

First Annual Webinar : 28th & 29th January 2022

Aero Gas-Turbine Engine Development in India

Organised By: Design Division of Aeronautical Society of India (AeSI), Gas Turbine Research Establishment (GTRE) and Centre of Excellence for Propulsion Technologies (CoPT)

Program Schedule

DAY – 1 : 28th January 2022 –Friday

INAUGURAL SESSION

Time	Duration	Program	Speaker
09:00am to 09:10am	10 mins	Welcome Address	Dr K Ramachandra, Former Director, GTRE
09:10am to 09:40am	30 mins	Address by Chief Guest	Dr V K Saraswat, Former Director General of DRDO and Member of NITI Ayog
09.40am to 09:50am	10 mins	The Webinar Program	Dr SV Ramana Murthy, GTRE

THEME : INDIGENOUS GAS TURBINE AEROENGINE DEVELOPMENT

Time	Duration	Topic	Speaker
09:50am to 10:20am	30 mins	Challenges in Indigenous development of Aero Gas Turbine Engines	Shri M Z Siddique, Director GTRE
10:20am to 10:50am	30 mins	Indigenous Aero Gas Turbine Engine Development at HAL	Shri K Ramesh, GM AERDC, HAL
10:50am to 11:20am	30 mins	Propulsion System Development Programs at NAL	Shri R Prathapanayaka, NAL
11:20am to 11:50am	30 mins	Progression of Private Industries from Contract Manufacturing to System Development	Shri J Vinod Kumar, BFL

THEME : CRITICAL TECHNOLOGIES FOR NEXT-GEN AERO-ENGINES

11:50am to 12:15pm	25 mins	Requirements for Future Generation Fighter Gas Turbine Engines	Dr S V Ramana Murthy, GTRE
12:15pm to 12:40pm	25 mins	Fan Blade Flutter: Engine Operability and Engine Integrity	Shri Ajay Pratap, GTRE

12:40pm to 01:10pm – LUNCH BREAK

01:10pm to 01:35pm	25 mins	Engine Flow Distortion: Influence on Performance and Operability	Prof K Sudhakar, Former Prof IITB & R Jolly
01:35pm to 02:00pm	25 mins	Combustor Atomiser, Temperature Pattern Factors and High Altitude Performance	Prof S R Chakravarthy, IITM
02:00pm to 02:25pm	25 mins	Advanced Turbine Technologies, Materials and Processes	Dr S V Ramana Murthy, GTRE
02:25pm to 02:50pm	25 mins	After Burner Screech	Dr S Ganesan, GTRE

02:50 pm to 03:00 pm – TEA BREAK

03:00pm to 03:25pm	25 mins	Aero Engine Signature Studies using Infrared Cross Section (IRCS)	Prof Shripad Mahulikar, IITB
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03:25pm to 03:50pm	25 mins	Future Generation Engine Control System	Shri A N Viswanatha Rao,GTRE
PANEL DISCUSSION ON TECHNOLOGIES/INFRASTRUCTURE			
03:50pm to 04:35pm	45 mins	<ul style="list-style-type: none"> National Level Manufacturing and Testing Facilities Stealth Technologies for Next Generation Aero Gas Turbine Engines 	Moderator: Dr Kota Harinarayana, Former Program Director-LCA, Director-ADA & Chairman, Design Division, AeSI Panellists: <ul style="list-style-type: none"> Shri M Z Siddique, Director, GTRE Shri K Ramesh, GM AERDC, HAL Shri Jitendra J Jadhav, Director, NAL Dr Debasis Chakraborty, Director CoPT, IITB Prof Shripad Mahulikar, IITB
DAY – 2 : 29th January 2022 –Saturday			
Time	Duration	Topic	Speaker
THEME: ADVANCED TECHNOLOGIES FOR NEXT-GEN AERO-ENGINES			
09:00am to 09:25am	25 mins	Damage Tolerant Design Technology for Next-Gen Aero-Engines	Dr Vikas Kumar Saxena, Former Director, DMRL
09:25am to 09:50am	25 mins	Ceramic Matrix Composites for Hot-End Parts of Aero-Engines	Dr A Uday Kumar, NAL
THEME : MAINTAINANCE REQUIREMENTS FOR AERO ENGINES			
09:50am to 10:15am	25 mins	Maintain to Sustain! - Requirements of Maintainability of an Aero Engine	Gp Capt K Giri, IAF
THEME : DEVELOPMENT OF AERO-ENGINE ACCESSORIES			
10:15am to 10:40am	25 mins	Development and Certification of High-Speed Aero-Engine Bearings	Dr Soumendu Jana, NAL
10:40am to 11:05am	25 mins	Design and Development of Fuel System	Shri K Lingamoorthy, Chief Manager, HAL
THEME : DRDO ACADEMIA INTERACTION			
11:05am to 11:35am	30 mins	Synergy between DRDO and Academia to develop technologies for Aero Engines	Dr Debasis Chakraborty, Director CoPT, and Shri Kishore Prasad, GTRE
Turbomachinery			
11:35am to 12:00pm	25 mins	Inflow distortion and its propagation in a transonic fan-duct configuration	Prof A M Pradeep, IITB

Combustion			
12:00pm to 12:25pm	25 mins	Development of Nano-Boron Slurry Fuels, Characterization and Atomization with Co-axial Air-Blast Atomizers	Prof S R Chakravarthy, IITM
12:25pm to 12:50pm	25 mins	Combustion Characteristics of Boron Impregnated slurry fuel	Prof Bhaskar Dikshit, Jain University
12:50pm to 01:20pm - LUNCH BREAK			
01:20pm to 01:45pm	25 mins	Advances in Modelling and Simulation of Combustion Processes	Dr K Aditya , IISc
01:45pm to 02:10pm	25mins	After Burner Thrust Vectoring	Prof Abhijit Kushari, IIT Kanpur
Structural Mechanics			
02:10pm to 02:35pm	25 mins	Modelling and Analysis of Mistuned Rotor Blade Systems	Prof S F Ali, IITM
THEME: ADVANCED MATERIALS AND MANUFACTURING TECHNOLOGIES			
02:35pm to 03:00pm	25 mins	Aero Engine Materials, Coatings and Indigenous Efforts	Shri B V A Patnaik,GTRE
03:00pm to 03:25pm	25 mins	Advancements in Single-Crystal Blade/Vane Castings	Dr D K Das, DMRL
03:25pm to 03:50pm	25 mins	Challenges in Additive Manufactured Gas-Turbine Components & Certification	Dr. U Chandrasekhar ,WIPRO
03:50 pm to 04:15 pm	25 mins	Advanced Casting & Forging Processes for Gas Turbine Engine	Shri Kallol Bhattacharya , HAL(K)
04:15pm to 04:25pm TEA BREAK			
04:25 pm to 04:50pm	25 mins	Development and Certification Test Facilities for Turbo shaft Engines	Shri Girish Degaonkar,HAL
04:50 pm to 05:15pm	25 mins	Module and Engine Test Facilities: Status and Requirements	Dr A C Bhaskar,GTRE
PANEL DISCUSSION ON CERTIFICATION			
05:15pm to 06:00pm	45 mins	<ul style="list-style-type: none"> Reforms In Engine Certification Processes for Ab-Initio Engine Development: Indian Scenario Characterization of Additive Manufactured Engine Components & Certification. 	<p>Moderator:-Prof BN Raghunandan, Former Prof. IISc- Bangalore.</p> <p>Panellists:</p> <ul style="list-style-type: none"> Shri D Roy,GTRE Shri K Ramesh, GM AERDC, HAL Shri A P V S Prasad, CE, CEMILAC Dr. U Chandrasekhar ,WIPRO
Vote of Thanks : V Pandurangi, GTRE			