

MUHAMMAD IQBAL

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- ✓ *Professional Electrical and Electronic Engineer (PhD, MS, BS)*
- ✓ *9+ years of progressive academic experience*
- ✓ *Easily handle research projects independently, as a Principal Investigator (PI)*
- ✓ *13 papers and a book chapter: published in refereed journals and conferences*

EDUCATION

Postdoctoral Training	Oct 2019- to date
KIOS Research and Innovation Centre of Excellence	
Advisor: Prof. Marios Polycarpou	
PhD Control Systems	Aug 2013- March 2017
<i>Universiti Brunei Darussalam (UBD), Brunei</i>	
Thesis: <i>Hierarchical Structure and Control of Multi-agent Systems</i>	
MS Electronic Engineering	Dec 2010
<i>International Islamic University, Islamabad, Pakistan</i>	
Majors: Control and Automation	
Thesis: <i>Trajectory control of robotic arm</i>	
BSc Computer Engineering	Jul 2006
<i>COMSATS University, Wah campus, Pakistan</i>	
Majors: Control and Automation	
Final Year Project: <i>Speed control of DC Motor</i>	

AREAS OF EXPERTISE

- ✓ Distributed control of multi-agent systems
- ✓ Linear System Theory
- ✓ Machine Learning
- ✓ Optimal Control
- ✓ Robust Control
- ✓ Nonlinear Control Systems

PROFESSIONAL EXPERIENCE

Faculty Member / Lab Engineer	2007 - Present
<i>International Islamic University Islamabad (IIUI), Pakistan</i>	
Progressed to teaching courses:	
Electronic Circuit Design, Signals and Systems, Filter Design, Linear Algebra, Circuit Analysis, Differential Equations.	
Conducted lab trainings on several courses including:	
Power Electronics, Electrical Machines, Instrumentation and Measurement Lab, Control System Lab, Basic Electrical Engineering Lab, Circuit Analysis Lab, Electronic Circuit Design Lab.	

Assistant Professor

Nov 2018 - Oct 2019

International Islamic University Islamabad (IIUI), Pakistan

Progressed to teaching courses:

Control Systems, Differential Equations, Calculus,

Graduate Courses:

Robust Control, Optimal Control, Advanced Linear Control Systems

Tutor / Research Assistant

2013 - 2016

Universiti Brunei Darussalam (UBD), Brunei

I supervised few BS projects during my stay at the UBD.

PUBLICATIONS

Conferences papers:

1. Ali Raza, **M. Iqbal**, Jun Moon, "Robustness of Hierarchical Schemes for Multi-agent Systems", Asian Control Conference, Japan, 2019.
2. **M. Iqbal**, John Leth, Trung Dung Ngo, "Circular and Concentric Formation for Kinematic Unicycles", 2019 International Conference on Robotics and Automation (ICRA), 2019.
3. **M. Iqbal**, Pham Hung, John Leth, Trung Dung Ngo, "A variant of the cyclic pursuit for multi-agent systems", IEEE conference on ATC, Vietnam, 2016.
4. **M. Iqbal**, John Leth, Trung Dung Ngo, "Leader-following consensus of multi-agent systems under hierarchical nearly cyclic pursuit", IEEE conference on Advance Intelligent Mechatronics, Canada, 2016.
5. **M. Iqbal**, John Leth, Trung Dung Ngo, "Nearly cyclic pursuit and its hierarchical variant for multi-agent systems", Asian Control Conference (ASCC), Malaysia, 2015.
6. JA Shah, IM Qureshi, AA Khaliq, **M Iqbal**, 'Adaptive equalization of a nonlinear recursive channel using Gaussian RBF based network', Multi-topic Conference (INMIC), 2012 15th International, 345-347.
7. M. Shafiq, H. Yousef, **M. Iqbal**, "Time-efficient Control law for Position tracking of Robotic Arm", IEEE Conference on Industrial Electronics and Applications, 2011.

Book Chapters:

1. **M. Iqbal**, Trung Dung Ngo, "On the formation control of multi-agent systems under nearly cyclic pursuit", Intelligent Autonomous Systems 13, 2016 - Springer.

Journal Papers:

1. H. Ullah, M. Amir, **M. Iqbal**, A. Khan, Ahmad, W. Khan 'Accelerated Proximal Algorithm for Finding the Dantzig Selector and Source Separation Using Dictionary Learning', **Tehnivcki vjesnik**, vol 27, no. 4, pp. 1174-1180, 2020.

2. **M. Iqbal**, John Leth, Trung Dung Ngo, “Cartesian product-based hierarchy for multi-agent systems”, **Automatica**, 2018.
3. **M. Iqbal**, John Leth, Trung Dung Ngo, “A generalized hierarchical nearly cyclic pursuit for the Leader-following consensus in multi-agent systems”, **Transection of the Institute of Measurement and Control**, Sage, DOI: 10.1177/014233121668615.
4. **M. Iqbal**, John Leth, Trung Dung Ngo, “Generalized Hierarchical Block Circulant Structure of Multi-agent Systems”, **International Journal of Control, Automation and Systems**, vol. 15, no. 3, pp.1275-1286, 2017.
5. **M. Iqbal**, John Leth, Trung Dung Ngo, ‘Hierarchical Nearly Cyclic Pursuit for Consensus in Large-Scale Multi-agent Systems’ **IET Control Theory and applications**, Volume 11, Issue 5, p. 740-746.
6. Adnan Fida, **M. Iqbal**, Trung Dung Ngo, ‘Communication-and position-aware reconfigurable route optimization in large-scale mobile sensor networks’, **EURASIP Journal on Wireless Communications and Networking**, 2014.

MEMBERSHIPS

- ✓ Student member of Institute of Electrical and Electronic Engineering IEEE - since 2015
- ✓ Registered Engineer with Pakistan Engineering Council (PEC) - since 2007

SKILLS

Proficient in a range of engineering and computation software; swift learner

- ✓ C Programming
- ✓ MATLAB
- ✓ MATLAB Simulink
- ✓ Microsoft Visio
- ✓ Proteus 7.0
- ✓ Latex
- ✓ Python

REFERENCES

Prof. John Leth
Associate Professor
Department of Electronic Systems,
Aalborg University, Denmark.
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Dr. Trung Dung Ngo
Associate Professor
Sustainable Design Engineering, University of
Prince Edward Island, Canada,
trungdung.ngo@gmail.com

Prof. Marios Polycarpou
Professor
Department Electrical and Computer Engineering
University of Cyprus, Nicosia.
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