

Kok Yew NG (Mark NG), PhD
Head of Mechatronics and Digital Twin Lab
Senior Lecturer in Mechatronics Engineering and Control Systems
School of Engineering, Ulster University, UK
Email: mark.ng@ulster.ac.uk Website: www.markusng.com

Education

2006 Monash University, Australia, BEng (Hons) Electrical and Computer Systems Engineering
2009 Monash University, Australia, PhD (Control Engineering and Fault Diagnosis)
Thesis: *Advancements in Robust Fault Reconstruction Using Sliding Mode Observers*

Experience

Ulster University, UK

2021–Present Senior Lecturer, Mechatronics Engineering and Control Systems
2017–2021 Lecturer, Mechatronics Engineering and Control Systems
Other roles ILN+ Researcher in Residence with Digital Catapult (2024–Present)
Technology Strategy Groups Member (Digital Factory), Advanced Manufacturing Innovation Centre (AMIC), Northern Ireland (2024–Present)
Athena Swan Champion, School of Engineering (2023–Present)

Linköping University, Sweden

2016 Visiting Researcher (3 months)
2014–2015 Postdoctoral Fellow, Division of Vehicular Systems and Volvo Car Corporation

Monash University, Malaysia

2017–Present Adjunct Senior Research Fellow
2016–2017 Senior Lecturer, Electrical and Computer Systems Engineering
2009–2016 Lecturer, Electrical and Computer Systems Engineering
2006–2009 Graduate Researcher and Teaching Assistant

Honours and Awards

2024 Nomination for Learning and Teaching Award, Ulster University Students' Union
2020 Learning and Teaching Award, Ulster University Students' Union
2018 Erasmus+ Staff Mobility Program
2012 Monash University Malaysia PVC's Award for Excellence in Research, Round 1
2012 Letter of Commendation for Excellence Unit Evaluation Result from the Associate-Dean (Education), Faculty of Engineering, Monash University Australia
2011 Monash University Malaysia PVC's Award for Excellence in Teaching, Round 2
2011 Monash University Malaysia PVC's Award for Excellence in Teaching, Round 1
2010 Top 50 Best Units Offered by Faculty of Engineering (ranked #22) Across All Campuses
2010 Monash University Malaysia PVC's Award for Excellence in Teaching, Round 2
2010 Monash University Malaysia PVC's Award for Excellence in Teaching, Round 1
2009 Monash University Malaysia PVC's Award for Excellence in Teaching, Round 2
2007 Degree by Research Scholarship for Ph.D. in Engineering
2006 Postgraduate Research Scholarship for Master of Engineering Science by Research
2002 Monash University Malaysia Entrance Scholarship

Professional Memberships

2022–Present IEEE Control Systems Society (CSS) UK and Ireland Chapter, Secretary
2020–Present IEEE, Senior Member

2010–2011	IEEE Robotics and Automation Society (RAS) Malaysia Chapter, Auditor
2009–2019	IEEE, Member
2018–Present	Higher Education Academy UK, Fellow
2011	Campus Review Panel for Higher Degree by Research Course, Monash University, Malaysia, Faculty Representative
2005–Present	Board of Engineers Malaysia (BEM), Graduate Member

Research Leadership and Activities

Multi-Agent Robotics Centre (MARC) for Control, Digital Twin, and Advanced Manufacturing
Lab Head and Ulster Lead at School of Engineering, 2024–Present)

Design of Control Systems, Fault Detection and Diagnosis Schemes, Data Analytics Using Machine Learning and Deep Learning for Industrial Internet-of-Things (IIoT) and Industry 4.0 Applications
Ulster Lead, collaboration with Faculty of Electrical Engineering and Autonomous Vehicle Research Team, Technical University of Applied Sciences Augsburg, Germany (2021–Present)

Identification and Classification of Multiple Weed Rice Species Using Mobile Computing
Ulster Lead, collaboration with School of Science, Monash University, Malaysia (2019–Present)

Mobile Control of Intelligent Lighting Systems
Monash Lead, collaboration with ItraMAS Corporation Malaysia (2015–2018)

Publications: Peer-Reviewed Journal Articles

- [1] O. Escalona, N. Cullen, I. Weli, N. McCallan, **K. Y. Ng**, and D. Finlay, “Robust arm impedocardiography signal quality enhancement using recursive signal averaging and multi-stage wavelet denoising methods for long-term cardiac contractility monitoring armbands,” *Sensors*, vol. 23, no. 13, p. 5892, 2023. DOI: 10.3390/s23135892.
- [2] T. Fairouz, S. E. McNamee, D. Finlay, **K. Y. Ng**, and J. McLaughlin, “A novel patches-selection method for the classification of point-of-care biosensing lateral flow assays with cardiac biomarkers,” *Biosensors and Bioelectronics*, vol. 223, p. 115 016, 2023. DOI: 10.1016/j.bios.2022.115016.
- [3] N. McCallan, S. Davidson, **K. Y. Ng**, P. Biglarbeigi, D. Finlay, B. L. Lan, and J. McLaughlin, “Epileptic multi-seizure type classification using electroencephalogram signals from the Temple University Hospital Seizure Corpus: A review,” *Expert Systems with Applications*, p. 121 040, 2023. DOI: 10.1016/j.eswa.2023.121040.
- [4] **K.Y. Ng**, T. A. Codreanu, M. M. Gui, P. Biglarbeigi, D. Finlay, and J. McLaughlin, “Development of a mathematical model to predict the health impact and duration of SARS-CoV-2 outbreaks on board cargo vessels,” *WMU Journal of Maritime Affairs*, 2022. DOI: 10.1007/s13437-022-00291-1.
- [5] P. Biglarbeigi, **K. Y. Ng**, D. Finlay, R. Bond, M. Jing, and J. McLaughlin, “Sensitivity analysis of the infection transmissibility in the UK during the COVID-19 pandemic,” *PeerJ*, vol. 9, e10992, 2021. DOI: 10.7717/peerj.10992.
- [6] T. D. Do, M. M. Gui, and **K. Y. Ng**, “Assessing the effects of time-dependent restrictions and control actions to flatten the curve of COVID-19 in Kazakhstan,” *PeerJ*, vol. 9, e10806, 2021. DOI: 10.7717/peerj.10806.
- [7] M. Jing *et al.*, “COVID-19 Modelling by Time-varying Transmission Rate Associated with Mobility Trend of Driving via Apple Maps,” *Journal of Biomedical Informatics*, p. 103 905, 2021. DOI: 10.1016/j.jbi.2021.103905.
- [8] L. J. Robertson *et al.*, “Evaluation of the IgG antibody response to SARS CoV-2 infection and performance of a lateral flow immunoassay: cross-sectional and longitudinal analysis over 11 months,” *BMJ Open*, vol. 11, no. 6, e048142, 2021. DOI: 10.1136/bmjopen-2020-048142.
- [9] **K. Y. Ng**, E. Frisk, M. Krysander, and L. Eriksson, “A Realistic Simulation Testbed of a Turbocharged Spark-Ignited Engine System: A Platform for the Evaluation of Fault Diagnosis Algorithms and Strategies,” *IEEE Control Systems Magazine*, vol. 40, pp. 56–83, 2 2020. DOI: 10.1109/MCS.2019.2961793.

- [10] **K. Y. Ng** and M. M. Gui, "COVID-19: Development of a robust mathematical model and simulation package with consideration for ageing population and time delay for control action and resusceptibility," *Physica D: Nonlinear Phenomena*, vol. 411, p. 132 599, 2020. DOI: 10.1016/j.physd.2020.132599.
- [11] D. Jung, **K. Y. Ng**, E. Frisk, and M. Krysander, "Combining model-based diagnosis and data-driven anomaly classifiers for fault isolation," *Control Engineering Practice*, vol. 80, pp. 146–156, 2018. DOI: 10.1016/j.conengprac.2018.08.013.
- [12] L. H. Lee *et al.*, "Sustainable approach to biotransform industrial sludge into organic fertilizer via vermicomposting: A mini-review," *Journal of Chemical Technology & Biotechnology*, vol. 93, no. 4, pp. 925–935, 2018. DOI: 10.1002/jctb.5490.
- [13] S. J. W. Tang, V. Kalavally, **K. Y. Ng**, C. P. Tan, and J. Parkkinen, "Real-Time Closed-Loop Color Control of a Multi-Channel Luminaire Using Sensors Onboard a Mobile Device," *IEEE Access*, vol. 6, pp. 54 751–54 759, 2018. DOI: 10.1109/ACCESS.2018.2872320.
- [14] J. H. T. Ooi, C. P. Tan, S. Nurzaman, and **K. Y. Ng**, "A Sliding Mode Observer for Infinitely Unobservable Descriptor Systems," *IEEE Transactions on Automatic Control*, vol. 62, no. 7, pp. 3580–3587, 2017. DOI: 10.1109/TAC.2017.2665699.
- [15] S. Tang, V. Kalavally, **K. Y. Ng**, and J. Parkkinen, "Development of a prototype smart home intelligent lighting control architecture using sensors onboard a mobile computing system," *Energy and Buildings*, vol. 138, pp. 368–376, 2017. DOI: 10.1016/j.enbuild.2016.12.069.
- [16] J. Y. Ng, C. P. Tan, H. Trinh, and **K. Y. Ng**, "A common functional observer scheme for three systems with unknown inputs," *Journal of the Franklin Institute*, vol. 353, no. 10, pp. 2237–2257, 2016. DOI: 10.1016/j.jfranklin.2016.03.020.
- [17] J. Y. Ng, C. P. Tan, **K. Y. Ng**, and H. Trinh, "New results in common functional state estimation for two linear systems with unknown inputs," *International Journal of Control, Automation and Systems*, vol. 13, no. 6, pp. 1538–1543, 2015. DOI: 10.1007/s12555-014-0315-x.
- [18] J. H. T. Ooi, C. P. Tan, and **K. Y. Ng**, "State and Fault Estimation For Infinitely Unobservable Descriptor Systems Using Sliding Mode Observers," *Asian Journal of Control*, vol. 17, no. 4, pp. 1458–1461, 2015. DOI: 10.1002/asjc.1033.
- [19] C. Y. Kee, C. P. Tan, **K. Y. Ng**, and H. Trinh, "New results in robust functional state estimation using two sliding mode observers in cascade," *International Journal of Robust and Nonlinear Control*, vol. 24, no. 15, pp. 2079–2097, 2014. DOI: 10.1002/rnc.2973.
- [20] **K. Y. Ng**, C. P. Tan, and D. Oetomo, "Disturbance decoupled fault reconstruction using cascaded sliding mode observers," *Automatica*, vol. 48, no. 5, pp. 794–799, 2012. DOI: 10.1016/j.automatica.2012.02.005.
- [21] **K. Y. Ng**, C. P. Tan, R. Akmeliawati, and C. Edwards, "Disturbance decoupled fault reconstruction using sliding mode observers," *Asian Journal of Control*, vol. 12, no. 5, pp. 656–660, 2010. DOI: 10.1002/asjc.231.
- [22] **K. Y. Ng**, C. P. Tan, Z. Man, and R. Akmeliawati, "New results in disturbance decoupled fault reconstruction in linear uncertain systems using two sliding mode observers in cascade," *International Journal of Control, Automation and Systems*, vol. 8, no. 3, pp. 506–518, 2010. DOI: 10.1007/s12555-010-0303-8.
- [23] **K. Y. Ng**, C. P. Tan, C. Edwards, and Y. C. Kuang, "New results in robust actuator fault reconstruction for linear uncertain systems using sliding mode observers," *International Journal of Robust and Nonlinear Control*, vol. 17, no. 14, pp. 1294–1319, 2007. DOI: 10.1002/rnc.1170.

Publications: Peer-Reviewed Conference Articles

- [1] S. Wucherer, R. McMurray, **K. Y. Ng**, and F. Kerber, "Predicting Maximum Permitted Process Forces for Object Grasping and Manipulation Using a Deep Learning Regression Model," in *8th IEEE Conference on Control Technology and Applications (CCTA)*, 2024, pp. 669–674. DOI: 10.1109/CCTA60707.2024.10666569.

- [2] N. McCallan, S. Davidson, **K. Y. Ng**, P. Biglarbeigi, D. Finlay, B. L. Lan, and J. McLaughlin, “Rebalancing Techniques for Asynchronously Distributed EEG Data to Improve Automatic Seizure Type Classification,” in *2023 57th Annual Conference on Information Sciences and Systems (CISS)*, 2023, pp. 1–6. DOI: 10.1109/CISS56502.2023.10089669.
- [3] S. Davidson, N. McCallan, **K. Y. Ng**, P. Biglarbeigi, D. Finlay, B. L. Lan, and J. McLaughlin, “Epileptic Seizure Classification Using Combined Labels and a Genetic Algorithm,” in *2022 IEEE 21st Mediterranean Electrotechnical Conference (MELECON)*, 2022, pp. 430–435. DOI: 10.1109/MELECON53508.2022.9843099.
- [4] S. Davidson, N. McCallan, **K. Y. Ng**, P. Biglarbeigi, D. Finlay, B. L. Lan, and J. McLaughlin, “Seizure Classification Using BERT NLP and a Comparison of Source Isolation Techniques with Two Different Time-Frequency Analysis,” in *2022 IEEE Signal Processing in Medicine and Biology Symposium (SPMB)*, 2022, pp. 1–7. DOI: 10.1109/SPMB55497.2022.10014769.
- [5] N. McCallan, S. Davidson, **K. Y. Ng**, P. Biglarbeigi, D. Finlay, B. L. Lan, and J. McLaughlin, “Seizure Classification of EEG based on Wavelet Signal Denoising Using a Novel Channel Selection Algorithm,” in *2021 Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC)*, 2021, pp. 1269–1276.
- [6] **K. Y. Ng**, E. Frisk, and M. Krysander, “Design and Selection of Additional Residuals to Enhance Fault Isolation of a Turbocharged Spark Ignited Engine System*,” in *2020 7th International Conference on Control, Decision and Information Technologies (CoDIT)*, vol. 1, 2020, pp. 76–81. DOI: 10.1109/CoDIT49905.2020.9263792.
- [7] N. McCallan, D. Finlay, P. Biglarbeigi, G. Perpiñan, M. Jennings, **K. Y. Ng**, J. McLaughlin, and O. Escalona, “Wearable Technology: Signal Recovery of Electrocardiogram From Short Spaced Leads in the Far-Field Using Discrete Wavelet Transform Based Techniques,” in *2019 Computing in Cardiology (CinC)*, 2019, pp. 1–4. DOI: 10.23919/CinC49843.2019.9005868.
- [8] P. Biglarbeigi, D. McLaughlin, K. Rjoob, Abdullah, N. McCallan, A. Jasinska-Piadlo, R. Bond, D. Finlay, **K. Y. Ng**, A. Kennedy, and J. McLaughlin, “Early Prediction of Sepsis Considering Early Warning Scoring Systems,” in *2019 Computing in Cardiology (CinC)*, 2019, pp. 1–4. DOI: 10.23919/CinC49843.2019.9005630.
- [9] D. Jung, **K. Y. Ng**, E. Frisk, and M. Krysander, “A combined diagnosis system design using model-based and data-driven methods,” in *2016 3rd Conference on Control and Fault-Tolerant Systems (SysTol)*, 2016, pp. 177–182. DOI: 10.1109/SYSTOL.2016.7739747.
- [10] W. J. Lee, **K. Y. Ng**, C. L. Tan, and C. P. Tan, “Real-time face detection and motorized tracking using ScicosLab and SMCube on SoC’s,” in *2016 14th International Conference on Control, Automation, Robotics and Vision (ICARCV)*, 2016, pp. 1–6. DOI: 10.1109/ICARCV.2016.7838614.
- [11] S. J. W. Tang, **K. Y. Ng**, V. Kalavally, and J. Parkkinen, “Closed-loop color control of an RGB luminaire using sensors onboard a mobile computing system,” in *2016 IEEE Student Conference on Research and Development (SCORED)*, 2016, pp. 1–5. DOI: 10.1109/SCORED.2016.7810062.
- [12] W. C. Chew, **K. Y. Ng**, and B. H. Khoo, “ReCon-AVe: Remote Controlled Automobile Vehicle for Data Mining and Analysis,” in *2015 IEEE 39th Annual Computer Software and Applications Conference*, vol. 2, 2015, pp. 569–574. DOI: 10.1109/COMPSAC.2015.170.
- [13] S. J. W. Tang, **K. Y. Ng**, B. H. Khoo, and J. Parkkinen, “Real-Time Lane Detection and Rear-End Collision Warning System on a Mobile Computing Platform,” in *2015 IEEE 39th Annual Computer Software and Applications Conference*, vol. 2, 2015, pp. 563–568. DOI: 10.1109/COMPSAC.2015.171.
- [14] **K. Y. Ng**, C. P. Tan, and D. Oetomo, “Enhanced fault reconstruction using cascaded sliding mode observers,” in *2012 12th International Workshop on Variable Structure Systems*, 2012, pp. 208–213. DOI: 10.1109/VSS.2012.6163503.
- [15] C. Fernandes, **K. Y. Ng**, and B. H. Khoo, “Development of a convenient wireless control of an autonomous vehicle using apple iOS SDK,” in *TENCON 2011 - 2011 IEEE Region 10 Conference*, 2011, pp. 1025–1029. DOI: 10.1109/TENCON.2011.6129266.

- [16] **K. Y. Ng** and C. P. Tan, "New results in disturbance decoupled fault reconstruction in linear uncertain systems using two sliding mode observers in cascade," in *7th IFAC Symposium on Fault Detection, Supervision and Safety of Technical Processes*, vol. 42, 2009, pp. 780–785. DOI: 10.3182/20090630-4-ES-2003.00128.
- [17] **K. Y. Ng**, C. P. Tan, R. Akmeliawati, and C. Edwards, "Disturbance Decoupled Fault Reconstruction using Sliding Mode Observers," in *17th IFAC World Congress*, vol. 41, 2008, pp. 7215–7220. DOI: 10.3182/20080706-5-KR-1001.01221.
- [18] **K. Y. Ng**, C. P. Tan, C. Edwards, and Y. C. Kuang, "New result in robust actuator fault reconstruction with application to an aircraft," in *2007 IEEE International Conference on Control Applications, 2007*, pp. 801–806. DOI: 10.1109/CCA.2007.4389331.
- [19] **K. Y. Ng**, C. P. Tan, and R. Akmeliawati, "Tolerance towards sensor failures: an application to a double inverted pendulum," in *Third IEEE International Workshop on Electronic Design, Test and Applications (DELTA'06)*, 2006, 6 pp.–434. DOI: 10.1109/DELTA.2006.92.

Publications: Technical Report and Thesis

- [1] **K. Y. Ng**, "Design and Development of a Simulation Environment and a Fault Isolation Scheme on a Volvo VEP4 MP Engine," Research and Development Centre, Volvo Car Corporation, Gothenburg, Sweden, Tech. Rep., 2015.
- [2] **K. Y. Ng**, "Advancements in robust fault reconstruction using sliding mode observers," Ph.D. dissertation, Monash University, 2009. DOI: 10.4225/03/587c001b22509.

Grants and Funding

- 2024 DfE Higher Education Research Capital (HERC) Fund, *PI*, GBP233,379
- 2024 Innovation Launchpad Network+ Researcher in Residence Scheme, *PI*, GBP49,666
- 2024 InterTrade Ireland Innovation Boost (formerly FUSION), *Co-I*, GBP29,000
Industrial Partner: ARQ Reliability
- 2024 Innovate UK: Knowledge Transfer Partnerships (KTP), *PI*, GBP214,060
Industrial Partner: Elite Electronic Systems Limited
- 2024 Garfield Weston Trust (GWT), *Co-I*, GBP21,450
- 2023 Engineering and Physical Sciences Research Council (EPSRC), *Co-I*, GBP782,502
- 2020 Monash University Malaysia-ASEAN Sustainable Development Research Grant Scheme
Co-I, MYR980,000
- 2019 InterTradeIreland FUSION, *Co-I*, GBP18,750
Industrial Partner: TERRA NutriTECH
- 2018 Global Challenges Research Fund (GCRF), UK, *Co-I*, GBP4,889,812
- 2018 Erasmus+ Staff Mobility Programme, *PI*, GBP934.45
Academic Partner: Technical University of Applied Sciences Augsburg, Germany
- 2018 NVIDIA GPU Grant Programme, *PI*, GBP500
- 2015 Volvo Car Corporation, Gothenburg, Sweden, *Co-I*, SEK960,000
- 2015 Fundamental Research Grant Scheme, Ministry of Higher Education, Malaysia, *Co-I*, MYR127,000
- 2015 Fundamental Research Grant Scheme, Ministry of Higher Education, Malaysia, *Co-I*, MYR93,000
- 2014 EScienceFund, Ministry of Higher Education Malaysia, *Co-I*, MYR168,000
- 2013 Industrial Collaboration with ItraMAS Corporation Malaysia, *PI*, MYR50,000
- 2012 Monash University Malaysia Internal Grant, *PI*, MYR55,000
- 2012 Exploratory Research Grant Scheme, Ministry of Higher Education, Malaysia, *Co-I*, MYR50,000
- 2010 Fundamental Research Grant Scheme, Ministry of Higher Education, Malaysia, *Co-I*, MYR30,000
- 2010 Fundamental Research Grant Scheme, Ministry of Higher Education, Malaysia, *Co-I*, MYR10,000
- 2010 Monash University Malaysia Internal Grant, *PI*, MYR35,000

Editorial Boards and Organising Committee of Conferences

2018–Present	<i>IEEE Access</i> , Associate Editor
2020–Present	<i>IEEE TechRxiv</i> , Moderator
2020–Present	<i>PeerJ Computer Science</i> , Editor
2024	<i>IEEE Signal Processing in Medicine and Biology Symposium (SPMB 2024)</i> , Technical Program Chair
2024	<i>The 8th IEEE Conference on Control Technology and Applications (CCTA 2024)</i> , Workshop Chair and Session Chair
2024	<i>The 35th Irish Signals and Systems Conference (ISSC 2024)</i> , Programme Committee and Session Chair
2023	<i>IEEE Signal Processing in Medicine and Biology Symposium (SPMB 2023)</i> , Technical Program Chair
2022–2023	<i>AIMS Mathematics</i> , Lead Guest Editor — Special Issue on “Fault Diagnosis: Mathematical Models, Algorithms, and Application”
2022	<i>IEEE Signal Processing in Medicine and Biology Symposium (SPMB 2022)</i> , Program Chair and Lecture Chair
2020	<i>7th International Conference on Control, Decision and Information Technologies (CoDIT'20)</i> , Program Committee Member
2020	<i>International Conference on Recent Innovations in Engineering and Technology (ICRIET-20)</i> , Program Committee Member
2012	<i>International Conference on Intelligent Robotics, Automation and Manufacturing (IRAM 2012)</i> , Co-Chair of Registration

Invited Lectures, Seminars, and Workshops

2024	“Digital Twin of a Vehicular Engine for Fault Diagnosis” Intelligent Systems Research Centre (ISRC), Ulster University, UK
2024	“Digital Twin of a Vehicular Engine as a Simulation Environment Platform for Fault Diagnosis” Workshop, <i>The 8th IEEE Conference on Control Technology and Applications (CCTA)</i> , UK
2022	“Understanding Transmission Dynamics of Infectious Diseases Using Complex Networks” School of Engineering, University of Warwick, UK
2020	“Engineering in Medical and Healthcare” School of Mechanical, Aerospace and Automotive Engineering, Coventry University, UK
2019	“A Realistic Simulation Testbed of A Vehicular Engine System” School of Engineering Research Seminar Series, Ulster University, UK
2019	Panel Discussion on “Robots and Automated Systems” IET NI Robotics League, Ulster University, UK
2018	“A Turbocharged Petrol Engine System as a Simulation Benchmark Model for Fault Diagnosis” Faculty of Electrical Engineering and Autonomous Vehicle Research Team, Technical University of Applied Sciences Augsburg, Germany
2018	“Design and Development of A Fault Isolation Scheme on A Vehicular Engine System” Faculty of Electrical Engineering and Autonomous Vehicle Research Team, Technical University of Applied Sciences Augsburg, Germany
2017	“Beyond Calls and Games: Utilising The Full Potentials of Smartphones” TEDx Sunway University: The Untold Ideas, Malaysia
2016	“Design and Development of a Simulation Environment for Fault Isolation on an Engine System” Centre for Automotive Research, National University of Malaysia, Malaysia
2015	“Using a Smartphone Monoscopic Camera for Real-Time Lane Detection and Rear-End Collision Warning” Machine Vision and Pattern Recognition Laboratory (MVPR), Lappeenranta University of Technology, Finland

- 2015 “Real-Time Lane Detection and Rear-End Collision Warning System on A Mobile Computing Platform”
Computer Science School of Computing, University of Eastern Finland, Finland
- 2014 “Robust Fault Diagnosis Using Sliding Mode Observers”
Division of Vehicular Systems, Linköping University, Sweden
- 2014 “Robust Fault Reconstruction Using SMOs and Real-Time Image Processing on A Mobile Device”
Department of Electrical, Electronic and Systems Engineering, National University of Malaysia, Malaysia
- 2012 “Disturbance Decoupled Fault Reconstruction Using Multiple Sliding Mode Observers”
Department of Telecommunications, Electrical, Robotics and Biomedical Engineering,
Swinburne University of Technology, Australia
- 2011 “Fault Reconstruction Using Sliding Mode Observer: Application to an Aircraft”
National Defence University of Malaysia, Malaysia
- 2010 “Robust Fault Reconstruction Scheme Using Sliding Mode Observers In Cascade”
School of Engineering, Deakin University, Australia

Reviewer for Funding

2019–Present Newton Funds

Reviewer for International Peer-Reviewed Journals

Automatica (Elsevier)

IEEE Transactions on Industrial Electronics (TIE) (IEEE)

IEEE Transactions on Instrumentation and Measurement (TIM) (IEEE)

IEEE Journal of Biomedical and Health Informatics (JBHI) (IEEE)

IEEE Access (IEEE)

International Journal of Robust and Nonlinear Control (IJRNC) (Wiley)

Control Engineering Practice (CONENGPRAC) (Elsevier)

European Journal of Control (EJCON) (Elsevier)

Asian Journal of Control (AJC) (Wiley)

Computers and Electrical Engineering (COMPELECENG) (Elsevier)

Circuits, Systems and Signal Processing (CSSP) (Springer)

Building Simulation (Springer)

International Journal of Applied and Computational Mathematics (IACM) (Springer)

International Journal of Advanced Robotic Systems (IJARS) (SAGE)

International Journal of Control (IJC) (Taylor & Francis)

Australian Journal of Electrical and Electronics Engineering (AJEEE) (Taylor & Francis)

Examiner of Postgraduate Students

Deakin University, Australia

Coventry University, UK

Supervision of Graduate Research

2024–Present Mr Phil Watson (InterTradeIreland Project Manager, Ulster University and ARQ Reliability)

2024–Present Ms Shruthi Kogileru (KTP Associate, Ulster University and Elite Electronic Systems Ltd)

2024–Present Mr Brian Kirch (Part-time, Ulster University)

2021–Present Ms Stefanie Wucherer (Part-time, Ulster University and Technical University of Applied Sciences A

2021–Present Mr Will Aston (Ulster University)

2020–2024 Dr Towfeeq Fairouz (Ulster University)

2019–2024 Dr Scot Davidson (Ulster University)

2019–2024 Dr Niamh McCallan (Ulster University)

2019–2020 Mr Colin Maher (FUSION Project Manager, Ulster University and TERRA NutriTech)

2017–2020 Mr Da Yi Lee (Monash University)

2015–2018 Mr Leong Hwee Lee (Monash University)

2015–2018 Mr Samuel Jia Wei Tang (Monash University)
2012–2016 Dr Jiunn Yea Ng (Monash University)
2011–2015 Dr Jeremy Hor Teong Ooi (Monash University)
2010–2014 Dr Chew Yee Kee (Monash University)
2009–2012 Dr Jen Nee Lim

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