DR. LAMIA IFTEKHAR [LIH]

Associate Professor

Ph.D

from

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Biography

College,

USA

Lamia Iftekhar is an Associate Professor at the Department of Electrical and Computer Engineering, North South University (NSU) , Dhaka. She completed her Ph.D. in Engineering from Dartmouth College New Hampshire, USA in June 2012 under the supervision of Dr. Reza Olfati-Saber. Her work was on designing driving algorithms for network of autonomous vehicles. Prior to this, Lamia completed her undergraduate studies and Masters in Electrical Engineering simultaneously in 2009 under a four-years Honors BS/MS program from Polytechnic Institute of New York University, NY, USA. Her undergrad major was in Electrical Engineering and she had minors in Mathematics and Psychology.

At NSU, Lamia teaches Control Engineering and related courses. When she's not giving her students a hard time on finding controllers to stabilize some random system, she enjoys helping them out with various student organization activities and projects. She also spends some of her time as the Vice President of IEEE Women In Engineering Affinity Group, Bangladesh Section.

Lamia's current research interests is two-fold: transportation and robotics. She has been fiercely passionate about transportation issues for a long time since her home city Dhaka's urban transportation is not exactly the greatest system in the world. Her research interests in this category includes vehicle safety, intelligent transportation systems, networked vehicles, driver behaviour

modelling, traffic model and congestion control.

Lamia's other field of interest includes multi-agent systems, hybrid systems, nonlinear control and cooperative systems, all mostly applied to robotics. She is particularly intrigued by the idea of using multi-robot systems for disaster management in the context of Bangladesh. She also believes that there's a huge potential in using robotics to promote sincere interest in STEM amongst the school students of her country, specially the female students.

Research Areas

- Artificial Intelligence & Robotics
- Human Computer Interaction (HCI)
- Modeling and Simulation

Research Interests

Complex networks, multi-agent systems, cooperative systems, nonlinear control, hybrid systems, distributed control, modeling and simulation, autonomy in vehicles, safety in vehicles, urban transportation – technology and policy, public transportation, driver behavior modeling, traffic modeling , congestion control, mobile robots, Multiple Input Multiple Output (MIMO) control systems, women in STEM, STEM education.

Teaching

- EEE 342 Control Engineering
- EEE 342L Control Engineering Lab
- CSE 115 Programming Language I
- CSE 115L Programming Language I Lab
- EEE 523 Nonlinear Systems - Analysis, Stability and Control

Selected Publications

Conference Papers

- Lamia Iftekhar, Nova Ahmed, Fahima Chowdhury, Ridita Rahman, "Electrical and Computer Engineering Laboratory Education for Female Undergraduate Students," The 10th International Conference on Computer Science & Education, ICCSE, 2015
- Lamia Iftekhar, Reza Olfati-Saber, "Autonomous Driving for Multi-Robot Networks

with Nonlinear Dynamics," Intelligent Vehicles Symposium (IVS), 2012

▪ Lamia Iftekhar, Reza Olfati-Saber, "Safety-Aware Intelligent Transportation Systems: Cooperative Autonomous Driving for Vehicular Networks," International Conference on Informatics in Control, Automation and Robotics (ICINCO), 2012

▪ Reza Olfati-Saber, Lamia Iftekhar, "Flocking for Networks of Nonholonomic Robots with Nonlinear Dynamics," International Conference on Informatics in Control, Automation and Robotics (ICINCO), 2012

▪ Syed Mahdi Azam, Lamia Iftekhar, "Perfect Tracking of MIMO Systems Using the Dual Feedforward Metho," The 3rd International Conference on Technology, Informatics, Management, Engineering and Environment (TIME-E), 2015

Professional Activity

▪ Vice President – IEEE Women In Engineering Affinity Group, Bangladesh Section (2015)

▪ Member – IEEE Control Systems Society, IEEE Vehicular Technology Society, IEEE Intelligent Transportation Systems Society, IEEE Robotics and Automation Society, Eta Kappa Nu, Tau Beta Pi

▪ Reviewer – Transactions on IEEE Intelligent Transportation Systems, IEEE Transactions on Systems, Man and Cybernetics

▪ Past Branch Counselor of IEEE NSU Student Branch (2013-2015)