

ICEEICT 2021 Programs

Day-1: 18th November 2021 (Thursday)

Time	Program		Venue & Mode
0900-1100	Inaugural Ceremony		General Mustafiz Multipurpose Hall 10 th Floor, Tower-1
	0900-0925:	ICEEICT highlights	
	0925-0930:	Chief guest arrival	
	0930-1035:	Opening speech	
	1035-1055:	Souvenir handover	
1100-1130	Tea		Central Tea Room 2nd Floor, Tower-1
1130-1230	Keynote Session-1 Anind K. Dey University of Washington, USA		General Mustafiz Multipurpose Hall 10 th Floor, Tower-1 (Hybrid)
1230-1400	Lunch & End of Hybrid Session		
1400-1500	Keynote Session -2 Kashem M. Muttaqi University of Wollongong, Australia	Keynote Session -3 Syoji Kobashi University of Hyogo, Japan	Virtual
1500-1515	Break		
1515-1700	Technical Sessions 1A, 1B, 1C, 1D, 1E and 1F		Virtual
1700-1830	Break		
1830-1930	Keynote Session -4 Henning Schulzrinne Columbia University, NY, USA		Virtual

Day-2: 19th November 2021 (Friday)

Time	Program	Venue & Mode
0900-1100	Industrial Session-1	General Mustafiz Multipurpose Hall 10 th Floor, Tower-1 (Hybrid)
1100-1115	Tea & End of Hybrid Session	
1115-1300	Technical Sessions 2A, 2B, 2C, 2D, 2E and 2F	Virtual
1300-1400	Break	
1400-1500	Keynote Session-5 Marco Liserre University of Kiel, Germany	Virtual

Time	Program	Venue & Mode
1500-1515	Break	
1515-1615	Keynote Session-6 Ahmet Murat Tekalp Koç University, Turkey	Virtual
1615-1630	Break	
1630-1730	Keynote Session-7 Frede Blaabjerg Aalborg University, Denmark	Virtual
1730-1745	Break	
1745-1930	Industrial Session-2	Virtual

Day-3: 20th November 2021 (Saturday)

Time	Program		Venue & Mode
0900-1130	Special Sessions 3A, 3B, 3C and 3D	Technical Session-3E	Virtual
1130-1145	Break		
1145-1245	Keynote Session-8 Ranjan Gangopadhyay LNM Institute of Information Technology, India	Academia Session-1 Anirudh Agarwal LNM Institute of Information Technology, India	Virtual
1145-1315	Tutorial Session		Virtual
1315-1430	Break		
1430-1530	Closing and Award Giving Ceremony		Virtual
1530-1900	Break		
1900-2230	Gala Dinner		Central Tea Room, 2nd Floor, Tower-1

Technical Program

Day-1: 18th November 2021 (Thursday)

Keynote Session 1

Day-1: 18th November 2021 (Thursday)

Time: 1130-1230 (Hybrid)

Venue: General Mustafiz Multipurpose Hall, (10th Floor), Tower-1

Session Chair: Syed Akhter Hossain, CSE, ULAB	
Session Co-chair: Major Md Mokhlesur Rahman, CSE, MIST	
Keynote Speaker	Keynote Topic
Anind K. Dey University of Washington, USA	Using Everyday Routines for Understanding Health Behaviors

Keynote Session 2

Day-1: 18th November 2021 (Thursday)

Time: 1400-1500 (Virtual)

Session Chair: Shahriar Khan, EEE, IUB	
Session Co-chair: Captain M S A Al Farook Shiblee, (BN), EECE, MIST	
Keynote Speaker	Keynote Topic
Kashem M. Muttaqi University of Wollongong, Australia	Energy Technologies for Future Grids

Keynote Session 3

Day-1: 18th November 2021 (Thursday)

Time: 1400-1500 (Virtual)

Session Chair: Kaushik Dev, CSE, CUET	
Session Co-chair: Major Maruf Hasan, BME, MIST	
Keynote Speaker	Keynote Topic
Syoji Kobashi University of Hyogo, Japan	Medical image analysis with artificial intelligence

Technical Session 1A

Day-1: 18th November 2021 (Thursday)

Time: 1515-1700 (Virtual)

Session Title: Artificial Intelligence-1

Session Chair: A.K.M Ashikur Rahman, CSE, BUET		
Session Co-chair: Lieutenant Colonel Muhammad Nazrul Islam, CSE, MIST		
Serial No	Paper ID	Title of the paper
1	42	Diagnosis of Left Ventricular Hypertrophy from ECG Signals Based on CCS Methodology using SVM

Serial No	Paper ID	Title of the paper
2	46	Developing a Semantic Search Method for Retrieving Food Related Verses and Concepts from Holy Quran Using Ontology
3	59	Recognition of Basic Handwritten Math Symbols Using Convolutional Neural Network with Data Augmentation
4	78	Non-invasive Deception Detection in Videos Using Machine Learning Techniques
5	102	A Convolutional Neural Network for End-to-End Structural Prediction and Lane Detection for Autonomous Vehicle
6	246	Smart Meter Data Compression and Load Profile Classification Using UMAP and Random Forest

Technical Session 1B

Day-1: 18th November 2021 (Thursday)

Time: 1515-1700 (Virtual)

Session Title: Biomedical Engineering-1

Session Chair: Mohiuddin Ahmed, EEE, KUET		
Session Co-chair: Md. Enamul Hoque, BME, MIST		
Serial No	Paper ID	Title of the paper
1	40	Application of Hybrid Classifier for Multi-class Classification of MRI Brain Tumor Images
2	52	Classification and Performance Analysis of Cancer Microarrays Using Relevant Genes
3	111	AllerHybrid: A Hybrid System to Predict the Allergen Using K-mer and Physicochemical Properties
4	148	Non-linear Behaviour Investigation of Accumulation Mode Silicon Nanowires for Biosensing Application
5	164	Medical Specialty Classification from A Bangla Dataset: A Token Level Approach Using Several Machine and Deep Learning Algorithms
6	256	Design and Analysis of a DGS Based UWB Monopole Antenna for Brain Tumor Detection

Technical Session 1C

Day-1: 18th November 2021 (Thursday)

Time: 1515-1700 (Virtual)

Session Title: Communication Technology-1

Session Chair: Md. Raqibul Mostafa, EEE, UIU		
Session Co-chair: Shaikh Muhammad Rizwan Ali, CSE, MIST		
Serial No	Paper ID	Title of the paper
1	22	Performance Evaluation of a Directional Beam Forming Circular Antenna for ISM Band Application
2	175	A Study on the Performance Analysis of Hybrid Diversity Combining Techniques for Rayleigh and Rician Fading Channels under AWGN

Serial No	Paper ID	Title of the paper
3	188	Comparative Analysis of Hybrid Diversity Schemes under AWGN and Impulsive Noise models for Rayleigh Fading Channels
4	203	Simulation of a Massive MIMO FSO System Under Atmospheric Turbulence
5	237	Performance Analysis Through Image and Video Transmission for Alamouti Space Time Block Coding Over Rayleigh and Rician Fading Channel
6	245	Performance Investigation of Multi-Constellation Global Network Satellite System (GNSS) Using Precise Point Positioning over Bangladesh

Technical Session 1D

Day-1: 18th November 2021 (Thursday)

Time: 1515-1700 (Virtual)

Session Title: Multimedia and Signal Processing-1

Session Chair: Md Golam Mostafa, EECE, MIST		
Session Co-chair: Group Captain Md Abdul Halim, EECE, MIST		
Serial No	Paper ID	Title of the paper
1	32	MC-CDMA System for Multi-User Using Walsh Code on Rayleigh Fading Channel
2	44	Control Factor Based Two Step LMS Algorithm for Channel Tracking and Impulse Noise Mitigation
3	66	A Real-time End-to-End Bangladeshi License Plate Detection and Recognition System for All Situations Including Challenging Environmental Scenarios
4	129	A Self-Supervised Convolutional Neural Network Approach for Speech Enhancement
5	136	DURISE- Deblurring of Underwater Image Search Engine by CBIR
6	217	Improving Automatic Sign Language Translation with Image Binarisation and Deep Learning

Technical Session 1E

Day-1: 18th November 2021 (Thursday)

Time: 1515-1700 (Virtual)

Session Title: Power System & Renewable Energy-1

Session Chair: Abdul Hasib Chowdhury, EEE, BUET		
Session Co-chair: Md. Ali Azam Khan, EECE, MIST		
Serial No	Paper ID	Title of the paper
1	28	Influence of Large-Scale Solar Power on Stability of East West Interconnector System of Bangladesh Power System
2	75	An Efficient Adjustable Duty Control Based Current Limiter for Grid-Connected Solar PV System
3	85	A Case Study on the Cost-effectiveness of Net Energy Metering of Residential Grid Connected Photovoltaic in the Context of Bangladesh

Serial No	Paper ID	Title of the paper
4	126	Survey on Characteristics of Lightning Injuries in Remote Area of Bangladesh and Its Prevention
5	201	Design of an Integral Sliding Mode Controller-Based on a Hybrid Reaching Law for DC Microgrids
6	218	PID, LQR, and LQG Controllers to Maintain the Stability of an AVR System at Varied Model Parameters

Technical Session 1F

Day-1: 18th November 2021 (Thursday)

Time: 1515-1700 (Virtual)

Session Title: Semiconductor Device & Circuits-1

Session Chair: Quazi Deen Mohd Khosru, EEE, BUET		
Session Co-chair: Md Soyaeb Hasan, EECE, MIST, EECE, MIST		
Serial No	Paper ID	Title of the paper
1	34	Diamond Shaped Dual Core High Sensitive Surface Plasmon Resonance Photonic Crystal Fiber Sensor in Visible to Near-Infrared Region
2	43	High-Efficiency Multi Quantum Well Blue LED Using 2D-SiC as an Active Material
3	57	Ultra-Wide Refractive Index Range Photonic Crystal Fiber Based Sensor with Gallium Doped Zinc Oxide Coating
4	178	Theoretical Investigation for Growth of High Quality GaN on Epitaxial Graphene
5	181	Effects of Structural Variation for Improved Performance of a Vertical AlGaIn/GaN Super junction HEMT
6	185	The Gold Coated Plasmonic Refractive Index Sensor with Low Propagation Loss

Keynote Session 4

Day-1: 18th November 2021 (Thursday)

Time: 1830-1930 (Virtual)

Session Chair: A. B. M. Alim Al Islam, CSE, BUET	
Session Co-chair: Lieutenant Colonel Muhammad Nazrul Islam, CSE, MIST	
Keynote Speaker	Keynote Topic
Henning Schulzrinne, Columbia University, NY, USA	The Internet of Things that Shouldn't be on the Internet

Technical Program

Day-2: 19th November 2021 (Friday)

Industrial Session 1

Day-2: 19th November 2021 (Friday)

Time: 0900-1100 (Hybrid)

Venue: General Mustafiz Multipurpose Hall, (10th Floor), Tower-1

Session Chair: Mustafa Habib Chowdhury, EEE, IUB		
Session Co-chair: Colonel Molla Md Zubaer, EECE, MIST		
Time	Name of the Industry	Name of the Speaker
0900-0930	Microsoft	Marcus Tee and Jannatul Popy
0930-1000	Grameenphone	S M Monirul Haque
1000-1030	Samsung	Raquibul Hasan and Sazzad Hissain Khan
1030-1100	Arduino	Massimo Sacchi and Imtiaz Farhan

Technical Session 2A

Day-2: 19th November 2021 (Friday)

Time: 1115-1300 (Virtual)

Session Title: Artificial Intelligence-2

Session Chair: Mohammed Moshiul Hoque, CSE, CUET		
Session Co-chair: Asadur Rahman, BME, MIST		
Serial No	Paper ID	Title of the paper
1	106	Driving Range Prediction of Electric Vehicles: A Machine Learning Approach
2	112	Best Eleven Forecast for Bangladesh Cricket Team with Machine Learning Techniques
3	138	Analysis of CNL-UNet for Efficient Biomedical Image Segmentation
4	162	Online Review based Sentiment Classification on Bangladesh Airline Service Using Supervised Learning
5	168	A Review on Predicting Autism Spectrum Disorder (ASD) Meltdown Using Machine Learning Algorithms
6	187	Speech Command Recognition System Using Deep Recurrent Neural Networks

Technical Session 2B
Day-2: 19th November 2021 (Friday)
Time: 1115-1300 (Virtual)
Session Title: Multimedia and Signal Processing-2

Session Chair: A. B. M. Aowlad Hossain, ECE, KUET		
Session Co-chair: Lieutenant Colonel Hussain Md Abu Nyeem, EECE, MIST		
Serial No	Paper ID	Title of the paper
1	144	Cochleagram Based Speaker Identification Using Noise Adapted CNN
2	179	A Deep Learning Based Approach for Real-Time Driver Drowsiness Detection
3	210	Automatic Detection and Recognition of Object to Help Visually Impaired People while Visiting Liberation War Museum in Bangladesh
4	213	Design of Inertial Measurement Unit in Attitude and Heading Reference System for Real-Time Maneuver Monitoring by Using Kalman Filter
5	226	Automated Diabetic Retinopathy Detection Using Transfer Learning Models

Technical Session 2C
Day-2: 19th November 2021 (Friday)
Time: 1115-1300 (Virtual)
Session Title: Semiconductor Device & Circuits-2

Session Chair: Md. Sherajul Islam, EEE, KUET		
Session Co-chair: Lieutenant Colonel K M Mustafizur Rahman, EECE, MIST		
Serial No	Paper ID	Title of the paper
1	11	Modified ECRL Adiabatic Logic for Ultra Low Power VLSI Applications
2	70	Optimization and Sensitivity Analysis of a Single Core Low Loss PCF Sensor
3	79	Improving Operating Voltage and Frequency Ranges in a Microcontroller-based Low-cost Oscilloscope
4	98	Estimation of ZnO Nanoparticles Crystallite Parameters at Different Compression Temperatures
5	163	Design and Analysis of Miniature Type Impulse Based UWB Transmitter in 90 nm CMOS for Medical Application
6	250	Performance Analysis of Graphene/ $\text{Al}_x\text{Ga}_{1-x}\text{N}$ Schottky Contact at Elevated Temperature

Technical Session 2D
Day-2: 19th November 2021 (Friday)
Time: 1115-1300 (Virtual)
Session Title: Power System & Renewable Energy-2

Session Chair: Abdur Razzak, EEE, IUB		
Session Co-chair: Captain M S A Al Farook Shiblee (BN), EECE, MIST		
Serial No	Paper ID	Title of the paper
1	21	An Efficient Protection and Control Schemes for IBDG System with Resistive Superconducting Current Limiter
2	95	Design of a 7.5 MVA Automated Substation with Fault Analysis Using ETAP Software
3	113	Demand Side Management in a Model House for Better Load Profile in the Perspective of Bangladesh
4	202	A Hybrid Reaching Law Based Double-Integral Sliding Mode Controller Design to Mitigate SSR Effects in a DFIG-Based Wind Farm
5	211	Effect of Electric Vehicle Fast Charging Station on Residential Distribution Network in Bangladesh
6	253	Design of I-V Scanner to Analyze the Effects of Partial Shading due to Soiling and Bird-dropping on PV Panels

Technical Session 2E
Day-2: 19th November 2021 (Friday)
Time: 1115-1300 (Virtual)
Session Title: Power Electronics and Drives-1

Session Chair: Tareq Aziz, EEE, AUST		
Session Co-chair: Fahim Abid, EEE, IUT		
Serial No	Paper ID	Title of the paper
1	47	Design of Rotor for Single-Phase Induction Motor to Improve Startability in Refrigerator Application
2	53	Design and Implementation of IGBT Based Single Phase Multi converter for Industrial Load Control
3	116	A Universal Energy Harvesting System for Ultra-Low Power Management and IoT Applications
4	184	A Single Stage Off-board EV Charger Based on CUK Topology
5	189	An Efficient Switched-Capacitor Based Single DC Source Inverter with Selective Harmonic Elimination
6	249	Design and Analysis of Symmetric and Asymmetric Type Cascaded H-Bridge Multi-Level Inverters

Technical Session 2F
Day-2: 19th November 2021 (Friday)
Time: 1115-1300 (Virtual)
Session Title: Artificial Intelligence-3

Session Chair: Muhammad Aminul Haque Akhand, CSE, KUET		
Session Co-chair: M. Akhtaruzzaman, CSE, MIST		
Serial No	Paper ID	Title of the paper
1	192	A Case Study on Risk Prediction of Heart Failure Patients Using Random Survival Forest
2	208	Artificial Intelligence Based Real-Time Attendance System Using Face Recognition
3	225	Performance Analysis of LSTMs and Fbprophet Models for Short Term Load Forecasting
4	229	Design of CanSat for Environmental Monitoring and Object Detection
5	230	A Prototype of Multi-Functional Rescue Robot Using Wireless Communication

Keynote Session 5
Day-2: 19th November 2021 (Friday)
Time: 1400-1500 (Virtual)

Session Chair: Habib Kabir, EEE, IUT	
Session Co-chair: Brigadier General Md Humayun Kabir Bhuiyan, ME, MIST	
Keynote Speaker	Keynote Topic
Marco Liserre University of Kiel, Germany	Unlocking the hidden capacity of the electrical grid through power electronics

Keynote Session 6
Day-2: 19th November 2021 (Friday)
Time: 1515-1615 (Virtual)

Session Chair: M M A Hashem, CSE, KUET	
Session Co-chair: Major Md Abdul Wahed, EECE, MIST	
Keynote Speaker	Keynote Topic
Ahmet Murat Tekalp Koç University, Turkey	Recent Advances in Learned Image and Video Compression

Keynote Session 7

Day-2: 19th November 2021 (Friday)

Time: 1630-1730 (Virtual)

Session Chair: Muhammad Abdul Goffar Khan, EEE, RUET	
Session Co-chair: Commander K M Tanveer Anwar, EECE, MIST	
Keynote Speaker	Keynote Topic
Frede Blaabjerg Aalborg University, Denmark	Power Electronics Technology - Quo Vadis

Industry Session 2

Day-2: 19th November 2021 (Friday)

Time: 1745-1930 (Virtual)

Session Chair: Kazi Abu Taher, ICE, BUP		
Session Co-chair: Major Md. Fazla Elahi, BME, MIST		
Time	Name of the Industry	Name of the speaker
1745-1845	Cumulus Neuro	Laura M. Rueda-Delgado and Md Nurul Islam
1845-1930	Walton	Taposh Kumer Mojumder

Day-3: 20th November 2021 (Saturday)

Special Session 3A

Day-3: 20th November 2021 (Saturday)

Time: 0900-1130 (Virtual)

Session Title

Imaging and Next Generation Networks for Smart Applications-1

Session Chair: Brigadier General A K M Nazrul Islam, EECE, MIST		
Session Co-chair: Major Md Aminul Islam, EECE, MIST		
Serial No	Paper ID	Title of the paper
1	35	Comparison of Total Electron Content with International Reference Ionosphere Model Predictions near the Northern Crest of EIA at Bangladesh
2	139	Comparison of Condition Numbers and Ranks of the MIMO Channel at 77 GHz Carrier Frequency
3	153	Optimization of Reconfigurable Intelligent Surface for M2M Communications over Cellular Networks
4	215	Multimodal Decision Fusion of EEG and fNIRS Signals
5	216	A Novel Authentication Mechanism for Securing Underwater Wireless Sensors from Sybil Attack
6	261	Data-driven Embedding with Pixel Repetition for High Capacity Reversible Data Hiding

Special Session 3B

Day-3: 20th November 2021 (Saturday)

Time: 0900-1130 (Virtual)

Session Title

Imaging and Next Generation Networks for Smart Applications-2

Session Chair: M Shamim Kaiser, IIT, JU		
Session Co-chair: Nusrat Sharmin, CSE, MIST		
Serial No	Paper ID	Title of the paper
1	36	Cardiac Arrhythmia Diagnosis Based on Features Extraction and Convolutional Neural Network from ECG Signals
2	99	Bangla-ExtraSum: Comparative Analysis of Different Methods in Automated Extractive Bengali Text Summarization
3	135	A Deep CNN Based Kaggle Contest Winning Model to Recognize Real-Time Facial Expression
4	140	Revisiting Deep Learning Models for Road Lane Detection
5	142	Finding Efficient Machine Learning Model for Hand Gesture Classification Using EMG Data
6	228	A Framework for Eye-Based Human Machine Interface

Special Session 3C

Day-3: 20th November 2021 (Saturday)

Time: 0900-1130 (Virtual)

Session Title

Imaging and Next Generation Networks for Smart Applications-3

Session Chair: Abu Yousuf, IIT, JU		
Session Co-chair: Colonel Shajahan Majib, CSE, MIST		
Serial No	Paper ID	Title of the paper
1	50	Chaotic Singer Grasshopper Optimization Algorithm for Solving Combined Economic and Emission Dispatch
2	54	An Adaptive System for Detecting Driving Abnormality of Individual Drivers Using Gaussian Mixture Model
3	145	Estimating Traffic Density on Roads Using Convolutional Neural Network with Batch Normalization
4	149	Developing a Machine Learning Based Support System for Mitigating the Suppression Against Women and Children
5	152	A Deep Ensemble Approach for Recognition of Papaya Diseases Using Efficient Net Models
6	232	Performance Analysis of Initialization Algorithms of Deep Neural Network Based Coordinated Beamforming System for mm Wave

Special Session 3D

Day-3: 20th November 2021 (Saturday)

Time: 0900-1130 (Virtual)

Session Title

Imaging and Next Generation Networks for Smart Applications-4

Session Chair: Shamim Al Mamun, IIT, JU		
Session Co-chair: Lieutenant Colonel Hussain Md Abu Nyeem, EECE, MIST		
Serial No	Paper ID	Title of the paper
1	09	Evaluation of DBSCAN Algorithm on Different Programming Languages: An Exploratory Study
2	107	Impact of Trace-Based Mobility Models on the Energy Consumption of Delay-Tolerant Routing Protocols
3	118	HDM-Chain: A Secure Blockchain-based Healthcare Data Management Framework to Ensure Privacy and Security in the Health Unit
4	120	Integrating Cloud Computing in E-healthcare: System Design, Implementation and Significance in Context of Developing Countries
5	200	Interpreting and Comparing Convolutional Neural Networks: A Quantitative Approach
6	259	Functional Modification of Advanced Encryption Standard Algorithm by Perturbing the Diffusion and Confusion Properties

Technical Session 3E

Day-3: 20th November 2021 (Saturday)

Time: 0900-1130 (Virtual)

Session Title: Computing and Communication-1

Session Chair: Mohammed Hossam-E-Haider, EECE, MIST		
Session Co-chair: Md Soyaeb Hasan, EECE, MIST		
Serial No	Paper ID	Title of the paper
1	55	Analysis of a Hexagonal Lattice Photonic Crystal Fiber Biosensor Based on Surface Plasmon Resonance
2	96	IoT Based Smart Waste Monitoring and Management System
3	103	The Role of IoT in Digitalizing Mining Sector of Bangladesh
4	141	An IoT-based System for Air Pollution Data Analysis and Visualization
5	165	Design and Construction of Biogas Plant from Human Excreta at Remote Island of Bangladesh and Its Socio-Environmental Benefits
6	242	Thermal Simulation of 3D high Power GaN HEMT with a Low-Cost Technique to Reduce Junction Temperature due to Self-Heating

Keynote Session 8

Day-3: 20th November 2021 (Saturday)

Time: 1145-1245 (Virtual)

Session Chair: Md. Ali Azam Khan, EECE, MIST	
Session Co-chair: Mubdiul Islam Rizu, EECE, MIST	
Keynote Speaker	Keynote Topic
Ranjan Gangopadhyay LNM Institute of Information Technology, India	Multi-perspectives of New and Next Generation Radio

Academia Session 1

Day-3: 20th November 2021 (Saturday)

Time: 1145-1245 (Virtual)

Session Chair: Md Mahbubur Rahman, CSE, MIST	
Session Co-chair: Asadur Rahman, BME, MIST	
Name of the Speaker	Topic
Anirudh Agarwal LNM Institute of Information Technology, India	UAV Relaying for Optimal B5G Cooperative Communication

Tutorial Session 1

Day-3: 20th November 2021 (Saturday)

Time: 1145-1315 (Virtual)

Industry Name	Name of the Speaker	Tutorial Topic
Code 19	Ms Khadija Akhter	Advanced Arduino IoT board hands-on tutorial session

Conference Kit Collection

Date	Time	Place
18 th November	0800-1200	1 st Floor Tower-1
19 th November	0900-1200	
20 th November	0900-1200	