

**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

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| 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,<br>Faculty Representative |
| 2005–Present | Board of Engineers Malaysia (BEM), Graduate Member   |

## **Research Leadership and Activities**

Design of Control Systems, Fault Detection and Diagnosis Schemes, Data Analytics Using Machine Learning and Deep Learning for Applications in Industrial Internet-of-Things (IIoT) and Industry 4.0

*Collaboration with Faculty of Electrical Engineering and Autonomous Vehicle Research Team, Technical University of Applied Sciences Augsburg, Germany*

Identification and Classification of Multiple Weed Rice Species Using Mobile Computing

*Collaboration with Assoc. Prof. Beng Kah Song, School of Science, Monash University, Malaysia*

Team leader on Mobile Control of Intelligent Lighting Systems

*Collaboration with ItraMAS Corporation Malaysia (Completed 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. 115016, 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. 121040, 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. 103905, 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. Krysanter, 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, 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, "Re-balancing 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> ,<br>Technical Program Chair                           |
| 2024         | <i>The 8th IEEE Conference on Control Technology and Applications (CCTA 2024)</i> ,<br>Workshop Chair                              |
| 2024         | <i>The 35th Irish Signals and Systems Conference (ISSC 2024)</i> ,<br>Programme Committee and Session Chair                        |
| 2023         | <i>IEEE Signal Processing in Medicine and Biology Symposium (SPMB 2023)</i> ,<br>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> ,<br>Program Chair                                     |
| 2020         | <i>7th International Conference on Control, Decision and Information Technologies (CoDIT'20)</i> ,<br>Program Committee Member     |
| 2020         | <i>International Conference on Recent Innovations in Engineering and Technology (ICRIET-20)</i> ,<br>Program Committee Member      |
| 2012         | <i>International Conference on Intelligent Robotics, Automation and Manufacturing (IRAM 2012)</i> ,<br>Co-Chair of Registration    |

### **Invited Lectures, Seminars, and Workshops**

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

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|--------------|---|
| 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)   |
| 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)   |

