

# Wasif Naeem PhD, MSc, BEng (1<sup>st</sup>)

## Job Title

**Reader (Associate Professor) and Director of Internationalisation**, School of Electronics, Electrical Engineering and Computer Science (EEECs), Queen's University Belfast, Belfast, UK.

## Summary

Current responsibilities include improving international outreach of the School, in particular and the University, teaching at undergraduate level, supervising research students, writing research papers and research proposals and various other administration related tasks as assigned by the school. Experienced conference organiser with three international conferences organised in Belfast from 2016 – 2019 as the General Chair, Co-Chair and Local Organising Chair.

## Research Interests

- Automatic Control Systems
- Unmanned Systems and Robotics
- System Identification and Modelling
- Artificial Intelligence Techniques
- Mechatronics

## Personal

Nationality: British and Pakistani  
Date of Birth: February 17<sup>th</sup> 1976  
Home Address: 41 Front Road, Lisburn BT27 5JX, UK

## Professional Experience

*Aug' 2020 – to date*      *School of Electronics, Electrical Engineering and Computer Science, Queen's University Belfast, Belfast, UK*

- **Reader (Associate Professor), Centre for Intelligent Autonomous Manufacturing Systems (iAMS)**

*Aug' 2016 – July' 2020*      *School of Electronics, Electrical Engineering and Computer Science, Queen's University Belfast, Belfast, UK*

- **Senior Lecturer, Centre for Intelligent Autonomous Manufacturing Systems (iAMS)**

*July' 2007 – July' 2016*      *School of Electronics, Electrical Engineering and Computer Science, Queen's University Belfast, Belfast, UK*

- **Lecturer (Assistant Professor), Intelligent Systems and Control**

*Aug' 2005 – Jun' 2007*      *School of Marine Science and Engineering, University of Plymouth, Plymouth, UK*

- **Post-doctoral Research Fellow in Autonomous Vehicle Control**

*Oct' 2001 – Dec' 2004*      *Department of Mechanical and Marine Engineering, University of Plymouth, Plymouth, UK*

- **Research Student (Member of MIDAS Research Group)**

*Sept' 1999 – Aug' 2001*      *King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia*

- **Research and Teaching Assistant**

*Oct' 1998 – Jul' 1999*      *Laser Manufacturing Pvt. Ltd. Karachi, Pakistan*

- **Research and Development Engineer**

## Awards/ Achievements

- Awarded the *Michael Richey Medal* for the best paper published in the Journal of Navigation by the Royal Institute of Navigation in 2007. **Duke of Edinburgh** presented the award at an award ceremony held at the Royal Geographical Society, London in 2008.

- Awarded the *Denny Medal* by the Institute of Marine Engineering Science and Technology for the best paper published in IMarEST journal Part C: Journal of Marine Science and Environment, 2012.
- Awarded a three year Engineering and Physical Sciences Research Council, UK, PhD studentship at the University of Plymouth, Plymouth, UK.
- Gained a full scholarship for MSc at the King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia.
- Awarded full financial support from Institute of Marine Engineering Science and Technology, UK, to present an invited paper at the World Maritime Technology Conference 2003, San Francisco, California, USA.

## Education

Feb' 2019 - Oct' 2019 *William J. Clinton Leadership Institute, School of Management, Queen's University Belfast, Belfast, UK*

- **Emerging Leaders Programme (ILM Level 5 Award in Leadership & Management)**

Sept' 2007 – Jun' 2009 *School of Education, Queen's University Belfast, Belfast, UK*

- **Post Graduate Certificate in Higher Education Teaching**

Jun' 2006 – Jul' 2006 *School of Education, University of Plymouth, Plymouth, UK*

- **General Teaching Associate (CPD Course)**

Oct' 2001 – Dec' 2004 *School of Engineering, University of Plymouth, Drake Circus, Plymouth, Devon, UK*

- **PhD in Mechanical and Marine Engineering with major in Control Systems**

Sept' 1999 – Aug' 2001 *King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia*

- **MS in Electrical Engineering with major in Control Engineering**

Jan' 1994 – Apr' 1998 *NED University of Engineering and Technology, Karachi, Pakistan*

- **BEng in Electrical Engineering**

## Research and Funding

- **CI - £33M UKRI** 'UKRI Strength in Places Fund' to develop Autonomous Electric Ferries led by Artemis Technologies as part of the Belfast Maritime Consortium (2020 - 2024).
- **PI - €389k EU Erasmus+** 'A Trans-National Smart Manufacturing Education Hub' partnered with South East Regional College (UK), University of Limerick (Republic of Ireland) and National Technical University Athens (Greece) (2020 – 2023).
- **CI - €55k EU Fed4FIRE** Grant entitled 'IIoT-REPLAN' (2018 – 2019)
- **PI** from Queen's - **£1.3m InnovateUK** Grant entitled 'Robust Machine Executable COLREGs for Marine Autonomous Systems' partnered with Rolls Royce, Lloyds Register, Atlas Eletronik UK and Warsaw Maritime Academy (2015 – 2017).
- **PI - £125k EPSRC** Research Grant (EP/I003347/1) entitled 'COLREGs-based Evasive Decision Making in Maritime Vehicles' (2010 – 2012).
- **CI - £358k EPSRC** Grant (EP/K029371/1) Small items of research equipment at Queen's University Belfast (2012 – 2013).
- Authored over 85 journal and conference publications. Two journal papers received best paper awards by the Royal Institute of Navigation and Institute of Marine Engineering, Science and Technology.

## Relevant Publications

1. Hu, L., **Naeem, W.**, Rajabally, E., Watson, G., Mills, T., Bhuiyan, Z., Raeburn, C., Salter, I. & Pekcan, C. A Multiobjective Optimization Approach for COLREGs-compliant Path Planning of Autonomous Surface Vehicles Verified on Networked Bridge Simulators. In: IEEE Transactions on Intelligent Transportation Systems, pp. 1-13, April 2019. DOI: 10.1109/TITS.2019.2902927.
2. Chen, L., Yang, A., Hu, H. & **Naeem, W.** RBPF-MSIS: Towards Rao-Blackwellized Particle Filter SLAM for Autonomous Underwater Vehicle with Slow Mechanical Scanning Imaging Sonar. In: IEEE Systems Journal, pp. 1- 12, Sep 2019. DOI: 10.1109/JSYST.2019.2938599.
3. Yang, A., **Naeem, W.**, Fei, M. & Tu, X. A Co-operative Formation-based Collision Avoidance Approach for a Group of Autonomous Vehicles (Special Issue on Adaptive Control and Signal Processing in Marine

System). In: International Journal of Adaptive Control and Signal Processing. Vol. 31, issue 4, pp. 489-506, Apr 2017. DOI:10.1002/acs.2563.

4. Yang, A., **Naeem, W.** & Fei, M. Formation stability analysis of unmanned multi-vehicles under interconnection topologies, In: International Journal of Control, vol. 88, issue 4, pp. 754-767, 2015. DOI: 10.1080/00207179.2014.972465.
5. Ihemadu, O., **Naeem, W.** & Ferguson, S. Optimizing the efficiency of the sub-map technique for large-scale simultaneous localization and mapping, In: Transactions of the Institute of Measurement and Control, vol. 37, issue 3, pp. 329-344, Mar 2015. DOI: 10.1177/0142331214538899.