

TENTATIVE PROGRAM SCHEDULE OF COMSYS-2021, NEHU, SHILLONG-22

Day-1 - 29/09/2021 (Wednesday)

Session-1: 10.00 am – 11.00 am

Inauguration Ceremony

10:00-10:05 am: **Chanting of Slokas from the Bhagavad Gita**

10:05-10:10 am: **Welcome speech By Prof. Debotosh Bhattacharjee, General chair, COMSYS-2021**

10:10-10:15 am: **Lighting of lamp by Chief Guest, Guest of Honour, Dean SOT, NEHU**

10:15-10:20 am: **Speech by Prof. Dariusz Plewczynski, General Chair, COMSYS-2021**

10:20-10:25 am: **Speech by Prof. Subhadip Basu, Program Chair, COMSYS-2021**

10:25-10:30 am: **Speech by Dr. Rupaban Subadar, Head, Department of Electronics and Communication, NEHU**

10:30-10:35 am: **Speech by Patron Prof. L.J. Singh, Dean, School of Technology, NEHU**

10:35-10:45 am: **Speech by Guest of honour Dr. J.N. Nayak, Honourable Registrar, NEHU**

10:45-10:55 am: **Inaugural speech by Chief Guest Prof. P.S. Shukla, Honourable Vice-Chancellor, NEHU**

10:55-11:00 am: **Vote of thanks by Dr. Arnab Kumar Maji, Organizing Chair, NEHU**

11:00 Onwards: **High Tea.**

Session-2: 11.30 am – 1.30 pm

Tutorial-1

Speaker: **Mr. Piotr Sarna, Scylla DB, Poland**

Topic: **Scylla for IoT: an introduction to LSM storage format and data modelling for a distributed NoSQL database.**

Chair: **Dr. Malay Kule, Indian Institute of Engineering Science and Technology (IEST), Shibpur, India**

Session-3: 3.00 pm – 5.30 pm

Tutorial-2

Speaker: **Prof. Bartłomiej Przybylski, Institute of Informatics, University of Warsaw, Poland and Adam Mickiewicz University in Poznań, Poland**

Topic: **Resource management in FaaS computing.**

Chair: **Dr. Jacek Sroka, University of Warsaw, Poland**

Session-4: 7 pm-8 pm (Tentative)

Cultural Program

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Day-2 - 30/09/2021

Session-5: 10.00 am – 11.00 am

Keynote-1

Speaker: **Prof. Punam K Saha, University of Iowa, United States**

Topic: **Osteoporosis and Roles of Bone Imaging and Microarchitecture**

Chair: **Prof. Mita Nasipuri, Jadavpur University, Kolkata, India**

Session-6 : 11.30 am – 1.30 pm

Technical Session-1

Track Name: **Artificial Intelligence, Machine Learning, & Data Science-I**

Session Chair: **Dr. Sunita Sarkar, Assam University, Silchar, India**

Session Co-ordinator: **Dr. S. K. Dutta, North-Eastern Hill University, Shillong, India**

Paper-id	Authors	Title
5	Nsikak Imoh, Narasimha Rao Vajjhala and Sandip Rakshit	Experimental Face Recognition System using Deep Learning Approaches
8	Shrasti Vyas and Ayan Seal	A Deep Convolution Neural Networks Framework for Analysing Electroencephalography Signals in Neuromarketing
15	Ritesh Kumar and Khwairakpam Amitab	Semantic Segmentation of Road Scene using Deep Learning
31	Tanuja Das, Ramesh Saha and Vaskar Deka	Voting based extreme learning machine approach for the analysis of sensor data in healthcare analytics
46	Maitreyee Ganguly, Paramita Dey, Sarbani Roy and Swarnesha Chatterjee	Influential Node Detection in Online Social Network for Influence Minimization of Rumour
50	Pallabi Sharma, Bunil Balabanataray and Rangababu P.	U-shape exception-residual convolution neural network for polyps region segmentation

Technical Session-2 (Parallel Track Time: 11:30 AM to 1:30 PM)

Track Name: **Biomedical and Bioinformatics**

Session Chair: **Dr. Somnath Mukhopadhyay, Assam University, Silchar, India**

Session Co-ordinator: **Dr. K. Amitab, North-Eastern Hill University, Shillong, India**

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Paper-Id	Authors	Title
49	Kaustav Sengupta, Anna Gambin, Subhadip Basu and Dariusz Plewczynski	MultiNet: A diffusion based approach to assign directionality in protein interactions using a consensus of eight protein interaction datasets
51	Satyabrat Malla Bujar Baruah, Uddipan Hazarika and Soumik Roy	Edge Detection and Segmentation Type Responses in Primary Visual Cortex
54	Sudipta Saha, Dr. Saikat Basu, Dr. Koushik Majumder and Debashish Chakravarty	Motion Sensor Based Android Game to Improve Fine Motor and Working Memory Skills of Children
63	Mateusz Chiliński, Sachin Gadakh, Karolina Jodkowska, Natalia Zawrotna, Jan Gawor, Kaustav Sengupta, Michal Pietal and Dariusz Plewczynski	Consensus-based identification and comparative analysis of structural variants and their influence on 3D genome structure using long- and short-read sequencing technologies in polish families
72	Md Amir Sohail, Chinmoy Ghosh, Dr. Satyendranath Mandal and Md. Maruf Mallick	Specular Reflection Removal Techniques for Noisy and Non-Ideal Iris Images: Two New Approaches
144	Agnieszka Motyka, Aleksandra Bartnik, Aleksandra Żurko, Marta Giziewska, Paweł Gora and Jacek Sroka	Using cellular automata to compare SARS-CoV-2 infectiousness in different POIs and under different conditions
152	Ratnadeep Dey, Debotosh Bhattacharjee, Christian Kollmann and Ondrej Krejcar	Classification of Breast tumor from Ultra Sound images using no-reference image quality assessment

Technical Session-3 (Parallel Track Time: 11:30 am to 1:30 pm)

Track Name: **Computer Networks, Communication, and Security-1**

Session Chair: **Prof. Debashis De, Maulana Abul Kalam Azad University of Technology, Kolkata, India**

Session Co-ordinator: **Dr. Rajkishur Mudoi, North-Eastern Hill University, Shillong, India**

Paper-Id	Authors	Title
25	Anjan Bandyopadhyay, Pankaj Sarkar and Rowdra Ghatak	A Switchable Bandpass Filter For Multiple Passband and Stopband Applications
29	Ankan Mallick, Swarnali Mondal, Soumya Debnath, Sounak Majumder, Harsh, Amartya Pal, Aditi Verma and Malay Kule	Security Aspects of Social Media Applications
36	Sakhi Bandyopadhyay, Subhadip Mukherjee, Biswapati Jana and Partha	A Data Hiding Technique Based on QR Code Decomposition in Transform Domain

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	Chowdhuri	
59	Sunanda Jana, Neha Dutta, Arnab Maji and Rajat Pal	A Novel Time-Stamp Based Audio Encryption Scheme using Sudoku Puzzle
87	Md Maruf Hassan, Rafika Risha and Ashrafia Esha	ADT-SQLi : An Automated Detection of SQL Injection Vulnerability in Web Applications

Session-7: 3.00 pm – 5.00 pm**Technical Session-4**Track Name: **Artificial Intelligence, Machine Learning, & Data Science-II**Session Chair: **Prof. Nibaran Das, Jadavpur University, Kolkata, India**Session Co-ordinator: **Dr. Juwesh Binong, North-Eastern Hill University, Shillong, India**

Paper-id	Authors	Title
53	Gouravmoy Banerjee, Uditendu Sarkar and Indrajit Ghosh	An Irrigation Support System Using Regressor Assembly
57	Debojyoti Pal, Anwesh Kabiraj, Ritajit Majumdar, Kingshuk Chatterjee and Debayan Ganguly	Does random hopping ensure more pandal visits than planned pandal hopping?
61	Peter Bellmann, Viktor Kessler, André Brechmann and Friedhelm Schwenker	Button Press Dynamics: Beyond Binary Information in Button Press Decisions
62	Peter Bellmann, Viktor Kessler, André Brechmann and Friedhelm Schwenker	Dynamic Time Warping-Based Detection of Multi-Clicks in Button Press Dynamics Data
67	Tanmoy Chaku, Abhirup Ray, Malay Kule and Dipak Kumar Kole	Swift Sort: A New Divide and Conquer Approach Based Sorting Algorithm
73	Rup Kumar Deka	Analyzing Behavior to Detect Cervical Cancer
76	Amarnath Pathak, Partha Pakray and Ranjita Das	MathIRs: A one-stop solution to several mathematical information retrieval needs

Technical Session-5 (Parallel Track Time: 3:00 pm-5.00 pm)Track Name: **Computer Networks, Communication & Security-II**Session Chair: **Dr. Sujata Pal, Indian Institute Technology, Ropar, India**Session Co-ordinator: **Ms. Fidaliza Pyrtuh, North-Eastern Hill University, Shillong, India**

Paper-Id	Authors	Title
95	Voore Subba Rao and Dr. K Srinivas	Optimization of BBU-RRH Mapping for Load Balancing in 5G C-RAN using Swarm Intelligence(SI) Algorithms
98	Bhupender Kumar and Bubu Bhuyan	Game Theory Based DDoS Defense Mechanism for Elastic and Inelastic Network Services

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112	Rajkishur Mudoj and Hubha Saikia	Outage Probability of Multihop Communication System with MRC at Relays and Destination over Correlated Nakagami-m Fading Channels
113	Ratna Mandal, Ankita Mandal, Soumi Dutta, Munshi Yusuf Alam, Sujoy Saha and Subrata Nandi	Framework of Intelligent Transportation System: A Survey
119	Hubha Saikia and Rajkishur Mudoj	Outage probability analysis of dual-hop transmission links with decode and forward relaying over Fisher- Snedecor F fading channels

Technical Session-6 (Parallel Track Time: 3:00 pm-5.00 pm)

Track Name: **Image, Video & Signal Processing-I**

Session Chair: **Prof. Amlan Chakrabarti , University of Calcutta, Kolkata, India**

Session Co-ordinator: **Dr. Pankaj Sarkar, North-Eastern Hill University, Shillong, India**

Paper-ID	Authors	Title
28	Prabhash Kumar Singh, Biswapati Jana, Kakali Datta, Prasenjit Mura, Partha Chowdhuri and Pabitra Pal	Fuzzy logic with superpixel based block similarity measures for secured data hiding scheme
52	Bibekananda Buragohain, Dhritiman Das, Bhabajyoti Baishya and Minakshi Gogoi	Hand Gesture Based Computer Vision Mouse
80	Bara Al-Mistarehi, Maad Mijwil, Ahmad Alomari, Taiser Khedaywi and Momen Ayasrah	Model Structure from Laser Scanner Point Clouds
85	Monika Sethi, Munish Kumar and M. K. Jindal	Feature Extraction Techniques for Gender Classification Based on Handwritten Text: A Critical Review
92	Soma Mitra and Dr. Saikat Basu	Analysis of Vegetation Health of The Sundarbans Region-Using Remote Sensing Methods
101	Manikandan Ravikiran, Siddharth Vohra, Yuichi Nonaka, Shibashish Sen, Sharath Kumar, Nestor Mariyasagayam and Kingshuk Banerjee	You Reap What You Sow: Revisiting Intra-class Variations and Seed Selection in the Context of Temporal Ensembling
103	Debangshu Chakraborty and Indrajit Ghosh	Rapid Diagnosis of COVID-19 Using Radiographic Images

Session-8: 6.00pm – 7.30 pm

Keynote-2

Speaker: **Prof. Peter Brida, University of Zilina, Slovakia**

Topic: **Modular Positioning Solution as Key Enabler for Seamless Mobile Localization**

Chair: **Prof. Debotosh Bhattacharjee, Jadavpur University, Kolkata, India**

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Day-3 - 01/10/2021

Session-9: 10.00 am – 11.00 am

Keynote-3

Speaker: **Prof. Anna Barbara Gambin, University of Warsaw, Poland**

Topic: **Statistical modelling in proteomics**

Chair: **Prof. Subhadip Basu, Jadavpur University, Kolkata, India**

Session-10: 11.30 am – 1.30 pm

Technical Session-7

Track Name: **AI, Machine Learning & Data Science-III**

Session Chair: **Dr. Sudip Kumar Naskar, Jadavpur University, Kolkata, India**

Session Co-ordinator: **Dr. J Swarnakar, North-Eastern Hill University, India**

Paper-ID	Authors	Title
82	Mosammath Shahnaz and Ayatullah Faruk Mollah	On the performance of convolutional neural networks with resizing and padding
99	Lekshmi S and Anoop V S	Sentiment Analysis on COVID-19 News Videos using Machine Learning Techniques
108	Aleazer Viannie Sunn, Aiden Langba, Hamebansan Mawlong, Alexy Bhowmick and Shyamanta M. Hazarika	Light U-Net: Network Architecture for Outdoor Scene Semantic Segmentation
114	Kaushik Bose and Kamal Sarkar	Bengali POS Tagging using Bi-LSTM with Word embedding and Character-Level Embedding
129	Kaushiki Roy, Debotosh Bhattacharjee and Christian Kollmann	BUS-Net: A fusion-based lesion segmentation model for breast ultrasound (BUS) images

Technical Session-8 (Parallel Track Time: 11:30 AM to 01:30 PM)

Track Name: **Image, Video & Signal Processing-II**

Session Chair: **Prof. Goutam Saha, North-Eastern Hill University, Shillong, India**

Session Co-ordinator: **Dr. R. K. Mudoj, North-Eastern Hill University, Shillong, India**

Paper-Id	Authors	Title
107	Priyanjana Chowdhury, Swarnav Das Barman, Catherina Basumatary, Sandeep Deva Misra, Sanghamitra Nath and Utpal Sharma	An acoustic/prosodic feature-based audio dataset for Assamese speech summarization
109	Soumi Paul, Shrouti Gangopadhyay, Ayatullah Faruk Mollah, Subhadip Basu and Mita Nasipuri	Convexity Defects based Fingertip Detection and Hand Gesture Recognition

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117	Himanshu Sharma and Anand Singh Jalal	Convolutional Neural Networks based VQA Model
137	Susovan Das, Akash Chatterjee, Samiran Dey, Shilpa Saha and Samir Malakar	Breast Cancer Detection from Histology Images using Deep Feature Selection Method
145	Ramen Pal, Somnath Mukhopadhyay and Debasish Chakraborty	Variable-length and Elitist Genetic Algorithm Based Satellite Image Segmentation and Change Detection Method
153	Punam Saha	Skeletonization and its Application to Quantitative Structural Imaging
142	Swarup Dandapat, Sheli Shina Chaudhuri, and Sayan chatterjee	VLSI Implementation of Artificial Neural Network

Technical Session-9 (Parallel Track Time: 11:30 AM to 01:30 PM)**Track Name: **VLSI, Devices & Systems**Session Chair: **Dr. Sayan Chatterjee, Jadavpur University, Kolkata, India**Session Co-ordinator: **Dr. S.K. Dutta, North-Eastern Hill University, Shillong, India**

Paper-ID	Authors	Title
23	Suparba Tapna	A Novel Efficient Carry Swipe Adder Design for Quantum Dot Cellular Automata (QCA) Technology
124	Saheli Sarkhel, Riya Rani Dey, Soumyarshi Das, Sweta Sarkar, Touthik Santra and Navjeet Bagga	A Novel Dual Metal Double Gate Grooved Trench MOS Transistor: Proposal and Investigation
139	Himadri Duwarah, Neelotpal Sharma, Kandarpa Kumar Saikia and Pranayee Datta	Application of undoped ZnS nanoparticles for rapid detection of E.coli by fabricating a mem-mode device sensor after conjugating antibody

** If any paper of other session missed due to technical issue, it can be presented in this session.

Technical Session-10 (Parallel Track Time: 11:30 AM to 01:30 PM)***Track Name: **Artificial Intelligence, Machine Learning, and Communication**Session Chair: **Dr. D. Kandari, North-Eastern Hill University, Shillong, India**Session Co-ordinator: **Dr. K. Amitab, North-Eastern Hill University, Shillong, India**

Paper ID	Authors	Title
143	Fidalizia Pyrtuh and Doreen Nongrum	A comparative study on effect of temporal phase for speaker verification
148	Fairriky Rynjah, Bronson Syiem and L. Joyprakash Singh	Speech Recognition System of Spoken Isolated Digit in Standard Khasi Dialect

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88	Sk Hassan and Arnab Maji	Rice Disease Identification using Deep Learning Models
134	Nandita Deka and Rupaban Subadar	Simultaneous Wireless Information and Power Transfer for L-SC Receiver over Nakagami-m Fading channels
43	Sangeeta Das and Pankaj Sarkar	A High-Selective Dual-Band Reconfigurable Filtering Antenna for WiMax and WLAN Applications
44	Shyamal Mandal and Dr. Juwesh Binong	Synthesis and characterization of uniform size gold nanoparticles for colorimetric detection of pregnancy from urine.

***** To be presented in physical mode. Venue: Department of Electronics and Communication Engineering, North-Eastern Hill University, Shillong-22**

Session-11: 3.00 pm – 4.00 pm

Keynote-4

Speaker: **Dr. Friedhelm Schwenker, University of Ulm, Germany**

Topic: **Deep Learning Architectures in Artificial Emotional Intelligence**

Chair: **Prof. Ram Sarkar, Jadavpur University, Kolkata, India**

Session-12: 5.00 pm – 6.30 pm

Closing Ceremony

i) Panel discussion on "Industry Connect"

Moderator: **Prof. Debotosh Bhattacharjee, Jadavpur University, Kolkata, India**

Host: **Prof. Subhadip Basu, Jadavpur University, Kolkata, India**

Participants: a) **Naohari Furukawa, GM-R&D, Hitachi, Australia**

b) **Pradeep Walia, Founder, Artelus & Entrepreneur**

c) **Vivek Karmakar, Consulting Partner, Data Science & Artificial Intelligence at Wipro**

ii) Valedictory Session and Award Ceremony

Speaker: **Prof. Dipak Kumar Kole, Jalpaiguri Government Engineering College, Jalpaiguri, India**

Dr. Juwesh Binong, North-Eastern Hill University, Shillong, India