Department of Biomedical Engineering
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Dr. Md. Bashir Uddin
Professor
Research Area Analysis and Processing of Biomedical Signals, Physiological Effects of Energy Boosters, Sleep Stages and Sleep Diseases, Algorithm Development for Disease Detection, Diagnosis of Diseases using Artificial Intelligence.

Biography

Welcome to my official webpage! I am Dr. Md. Bashir Uddin, currently working as a Professor and Head of the Department in the Department of Biomedical Engineering at Khulna University of Engineering & Technology (KUET), Khulna-9203, Bangladesh. I have received my Ph.D. degree in Biomedical Engineering from University of Technology Sydney (UTS), Sydney, Australia. I received my M.Sc. Engineering and B.Sc. Engineering degrees with Honors in Biomedical Engineering (BME) and Electrical and Electronic Engineering (EEE) from KUET in 2014 and 2011, respectively. My research interests include Analysis and Processing of Biomedical Signals, Physiological Effects of Energy Boosters, Sleep Stages and Sleep Diseases, Algorithm Development for Disease Detection, Diagnosis of Diseases using Artificial Intelligence.

Education

Doctor of Philosophy
University of Technology Sydney (UTS),Sydney, Australia(2017-2021)
Thesis Title: Airflow-Oximetry Combined Signal Based Automatic Diagnosis of Sleep Apnea in Adults
Master of Science in Engineering (M. Sc. Eng.)
Khulna University of Engineering & Technology, Khulna,Bangladesh(2012-2014)
Thesis Title: Cardiac Function Evaluation of Healthy Young Adults by Consuming Energy Drinks
Bachelor of Science in Engineering (B. Sc. Eng.)
Khulna University of Engineering & Technology, Khulna,Bangladesh(2007-2011)
Higher Secondary Certificate Examination
Govt. M. M. City College, Khulna,Bangladesh(2004-2006)
Secondary School Certificate Examination
Syedpur High School, Bagerhat,Bangladesh(1999-2004)

Service Records

- **Head of the Department**
  Department/Section: Biomedical Engineering
  Khulna University of Engineering & Technology From 01-01-2024 to 01-01-1970
- **Professor**
  Department/Section: Biomedical Engineering
  Khulna University of Engineering & Technology From 03-12-2023 to 01-01-1970
- **Additional Director (IQAC)**
  Department/Section: Institutional Quality Assurance Cell (IQAC)
  Khulna University of Engineering & Technology From 10-09-2023 to 16-01-2024
- **Associate Professor**
  Department/Section: Biomedical Engineering (BME)
  Khulna University of Engineering & Technology From 08-05-2022 to 02-12-2023
- **Research Student**
  Department/Section: Biomedical Engineering
  University of Technology Sydney (UTS) From 01-03-2017 to 10-04-2021
- **Deputy Sub-project Manager (DSPM)**
  Department/Section: Biomedical Engineering (BME)
  Khulna University of Engineering & Technology (KUET) From 01-07-2014 to 28-02-2017
- **Assistant Professor**
  Department/Section: Biomedical Engineering (BME)
  Khulna University of Engineering & Technology (KUET) From 06-07-2014 to 07-05-2022
- **Lecturer**
  Department/Section: Electrical, Electronics & Telecommunication Engineering (EETE)
  Dhaka International University (DIU) From 15-09-2011 to 31-12-2011
- **Lecturer**
  Department/Section: Biomedical Engineering (BME)
  Khulna University of Engineering & Technology (KUET) From 01-01-2012 to 05-07-2014

Research Interest

Analysis and Processing of Biomedical Signals, Physiological Effects of Energy Boosters, Sleep Stages and Sleep Diseases, Algorithm Development for Disease Detection, Diagnosis of Diseases using Artificial Intelligence.

Publication

Books

Journals

9. Uddin,M. B. , Chow,C. M. , Ling,S. H. and Su,a. S. W. (June 2022) , " A generalized algorithm for the automatic diagnosis of sleep apnea from per-sample encoding of airflow and oximetry," **Physiological Measurement**, IOPscience, vol43, no.6, pp.065004

8. Uddin,M. B. , Chow,C. M. , Ling,S. H. and Su,a. S. W. (February 2021) , " A novel algorithm for automatic diagnosis of sleep apnea from airflow and oximetry signals," **Physiological Measurement**, IOPscience, vol42, no.1, pp.015001

7. Uddin,M. B. , Su,S. W. , Chen,W. and Chow,a. C. M. (March 2019) , " Dynamic changes in electroencephalogram spectral power with varying apnea duration in older adults," **Journal of Sleep Research**, Wiley, vol28, no.6, pp.e12850

6. Uddin,M. B. ,Chow,C. M. and Su,a. S. W. (March 2018) , " Classification methods to detect sleep apnea in adults based on respiratory and oximetry signals," **Physiological Measurement**, IOP Science, vol39, no.3, pp.1-17

5. Uddin,M. B. ,Ahmad,M. and Rashid,a. M. A. (January 2016.) , " Effects of Energy Drinks Consumption on Electrocardiography and Photo Plethysmography," **Jurnal Teknologi**, vol78, no.1, pp.85-91

4. Islam,M. M. , Uddin,M. B. , Ahmad,M. , Khatun,F. , Protik,M. N. R. and Islam,a. M. M. (August 2014.) , " Determination of the Effect of Having Energy Drinks by Analyzing Blood Perfusion Signal," **Journal of Computers**, Academy Publisher, vol9, no.8, pp.1817-1824

3. Uddin,M.B. , Ahmad,M. , Rizon,M. , Yusof,N. and Rashid,a. M. A. (May 2014.) , " Cardiac Function Evaluation Analyzing Spectral Components due to the Consumption of Energy Drinks," **Research Journal of Applied Sciences, Engineering and Technology**, Maxwell Scientific Organization, vol7, no.18, pp.3906-3915

2. Uddin,M. B. , Kumar,S. , Touhid-Ul-Hasan,T. and Ahmad,a. M. (April 2014.) , " Spectral Analysis of Biosignals to Evaluate Heart Activity due to the Consumption of Energy Drinks," **American Journal of Engineering Research**, vol3, no.4, pp.189-196

1. Uddin,M. B. , Hossain,M. Z. , Ahmad,M. , Ahmad,N. and Rashid,a. M. A. (March 2014.) , " Effects of Caffeinated Beverage Consumption on Electrocardiographic Parameters among Healthy Adults," **Modern Applied Science**, Canadian Center of Science and Education, vol8, no.2, pp.69-77

Conference

14. (2023) , "Predicting PKB/Akt Downstream Signaling Blockers using Machine Learning Models," **14th International Conference on Computing, Communication and Networking Technologies (ICCCNT'23)** , IEEE, DOI:10.1109/ICCCNT56998.2023.10308283

13. Mina,M. F. ,Roy,A. D. and Uddin,a. M. B. (29-30 July, 2022) , "Detection of Ventricular Fibrillation from ECG Signal using Hybrid Scalogram-based Convolutional Neural Network," **1st International Conference on Information and Communication Technology for Development (ICICTDâ€™22)** , Springer

12. Hossain,M. Z. , Uddin,M. B. , Yang,Y. and Ahmed,a. K. A. (December 8-10, 2021) , "CovidEnvelope: An Automated Fast Approach to Diagnose COVID-19 from Cough Signals," **2021 IEEE Asia-Pacific Conference on Computer Science and Data Engineering (CSDEâ€™21)** , IEEE, pp.1-6

11. Uddin,M. B. , Chow,C. M. , Ling,S. H. and Su,a. S. W. (December 16-18, 2020) , "A Robust Airflow Envelope Tracking and Digitization Approach for Automatic Detection of Apnea and Hypopnea Event," **2020 IEEE Asia-Pacific Conference on Computer Science and Data Engineering (CSDEâ€™20)** , IEEE, pp.1-6

10. Uddin,M. B. , Chow,C. M. , Ling,S. H. and Su,a. S. W. (July 20-24, 2020) , "A Per-sample Digitized Algorithm for Automatically Detecting Apnea and Hypopnea Events from Airflow and Oximetry," **42nd Annual International Conference of IEEE Engineering in Medicine and Biology Society (EMBCâ€™20)** , IEEE, pp.5339-5342

9. (22-24 May, 2016.) , "Caffeine Dose Dependent Blood Perfusion: Effects on Rhythmic Activities using Frequency Spectrum," **Proc. of 3rd International Conference on Electrical Engineering and Information & Communication Technology (ICEEICT)** , pp.1-5

8. Uddin,M. B. ,Khan,S. and Ahmad,a. M. (13-14 May, 2016.) , "Supine vs. Elevated Supine Postures: Comparative Effects on Blood Ejection and Perfusion," **Proc. of 5th International Conference on Informatics, Electronics & Vision (ICIEV)** , pp.636-40

7. Sayeed,M. A. , Rony,S. M. A. , Arefin,M. S. and Uddin,a. M. B. (11-13 December, 2015.) , "Investigation of Bodyweight Distribution on Metatarsophalangeal Joint of Human Foot for Ladies High Heel Footwear," **Proc. of International Conference on Mechanical Industrial and Materials Engineering (ICMIME)** , pp.1-5

6. Khan,S. ,Uddin,M. B. and Ahmad,a. M. (10-12 December, 2015.) , "Effects of Elevated Sleeping Postures on Cardiac Functions Analyzing Electrical Bio-impedance and Skin Blood Perfusion," **Proc. of 2nd International Conference on Electrical Information and Communication Technology (EICT)** , pp.162-6

5. Uddin,M. B. ,Reza,M. N. and Ahmad,a. M. (26-27 November, 2015.) , "Effects of Caffeine Doses on Cardiac Activity using Laser Doppler Flowmetry," **Proc. of 1st International Conference on Computer & Information Engineering (ICCIE)** , pp.118-21

4. (21-23 May, 2015.) , "Effects of Sleeping Positions on Cardiac Output and Cardiac Activity Analyzing Blood Perfusion," **Proc. of 2nd International Conference on Electrical Engineering and Information & Communication Technology (ICEEICT)** , pp.1-5

3. Nath,D. , Uddin,M. B. , Rana,M. M. , Biswas,P. C. , Wahed,S. and Ahmad,a. M. (21-23 May, 2015.) , "Number Recognition using Salient Features of Beta Rhythmic EEG Signal," **Proc. of 2nd International Conference on Electrical Engineering and Information & Communication Technology (ICEEICT)** , pp.1-6

2. Islam,M. M. ,Uddin,M. B. and Ahmad,a. M. (20-22 December, 2012.) , "Determination of the Effect of Having Energy Drinks Using Laser Doppler Flowmetry," **Proc. of 7th International Conference on Electrical and Computer Engineering (ICECE)** , pp.137-140

1. Islam,M. M. , Uddin,M. B. , Ahmad,M. , Khatun,F. , Protik,M. N. R. and Islam,a. M. M. (19-21 December, 2012.) , "Determination of the Effect of Having Energy Drinks on Respiratory and Heart Function Analyzing Blood Perfusion Signal," **Proc. of 15th International Conference on Computer and Information Technology (ICCIT)** , pp.113-118