DR. MD SHAHRIAR KARIM [MSK1]

Associate Professor

Ph.D, Biological Engineering, Computational Life Science (CLS), Purdue University, West Lafayette, IN, USA.

M.S. Electrical and Computer Engineering, Purdue University, West Lafayette, IN, USA.

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Biography

Md. Shahriar Karim completed his doctoral degree in biological engineering (and computational life science) from Purdue University, West Lafayette, USA, in December 2016. He has also completed a Master's in biological engineering and a Master's degree in Electrical Engineering from Purdue University, USA. Prior to the graduate studies, Md. Shahriar Karim earned his Bachelor in Electronics Engineering from National Institute of Technology, Allahabad, India.

Research Interests

- Quantitative Systems Biology
- Modeling of Dynamical Systems
- Estimation and Detection Theory
- Computational Biology

Teaching

- CSE 173 Discrete Mathematics
- CSE 417 Numerical Methods

▪ CSE 325/CSE 425 Concepts of Programming Language

▪ CSE499A/EEE499A/ETE499A – Senior Design I

▪ CSE499B/EEE499B/ETE499B – Senior Design II

Selected Publications

Journals

▪ Md. Shahriar Karim, Gregery T. Buzzard, David M. Umulis, “Efficient calculation of steady state probability distribution for stochastic biochemical reaction network,” BMC Genomics Supplement, 2012

▪ Md. Shahriar Karim, Gregery T. Buzzard, David M. Umulis, “Secreted, receptor associated BMP regulators reduce stochastic noise intrinsic to many extracellular morphogen distributions.,” Journal of the Royal Soc. Interface, 2012

Conference Papers

▪ Md. Shahriar Karim, Hans G. Othmer, David M. Umulis, “Leveraging compute clusters for large-scale parametric screens of reaction-diffusion systems,” The 26th conference on Parallel, Distributed, and Network-Based Processing (PDP 2018), March 21 23, Cambridge, UK, 2018

▪ Md. Shahriar Karim, Gregery T. Buzzard, David M. Umulis, “Steady state probability approximation applied to stochastic model of biological network,” IEEE International Workshop on Genomic Signal Processing and Statistic, December 4-6, 2011, San Antonio, Texas, USA, 2011

▪ Md. Shahriar Karim, Gregery T. Buzzard, David M. Umulis, “Modulation of Morphogen Dynamics Can Lead to Robustness and Scaling of Patterns in Development,” The 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC’14), August 26-30, 2014 Chicago, Illinois, USA, 2014