

The 31st Annual Newfoundland Electrical and Computer Engineering Conference (NECEC)

November 15, 2022
at Holiday Inn St. John's, NL
180 Portugal Cove Rd
St. John's, NL

Time	REGISTRATION			
8:30 AM	KEYNOTE TALK IN SALON C/D			
9:00 AM	Controls, Instrumentation, Robotics I Salon A Session Chair: George Mann	Data Science and Machine learning I Salon B Session Chair: David Green	Ocean Engineering CBN Session Chair: Eric Gill	Communications and Security CBS Session Chair: Jonathan Anderson
10:00 AM	Sahan Gunawadana (33)	Salaheldin Bilila (24)	Kevin Murrant (60)	Yixuan Liang (48)
10:20 AM	Samir Dharar (41)	Kyle L Nickerson (50)	Kristian Aalling Sørensen (59)	Shahbad Alam (46)
10:40 AM	COFFEE BREAK			
	Controls, Instrumentation, Robotics II Salon A Session Chair: George Mann	Data Science and Machine learning II Salon B Session Chair: Jonathan Anderson	Remote Sensing I CBN Session Chair: Weimin Huang	Signal Processing and Computer Vision I CBS Session Chair: Robert Cove
11:00 AM	Jiaoyang Lu (28)	Karan Dhillon (14)	Zhiding Yang (2)	Nicholas Wells (12)
11:20 AM	Abdelrahman Khalil (38)	Mihiran Pathmika Galagedarage Don (36)	Michael Royle (18)	Ravindu G Thalagala (21)
11:40 AM	Sachithra H Atapattu (55)	Xiaohang Zhao (43)	Joe Craig (30)	Hassanali Marefat (26)
12:00 PM	Mohammad Al Saaidh (57)			Harnoor Singh (54)
12:20 PM	LUNCHEON TALK IN SALON C/D			
	Circuits and Systems Salon A Session Chair: Thumeera Wanasingha	Signal Processing and Computer Vision II Salon B Session Chair: Oscar De Silva	Remote Sensing II CBN Session Chair: Weiming Huang	Power I CBS Session Chair: Robert Cove
2:00 PM	Michael Pumphrey (34)	Mohamed Shehata (39)	Xin Qiao (5)	Manishkumar Panchal (11)
2:20 PM	Tahereh Shafiei (42)	Johan Arcos (15)	Masoud torabi (31)	Thakshila Thilakanayake (44)
2:40 PM	Rida A Hmouda (52)	Omid Tarkhaneh (1)	Seyedehsepeideh Hashemi (45)	Jahrul Alam (47)
3:00 PM	COFFEE BREAK			
	Controls, Instrumentation, Robotics III Salon A Session Chair: Thumeera Wanasingha	Signal Processing and Computer Vision III Salon B Session Chair: Oscar De Silva	Remote Sensing III CBN Session Chair: Reza Shahidi	Power II CBS Session Chair: Robert Cove
3:20 PM	Nushen M Senevirathna (58)	Shahbad Alam (23)	Theodore S. Norvell (9)	Onyinyechukwu Chidolue (37)
3:40 PM	Xiaohang Zhao (19)	Shannon-Morgan Steele (22)	Masoud torabi (32)	Omar Ahmed (40)
4:00 PM	Sehrash Jabbar Baig (16)	Kusal B Tennakoon (55)	Hamid Jafarzadeh (51)	Sheikh Usman Uddin (29)
4:20 PM	CLOSING REMARKS AND AWARD PRESENTATION IN SALON C/D			

The presentation id is indicated inside brackets next to each presenter. The titles of the talks can be found in the attached presentation title list pdf.

Paper ID	Paper / Poster Title	Presenter
1	Deep Convolutional Neural Network in Covid-19 Detection using CT-Scan Images	Omid Tarkhaneh
2	A Variational Mode Decomposition Based Method for Wave Height Retrieval From X-band Radar Data	Zhiding Yang
5	Sharpened Cosine Distance Convolutional Network for Hyperspectral Image Classification	Xin Qiao
9	Butterflies in space: High-performance, FPGA-based signal processing on a satellite	Theodore S. Norvell
11	Impact of Wind Energy on Distance Protection of Transmission Lines	Manishkumar Panchal
12	Viewing of Immersive Video on Extended Reality Platforms	Nicholas Wells
14	Time Series Forecasting With Deep Transfer Learning	Johan Arcos
15	Lung Cancer Prediction using AI	Karandeep Singh Dhillon
16	Design of a Smart Shirt to Monitor Human-body Temperature Using the Internet of Things	Sehrash Jabbar Baig
POSTER 17	Impacts of Build vs. Buy and Use vs. Reuse in a Student Built ROV System	Stephen J. D. Fudge
18	The Second-order Monostatic HF Radar Cross Section for Composite Target-Ocean Patch Scatter	Michael Royle
19	Underwater Random Walk Sensor Tracking By AUV Approach	Xiaohang Zhao
POSTER 20	Generating 2D Platforming Auto-Play Levels with Genetic Algorithms	Shawn Sabraw
21	Intelligent Systems Lab 2021-2022 Visual Inertial Lidar Dataset for GPS-denied Autonomous Navigation Algorithm Development	Ravindu G Thalagala
22	A semantic volumetric segmentation and boulder detection framework for high-resolution sub-bottom imagery using a 3-D U-Net convolutional neural network	Shannon-Morgan Steele
23	Robust Data Driven Methods for Underwater Object Localization	Shahbad Alam
24	Aerial Image Segmentation for Visual Inertial Navigation System	Salaheldin Bilila
26	Analysis of dynamic mode decomposition for wake behind underwater obstacles	Hassanali Marefat
28	Solving the Inverse Kinematic Problem of a General Six-axis Robotic Arm: a Learning-based Method	Jiaoyang Lu
29	Instrumentation and Control Design for a Solar Powered Reverse Osmosis System for a community in Pakistan	Sheikh Usman Uddin
30	High frequency surface wave radar measurements of inertial oscillations in Placentia Bay	Joe Craig
31	Broadband impedance matching of a High-Frequency monopole antenna	masoud torabi
32	Sub-Nyquist Sampling of an Analog HF-Radar Signals	masoud torabi
33	Design of a Visual-Lidar Odometry and Mapping Sensor Payload for a Full-Scale Vertical Takeoff and Landing Vehicle	Sahan MG Gunawardana
34	Modeling and Analysis of a Reluctance Motion System with Asymmetrical Air Gaps	Michael Pumphrey
36	A Digital Twin Development Framework for an Electrical Submersible Pump (ESP)	Mihiran Pathmika Galagedarage Don
37	Solar Powered Pump for a Remote Oil well In Nigeria	Onyinyechukwu Chidolue
38	High-Gain Transmissibility for State Estimation in Systems With Multi Unknown Nonlinearities	Abdelrahman Khalil
39	Automatic Localization of the Internal Jugular Vein in Ultrasound videos Using 3D CNNs	Mohamed Shehata
40	Design of a Solar Water Pumping System for Sukkur, Pakistan	Omair Ahmed
41	Tools for inspection and redaction of full-motion video from unmanned aerial systems	Samir Dharar
42	Modeling of a Single-phase Grid-connected Solar-powered Bi-directional Charger For Domestic Use	Tahereh Shafiei
43	Sparse Bayesian Learning based Correlation Exploitation	Xiaohang Zhao
44	An Artificial Intelligence Based Method for Optimization of Domestic Electricity Cost	Thakshila Thilakanayake
45	Significant wave height estimation from HF radar data received by an antenna on a floating platform	Seyedehsepideh Hashemi
46	Multi-user data-aided channel tracking for mmW massive MIMO systems with limited RF chains	Shahbad Alam
47	Data-driven modeling and analysis of atmospheric turbulence in wind farms	Jahrul Alam
48	An improved TLS handshake protocol for privacy protection	Yixuan Liang
50	Generating Synthetic Event Sequences with ES-Former	Kyle L Nickerson
51	Two-branch deep learning model for wetland classification using graph convolutional network	Hamid Jafarzadeh
52	Electrical Characteristics Analysis of High Concentrated Multi-Junction Solar Cells	Rida A Hmouda
POSTER 53	MUN SailBot Team - Building a Semi-Autonomous Sailboat	Zachary SF Greenham
54	Automatic Classification of Drill Bit Cutter Damages Using Computer Vision	Harnoor Singh
55	Quadcopter Trajectory Tracking using LQR Controller	Sachithra H Atapattu
56	Google Indoor Street View based Localization System for a Mobile Robot using Factor Graphs and CNN-based Place Recognition	Kusal B Tennakoon
57	Robust Output Feedback controller for a Serial Robotic Manipulator with Unknown Nonlinearities and External Disturbances	Mohammad Al Saaidheh
58	Passive range assisted INS for quadcopter state estimation	Nushen M Senevirathna
59	Ship Radars in SAR images: Localizing Radio Frequency Interference using Unsupervised Deep Learning	Kristian Aalling Sørensen
60	Path Planning for Autonomous Navigation in Model Ice Basin	Kevin Murrant
POSTER 61	MUN F1-Tenth Autonomous Race Car	Nicholas Philpott