



Department of Electrical and Electronic Engineering
Khulna University of Engineering & Technology
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Biography

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Dr. Protik Chandra Biswas

Associate Professor

Research Area Smart Sensing and Instrumentation, Smartphone Spectroscopy, Optical Sensing, Smartphone Colorimeter. Electrical Machine Drives, Direct Torque and Field Oriented Control of Brushless DC Motor Drives, Recurrent Neural Network, Machine Learning Algorithm, SVM, Brain Computer Interface, Bio-medical Signal Processing (EEG)

Education

Master of Science in Electrical and Electronic Engineering

Khulna University of Engineering & Technology, Bangladesh (2015-2017)

Thesis Title: [Analysis of High Performance Controlled Permanent Magnet Brushless DC Motor Drives without Position Sensor](#)

Bachelor of Science in Electrical and Electronic Engineering

Khulna University of Engineering & Technology, Bangladesh (2010-2015) Achievement: University Gold Medal

Higher Secondary Certificate

Government K. C. College, Jhenaidah, Bangladesh (2008-2010)

Secondary School Certificate

Kanchan Nagar Model Secondary School, Jhenaidah, Bangladesh (2006-2008) Achievement: GPA 5.00 without additional subject

Service Records

- **Assistant Professor**
Department/Section: Electrical and Electronic Engineering
Khulna University of Engineering & Technology From 01-01-1970 to 01-01-1970
- **Teaching Assistantship**
Department/Section: Electrical and Electronic Engineering
Khulna University of Engineering & Technology From 01-01-1970 to 01-01-1970
- **Lecturer**
Department/Section: Electrical and Electronic Engineering
Khulna University of Engineering & Technology From 01-01-1970 to 01-01-1970

Research Interest

Smart Sensing and Instrumentation, Smartphone Spectroscopy, Optical Sensing, Smartphone Colorimeter.

Electrical Machine Drives, Direct Torque and Field Oriented Control of Brushless DC Motor Drives, Recurrent Neural Network, Machine Learning Algorithm, SVM, Brain Computer Interface, Bio-medical Signal Processing (EEG)

Publication

Books

Journals

7. (January 2022) , " Low-Cost 3D Printer Drawn Optical Microfibers for Smartphone Colorimetric Detection," **Biosensors (Impact Factor: 5.519)**, MDPI, vol12, no.2, pp.54
6. Biswas, P. C. , Rani, S. , Hossain, M. A. , Islam, M. R. and Canning, J. (October, 2021.) , " Simultaneous multi-analyte sensing using a 2D quad-beam diffraction smartphone imaging spectrometer," **Sensors and Actuators B: Chemical (Impact Factor: 7.46)**, Elsevier, vol352, no.1, pp.130994
5. Biswas, P. C. , Rani, S. , Hossain, M. A. , Islam, M. R. and Canning, J. (April, 2021.) , " Recent Developments in Smartphone Spectrometer Sample Analysis," **IEEE Journal of Selected Topics in Quantum Electronics (Impact Factor: 4.544)**, IEEE Photonics Society , vol27, no.6
4. Rani, S. , Biswas, P. C. , Hossain, M. A. , Islam, M. R. and Canning, J. (2021.) , " Polynomial Regression of Multiple Sensing Variables for High-performance Smartphone Colorimeter," **OSA Continuum**, vol4, no.2, pp.374-384
3. Biswas, P. C. , Rani, S. , Hossain, M. A. , Islam, M. R. and Canning, J. (September, 2020.) , " Multi-channel Smartphone Spectrometer Using Combined Diffraction Orders," **IEEE Sensors Letters**, vol4, no.9
2. (December, 2016.) , " A New Approach to Enhance the Torque Handling Capacity of a PMBLDC Motor Drive," **American Journal of Electrical**

and Electronic Engineering (AJEEE), vol4, no.6, pp.164-176

1. Biswas,P. C. ,Ghosh,B. C. and Islam,a. M. A. (August, 2016) , " Field Oriented Control of a Current Fed PMBLDC Motor and Its Comparison to Scalar Control Drive," **AIUB Journal of Science and Engineering (AJSE)**, vol15, no.1, pp.15-24

Conference

11. Biswas,P. C. , Hossain,M. A. , Rani,S. , Islam,M. R. and Canning,a. J. (August, 2020.) , "A Robust Multi-channel Smartphone Spectrometer Utilizing Multiple Diffraction Orders," **14th Pacific Rim Conference on Lasers and Electro-Optics (CLEO PR)** , OSA Technical Digest
10. Rani,S. , Hossain,M. A. , Biswas,P. C. , Islam,M. R. and Canning,a. J. (August, 2020.) , "Multiple Nonlinear Regression-based Adaptive Colour Model for Smartphone Colorimeter," **14th Pacific Rim Conference on Lasers and Electro-Optics (CLEO PR)** , OSA Technical Digest
9. Hasan,M. J. A. and Biswas,a. P. C. (September, 2019.) , "Design and Evaluation of a MATLAB SIMULINK Block of Permanent Magnet Brushless DC Motor," **5th International Conference on Advances in Electrical Engineering (ICAEE)**
8. Mahmud,N. and Biswas,a. P. C. (September, 2018.) , "Single Neuron ANN Based Current Controlled Permanent Magnet Brushless DC motor Drives," **4th International Conference on Electrical Engineering and Information & Communication Technology (ICEEICT)** , IEEE Xplore
7. (December, 2017.) , "A Novel Flux Estimation Algorithm Based Position Sensorless Field Oriented Vector Controlled Permanent Magnet Brushless DC Motor Drive," **3rd International Conference on Electrical Information and Communication Technology (EICT 2017)**
6. Podder,A. ,Ahmed,K. and Biswas,N. K. R. a. P. (September, 2017.) , "Design and Simulation of an Independent Solar Home System with Battery Backup," **4th International Conference on Advances in Electrical Engineering (ICAEE 2017)**
5. (December, 2016.) , "A Novel Approach to Select Most Effective Attributes for SVM Algorithm," **19th International Conference on Computer and Information Technology, (ICCIT 2016)**
4. Biswas,P. C. , Wahed,S. , Nath,D. , Rana,M. M. and Ahmad,a. M. (May, 2015.) , "Determination of Most Effective Rhythm, Domain & Stimulation Technique for Noninvasive Brain Computer Interface through SVM Algorithm," **2nd International Conference on Electrical Engineering and Information & Communication Technology (ICEEICT 2015)**
3. Wahed,S. , Islam,M. , Biswas,P. C. , Rana,M. M. , Nath,D. and Ahmad,a. M. (November, 2015.) , "An Approach for Letter Recognition System Modeling Based on Prominent Features of EEG," **1st International Conference on Electrical & Electronic Engineering (ICEEE 2015)**
2. Rana,M. M. , Islam,M. , Nath,D. , Wahed,S. , Biswas,P. C. and Ahmad,a. M. (May, 2015.) , "Inherent Features Extraction for Different Colors Stimulation of EEG Signal," **2nd International Conference on Electrical Engineering and Information & Communication Technology (ICEEICT 2015)**
1. Nath,D. , Uddin,M. B. , Rana,M. M. , Biswas,P. C. , Wahed,S. and Ahmad,a. M. (May, 2015.) , "Number Recognition using Salient Features of Beta Rhythmic EEG Signal," **2nd International Conference on Electrical Engineering and Information & Communication Technology (ICEEICT 2015)**