

## Day-1: 16 January 2019

<b>Oral Session: OAm1A: Cryocoolers and Cryogenic Measurements</b>				<b>Session Chairs:</b> 1. Kanchan Chowdhury, IIT Kharagpur 2. Venkatarathnam G., IIT Madras
<b>Venue</b>				<b>Hall 21, VMCC</b>
Time	Slot	Abstract ID	Title	Presenter
11:30	OAm1A.In	Invited Talk	<b>Planar Inductor Based Eddy-Current Sensors for Cryogenic Instrumentation</b>	Karunanithi Rangasamy, IISc
12:00	OAm1A.1	58	Parameter Estimation of Equipment for Development of an Experimental Setup of a Reverse Brayton Cryocooler for Cooling High Temperature Superconducting Cables	Aasheesh Bajpai
12:15	OAm1A.2	96	A Study Setup for a GM Cooler Based LHe Liquefier	Anup Choudhury
12:30	OAm1A.3	167	Development of Structured Porous Regenerator for Stirling Cryocooler using Additive Manufacturing Techniques	K V Srinivasan
12:45	OAm1A.4	234	Indirect Estimation of Partial Helium Pressure at Cryogenic Temperatures	Rajendra Dutt
<b>Oral Session: OAm1B: Superconductivity for Accelerators and Power Applications</b>				<b>Session Chairs:</b> 1. Tripti Sekhar Datta, IUAC 2. Hitensinh Vaghela, ITER India
<b>Venue</b>				<b>Hall 23, VMCC</b>
Time	Slot	Abstract ID	Title	Presenter
11:30	OAm1B.In	Invited Talk	<b>High Tc Superconducting Power devices - An Overview</b>	V. V. Rao, IIT Kharagpur
12:00	OAm1B.1	85	Development of Fabrication Technology of Nb3Sn-Based Superconductor Wire at BARC	Sayandeep Kundu
12:15	OAm1B.2	213	Design Study of Superconducting Quarter Wave Resonator for Post Acceleration of Radioactive Ion Beam Facility at VECC, Kolkata	Uttam Bhunia
12:30	OAm1B.3	220	Superconducting Linear Accelerators for ANURIB Programme at VECC Kolkata	Vaishali Naik
12:45	OAm1B.4	241	AC Characterization of Modular Superconducting Fault Current Limiter	Reetu Bharti
<b>Oral Session: OPm1A: Cryocoolers</b>				<b>Session Chairs:</b> 1. Trilok Singh, TriQual Cryogenics Pvt Ltd 2. Karunanithi Rangasamy, IISc
<b>Venue</b>				<b>Prof. B. Nag Auditorium, VMCC</b>
Time	Slot	Abstract ID	Title	Presenter
16:00	OPm1A.In	Invited Talk	<b>Efficient Operation of Kilowatt Class Helium Refrigerator and Associated Systems</b>	Anup Choudhury, IUAC
16:30	OPm1A.1	54	Three Phase Routines for the NIST Refprop Program	Venkatarathnam G.
16:45	OPm1A.2	55	Performance of a Small Nitrogen Liquefier	Venkatarathnam G.
17:00	OPm1A.3	86	Experimental Investigations on High Frequency Thermoacoustic Engine	Abhinav Desai
17:15	OPm1A.4	102	Recent Studies in Magnetocardiography (MCG) using SQUID Based System	Gireesan Katholil
17:30	OPm1A.5	133	Analysis of Cyclic Flow Heat Exchangers Used in Pulse Tube Cryocooler	Mahmadrafik Choudhari
17:45	OPm1A.6	252	Design and Investigations on Rotary Valve for GM Type Pulse Tube Cryocooler	Paresh Gujarati

<b>Oral Session: OPm1B: Superconducting Magnet Systems</b>				<b>Session Chairs:</b> 1. Subimal Saha, Bose Institute 2. Arup Bandyopadhyay, VECC
<b>Venue</b>				<b>Hall 21, VMCC</b>
<b>Time</b>	<b>Slot</b>	<b>Abstract ID</b>	<b>Title</b>	<b>Presenter</b>
16:00	OPm1B.In	Invited Talk	<b>Flux Pinning Mechanisms and Critical Current Density in Superconductors</b>	<b>Rajender Singh, University of Hyderabad</b>
16:30	OPm1B.1	177	Theoretical Design of Support System for MRI Cryostat	Navneet Suman
16:45	OPm1B.2	217	High Field Operational Performances of Superconducting TF Coils of SST-1	Upendra Prasad
17:00	OPm1B.3	237	Multiphysics Analysis of Operational Stresses in 1.5 T MRI Magnet	Sankar Ram Thekkethil
17:15	OPm1B.4	238	Post Quench Electromechanical Analysis of 1.5 T Whole Body Clinical MRI System	Vijay Soni
17:30	OPm1B.5	239	Design of Self-Centring Support System for 1.5 T MRI Cryostat	Navneet Suman
<b>Oral Session: OPm1C: Cryogenic Large-Scale Systems, Facilities, Testing and Industrial Application</b>				<b>Session Chairs:</b> 1. Shridhar Bapat, IIT Bombay 2. T. John Tharakan, LPSC (ISRO)
<b>Venue</b>				<b>Hall 23, VMCC</b>
<b>Time</b>	<b>Slot</b>	<b>Abstract ID</b>	<b>Title</b>	<b>Presenter</b>
16:00	OPm1C.In1	Invited Talk	<b>Conceptualization and Preliminary Studies on the Development of a 2K Refrigeration System at BARC</b>	<b>Anindya Chakravarty, BARC</b>
16:30	OPm1C.In2	Invited Talk	<b>India Develops Cryogenic Pump, Finds Application in Country's Space Research Program</b>	<b>Ranjana Gangradey</b>
17:00	OPm1C.1	37	Design, Development, Installation and Commissioning of Long Distance Cryogenic Transfer Lines	Sathish Kumar Selvan
17:15	OPm1C.2	84	Refurbishment of Liquid Nitrogen Phase Separators Hydraulics of 80 K Distribution System of SST-1	Rajiv Sharma
17:30	OPm1C.4	179	Evolving Control Strategy of Cryogenic Air Separation Plants for Smooth Changeover of Product Mix During Operation	Rohit Singla
17:45	OPm1C.5	200	Prevention of Fire in Oxygen System During Opening of Partially-Stuck Isolation Shut-off Ball Valve	Argha Saha

## Day-2: 17 January 2019

Oral Session: OAm2A: Large Scale Refrigeration and Liquefaction				Session Chairs: 1. Pradeep Kush, RRCAT 2. Ranjit Sahoo, NIT Rourkela
Venue				Prof. B. Nag Auditorium, VMCC
Time	Slot	Abstract ID	Title	Presenter
11:00	OAm2A.In1	Invited Talk	Effects of Impurities Contents on the Performance of Helium Cryogenics System of SST-1	Vipul Tanna, IPR
11:30	OAm2A.In2	Invited Talk	Critical Aspects of Cryogenic Vessel Manufacturing Process	Srikrishna Chervu, IOCL
11:45	OAm2A.1	105	Development of Test Facility at BARC for Large Flow Turboexpanders	Rajendran Menon
12:00	OAm2A.2	181	Numerical and Experimental Investigation of 80K Thermal Shield Assembly of 1st Pre-Series Cryoline (PTCL) of ITER Cryolines	Uday Kumar
12:15	OAm2A.3	251	Development and Test Results of SS-AL Dissimilar Metal Joint for Cryogenic Application	Omkar Chandratre
12:30	OAm2A.4	258	Test Set-up and Results of Indigenous Prototype 80 K Helium Purifier of He Plant	Ananta Sahu
12:45	OAm2A.5	259	Present Status and Future Plan of Indigenous IPR Helium Refrigerator/Liquefier	Ananta Sahu
Oral Session: OAm2B: Superconducting Measurement, Materials and Magnet Systems				Session Chairs: 1. Ram Gopal Sharma, IUAC 2. V. V. Rao, IIT Kharagpur
Venue				Hall 21, VMCC
Time	Slot	Abstract ID	Title	Presenter
11:00	OAm2B.In	Invited Talk	Development of High Homogeneity and High Stability 1.5T Superconducting MRI Magnet System for Whole Body Clinical Scanner	Soumen Kar, IUAC
11:30	OAm2B.1	139	Stress and Safety Analysis of 9T Superconducting Solenoid Magnet for RIB Facility	Pankaj Kumar
11:45	OAm2B.2	164	Design, Development and Initial Test Results of a GM Cryocooler Cooled 1MJ Room Temperature Bore Superconducting Solenoid Magnet	Sundar Sankaran
12:00	OAm2B.3	183	Quench Dynamics Study in 2nd Generation HTS Tapes	Upendra Prasad
12:15	OAm2B.4	235	Preparation of High Jc YBa2Cu3O7-d Components Using Melt Textured Growth Technique	Mahadev Gonal
12:30	OAm2B.5	255	Critical Current Density and Pinning Mechanism in Hetero Structure of Bi-2212 and MgB2 Superconductors	Rajender Singh
12:45	OAm2B.6	276	Vibrational Spectroscopy of Conventional Superconductor Niobium at Cryogenic Temperatures	Dipanshu Bansal
Oral Session: OAm2C: Fluid Mechanics and Heat Transfer				Session Chair: 1. Atul Srivastava, IIT Bombay 2. Mukesh Goyal, BARC
Venue				Hall 23, VMCC
Time	Slot	Abstract ID	Title	Presenter
11:00	OAm2C.In1	Invited Talk	Spacecraft and Cryogenic cooling	Alok Shrivastava, URSC (ISRO)
11:30	OAm2C.In2	Invited Talk	Production and Handling of High Pressure Oxygen	Kanchan Chowdhury, IIT Kharagpur
12:00	OAm2C.1	91	Experimental Investigation of Thermal Stratification Subject to Multi-Species Ullage	Mebin Cherian
12:15	OAm2C.2	99	Analytical & Experimental Study of Diffusion Driven Evaporation in LN2 Tank During Helium Gas Bubbling	M. Xavier
12:30	OAm2C.3	153	A Mathematical Model for the Characterization of Fluid Transients in Cryogenic Propellant Feedlines	Arjun Garva
12:45	OAm2C.4	203	Evaluating Response Time and Weight of Helium Pressurization Systems for Rocket Engines through Dynamic Analysis	Neha Pal

## Day-3: 18 January 2019

Oral Session: OAm3A: Large Scale Refrigeration, Liquefaction and Cryogenic Industrial Application				Session Chairs: 1. Tushar Bhowmick, Tudinous Kryos Pvt. Ltd. 2. K. V. Srinivasan, TIFR
Venue				Hall 21, VMCC
Time	Slot	Abstract ID	Title	Presenter
11:00	OAm3A.In	Invited Talk	Superconducting Systems for Particle Accelerators in VECC	Arup Bandyopadhyay, VECC
11:30	OAm3A.1	62	Recent Improvements in the Indigenously Developed Cryogenic Systems at CrTD, BARC	Mukesh Goyal
11:45	OAm3A.2	81	Performance Evaluation of Indigenously Developed Helium Liquefier in Mix Mode Operation	Rajvir Doohan
12:00	OAm3A.3	124	Pumping Speed Studies of Different Activated Carbons in a Cryocooler Based Cryosorption Pump	Srinivasan Kasthuriengan
12:15	OAm3A.4	184	Utilization of LNG Cold Energy by Combined Rankine Cycle and Absorption Based System for Power Generation	Jubil Joy
12:30	OAm3A.5	196	Optimization of Fin Geometry in a Star Finned Cryogenic Ambient Air Vaporizer using DIRECT and Genetic Algorithm	Chirag Jadav
12:45	OAm3A.6	254	80 K Helium Test Facility and Upgradation to Sub-cooled Liquid Nitrogen Temperature Level	Hitensinh Vaghela
Oral Session: OAm3B: Fluid Mechanics, Heat Transfer and Cryogenic Industrial Application				Session Chairs: 1. Subhash Jacob, IISc 2. Hemant Naik, SVNIT
Venue				Prof. B. Nag Auditorium, VMCC
Time	Slot	Abstract ID	Title	Presenter
11:00	OAm3B.In	Invited Talk	Issues of Two-Phase flow in Cryogenic Fluid Management Systems	Parthasarathi Ghosh, IIT Kharagpur
11:30	OAm3B.1	66	Turbomachinery Selection: Generating the Selection Charts and Extending their Use Beyond the Conventional for cryogenic plants	Mohanand Jadhav
11:45	OAm3B.2	76	Numerical Studies on Aerostatic Journal Bearings for Cryogenic Turboexpanders	Naveen Kumar
12:00	OAm3B.3	77	Challenges in Chill Down of High Pressure Cryogenic Tank	Ramasubramanian A S
12:15	OAm3B.4	78	A Volume-of-Fluid (VOF) Methodology for Prediction of Direct Contact Condensation (DCC) of Gaseous Oxygen Jets in Subcooled Flowing Liquid Oxygen	Jayachandran K N
12:30	OAm3B.5	111	Design of Multichannel Perforated Plate Matrix Heat Exchangers for Cooling of High Pressure and High Flowrate Helium Gas using Cold Hydrogen Vapour	Tapas Nandi
12:45	OAm3B.6	199	Experimental Study of Oscillation Controlled Heat Transport Tube: An Application of Shuttle Heat Transfer	Jitendra Patil