2023 International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET 2023)

Chennai, India
29 – 31 March 2023

WiSPNET 2023 SCHEDULE IN DETAIL

Venue: Second Floor, Career Development Centre (CDC), SSN College of Engineering

DAY 1: Wednesday, 29th March 2023

Registration: 8.30 a.m. to 9:00 a.m.

Time	Session	Details
9:15 AM to 9:45 AM	1 Get the most of WiSPNET 2023 **Chair:** Dr. Krishnasamy T. Selvan	*An informal warm-up session in which the organizers and the invited speakers call upon the participants to make the best use of the conference.* **Dr. V. E. Annamalai**, Principal, SSN CE **Dr. P. Vijayalakshmi**, Conference Chair **Dr. Hugo Espinosa**, Griffith University, Australia **Dr. T. Nandha Kumar**, University of Nottingham Malaysia **Mr. Ajay Kumar Vaidhiyanathan**, Intel, Bengaluru
9:45 AM to 10:45 AM	2 Invited Talk I **Chair:** Dr. S. Esther Florence	*Wearable sensors: Challenges in sports, health and forensics...N/A* by **Dr. Hugo Espinosa,** Griffith University, Australia
Coffee Break – 10:45 AM to 11:30 AM		
11:30 AM to 12:30 PM	3 Keynote Address **Chair:** Dr. P. Vijayalakshmi	*Cellular evolution to 5G and beyond: A DSP Perspective...N/A* by **Dr. David Koilpillai,** IIT Madras
Lunch Break – 12:30 PM to 1:30 PM		
1:30 PM to 2:30 PM	4 Invited Talk II **Chair:** Dr. B. Sreeja	*Advanced 2D materials in current electronic system design...N/A* by **Dr. Ajay Vaidhiyanathan,** Intel, Bengaluru

2:30 PM to 3:50 PM	5 Contributed Papers Session I **Chair:** Dr. T. Nandha Kumar, University of Nottingham Malaysia **Student Assistant:** S. J. Varshaa	**Circuits and Systems**			
		No.	Paper ID	Timing	Authors, Title
		1	1963	2:30 – 2:50 PM	**H Pamu**, K K Puli and K K Gurrala, "Realization of electronically controllable, wide bandwidth instrumentation amplifier using single DVCCTA"...1
		2	3021	2:50 – 3:10 PM	**D Thomas** and S Solomi, "Design and simulation of a novel cell interaction based square calculator in quantum-dot cellular Automata"...6
		3	6416	3:10 – 3:30 PM	**C Grandhi**, M. V Subbarao, D. R Varma and S Krishna A, "Enhanced deep convolutional neural network for identifying and classification of silicon wafer faults in IC fabrication industries"...11
		4	3472	3:30 – 3:50 PM	J Kumar K J, **Kaythry P**, Gokhulesh V and Sudharsan K, "Efficient FPGA implementation of RSA algorithm using Vedic Multiplier"...17

Coffee Break – 3:50 PM to 4:10 PM

4:10 PM to 5:50 PM	6 Contributed Papers Session II **Chair:** Dr. R. Hemalatha **Student Assistant:** K. P. Sanjivan	**AI, DL and ML for Engineering Applications I**			
		No.	Paper ID	Timing	Authors, Title
		1	7034	4:10 – 4:30 PM	**I. Ioannou**, P. Nagaradjane, A. Khalifeh, G V S Sashank, C. Jain, C. Christophorou, V. Vassiliou and A. Pitsillides, "ML-aided dynamic clustering and classification of UEs as VBs in D2D communication networks"...22
		2	9185	4:30 – 4:50 PM	J S Kakavakam, **S C Sangapu** Sountharrajan S and E. Suganya, "Ensemble learning for aspect-based sentimental analysis on IMDB reviews"...30
		3	8132	4:50 – 5:10 PM	**V Abinayaa R**, Varshini G, S. Ramanathan and Muthumeenakshi K, "Analysis of millimeter wave path loss prediction using machine learning techniques" **...38**
		4	391	5:10 – 5:30 PM	**Subash S.I**, Muthiah M.A and Mathan N, "A novel and efficient CBIR using CNN for flowers"...44
		5	6129	5:30– 5:50 PM	Bhagavathi Ravikrishnan, Ishwarya Sriram and **Samhita Mahadevan** "ARDL-IDS: Adversarial resilience in deep learning-based intrusion detection systems"...50

DAY 2: Thursday, 30th March 2023

Time	Session	Details			
8:30 AM to 9:50 AM	7 Contributed Papers Session III **Chair:** Dr. Hugo Espinosa, Griffith University, Australia **Student Assistant:** K. P. Sanjivan	**Sensors and Autonomous Systems**			
		No	Paper ID	Timing	Authors, Title
		1	7116	8:30 – 8:50 AM	S V B Badruni, L Balu, **R Tharun V**, S Vadrevu and G K Chellamani, "Smart Agro-Industrial monitoring system using multi-sensors and ESP-NOW protocol"...55
		2	1606	8:50 – 9:10 AM	**R M Samuel**, Jivthesh M R, Gaushik M R, S Shibu N B and S N Rao, "Web 3.0 and NFTs enabled eWaste management system for smart city"...60
		3	3455	9:10 – 9:30 AM	**R Maity**, Jivthesh M.R, P S Maitra, Sanjeevi G, Gaushik M.R, S Shibu N B and K U Menon, "Maximising highway safety through AI-enabled detection of pedestrians and animals in V2X environments"...67
		4	8304	9:30 – 9:50 AM	**P Duraisamy** and S Natarajan, "Multi-sensor fusion based off-road drivable region detection and its ROS implementation"...74
Coffee Break: 9:50 AM to 10:20 AM					
10:20 AM to 11:20 AM	8 Invited Talk III **Chair:** Dr. Premanand Chandramani	*An overview of SRAM and RERAM-based in-memory computing* by **Dr. T. Nandha Kumar**, University of Nottingham Malaysia			
11:20 AM to 12:40 PM	9 Contributed Papers Session IV **Chair:** Dr. Uday Khankoje, IIT Madras **Student Assistant:** S. J. Varshaa	**Electromagnetics**			
		No	Paper ID	Timing	Authors, Title
		1	3878	11:20-11:40 AM	**P Mahankali**, R Rao T, Susila M and S Mondal, "GaAs based hybrid plasmonic terahertz waveguide modal analysis"...79
		2	261	11:40 – 12:00 PM	**A Sahu**, G Chandrabhan, V Akkaraju and Ramarao T, "Study of characteristics and applications of microwave photonic radar" **...83**
		3	8791	12:00 – 12:20 PM	**K Sharma M**, A Rao, K Kumar and R Rao T, "Terahertz imaging for aerospace applications"...88
		4	942	12:20 – 12:40 PM	J Kumar K J, **Hariharan A** and L Yedidiah R, "RF energy harvesting from handheld mobile band signals"...93

		Lunch Break: 12:40 PM to 1:45 PM	
1:50 PM to 3:00 PM	10 Invited Talk IV (online) **Chair:** Dr. N. Venkateswaran	*6G envisioned interplay between low resolution quantization and integrated sensing and communication* by **Dr. Aryan Kaushik,** University of Sussex, United Kingdom	
3:00 PM to 4:00 PM	11 Invited Talk V **Chair:** Dr. Gulam Nabi Alsath	Fault diagnosis in phased array antennas by **Dr. Uday Khankhoje, IIT Madras**	

		Coffee Break: 4:00 PM to 4:20 PM	

| 4:20 PM to 6:00 PM | 12

Contributed Papers Session V

Chair:
Dr. R. Kishore

Student Assistant:
S. J. Varshaa | **AI, DI and ML for Engineering Applications II** |

No	Paper ID	Timing	Authors, Title
1	3414	4:20 – 4:40 PM	Kuppusamy P, **R Siri P**, Harshitha P, Dhanyasri M and C. Iwendi, "Customized CNN with Adam and Nadam optimizers for emotion recognition using facial expressions"...99
2	1670	4:40 – 5:00 PM	K Ramani, **K Bhavana**, A Akshaya, K S Harshita, C R T Kumar and M Srikanth, "An explorative study on extractive text summarization through k-means, LSA, and TextRank"...104
3	3725	5:00 – 5:20 PM	R F S Russels P and **S M G Raj**, "A supervised machine learning model-based spectrum sensing using NI USRP–2922 SDR"...110
4	6194	5:20 – 5:40 PM	D Ramesh, I Sriram, K Sridhar, S D. Dunston and **M A Rajam V**, "Understanding DeepFool adversarial attack and defense with Skater Interpretations"...115
5	2884	5:40 – 6:00 PM	S Banerjee and **S Mukherjee**, "A disaster-news dataset for multi-label document classification, sentence classification and abstractive document summarization tasks"...120

DAY 3: Friday, 31st March, 2023

Time	Session	Details			
8:30 AM to 9:30 AM	13 Invited Talk VI **Chair:** Dr. S. Sakthivel Murugan	*Challenges in data communication from ocean observation platforms...N/A* by **Dr. Tata Sudhakar,** NIOT, Chennai			
9:30 AM to 10:50 AM	14 Contributed Papers Session VI **Chair:** Mr. Ajay Kumar Vaidhyanathan, Intel, Bengaluru **Student Assistant:** K. P. Sanjivan	**Antenna Engineering**			
		No	Paper ID	Timing	Authors, Title
		1	3996	9:30 – 9:50 AM	**Deepa T**, R Rao T and S K Palaniswamy, "Quad port pattern reconfigurable antenna for indoor applications"...126
		2	8688	9:50 – 10:10 AM	S A, **Vinayagam K** and Rajesh N," Miniaturized UWB FSS for space shuttle communication"...130
		3	6051	10:10 – 10:30 AM	**G Ilangovan**, V Karuppiah and U M Gurusamy, "Design and analysis of dual band MIMO antenna for WLAN and ISM band applications"...134
		4	5056	10:30 – 10:50 AM	R Das, **T K Das**, J D Pradhan, A Kumar, R Kumari, P Mandal and R K Mukhi, "Modified fractal-based polarization-reconfigurable patch antenna for 2.4 GHz ISM band applications"...139
Coffee 10:50 AM to 11:10 AM					
11:10 AM to 12:30 PM	15 Contributed Papers Session VII **Chair:** Dr. K. Muthumeenakshi **Student Assistant:** S. J. Varshaa	**Signal Processing and Imaging**			
		No	Paper ID	Timing	Authors, Title
		1	7289	11:10 – 11:30 AM	**L S Sowjanya**, L Nagaraju and P K Kumar, "Compressive sensing framework for synthetic aperture radar imaging using OMP algorithm"...144
		2	3767	11:30 – 11:50 AM	**S Priya G** and P Nammalwar, "Texture image classification with dilated convolution layers"...149
		3	7428	11:50 – 12:10 PM	**R Uyyala** and S Muthusamy, "Gradient adaptive planar prediction for high-fidelity images"...154
		4	7661	12:10 – 12:30 PM	**Vanila S**, P V Chandramani and Srinivasan R, "Similarity measure based 16X16 MB mode decision in H.264 Intra prediction"...160
Lunch Break: 12:30 PM – 1:30 PM					

1:30 PM to 2:50 PM	16 Contributed Papers Session VIII **Chair:** Dr. N. Prabagarane	**Wireless Communication and Networking**			
		No	Paper ID	Timing	Authors, Title
		1	332	1:30 – 1:50 PM	**A Twinkle J**, P V Chandramani and Srinivasan R, "Design of noise transfer function for delta sigma modulator based on modified Jacobi polynomial Approximations"...164
		2	1845	1:50 – 2:10 PM	**M Sinha**, P Bera and M Satpathy, "DDoS vulnerabilities analysis in SDN controllers: Understanding the attacking strategies"...168
		3	4933	2:10 – 2:30 PM	**Nagaraju L** and K K Puli, "Sparsity-unaware high probability DOA estimation using compressive sensing based extended OMP"...173
	Student Assistant: K. P. Sanjivan	4	5485	2:30 – 2:50 PM	**B Preethi R** and M S Nair, "A multi-objective weight based optimal cluster head selection for lifetime augmentation in IoT based heterogeneous wireless sensor networks"...177
2:50 PM to 3:20 PM	17 Closing Session **Chair:** Dr. R. Rajavel	*The Chair invites speakers and participants to share and discuss their experiences and/or learnings at WiSPNET 2023, and wraps up the conference* *This session is followed by Coffee*			

Notes:

1. Each contributed paper presentation will be 15 minutes long, followed by up to 5 minutes of Q&A. The authors identified in bold letters are the presenting authors.
2. Presenters are requested to bring their material on a memory stick, and to load it on the presentation laptop during the break preceding their session.
3. The student assistants will help with loading, and also will time-keep during the presentations.
4. Session chairs/student assistants whose affiliations are not indicated against their names are from SSN College of Engineering.
5. All are requested to cooperate in running the conference as per the schedule.