

ICECE 2024 Technical Program Schedule

18 December 2024, Wednesday

18 December 2024, Wednesday (8:30 AM) Registration	
18 December 2024, Wednesday (10:00 AM -11:00 AM) Inauguration Venue: Council Building, BUET	
18 December 2024, Wednesday (11:00 AM - 11:20 AM) Tea Break	
18 December 2024, Wednesday (11:20 AM - 12:20 PM) Panel Discussion 1: Grid Resilience and Power System Planning in Bangladesh Venue: Council Building, BUET Session Chair: Dr. M. Rezwan Khan	
18 December 2024, Wednesday (12:20 PM - 1:15 PM) Panel Discussion 2: Bangladesh's Semiconductor Industry: Opportunities and Challenges Venue: Council Building, BUET Moderator: Dr. Nadim Chowdhury, BUET	18 December 2024, Wednesday (12:20 PM - 1:15 PM) Keynote Speech 4: Dictionary Based Channel Estimation and Precoding Techniques in Wireless systems using Reconfigurable Holographic and Intelligent Surfaces Speaker: Dr. K V S Hari, Director, Centre for Brain Research and Professor, Department of ECE, Indian Institute of Science, Bangalore. Room No: ECE 634 and Virtual Platform: Zoom Session Chair: Dr. Celia Shahnaz
18 December 2024, Wednesday (1:15 PM - 2:30 PM) Prayer and Lunch Break	

18 December 2024, Wednesday (2:30 PM - 4:00 PM)		
EEPS 1 - Power System I		
Room No: ECE 632		
Session Chair: Dr. Abdul Hasib Chowdhury, BUET; Dr. Farseem Mannan Mohammedy, BUET		
23	Investigation into the Appropriate Sizing of Battery Energy Storage System for Frequency Control in a Renewable Integrated Power Grid	Aich, Pritom; Jawad, Atik; Roy, Naruttam Kumar
27	Predictive Modelling for Multi-Location Deep Learning based Load Forecasting: An Integrated Approach	Shawon, Sarowar Morshed; Haider, Shah Nawaz; Barua, Arnab; Austin, Steve; Noor, Kazi Rifah
84	Identifying Optimal EV Charging Station Locations: A Smart Grid and Machine Learning Approach	Ahmed, Mahim; Jaman, Azam; Islam, Md. Nahid; Shakib, Md Shadman; Amin, Ifte K
128	Modified Hybrid Technique tuned PID Controller for Enhancing Load Frequency Control in a Three-Area Power System	Iqbal, Md. Shahid; Kabir, Md.Monirul; Limon, Md. Faiyaj Ahmed; Shiblee, Md Fazle Hasan
129	Improving Dynamic Stability for Load Frequency Control of the Interconnected Power Systems Using Hybrid ABC-PSO Model	Iqbal, Md. Shahid; Kabir, Md.Monirul; Limon, Md. Faiyaj Ahmed; Shiblee, Md Fazle Hasan
371	Power System Faults Detection Using Machine Learning with PMU Based Wide Area Monitoring	Fariha Rahman, Imi Bintey; Islam, Md. Minarul; Abdul Hasib Chowdhury; Ustun, Taha Selim; Muttaqi, Kashem M

18 December 2024, Wednesday (2:30 PM - 4:00 PM)		
AIBIO 1 - Machine Learning I		
Room No: ECE 634		
Session Chair: Dr. Shaikh Anwarul Fattah, BUET; Dr. Hafiz Imtiaz, BUET		
55	Hybrid Machine Learning Model for Detecting Bangla Smishing Text Using BERT and Character-Level CNN	Tanbhir, Gazi; Shahriyar, Md. Farhan; Shahed, Khandker; Md Raihan Chy, Abdullah; Al Adnan, Md
68	MIL Based Anomaly Detection in Surveillance Videos Using I3D and Clip Feature Extractor	Shahriar, Shahriar Iqbal; Siddique, Al Fattah; Kundu, Monideepa
85	Rain-Free Vision: Leveraging ICA for Enhanced Object Detection with YOLOv8 in Rainy Conditions.	Farook, Omar; Habib, Mohammad Ashfak
136	Wood Species Classification in Bangladeshi Forests: A Deep Learning-Based Comparative Analysis	Zannat, Ashrafun; Islam, Md. Saiful
149	Deep Learning and Ensemble Machine Learning-Based Approach to Detect Cyberbullying Using Twitter Data	Hamim, Hasibul; Mohi Uddin, Khandaker Mohammad; Mim, Mst. Nishat Tasnim; Islam, Md. Tahzib Ul; Based, Md Abdul

18 December 2024, Wednesday (2:30 PM - 4:00 PM)

EP 1 - Photonics I

Room No: ECE 625

Session Chair: Dr. Md. Shah Alam, BUET ; Dr. Md. Asiful Islam, BUET

18	Double rectangular enclosed hexagram shape metamaterial absorber for refractive index sensor Applications.	Zafir, Sams Al; Miah, Asad; Haque, S. M. Anowarul; Hasnain, Md; Sony, Al Hasan; Das, Joyonta ; Wahed, Abdul; Zim, Shadi Ihtiaj
39	Symmetric Conjoined Tube Negative Curvature Fiber Based Efficient Polarization Beam Splitter	Shaha, Kumary Sumi Rani; Khaleque, Abdul; Sayed, Rosni
76	Composite Ring Core Based Antiresonant Fiber for Efficient Transmission of OAM Modes	Sayed, Rosni; Khaleque, Abdul; Shaha, Kumary Sumi Rani; Kabir, Md. Anowar; Aoni, Rifat Ahmmed
78	A Highly Sensitive Multi-Channel Photonic Crystal Fiber-Based Surface Plasmon Resonance Biosensor for Detecting Multiple Analytes	Rahman, Md. Arafat; Maliha, Mehnaj Islam
92	A Slotted Air Hole-Based Circular Channel Sensor Internally Coated with Au-TiO ₂ for Ultra-Wide Sensing Range with High Sensitivity	Rahman, Md. Arafat; Tasnim, Nafisa; Mustafiz, Md. Sen Bin; Jawad, Abror; Ahmed, Tanvir
157	Polarization-Insensitive Near Perfect Tunable Graphene-Based Metamaterial Absorber	Ahmed, Nafisa; Zubair, Ahmed

18 December 2024, Wednesday (2:30 PM - 4:00 PM)

CSP 1 - Wireless Communication I

Room No: ECE 627

Session Chair: Dr. Md. Saifur Rahman, BUET; Dr. Md. Forkan Uddin, BUET

134	Design of a Notch Filter Element to Mitigate WiMAX EMI of an UWB Antenna	Hasan, Md. Khalid; Kayum, Md. Abdul; Sathy, Sharmin Akter; Rahman, Mahfujur
142	Performance Analysis of a Wideband Metamaterial Absorber for Wireless Communications at K and Ka Bands	Islam, Akib Jayed ; Pavel, Tanvir Ahamed; Salehin, Sultanus; Paul, Shreya; Alam, Sayem Ul; Chowdhury, Md Nayim; Uddin, Arafat ; Pranta, Swapnil
207	Performance Analysis of Reconfigurable Intelligent Surface Assisted Channels for 73 and 142 GHz Frequency Bands	Fuad, Md. Farhan; Tamim, Md. Mostaque Mahub; Tayef, Md Ashhaar Zaman; Mostafa, Md Golam
262	Single Coaxial-Feed Compact Dual-Band LLI Slotted Microstrip Patch Antenna for Wireless Communication Systems	HOSSAIN, MD. ABUL; Alam, Md. Shahabul; Basar, Rubel
283	Design and Analysis of Reconfigurable Antenna for 5G and Radar Applications	Shanto, Md Shahariar Islam; Rahman, Md Mahidur; Sarker, Nayan; Rashid, Mohammad Mamunur; Kabir, Muhaimin
287	Design and Implementation of a Low-Cost Weather Monitoring System using ESP-NOW	Khan, Shahin M.; Tasnim, Mumtahina; Rasheduzzaman, Mirza

18 December 2024, Wednesday (4:00 PM - 4:15 PM)

Prayer and Tea Break

18 December 2024, Wednesday (4:15 PM - 4:45 PM)

Invited Talk 1: Recent Advances in Next-generation Optical Fibers: Applications and Beyond

Speaker: Dr. Md Selim Habib, Assistant Professor, Electrical Engineering, Florida Institute of Technology, USA

Room No: ECE 634

Session Chair: Dr. Md. Asiful Islam, BUET

19 December 2024, Thursday

19 December 2024, Thursday (8:00 AM)
Registration

19 December 2024, Thursday (8:30 AM - 10:00 AM)		
EEPS 2 - Power System II		
Room No: ECE 632		
Session Chair: Dr. S. Shahnawaz Ahmed, BUET; Dr. Hamidur Rahman, BUET		
135	Optimizing Hybrid Energy Systems for Off-Grid Communities: A Case Study of Chalan Beel under the Rajshahi Division of Bangladesh	Rahman, Md. Sakilur ; Kabbyo, Md. Habib A Hasan; Rubayat Rokon, Md. Abu ; Bhuyan, Muhibul Haque
163	Hybrid MPC-PID Controller to Control the Voltage of an Islanded AC Microgrid	Arafat, Yeasin; Ahmed , Sabbir; Gani, Md.Manjurul; Shabab, Fahim
184	Advanced Load Shedding Strategy Incorporating Voltage and Frequency Stability for Enhanced Grid Reliability	Kabir, Md. Asif; Monsur, Ahmad Saqlain; Khan, Md. Fardin Kabir; Asif, Md. Mahir; Jowel, Asikur Rahman
279	Analytical Evaluation of Battery Energy Storage System Dispatch in PV Integrated Grid	Islam, Azazul; Abdul Hasib Chowdhury,
330	Operation Cost Minimization in South-Eastern PGB PLC Transmission System using Linear Programming OPF Model	Barua, Angkur

19 December 2024, Thursday (8:30 AM - 10:00 AM)		
AIBIO 2 - AI & Healthcare I		
Room No: ECE 634		
Session Chair: Dr. Celia Shahnaz, BUET		
31	A Novel Two-Layer Hybrid Stacked Ensemble for Early-Stage Diabetes Classification	Sarker, Sanjukta; Senjuty, Shameema Afreen; Islam, Soyabul
37	FTIR Spectroscopy and Machine Learning Based Method for Accurate Classification of Honey Purity	Islam, Md. Touhid; Rifat, Md. Rashidul Alam; Biswas, Dalim Kumar; Islam, Md. Atikul; Mamun, Md Abdulla Al
52	Enhanced CNN Models for Precise Classification of Pneumonia and COVID-19.	Rony, Sakibul Hasan; Masum, Abid Hossain; Arpita, Habiba Dewan; Rahman, Md. Sadekur
185	Machine Learning Approach for Classification of Severity of Depression using Wireless EEG among Young Adults	Sakib, Nazmus; Islam, Md Kafiul ; Faruk, Tasnuva
341	Patient-Specific Optimization of Radio Frequency Ablation Procedure for Breast Cancer Treatment	Bappa, Mrinmoy Nandi; Anyotoma, Jannatul Ferdous; Hossen, Md Rakib; Ferdous, Jahid

19 December 2024, Thursday (8:30 AM - 10:00 AM)

EP 2 - Photonics II

Room No: ECE 625

Session Chair: Dr. Mainul Hossain, DU; Dr. Sajid Muhaimin Choudhury, BUET

70	Electro-Optical Analysis of Tungsten Diselenide(WSe2) Monolayer Laser-induced Homojunction Photodetector	Podder, Sourav; Zulkifle, Areeb Ahmed; Mohammedy, Farseem Mannan
270	Design of THz Photonic Crystal Fibers Using ENZ Filled Elliptical Holes Near the Core	Khan, Nafisa; Ahmed, Md. Ashik; Mashahad, Shah Laheen; Alam, Md. Shah
302	A polarization-independent and highly sensitive tunable graphene-based THz metamaterial absorber for sensing application	Nath, Kawshik; MATABBAR, MD. ZUBAYER HOSSAIN; Nath, Bibekananda; Zubair, Ahmed
324	Quasi-BIC in Split Ring Metasurfaces for Optical Trapping of Nanoparticles	Mollah, Md. Aslam; Hasan, Md Rabiul; Chowdhury, Shah Ariful Hoque
338	Ultra-Compact Voltage-Controlled Dielectric-Cladded Graphene Plasmonic Waveguide Based Optical Logic Gate	Sur, Arpan; Zubair, Ahmed
423	Highly Sensitive Dual-Channel PCF Based SPR Biosensor for Multi-Analyte Detection with Fabrication Tolerance Analysis	Abdullah, Md.; Chowdhury, Faisal Ahmed; Reja, Md. Istiaque; Akhtar , Jobaida ; Khalil, MD Ibrahim; Karim, Mohammad Rezaul

19 December 2024, Thursday (8:30 AM - 10:00 AM) AIBIO 3 - Biomedical Engineering Room No: ECE 627 Session Chair: Dr. Md. Aynal Haque, BUET; Dr. Maruf Ahmed, BUET		
86	Highly Sensitive Terahertz Metamaterial Absorber with Enhanced Q-Factor and FOM for Cancer Cell Detection	Zim, Shadi Ihtiaj ; Rahman, Mahamudur ; Das, Joyonta ; Hasnain, Md; Arefin, Md Ehsanul; Miah, Asad; Hasan, MD Rajibul; Zafir, Sams Al; Islam, Md. Shawon
238	DengueGuard: An Innovative Non-invasive Dengue Vital Monitoring Device with Integrated Decision Support System	Noshin, Fabliha; Fairouz Borsha, Anisha; Anannya, Srija Sarker; Based, Samiul
271	Long-Term Psychophysical Impacts on Children Post-Experiencing VR Content	Rahman, Fahmida; Rahman, S M Mahbubur; Howlader, Tamanna
329	Improved Diffuse Optical Tomography (DOT) via Multi-Layer Perceptron (MLP) Using Single-Wavelength Data	Sharif, Omar; Alam, Md. Shah ; Islam, Md. Asiful
439	Design and development of a portable UVC chamber for rapid disinfection of Medical Diagnostic tools	Sakhawat, Rakib Hossen; Islam, Md. Aminul; Sifat, Md.Naimur Rahman Khan M.N.R.K; Farhana, Atika; Islam, Md. Fokhrul; Reza, Md. taslim ; Alam, M. Shafiul
468	An Assistive Device for the Visually Impaired for Enhanced Navigation and Reading	Sakib, Sadman; Sadi, Md. Sheikh; Arefin, Md Shanjid; Islam, Md. Repon; Neha, Humaira Anzum

19 December 2024, Thursday (10:00 AM - 10:15 AM) Tea Break		
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19 December 2024, Thursday (10:15 AM - 10:45 AM) Invited Talk 2: Inkjet-Printed Dry Electrodes for Cardiac Monitoring Wearable with Real-time AI at Edge-Computing Smartphone App Speaker: Dr. Bashir Morshed, Associate Professor, Computer Science, Texas Tech University, USA Room No: ECE 625 Session Chair: Dr. A. B. M. Harun-ur-Rashid, BUET	19 December 2024, Thursday (10:15 AM - 10:45 AM) Invited Talk 3: Automatizing Human-AI Interaction: Challenges and Opportunities Speaker: Dr. Sharifa Sultana, Assistant Professor, Computer Science, University of Illinois Urbana-Champaign, USA Room No: ECE 634 Session Chair: Dr. Mohammad Ariful Hoque, BUET

19 December 2024, Thursday (10:45 AM - 12:30 PM)		
EEPS 3 - Renewable Energy		
Room No: ECE 632		
Session Chair: Dr. Md. Habibur Rahman, DU; Dr. Ehsanur Rahman, BUET		
19	Contribution of Recoil Nucleus Energy to Total Absorbed Dose from Alpha and Beta Decay of Radionuclides Radium, Radon and Their Radioactive Progeny	Sadhukhan , Ramit Kumar; Alam, Mohammad Jahangir Jahangir; Synzynys, B.I.
90	Control of a 3-Phase 9-level Symmetrical Utility Interactive Inverter for Renewable Energy Applications	Rukonuzzaman, M
333	Biogas Production from University Hostel Food Waste: Renewable Energy through Efficient Waste Management	Das, Seemanta; Islam, Tariqul; Jalil, Md. Abdul
335	Efficient Foil Shape Optimization Using Artificial Neural Network-Based Surrogate Model with Adaptive Sampling Strategy	Emu, Nayma Hassan; Ahsan, Tayyib; Ibn Awal, Zobair; Islam, Minhazul
435	Techno-Economic Investigation of Solar Power Plants on Road Dividers in Bangladesh	Salman, Md Tarek; Rana, Md. Sohel; Hasan, Md. Mahmudul

19 December 2024, Thursday (10:45 AM - 12:30 PM)		
AIBIO 4 - Machine Learning II		
Room No: ECE 634		
Session Chair: Dr. Shaikh Anowarul Fattah, BUET; Dr. Maruf Ahmed, BUET		
186	Comparison of Gender Disparity in Programming Courses using Educational Data Mining.	Singha, Polas Chandra; Nitu, Adiba Mahjabin ; Akter, Sumya; Afjal, Masud Ibn
206	Transfer Learning of Tabular Data by Finetuning Large Language Models	Samad, Manar; Rabbani, Shourav; Kowsar, Ibna
212	Fusion-based Model for Social Gathering Emotion Classification	Aonty, Shuhena Salam; Akter, Afroza; Arefin, Mohammad Shamsul
250	Enhanced Radar Object Detection and Classification with Deep Learning on Range-Doppler (RD) Maps	Sohag, Md Arobin Islam; Saha, Pran Kanai
266	Non-stationary Learning with Multi-layer of Adaptation	Mohiuddin Chowdhury, Nur Mohammad

19 December 2024, Thursday (10:45 AM - 12:30 PM)

EP 3 - Electronic and Photonic Materials I

Room No: ECE 625

Session Chair: Dr. Shaikh Asif Mahmood, BUET; Dr. Apratim Roy, BUET

104	Synthesisation of ZnO:Al Nanoparticles by Uncovered Hydrothermal Method for Photocatalytic Activity of Azoic Dye	Jamee, Zaheer Al
119	Enhancing Lead-Free Perovskite/Kesterite Solar Cells: Boosting Efficiency Through Dual Absorber (Cs ₂ AgBiBr ₆ / CZTSse) Layers	Alam, Mohammad Tahsin; Nikita, Zafrin J; Cheragee , Sheikh Hasib; Alam, Mohammad Jahangir Alam
121	Numerical Optimization and High-Performance Design of Lead-Free CsSnBr ₃ Perovskite Solar Cells with Optimal Hole Transport Layer Selection	Shimul, Asadul Islam; Hossain, Md Maruf; Shahriare, Atiq ; Sarker, Swarna Rani; Alam, Shakidul ; Dipa, Safia Aktar
132	Exploring Lead Free Mixed Halide Double Perovskites Solar Cell	Rahman, Md Yekra; Mominuzzaman, Sharif Mohammad
158	Exploring Pressure-Induced Changes in the Electronic, Mechanical and Optical Properties of Inorganic Sr ₃ AsI ₃ Perovskite	Chowdhury, Alindo; Ghosh, Avishek; Rasul, Md. Rifat -E-; Islam, Md. Rafiqul
201	Electronic and Optical Properties of Novel Janus Monolayer X ₂ AsP (X = B, Al, Ga)	Majumder, Swmic; Alam, Md. Kawsar
281	A Triple Band Four Folded Metamaterial Absorber in the C- and X-Band Spectrum	Chy, Ambara Afsha ; Barua, Tamal; Rahman, Sydur; Shuvo, Md Mizan Kabir; Ferdous, A K M Abdur Rahman; Alam, Md. Shah
282	Design of a Split Ring Resonator Based Metamaterial with High Effective Medium Ratio for Wireless Communication	Ferdous, A K M Abdur Rahman; Islam, Md. Asiful; Alam, Md. Shah

19 December 2024, Thursday (10:45 AM - 12:30 PM)

CSP 2 - Image Processing

Room No: ECE 627

Session Chair: Dr. Celia Shahnaz, BUET

75	Affordable ELISA Reader: Design and Feasibility Study for Resource-Constrained Regions	Salsabil, Labiba Islam; Chakraborty, Chaity; Tasnim, Nishat; Rahman, Md. Asib; Paul, Shrebash; Ahmed, Md Tazuddin
165	Recognition of Butterflies of Bangladesh using Deep Learning	Yasmin, Rumana ; Das, Aparna; Rozario, Liton Jude; Islam, Md Ezharul
200	Aquatic Robot for Trash Removal and Water Quality Monitoring Built from Recycled Materials	Das, Sanath Kumar; Saha, Sudipta; Fardaus, Fatin; Afrose, Sadia; Mashtura, Raisa
272	A Robust Image Watermarking Approach for Application in AI Generated Images	Aditto, Tarvir Anjum; Shahariar, Md. Rakib ; Imtiaz, Hafiz
301	Adaptive Improved Modified Riesz Mean Filter for Higher Noise Density Salt and Pepper Noise Removal in Grayscale & Color Images	Labiba, Fabliha; Rafeed, Sheikh Munkasir Ahmed; Ahmed, Maruf; Bin Iqbal, Abdullah Jubair
348	Complete Coverage Path Planning (CCPP) scheme for enabling autonomous navigation of mobile robots utilizing ROS2	Jahan, Ishrat; Ahmad, Hamzah; Hossain, Md. Bellal
352	Automated Framework for Segmenting and Identifying Thyroid Nodules in Ultrasound Images	Marzun, Md. Enamul Haque; Sultana, Maria; Binti, Boshita Roy; Sazzad, T M Shahiar

19 December 2024, Thursday (12:30 PM - 1:30 PM)

Keynote Speech 1: Trustworthy and Generative AI for Social Good, Including Cybersecurity

Speaker: Dr. Latifur Khan, Fellow of IEEE, IET, BCS, Professor, Department of Computer Science, University of Texas at Dallas (UT Dallas), USA

Room No: ECE 634

Session Chair: Dr. Muhammad Masroor Ali, BUET; Dr. Celia Shahnaz, BUET

19 December 2024, Thursday (1:30 PM - 2:30 PM)

Prayer and Lunch Break

19 December 2024, Thursday (2:30 PM - 4:00 PM) EEPS 4 - Power Electronics Room No: ECE 632 Session Chair: Dr. Md. Ziaur Rahman Khan, BUET; Dr. Nadim Chowdhury, BUET		
51	Optimal Selection of Battery Types in Microgrids Using Multiple Optimization Algorithms	Talha, Md Abu; Hoque, S.M. Tanbinul; SHAMRAT , Mahbub Alam Siddique ; Zishan, Al Shahriar; Shakur, Md. Abdus; Mahmud, Abdulla All
107	Optimal DC Motor Speed Control Comparison	Rabby, Md Khurram Monir; Bhuiyan, Asiful
199	Optimizing LED Driver Transients Using ANN and ANFIS Control in SEPIC Converters	Asad, Dewan M; Rahman Any, Md. Ashikur ; A.B.M. Harun-ur Rashid
299	Modified Z-Source Solid-State Breaker Topology for LVDC Applications	Riana, Rezoana S.; Das, Abhijit; Arif, Mohammad Anwarul Hoque; Shuvo, Sajib Biswas; Arafat, Abdullah
306	Design of an Insulation Fault Detecting circuit for Electric Vehicles using a Supercapacitor to minimize the fault detection time	Hossain, Md.Abir; Ahmed, Syed Mohammad Faisal
432	Efficiency Analysis of LLC Resonant Converter with 7KW & 10 KW Loads for 3-Phase Distribution using Transient, Power and Monte Carlo Methods: Simulation Based Approach	Oeishee, Moslema Hoque; Muyeed, Munyem Ahammad; Shaikat, Md Al Hasan; Shihab, Nahid Ahmed
473	Bidirectional Energy Flow in Vehicle-to-Grid and Grid-to-Vehicle Systems with Solar Integration: A Simulink-Based Approach	Hasan, Khan Thamid; Shaon, NM; Deb, Angkon; Munia, Sabrina Khan; Afrin, Tasmiah; Islam, Asif

19 December 2024, Thursday (2:30 PM - 4:00 PM) AIBIO 5 - AI & Healthcare II Room No: ECE 634 Session Chair: Dr. Mohammad Ariful Hoque, BUET; Dr. Maruf Ahmed, BUET		
193	MN1_DN121_Vg19: A Multi-stream Ensemble Model for Detecting External Damage on Tomato Surface	Juthy, Most. Jebun Nahar ; Tauhid, Mr.; Hosen, Md. Faruk; Basar, Md. Abul; Aktar, Mst. Nargis; Uddin, Muhammad Shahin ; Morshed, Monir
194	A Hybrid Deep Learning Approach to Classify Colon Cancer From Colonoscopy Image	Nadim, Mahimul Islam; Setu, Shayla Alam; Sohel, Amir ; Zubaer, Talha; Rifat, Rifatul Islam; Rahman, Md Mizanur
228	Enhancing Automated Medical Question-Answer Systems Using Fine-Tuned Large Language Models	Uddin, S. M. Tanvir; Raju, S. M. Taslim Uddin; Mohammad, Abdul Raqeeb; Uddin, S. M. Tanjim
233	Impact, Causation and Prediction of Socio-Academic and Economic Factors in Exam-centric Student Evaluation Measures using Machine Learning and Causal Analysis	Hosen, Md. Biplob; Ahmed, Sabbir; Akter, Bushra; Anannya, Mehrin
239	Classification of rice leaf disease with cutting-edge deep learning models	Rahman , Nuzhat ; Binta Jashim, Fariha; Sultana, Zinnia

19 December 2024, Thursday (2:30 PM - 4:00 PM)

EP 4 - Electronic and Photonic Materials II

Room No: ECE 625

Session Chair: Dr. Sharif Mohammad Mominuzzaman, BUET; Dr. Md. Zahurul Islam, BUET

152	A Comparative Analysis Between Ga-MoS ₂ and Al-MoS ₂ as Gas Sensors for Sensing SF ₆ Decomposition Gases	Nikita, Zafrin J; Alam, Mohammad Tahsin; Md. Shafiqul Islam; Bushra, Fairuz
244	Data-Driven Optimization of Lead-Free Perovskite Solar Cell Architecture Using Machine Learning and SCAPS Simulations	Rahman, Md. Arifur ; Alam, Mohammad Jahangir Alam
253	Solving Neutron Transport Using an Implementation of the Method of Characteristics (MOC) and its Assessment	Rafee, Kazi Azman; Kabir, Khorshed Ahmad
257	Modelling and Performance Optimization of Non-Toxic 2-T Perovskite/GeTe Tandem Solar Cell with Improved Efficiency	Sultana, Khadiza ; Munia, Sabrina Khan; Islam, Ishraq Bintul; Alam, Mohammad Jahangir Alam
261	Optimizing Imperfections in 2D Materials Using Kalman Filter	Hossain, Md. Abul; Alam, Md. Shahabul; Ferdous, Naim; Zamil, Md Yasir
289	Numerical Analysis and Comparison of Bifacial Indoor Photovoltaic Devices with Chalcogenide, Kesterite and II-VI Compounds	Roy, Dibakar; Munim Hussain, Sheikh; Sajjad, Redwan N; Baten, Md Zunaid
307	A Numerical analysis of the effects of various electron transport layers on CsSnGe ₃ based perovskite solar cell	Talal, Tanvir Aftab ; Sath, Maheraf Hossain; Shohan, Eftekar Hossain ; Siam, Neamul Islam; Datta, Apon Kumar; Suny, MD Bijoy

19 December 2024, Thursday (2:30 PM - 4:00 PM)
AIBIO 6 - Machine Learning III
Room No: ECE 627
Session Chair: Dr. Md. Rubaiyat Hossain Mondal, BUET

269	Enhancing Safety and Collision Avoidance in Autonomous Vehicles through Pose Estimation Techniques	Ahmmad, Rafid; Razzaque, Tanzir Bin; Hussain, Habib
297	Prompt Injection Detection Using Ensemble of BERT and LSTM with GloVe Embeddings	Chisty, Md. Main Oddin; Sakib, Abu Noman Md; Khan, Md Somir; Shuvo, Md. Badiuzzaman
309	High Resolution Microwave Tomographic Imaging Using Low Frequency Data and Artificial Neural Networks	Abir, Md. Al-Imran; Kiourti, Asimina; Islam, Md. Asiful
355	S2AT-GCN: A Spatial Self-Attention Temporal Graph Convolutional Network for Gait-Based Person Recognition	Khaliluzzaman, Md.; Deb, Kaushik
372	Fuzzy Rank-Based Ensemble Learning for Eye Disease Classification Using Retinal Images: A Bangladeshi-Specific Dataset with Explainable AI Integration	Shuvo, Shuvashis Sarker
386	Utilization of the YOLOv8 methodology for individual identification through facial recognition	Hasan, Walid; Mahira, Sumaya ; Shakib Hosen, Golam; Rashid, Md. Harun -Ar-; Mollah, Torikuzzaman

19 December 2024, Thursday (4:00 PM - 4:15 PM)
Prayer & Tea Break

19 December 2024, Thursday (4:15 PM - 5:45 PM)
EEPS 5 - Power System III
Room No: ECE 632
Session Chair: Dr. Hamidur Rahman, BUET

373	A Novel Approach for Predicting the Stability of the Smart Grid Utilizing Federated Learning: A Comparative Analysis	Hassan, Md. Shakib ; Hossain, Md. Radowan; Akter, Nurjahan
381	Impact of Lightning Overvoltage on Substation Operating Scenario & Open Busbar End Terminals of AIS Switchyard in EHV Environment	Aftabuzzaman, Muhammad; Haque, A S M Shahriar
369	Robust Classification of Electrical Faults in Photovoltaic Systems	Ibn Malek, Ihtesham; Fattah, Shaikh Anowarul
463	Smart Energy Meter with Real Time Monitoring System	Hossain, Md. Saffat; Hassan, Md. Mehedi

19 December 2024, Thursday (4:15 PM - 5:45 PM) AIBIO 7 - AI & Healthcare III Room No: ECE 634 Session Chair: Dr. Zabir Ahmed, BUET		
293	A hybrid modeling approach with interpretability in Cervical Cell Classification Using a CNN-ML Synergistic Approach	Khatun, Shanta ; Mosub, Ebna ; Rothy, Zarin Tasnim; Tasfia, Sheikh; Islam, A.M. Tayeful
317	RawConvNet: An End to End Network for MI-EEG Decoding with Attention Mechanism and No Preprocessing	Dey, Dibbo
357	A Comprehensive Stacked Ensemble Framework for ECG-Based Stress Level Classification: Integrating Base Classifiers with Meta-Learning and Uncertainty Measurement	Khan, Md. Mushfikur Rahman; Arafat, Abdullah
361	A Deep Learning Strategy for Accurate Lung Cancer Subtype Classification Using Convolutional Neural Networks	Reem, Sadia Zannat; Sumon, S.M Asaduzzaman; Howlader, Arpita; Sarker, Manash
377	Performance Analysis of Machine Learning Classifiers for Breast Cancer Diagnosis	Hassan, Md. Shakib ; Hossain, Md. Radowan; Akter, Nurjahan
401	ADTNet: Attention-Guided U-Net with Dynamic CNN and Transformers for Skin Cancer Detection	Yeafi, Ashfak; Sarker, Liton

19 December 2024, Thursday (4:15 PM - 5:45 PM) EP 5 - Electronic and Photonic Materials III Room No: ECE 625 Session Chair: Dr. Apratim Roy, BUET; Dr. Md. Kawsar Alam, BUET		
345	Adsorption properties of Ni-doped TiO ₂ towards dissolved gases in transformer oil: A DFT Study	Anik, Dewan Md Iftakharul ; Md. Shafiqul Islam
385	First-Principles Study on Strain-Tunable Electronic and Optical Properties of Janus Al ₂ SO Monolayer	Rafi, Md. Rafiqul Islam; Tanisha, Tanshia Tahreen; Subrina, Samia
387	First principle study of topological phase transition in 2D 1T'-WTe ₂ bulk monolayer with the application of vertical electric field	Sharma, Joy ; Alam, Mahbub
408	Impact of Doping and Defects on Thermal Transport of Monolayer GaN Nanoribbons: A Molecular Dynamics Simulation Study	Mia, Md Zesun Ahmed; As-Saquib, Nazmus Saadat; Himel, Mehedi Hasan; Limon, Mehedi Hossen; Subrina, Samia
441	Investigation of lattice thermal conductivity of x3 borophene and b12 borophene: A Reverse Non-Equilibrium Molecular Dynamics Study	Sarkar, Shovon; Alam, Mahbub
442	Efficient prediction of mechanical characteristics of single wall carbon nanotubes	Ibn Malek, Ihtesham; Sarkar, Koushik; Zubair, Ahmed

19 December 2024, Thursday (4:15 PM - 5:45 PM)

EP 6 - Nanomaterials and Devices I

Room No: ECE 627

Session Chair: Dr. Mahbub Alam, BUET; Dr. Muhammad Anisuzzaman Talukder, BUET

72	Adsorption and Gas Sensing Properties of GaAs Monolayer : A DFT Study	Rahman, Md. Tawabur; Bala , Manik ; Al Nahean, Raiyan; Sorker, Bijoy ; Firoz , MD Raiyan
116	Extraction of the Thermal Resistance of 1-mm Gate Periphery GaN-on-SiC RF HEMT	Karim, Tofayel; Alim, Mohammad A; Jaman, Imdad Ahmed ; Azad, Md. Omar Faruk; Rahman, Md. Asif Ur ; Jarndal, Anwar
179	Development of a Low-Cost Spectrometer for Educational Applications	Saha, Sudipta; Sur, Arpan; Bain, Sajib; Hasan, Tanisha Tanzina
209	Exploring Transition Metal Doped Graphene Nanoribbon as Interconnect: Ti, Ag and Au Perspectives	Talukder, Redwanul Mahbub; Al Mahmood, Abdullah; Alam, Md. Kawsar
231	Effect of grain size on the tensile mechanical behavior of single layer silicon germanide (SiGe): A molecular dynamics study	Akbar, Md. Shahadat
241	Tunable magnon interference-based reconfigurable logic gate using microstructured Y3Fe5O12 Thin Films	Sarker, Md. Shamim; Sarker, Md Shamim; Yao, Lihao; Ahamed, E M K Iqbal ; Yamahara, Hiroyasu; Tabata, Hitoshi

19 December 2024, Thursday (5:45 PM - 6:00 PM)

Prayer Break

19 December 2024, Thursday (6:00 PM - 7:00 PM)

Keynote Speech 2: Rare-earth Free PMSMs for High Performance Applications-- Challenges and Opportunities

Speaker: Dr. Mohammad Shahidul Islam, Chief Scientist, HL Mechatronics, Bay City, Michigan, USA

Room No: ECE 634 and Virtual Platform: Zoom

Session Chair: Dr. Mohammad Jahangir Alam, BUET

19 December 2024, Thursday (7:00 PM-9:30 PM)

Conference Banquet

Venue: FARS Hotel & Resorts

20 December 2024, Friday

20 December 2024, Friday (8:30 AM - 9:00 AM)

Registration

20 December 2024, Friday (9:00 AM - 9:30 AM)

Invited Talk 4: Data Driven Design for Next Generation of Communication Systems

Speaker: Dr. Imtiaz Ahmed, Assistant Professor, Department of Electrical Engineering and Computer Science, CEA, Howard University, USA

Room No: ECE 634

Session Chair: Dr. Md. Forkan Uddin, BUET

20 December 2024, Friday (9:00 AM - 10:30 AM)

EP 7 - Nanomaterials and Devices II

Room No: ECE 632

Session Chair: Dr. Md. Shafiqul Islam, BUET; Dr. Nadim Chowdhury, BUET

286	Tight Binding Hamiltonian Parameter Extraction and I-V Characteristics of 13 AGNR using Machine Learning Method	Islam, Sazzadul; Alam, Mahbub
326	Enhancement of Hardware Security by combining Multiple Cell Obfuscation with AntiSAT and SARLock techniques	Rahman, Hamidur; A.B.M. Harun-ur Rashid
358	Hybrid CMOS LIF Neuron and Memristor Array System for Visual Pattern Recognition	Mahmud, Yasir; Uddin, Myen; A.B.M. Harun-ur Rashid
364	Evaluation of Electrical Characteristics of 180 nm Hf _{0.5} Zr _{0.5} O ₂ based optimized Ferroelectric Field Effect Transistor	Eva, Sagira Zaman; Nusaibah, Fariha; Rahman, Hamidur
380	Resonant Tunneling Phenomena in Gate Controlled Chiral Graphene Nanoribbon	Hossain, Md Meherab; Alam, Mahbub
390	Voltage Controlled Oscillator based Ising Machine for Solving Combinatorial Optimization Problems	Rahman, M. Fahmin; Ul Islam, H M Tahmeed; Upoma, Tasnim Sobhan; Hassan, Orchi

20 December 2024, Friday (9:00 AM - 10:30 AM)		
AIBIO 8 - Machine Learning IV		
Room No: ECE 627		
Session Chair: Dr. Hafiz Imtiaz, BUET		
367	Enhancing Coconut tree diseases Detection with NAS-Efficient using xAI	Rakibuzzman, Md; Nadim, Md Nure Alam; Kabir, Md. Sayem; Rassel, Mian Mohammad; Tanvir, Kazi; Al Sohan, Md Faruk Abdullah
393	Wildfire Prediction using Convolutional Kolmogorov-Arnold Network	Rabbi, Rawhatur; Datta, Joy; Ahmed, Shuvro; Zereen, Aniqua Nusrat
395	BSER-Bengali Speech Emotion Recognition Based on SUBESCO Dataset	Biswas, Nripendro; Mahdi, Munaem Ahmed; Islam, Tasmia
420	Enhancing Infrastructure Detection Using Drone Imagery : A Comparative Analysis Using Machine Learning Models with a Custom Bangladesh-Based Dataset for Improved Urban Planning	Barno, Shudeb Ghosh ; Rahman, Atikur; Borno, Nabila Islam; Mikdad, Musaib Ibn Habib; Mahi, Md. Rafiul Islam; Rhaman, Md. Khalilur
444	Unlocking Author Gender Clues: Machine Learning and Pronoun Insights for Gender Prediction in Bangla Literature	Bhuiyan, Afsarul Amin; Arnob, Ahmed Shafi; Nipa, Tamanna Haque; Hussian, Rahad; Islam, A. B. M. Alim Al

20 December 2024, Friday (9:00 AM - 10:30 AM)		
EP 8 - Nanomaterials and Devices III		
Room No: ECE 625		
Session Chair: Dr. Ahmed Zubair, BUET; Dr. Orchi Hassan, BUET		
12	Impact of Defects on Thermal Transport in Germanene/Stanene Heterobilayers: An RNEMD Analysis	Sarkar, Shovon; Rahman, Md. Ashikur; Safi, Md. Shalhe Ahamed; Ahammed, Shihab
156	DFT Analysis of Strain Effect in Bilayer 2D-SiC on Electrical, Optical, Phonon, and Thermodynamic Properties	Haque, Md. Mahfuzul; Choudhury, Sajid Muhaimin
216	Performance Study & Calculation of Defect Area on PV Modules: Active Thermography Approach	Islam, Mohaimenul; Amin, Moyukh; Rahman, Md. Mosaddequr; Hasan, Galib; Mahjabin, Maliha; Huda, A. S. Nazmul
436	Prediction of Spontaneous Valley Polarization in Ferro-valley VxNbySe8 Alloy for Valleytronic and Spintronic Devices Using First Principle Calculations	Islam, Samiul; Mominuzzaman, Sharif Mohammad
437	Topological electronic properties of Bismuth Selenide nanoribbon slab with zigzag edge	Haque, Md. Meftahul; Alam, Mahbub
469	Subharmonic Injection-locked PMOS Load VCO for Ultra-low Phase Noise and Extended Tuning Range	Shaon, NM; Roy, Apratim

20 December 2024, Friday (9:00 AM - 10:30 AM)
CSP 3 - Wireless Communication II
Room No: ECE 634
Session Chair: Dr. Pran Kanai Saha, BUET; Dr. Md. Saiful Islam, BUET

300	Effect of Doppler Shift on the Performance of LoRa Chirp Spread Spectrum Communication over Various Fading Channels	Sarker, Sudipta; Rahman, Md. Saifur
346	Secure Outage Performance Analysis in Multicasting over Composite Nakagami-Gamma Fading Channels	Ibrahim, Md.; Sarkar, Md. Zahurul Islam
440	A Miniaturized UWB Planar Patch Antenna for Short Range Wireless Applications	Parveen, Rubina; Rahman, Mahfujur
448	Octa-band Reconfigurable Monopole Antenna with PIN Diode Switches for Versatile Wireless Applications	Jahan, Ishrath; Hossain, S M Sayeed; Tusty, Faria Islam; Islam, Md Aminul
451	Design and Performance Analysis of Dual Resonance Reduced Size Reflectarray Unit Cells with Double Ring and Line of Symmetry	Sadat, Md Nazmus; Hossain, Imran; Hasan, Mansib; Islam, Md Aminul

20 December 2024, Friday (10:30 AM - 10:45 AM)
Tea Break

20 December 2024, Friday (10:45 AM - 11:45 AM)
Keynote Speech 3: Recent Advances in Power Converter Control Techniques for DFIG-WECS
Speaker: Dr. Mohammad Nasir Uddin, Fellow IEEE, Fellow EIC, Professor and Coordinator, Lakehead University, Barrie campus, ON, Canada
Room No: ECE 634 and Virtual Platform: Zoom
Session Chair: Dr. M M Shahidul Hassan, EEE, BUET (Retd.); Dr. Md. Ziaur Rahman Khan, BUET

20 December 2024, Friday (11:45 AM - 12:15 PM)
Closing and Award Ceremony