

# 15<sup>th</sup> February, 2019 (DAY 1 of ICORT 2019)

TUTORIALS	TUTORIAL - I Hall 2	TUTORIAL - II Hall 3	TUTORIAL - III Hall 4
1000-1130	<p><b>Modern phased array instrumentation radar for weapon evaluation and range safety</b></p> <p><i>Mr. Peder Pedersen<sup>1</sup> &amp; Mr. Aleksandar Grgic<sup>2</sup></i>  <sup>1</sup> President and CEO, Weibel Scientific Copenhagen, Denmark &amp; <sup>2</sup> Director Sales, APAC and Space Industry, Copenhagen, Denmark.</p>	<p><b>Logic Encryption: A Design-for-Security Trust Methodology for Digital Integrated Circuits</b></p> <p><i>Prof Santanu Chattopadhyay<sup>1</sup> &amp; Mr. Rajit Karmakar<sup>2</sup></i>  <sup>1</sup> Professor, Dept. Of Electronics and Electrical Communication Engineering, IIT Kharagpur &amp; <sup>2</sup> PhD student in Dept. Of Electronics and Electrical Communication Engineering, IIT Kharagpur</p>	<p><b>From Sensor to Cloud – A design Tutorial</b></p> <p><i>Mr. K. S. Ramanujan</i>            Technology Director, Encompass Electronics Private Ltd &amp; Managing Director, LeeP eDrive Pvt Ltd.</p>
1130-1200	<b>TEA &amp; REFRESHMENTS</b>		
1200-1400	<p><b>Modern phased array instrumentation radar for weapon evaluation and range safety (contd...)</b></p> <p><i>Mr. Peder Pedersen<sup>1</sup> &amp; Mr. Aleksandar Grgic<sup>2</sup></i>  <sup>1</sup> President and CEO, Weibel Scientific Copenhagen, Denmark &amp; <sup>2</sup> Director Sales, APAC and Space Industry, Copenhagen, Denmark.</p>	<p><b>Logic Encryption: A Design-for-Security Trust Methodology for Digital Integrated Circuits (contd...)</b></p> <p><i>Prof Santanu Chattopadhyay<sup>1</sup> &amp; Mr. Rajit Karmakar<sup>2</sup></i>  <sup>1</sup> Professor, Dept. Of Electronics and Electrical Communication Engineering, IIT Kharagpur &amp; <sup>2</sup> PhD student in Dept. Of Electronics and Electrical Communication Engineering, IIT Kharagpur</p>	<p><b>From Sensor to Cloud – A design Tutorial (contd...)</b></p> <p><i>Mr. K. S. Ramanujan</i>            Technology Director, Encompass Electronics Private Ltd &amp; Managing Director, LeeP eDrive Pvt Ltd.</p>

## 16<sup>th</sup> February, 2019 (DAY 2 of ICORT 2019)

INVITED TALKS	Invited Talk 11 <i>Hall 1</i>	Invited Talk 12 <i>Hall 2</i>	Invited Talk 13 <i>Hall 3</i>	Invited Talk 14 <i>Hall 4</i>
0930-1020	<p>Intelligent Signal Processing</p> <p><i>Prof Ganapati Panda</i> Professor (retired) School of Electrical Science, Indian Institute of Technology, Bhubaneswar</p>	<p>Nonlinear optimal Missile Guidance using Model Predictive Static Programming</p> <p><i>Prof Radhakant Padhi</i> Professor Dept. of Aerospace Engineering, Indian Institute of Science Bangalore</p>	<p>Photonic Switching Technology in Communication Networks and Antenna Beam Steering</p> <p><i>Prof Niranjan Das</i> University College Of Engineering, Burla. Electronics &amp; Telecomm. Engg</p>	<p>Data mining, Data assimilation and Prediction: Parts of a continuum <i>(Over VC)</i></p> <p><i>Prof S Lakshmiarahan</i> George Lynn Cross Research Professor School of Computer Science, University of Oklahoma</p>
PARALLEL SESSIONS	Parallel Oral Session 11 <i>Hall 1</i>	Parallel Oral Session 12 <i>Hall 2</i>	Parallel Oral Session 13 <i>Hall 3</i>	Parallel Oral Session 14 <i>Hall 4</i>
1030 – 1045	<p>Range Instrumentation and Signal Processing</p> <p>Session Chair: Prof Ganapati Panda, IIT BBSR</p> <p>Design of Integrated Wideband Passive Band-pass Filter for WiMAX, WLAN and 5G Communication Systems using 180 nm Technology <i>Kamleshwari Sanga, Rowdra Ghatak</i></p>	<p>Aerodynamics and Control</p> <p>Session Chair: Prof Siddhartha Mukhopadhyay, IIT Kgp</p> <p>Lakshya evaluation and operations <i>Manu Jain, Rajashekhar Somasundaram, Subramanian Velayutham, Ashok Rangan</i></p>	<p>Advanced Radar Systems</p> <p>Session Chair: Prof Niranjan Das, UCE Burla</p> <p>Analysis of a decaying thunderstorm using Doppler Weather Radar <i>Bibekananda Panda</i></p>	<p>Data Processing and Estimation</p> <p>Session Chair: Prof T K Ghosal, Jadavpur Univ (Emeritus)</p> <p>A Novel Clustering Algorithm for Faster Passive Sensor Measurement Association <i>Hari Sankar Rokkam</i></p>

1045 – 1100	<b>Automatic Target Recognition Using Recurrent Neural Network</b> <i>Bharat Sehgal, Hanumant Singh Shekhawat, Sumit Kumar Jana</i>	<b>Robust <math>H_{\infty}</math> Based PI Control Design For 2-DOF Helicopter: An LMI Approach</b> <i>Jitendra Goyal, Shubham Aggarwal, Sandip Ghosh, Shyam Kamal</i>	<b>Netted Surface Wave Over the Horizon Radar for Extended Performance</b> <i>Rajesh Kumar Rangam, Vishnu O C, Nandakumar S</i>	<b>Sensor Deployment Optimization at Test Ranges using Genetic Algorithm</b> <i>Digvijay Pandey, Sunil Pattnayak, Mukesh Roy, Shrabani Ghosh</i>
1100 – 1115	<b>A New Scheme for Ultra Wide Band PPM communication</b> <i>Choudhury Jayaprakash</i>	<b>Nonlinear Time-Scale Separated Autopilot Design for Endo and Exo-Atmosphere Interceptor</b> <i>Shivendra Tiwari</i>	<b>Passive Radar using non-electronic steering surveillance radar as source</b> <i>Bharadwaj L S, Shashikiran D, Vishnu O C</i>	<b>Using Machine Learning to Deduce Student Model in E-Learning Systems</b> <i>Hadi Ezaldeen, Pramod Meher, Rachita Misra, Ammar Alnahhas</i>
1115 – 1130	<b>Implementation of LabVIEW based CDT Generator cum Remote Time Display for interfacing with Launch Control Computer</b> <i>Arvind Kumar, Umang Soni, Chandradeo Rajak, Biswajit Biswas</i>	<b>Robust Trajectory Tracking of an Under-actuated Three Degree of Freedom Hovercraft</b> <i>Adarsh Kodhanda</i>	<b>Impact of GaN technology in Modern RADAR Architecture</b> <i>Meena Mishra, Seema Vinayak</i>	<b>Data Fusion algorithms to improve test range sensors accuracy and precision</b> <i>Alessandro Palmas, Davide Piras, Alessandro Urru</i>
1130 – 1145			<b>Compact Dual T/R Module Controller Board Design using Embedded Resistor Technique</b> <i>Somsing Rathod, Yogeesh Kumar S, Tejaswini Ganti, Sreenivasulu K, Beenamole K S, K P Ray</i>	<b>3D Pose estimation of UAVs using Stereovision</b> <i>Samvram Sahu, Arnab Karmakar, Priyadarshanam Hari</i>

1130 – 1200

**TEA & REFRESHMENTS**

POSTER SESSIONS	Poster01 Poster Venue  Aerodynamics, Measurement and Tracking	Poster02 Poster Venue  Radar and Microwave
	1200 – 1220	1230 – 1250
	<b>Robust Control Law Design for Medium Altitude Long Endurance UAV</b> <i>Jitesh Sachdeva</i>	<b>1 KW GaN HEMT based Power Amplifier in UHF Band,</b> <i>Ashish Jindal, Umakant Goyal, Archana Ahirwar, Parul Gupta, Sanjay Tomar, Meena Mishra, Seema Vinayak</i>
	<b>Correlation Tracking of Object with Occlusion based on Kalman Filter Estimation</b> <i>Saumyaranjan Mohanty, Ghanashyam Adhikari</i>	<b>RCS Estimation of Sphere with Dent using SPSS including Error analysis in Stealth Technology</b> <i>K S Ranga Rao, Gottapu Sasibhushana Rao, Swathi Nambari</i>
	<b>Experimental Investigation on burning behaviour of different Propellants in Closed Vessel of Gas generator Cartridge for water-jet application</b> <i>Bhupesh Ambadas Parate, Anil Sahu, Chandra Shetty, Himanshu Shekhar, Sunil Chandel, Vishweshwar Dixit, Rajan K M</i>	<b>Slotted Microstrip Antenna for 5.8 GHz ISM Band Applications</b> <i>Tanmaya Kumar Das, Durga Prasad Mishra, Santanu Kumar Behera</i>
	<b>CHAMPS: CHARGE Mass Prediction System for targeted pressure and muzzle velocity -- A Machine Learning Approach</b> <i>Suman Mondal, Anjan Saha, Smrutisudha Sahoo</i>	<b>Improvements in Tracking Range and reduction in tracking noise with Digital Receiver &amp; Range Tracking System</b> <i>Betha Shirisha, Madhav Sharma, B V Subba Rao</i>
	<b>Non-Linear Autopilot using Dynamic Inversion for VTOL Aircrafts</b> <i>Rajat Patel</i>	<b>Design of wideband voltage variable attenuator for highly survival radar receiver</b> <i>Arun Ray, Alok Lenka, Mudit Singh</i>
	<b>Case Study on Debris Analysis Using Fractal Fragmentation</b> <i>Mukesh Roy, Digvijay Pandey, SmritiLekha Swain, Shrabani Ghosh</i>	<b>A comparison between different adaptive beamforming techniques</b> <i>Rajen Patra, Chinmay Nayak</i>
	<b>Avionics ICD representation using JSON for Configurable Data Analyzer</b> <i>Aleena Sasikumar, Prem Nair J V Satyanarayana</i>	<b>Design and Analysis of a Hemispherical Radar Signature Profile using Corner Reflectors</b> <i>Pravakar Mallick, Milan Pal, Arun Ray, Raghvendra Kumar Chaudhary</i>

**INS integration with Multiconstellation Satellite Navigation System using Adaptive Kalman Filter**

*Abhishek Agarwal, Harita Seela, Kannan M, Manjit Kumar*

**New Low Complexity Variance Method for Automatic Modulation Classification and Comparison with Maximum Likelihood Method**

*Jimmy B Tamakuwala*

**Design of Aircraft hydraulics leakage detection system based on wireless sensor network**

*Vishal Bodkhe*

**Design of S-band Multi Section Microstrip Directional Coupler for Range Applications**

*Anil Kumar Sahu*

**Technique to calibrate RTS system for performance evaluation of phased array radar at range & height constrained site**

*Rakesh Tripathi, Mallika Modak, Abhinandan Sarkar, L Prakasam*

**Multipath Radio Propagation in a UAV Test Range**

*Diptiman Biswas, Asif Rizwan, Anil Kumar B, Bharama Nayak, Manjunath M*

1300-1420

**LUNCHEON**

INVITED TALKS	Invited Talk 15 <i>Hall 1</i>	Invited Talk 16 <i>Hall 2</i>	Invited Talk 17 <i>Hall 3</i>	Invited Talk 18 <i>Hall 4</i>
1430-1520	<p><b>Satellite Based Navigation: Current Trends and their Relevance to Ranging Technology.</b></p> <p><i>Prof A D Sarma</i> Electronics and Communications Engineering Dept. CBIT,Hyderabad</p>	<p><b>Machine Learning for Computer Vision Applications</b></p> <p><i>Prof P K Biswas</i> Professor Dept. of Electronics &amp; Electrical Communication Engineering, Indian Institute of Technology Kharagpur</p>	<p><b>Array/smart Antennas for Defence Applications</b></p> <p><i>Prof Girish Kumar</i> Dept. of Electrical Engg. IIT Bombay, India.</p>	<p><b>Trends and compromises in Telemetry Links</b></p> <p><i>Mr Philippe Klaye</i> Sales Director Zodiac Data Systems, Ground Flight Test Solutions, France</p>
PARALLEL SESSIONS	Parallel Oral Session 15 <i>Hall 1</i>	Parallel Oral Session 16 <i>Hall 2</i>	Parallel Oral Session 17 <i>Hall 3</i>	Parallel Oral Session 18 <i>Hall 4</i>
1530-1545	<p><b>Positioning and Navigation Systems</b></p> <p>Session Chair: Prof A D Sarma, CBIT Hyderabad</p>	<p><b>Visual Processing for Range Applications</b></p> <p>Session Chair: Prof Prabir Kumar Biswas, IIT Kgp</p>	<p><b>Advanced Antenna Techniques</b></p> <p>Session Chair: Prof Girish Kumar, IIT Bombay</p>	<p><b>Trends of Range Telemetry Systems I</b></p> <p>Session Chair: Mr Philippe Klaye, Sales Director ZDS</p>
1545-1600	<p><b>A Compact Size Low Noise Amplifier for GNSS Upper L Band</b> <i>Mopuri Ramanaidu, Rowdra Ghatak</i></p> <p><b>Low-cost GNSS modules for Precise Positioning</b> <i>Anindya Bose, Somnath Mahato, Atanu Santra, Sukabya Dan</i></p>	<p><b>Least Square Regression based Non Uniformity Correction for Infra red Focal Plane Arrays</b> <i>Nikhil Kumar, Meenakshi Massey, Neeta Kandpal</i></p> <p><b>Camera Zoom Motion Detection in the Compressed Domain</b> <i>Pavan Sandula, Manish Okade</i></p>	<p><b>High Gain Improved Sidelobe-Level Series-Fed Linear Microstrip Array with Circular Patches</b> <i>Rajesh Kumar, Shrikant Sharma, Antim Maida, Rinkee Chopra, Vinay Narayane, Girish Kumar</i></p> <p><b>Advanced Techniques for Low sidelobe level array antennas</b> <i>Patnam Hanumantha Rao, Gopinath Karna</i></p>	<p><b>Range Instrumentation for Aeronautical Telemetry</b> <i>Sajeesh Kumar K, Preeti Tirkey, Anbu A, Jijomon Joseph, Beerla Gopal</i></p> <p><b>Telemetry link improvement</b> <i>Philippe Klaye, Gregory Blanc, Nicolas Pasternak</i></p>

1600-1615	<p><b>Global Navigation Satellite Systems and Indian Defence Research - A Review</b>  <i>Mrinal Goswami, Rowdra Ghatak, Anindya Bose</i></p>	<p><b>Depth Disparity Analysis of Camouflaged Objects by Stereoscopic Techniques</b>  <i>Reetika Vats, Manoj Sharma, Sandhya Bajaj</i></p>	<p><b>Dual Feed Dual Circularly Polarized Horn Antenna at Ka Band for telemetry application</b>  <i>Gautam Sadhukhan</i></p>
1615-1630	<p><b>NavIC and GPS State Vector as Tracking Sources for Flight Safety</b>  <i>Kovin Dinesh Babu, Ganapathy Vaidyanathan, J V N Ravi Kumar, Parvataneni Sunil</i></p>	<p><b>Enhanced MRF based Super Resolution Method for Remote Sensing Images</b>  <i>Shashikant Deepak, Dipti Patra</i></p>	<p><b>Design and Analysis of T-slot Microstrip patch antenna for WLAN Applications</b>  <i>Budhadeb Maity</i></p>
1630-1645		<p><b>Study of Atmospheric Attenuation of IR Signature of airborne vehicle</b>  <i>Ranjan Kumar Dey, Sasmita Mahakud, Sudhansu Bala Das, Pradipta Roy, Dipak Das</i></p>	<p><b>Horn Feed with Switchable Polarization for Radar &amp; Tracking Antenna System</b>  <i>Vipin Paradkar, Ranadeep Saha, Kumaran Sreekumar, Shashi Bhushan Sharma</i></p>

1630-1700

**TEA & REFRESHMENTS**

PARALLEL SESSIONS	<b>Parallel Oral Session 19</b> <i>Hall 1</i>  <b>Ballistics Measurements</b>  Session Chair: Mr A K Checker, Former Director ITR	<b>Parallel Oral Session 110</b> <i>Hall 2</i>  <b>Safety and Flight Termination Systems</b>  Session Chair: Dr M Manickavasagam, ASL	<b>Parallel Oral Session 111</b> <i>Hall 3</i>  <b>Microwave Circuits and EMI/EMC</b>  Session Chair: Prof Girish Kumar, IIT Bombay	<b>Parallel Oral Session 112</b> <i>Hall 4</i>  <b>Trends of Range Telemetry Systems II</b>  Session Chair: Mr S P Dash, Dr. Rajarammana Distinguished Fellow
1700-1715	<b>Height of Burst, Fuze Function time and other ballistic parameters of Air Burst Grenade with Non-Intrusive measurement</b> <i>Devyani Jadhav, Dnyaneshwar Bagde, Viwek Mahto, Aishwarya Dixit</i>	<b>Flight Termination System - ISRO's Perspective</b> <i>Pitchandi Vijayalakshmi, Kovin Dinesh Babu</i>	<b>Synthesis and Analysis of Bioceramic Material for Mitigation of Electromagnetic Interference in Radar Communication</b> <i>Ganeswar Nath</i>	<b>Design and Development of 3-D Mono-pulse Comparator for Ka-band Application</b> <i>Amlsh Singh</i>
1715-1730	<b>Effect of Gun Barrel Wear on Muzzle Velocity of a typical Artillery Shell</b> <i>Arkadeb Banerjee, NN Nayak, Dakshyaraj Giri, Karunakar Bandha</i>	<b>Multiple Hypothesis based Failure Diagnosis for Range Safety</b> <i>Desham Mitra, Pulak Halder, Siddhartha Mukhopadhyay, Shrabani Ghosh</i>	<b>Design challenges in Printed Circuit Boards for EMC compliance</b> <i>Subhasis Marndi, Niladri Roy</i>	<b>New Generation High Speed Recorder</b> <i>Philippe Klaeyle, Marc Faber, Mark Zuber</i>
1730-1745	<b>Numerical Simulation of the In-bore Motion of a Typical Artillery Shell</b> <i>Tapas Panda, Arkadeb Banerjee</i>	<b>RADHAZ and HERO safety in the vicinity of high power RF transmitters</b> <i>Manas Biswal, Mangal Singh, Sarat Kumar Patra, Sanjay Sahu, Ramakanta Behera</i>	<b>Compact UWB Bandpass Filter with a Notch Band Using Y-Stub Loaded Multiple-Mode Resonator</b> <i>Puja Kumari, Rowdra Ghatak</i>	<b>Experiment on PN ranging for missile application</b> <i>Pravin Swami, Jimmy B Tamakuwala, Avijit Jena</i>
1745-1800	<b>Emulating High Speed Ballistic Target Interception with Low Speed Target</b> <i>Uttam Sahu, P N Dwivedi, Abhijit Bhattacharya</i>	<b>Development of a Decision Algorithm for Range Safety during Missile Flight Test</b> <i>Saumya Thakur, Shrabani Ghosh, Siddhartha Mukhopadhyay</i>	<b>Design and Modelling of Solid-State T/R-Module for RADAR Applications</b> <i>Manjunatha Reddy H V, Tabish Khan, Beerasha R S</i>	<b>Design of a Multiband Triangular DRA for C-Band Applications</b> <i>Sidhartha Kumar Sahu, Tanmaya Kumar Das, Santanu Kumar Behera</i>



## 17<sup>th</sup> February, 2019 (DAY 3 of ICORT 2019)

INVITED TALKS	Invited Talk 21 <i>Hall 1</i>	Invited Talk 22 <i>Hall 2</i>	PARALLEL SESSIONS	Parallel Oral Session 21 <i>Hall 3</i>	Parallel Oral Session 22 <i>Hall 4</i>
0930-1020	<p><b>Distributing Telemetry Data Using TMoIP Networks</b></p> <p><i>William M Tincup</i> President and Founder of SEMCO, USA</p>	<p><b>Doppler Weather Radar and Now-casting in disaster management and Range activities</b></p> <p><i>Dr Devendra Pradhan</i> Additional DG &amp; Senior Scientist India Meteorological Department, New Delhi</p>	0930-0945	<p><b>On Planning of Transmit Signal Frequencies of MFCW Radar for Test Range Application</b></p> <p><i>Mihir Meher, Rajarshi Biswas, Sobha Chandra Barik</i></p>	<p><b>Effect of Igniter Design on Differential Pressure</b></p> <p><i>Rahul Sarsar, Nilam Chirame, Smita Naik</i></p>
			0945-1000	<p><b>On The Techniques For Functional Test and Performance Evaluation of FMCW based Radio Altitude Sensor</b></p> <p><i>Nilang Trivedi, Jayesh Barve, Sanket Jathar, Manthan Talati, B S V Prasad, A Venkat Reddy</i></p>	<p><b>Simulation of Bullet Penetration using Finite Element Method</b></p> <p><i>Dibya Jena, Dushmantha Jena, Shivcharan Kumar</i></p>
			1000-1015	<p><b>Methods for Measuring Projectile In-Bore Profile using Ka band Doppler radar and Piezoelectric Transducers</b></p> <p><i>Sankarsan Padhy, Tanay Patel, Rashmi Debata, Prithu Dey, Aniruddha Bose</i></p>	<p><b>Dynamic evaluation of Bi modular charge system for 155 mm Artillery gun</b></p> <p><i>Sujit Shee, Santu Chakroborty, Arkadeb Banerjee, Biswajyoti Hazarika</i></p>

1015-1030

**Target State Bias Estimation Using  
Co-Located Radar Measurements**

*Prashant Bhale, P N Dwivedi, Prem  
Kumar, Abhijit Bhattacharya*

**Numerical Method of Estimating  
Warhead Lethality at Various Test  
Ranges for Artillery Rocket**

*Rahul Ramkrishnan, Gaurav Argade,  
Prathamesh Patil, Raghavendra Rao,  
Vishweshwar Dixit*

1030-1045

**Through-Wall Heartbeat Frequency  
Detection Using Ultra-Wideband  
Impulse Radar**

*Amit Sarkar, Debalina Ghosh*

PARALLEL SESSIONS	<b>Parallel Oral Session 23</b> <i>Hall 1</i>  <b>Optical Tracking Systems</b>  <b>Session Chair: Prof Dipti Patra</b> EE Dept, NIT Rourkela	<b>Parallel Oral Session 24</b> <i>Hall 2</i>  <b>Electronic Systems for Range Applications</b>  <b>Session Chair: Dr Devendra Pradhan,</b> IMD New Delhi	<b>Parallel Oral Session 25</b> <i>Hall 3</i>  <b>Armament, Ballistics &amp; Hazard</b>  <b>Session Chair: Shri S. C. Narang</b> Former Director, ITR & CC R&D	<b>Parallel Oral Session 26</b> <i>Hall 4</i>  <b>Channel Estimation for Telemetry &amp; Communication</b>  <b>Session Chair: Prof Jayashree Rajakumar</b> ITER BBSR
1030 – 1045	<b>Smart EOTS: an Approach</b> <i>Sudhansu Bala Das, Pradeep Swain, Dipak Das, Pradipta Roy</i>	<b>Integrated Modular Avionics for Missile Applications</b> <i>T Venkata Mani, Saswata Maitra, P Bhanu Srinivas, K L Raja Sekhar, Raja Manikanta Guptha, S Vijaya Lakshmi</i>		<b>Aeronautic Telemetry Channel Estimation Using Field Data</b> <i>Pravin Swami, P Kannadasan, S M Ali, Vijaya Gandepudi, P R Sahu</i>
1045 – 1100	<b>Current works and future trends in Optronics at SAFRAN</b> <i>Emmanuel Kling</i>	<b>Characterization of MEMS based Inertial Measurement Unit</b> <i>Sanketh Ailneni, Sudesh Kashyap, Shanthakumar N, David Livingstone, Aishwarya N, Neenu Varghese, Karthik K</i>	<b>Hazard Assessment modelling for the Target end Control room of a Penta track Dynamic Trial Facility</b> <i>S Thalpathi Raj, S L Silan, Jaiprakash Kamal</i>	<b>Novel Pilot-Aided Channel Estimation Scheme for Power Domain NOMA-UFMC System in Fading Scenarios</b> <i>Ajit Singh, Krishna K Naik, Suthikshn Kumar</i>
1100-1115	<b>Advanced Optical Tracking System</b> <i>Moshe Klaiman</i>	<b>Design &amp; Simulation of MEMS Based Shockwave Pressure Sensor for Test &amp; Evaluation Applications</b> <i>Prithu Dey, Sankarsan Padhy, Aniruddha Bose</i>	<b>Background Oriented Schlieren (BOS) Technique: An Effective Flow Visualization Tool for Intermediate Ballistics</b> <i>Sudeshna Mohapatra, Prajna Mohanty, Himangshu Sekhar Panda, T Biswal</i>	<b>Specific Emitter Identification Over Fading Channels</b> <i>Ajay Babu Kambhampati, Gagarin Biswal, Barathram Ramkumar, M Sabarimalai Manikandan</i>
1115-1130	<b>Thermal Video Processing Engine - Design Choices and Implementation Considerations</b> <i>Ran Carmeli, John Beeckler</i>	<b>Futuristic Trends &amp; Technologies of Range Control Centre (RCC) System for Electronic Warfare (EW) Test Ranges</b> <i>Rajesh Kumar, Niranjana Prasad, K Murali</i>	<b>Visualization of Flow Field for Base Bleed Burning of 155mm ERFB Projectile through High Speed Infrared Imaging</b> <i>Tanmoy Mahanty, Sudeshna Mohapatra, Rabindra Sahu, Himangshu Sekhar Panda, Trilochan Sahoo, T Biswal</i>	<b>Virtual Reality for polarization effect on aeronautic telemetry channel</b> <i>Souvik Sonar, Digvijay Pandey, Mukesh Roy</i>

1130-1145

**Hardware Software Co-Design for Real Time Detection of Small Target in IR Video**

*Pradipta Roy, Dipak Das, Prashant Das, Manavendra Singh Chauhan*

**Study of Coefficient of Drag and Shock wave pattern for 155mm ERFB (BT) supersonic artillery shell with Recovery plug / Fuze**

*Smrutisudha Sahoo, Arkadeb Banerjee*

1130-1200

**TEA & REFRESHMENTS**

POSTER SESSIONS	Poster03 Poster Venue  Range Safety and Mission Planning	Poster04 Poster Venue  RF and Telemetry	Poster05 Poster Venue  Electro Optics
	1200 – 1220	1225 – 1245	1250 – 1310
	<p><b>Non Destructive Testing by X-Ray Radiography A Novel Method for Rocket Motor Testing</b> <i>Sukanta Das, Prakash Chandra Routray</i></p> <p><b>Inertial Measurement Unit for Trajectory</b> <i>Jean-Pascal Martinenq</i></p> <p><b>Unmanned Aerial Vehicles Flight Envelope for Mission Planning in a Test Range</b> <i>Indra Deo Kumar, Binoy B, Rajesh Kumar Uppal, Chitra Rajagopal</i></p> <p><b>A Scalable Framework for Maritime Trajectory Analysis and Visualization</b> <i>Himanshu Swami</i></p> <p><b>Unmanned Aerial System (UAS) Hazard identification, reliability, risk analysis &amp; Range Safety</b> <i>Siddappaji Basavaraju, Ashok Rangan</i></p> <p><b>Safety Measures for a High Power S Band Surveillance RADAR</b> <i>B Srilatha, T Sanal Kumar</i></p>	<p><b>A Unique Approach to Cyber Security in a Telemetry Receiver</b> <i>William M Tincup</i></p> <p><b>Cumulant based Blind Channel Estimation and Equalization in Aeronautical Telemetry Channel</b> <i>Madhusmita Mohanty, P Kannadasan, Biplob Sarkar, Ganapati Panda</i></p> <p><b>Easy configuration, checking and management of on-board Network Telemetry Systems</b> <i>Phillippe Klaeyle, David Lefevre, Jean-Christophe Rat, Ghislain Guerrero, Mark Zuber</i></p> <p><b>Implementation and performance evaluation of CMA Equalizer using NI LabVIEW</b> <i>Susree Sangita Das, Madhusmita Mohanty</i></p> <p><b>Experimentally approximated Path-loss exponent estimation and safe distance calculation in high power RF environment</b> <i>Manas Biswal, Mangal Singh, Sarat Kumar Patra, Bikash Panda, Sanjay Sahu, Ramakanta Behera</i></p> <p><b>Tri-band feed for modern telemetry antenna</b> <i>Phillippe Klaeyle, Christophe Melle, David Chaimbault, Gerard Kipfer</i></p>	<p><b>Hot Swappable Electronics Redundancy for Stabilized Sighting Systems</b> <i>Komal Sharma, Kamlesh Verma, Debashis Ghosh, Rajeev Marathe, Avnish Kumar</i></p> <p><b>Development of Cognitive Driver Assistance System</b> <i>Priyadarshi Kanungo, Safwan Ghanem, Ganapati Panda</i></p> <p><b>Evaluation of Stabilized Electro-Optical System</b> <i>Seema Sharma, Zahir Ahmed Ansari, Rajeev Marathe, Avnish Kumar</i></p> <p><b>Artillery gun recoil measurement using high speed imaging and image processing technique</b> <i>Md Alam</i></p> <p><b>Method of Triangulation for Computation of Position of Object in Space tracked by Optical Tracking System and Performance Analysis</b> <i>Anup Sahu</i></p> <p><b>Performance Assessment of Infra red Sensors intended for Tracking Applications in Test Ranges</b> <i>Prasant Kumar Dash, Pravat Kumar Das, Asit Biswas, Binoy Das</i></p>

**Designing of a compact Test Range with accuracy**

*Prasanta Kumar Mohanty*

**On-Board Telemetry for Performance Evaluation of a Typical Supersonic Long Range Artillery Rocket**

*Bibhuti Bhusan Padhy, Jayashri Shikhare, Vibha Kadam, Priyadarshini Nagrale, Dinesh Tilante, D T Korade, S Rana, Rajan Kizhakkel*

**Development and Performance Evaluation of Real-time IR and CCD Image Fusion under Noisy Environment**

*Sarthak Panda, Prasant Kumar Dash, Binoy Das, Niladri Puhan, Ganapati Panda*

**Four-axis Stabilized Dual Band Telemetry & Tracking System**

*Ranadeep Saha, Kumaran Sreekumar, Prashant Mahajan, Rameshwar Rao Sandineni*

**Elliptical Local Binary Pattern and DWT based retinal haemorrhage detection**

*Rabul Saikia, Manish Shankar Kaushik*

1300-1420

**LUNCHEON**