](#)

(2009) International Journal of Advanced Manufacturing Technology, 45 (7-8), pp. 786-800.

Peattie, A., Korevaar, A., Wilson, J., Sandilands, B., Chen, X.Q., King, M.

[Automated variable resistance system for upper limb rehabilitation](#)

(2009) Proceedings of the 2009 Australasian Conference on Robotics and Automation, ACRA 2009, .

Faramarzi, S., Ghanbari, A., Chen, X.Q., Wang, W.H.

[A PVDF based 3D force sensor for micro and nano manipulation](#)

(2009) 2009 IEEE International Conference on Control and Automation, ICCA 2009, art. no. 5410237, pp. 867-871.

Ben, H., Nahavandi, S., Ghanbari, A., Chen, X.Q., Wang, W.

[Towards haptic microrobotic intracellular injection](#)

(2009) Proceedings of the ASME Design Engineering Technical Conference, 3, pp. 135-142.

Evers, G., Vervoort, J.H.A.M., Engelaar, R.C., Nijmeijer, H., De Jager, A.G., Chen, X.Q., Wang, W.H.

[Modeling and simulated control of an under actuated autonomous underwater vehicle](#)

(2009) 2009 IEEE International Conference on Control and Automation, ICCA 2009, art. no. 5410406, pp. 343-348.

Chandrapal, M., Chen, X.

[Intelligent active assistive and resistive orthotic device for knee rehabilitation](#)

(2009) 2009 IEEE International Conference on Control and Automation, ICCA 2009, art. no. 5410528, pp. 1880-1885.

Li, H.Z., Albrecht, A., Chen, X.Q.

[A tool wear observer model for flank wear monitoring in the milling of Nickel-based alloys](#)

(2009) International Journal of Mechatronics and Manufacturing Systems, 2 (5-6), pp. 620-637.

Hann, C.E., Chase, J.G., Chen, X.Q., Berg, C., Brown, R.G., Elliot, R.B.

[Strobe imaging system for digital image-based elasto-tomography breast cancer screening](#)

(2009) IEEE Transactions on Industrial Electronics, 56 (8), pp. 3195-3202.

Ghanbari, A., Wang, W., Hann, C.E., Chase, J.G., Chen, X.

[Cell image recognition and visual servo control for automated cell injection](#)

(2009) ICARA 2009 - Proceedings of the 4th International Conference on Autonomous Robots and Agents, art. no. 4803986, pp. 92-96.

Chen, X.Q., Lin, W.-J., Ng, T.-J.

[Neutral line-based robust profile reconstruction for adaptive machining of turbine blade tip welds](#)

(2009) International Journal of Manufacturing Research, 4 (2), pp. 236-251.

Chen, X.Q., Wang, D., Li, H.Z.

[A hybrid method of reconstructing 3D airfoil profile from incomplete and corrupted optical scans](#)

(2009) International Journal of Mechatronics and Manufacturing Systems, 2 (1-2), pp. 39-57.

Wang, W., Hewett, D., Hann, C.E., Chase, J.G., Chen, X.Q.

[Application of machine vision for automated cell injection](#)

(2009) International Journal of Mechatronics and Manufacturing Systems, 2 (1-2), pp. 120-134.

Wang, W.H., Chen, X.Q., Marburg, A., Chase, J.G., Hann, C.E.

[Design of low-cost unmanned underwater vehicle for shallow waters](#)

(2009) International Journal of Advanced Mechatronic Systems, 1 (3), pp. 194-202.

Nayyerloo, M., Chase, J.G., MacRae, G.A., Chen, X.-Q.

[Cost effective computer vision based Structural health monitoring using Adaptive LMS filters](#)

(2009) Structural Health Monitoring 2009: From System Integration to Autonomous Systems - Proceedings of the 7th International Workshop on Structural Health Monitoring, IWSHM 2009, 1, pp. 705-712.

Green, S.A., Chen, X., Billingham, M., Geoffrey, C.J.

[Collaborating with a mobile robot: An augmented reality multimodal interface](#)

(2008) IFAC Proceedings Volumes (IFAC-PapersOnline), 17 (1 PART 1), .

Ghanbari, A., Nock, V., Wang, W., Blaikie, R., Chase, J.G., Chen, X., Hann, C.E.

[Force pattern characterization of C. elegans in motion](#)

(2008) 15th International Conference on Mechatronics and Machine Vision in Practice, M2VIP'08, art. no. 4749604, pp. 634-639.