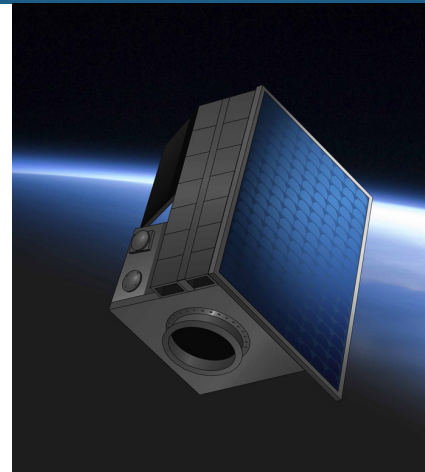# AEROSPACE TECHNOLOGY CONGRESS 2016

Swedish Aerospace Technology in a Globalised World

OCTOBER 11-12
Quality Hotel Friends, Solna, Stockholm

Invitation
&
Preliminary Programme

FLYG- OCH RYMDTEKNISKA FÖRENINGEN
SWEDISH SOCIETY FOR AERONAUTICS AND ASTRONAUTICS

INNOVAIR STRATEGIC INNOVATION PROGRAMME AERONAUTICS

Welcome to
the 9th Aerospace Technology Congress

The Swedish Society of Aeronautics and Astronautics (FTF) in cooperation with the Strategic Innovation Programme Aeronautics (Innovair) welcome you to the Swedish Aerospace Technology Congress at Quality Hotel Friends, Solna – Stockholm, 11-12 October 2016.

The Congress, which is the ninth triennial congress arranged by FTF, has become well established as the forum for Swedish aerospace technology. The aim is to promote research as well as technical and industrial development in the aerospace sector and also to create stimuli for higher education in aerospace.

The Aerospace Technology 2016 is open to persons who are active in aerospace and it focuses on engineering development, industrial restructuring, relevant applications, and user benefits.

The Congress will begin and end with plenary presentations by invited speakers.

Enterprises, companies and research establishments are invited to exhibit their products in the adjacent display area.

Welcome to Solna - Stockholm and the AEROSPACE TECHNOLOGY 2016!

Roland Karlsson, Chairman FTF   Anders Blom, Program Director INNOVAIR

PROGRAMME COMMITTEE:

Kaj Lundahl, Chairman	Christina Ahremark	Oscar Hag
Roland Karlsson	Odd Romell	Robert Lundberg
Björn Jonsson	Lasse Karlsen	Tomas Melin
Knut Övrebö	Per Ingvarson	Olle Bååthe
Anders Blom	Vijay Sharan	
Petter Krus	Emil Vinterhav	

ORGANISING COMMITTEE:

Roland Karlsson, Chairman	Oscar Hag
Kaj Lundahl	Caroline Knies
Anders Blom	Anna Linderoth
Olle Bååthe	

PRELIMINARY PROGRAMME

TUESDAY 11 OCTOBER

08.00	Registration
09.00	**Opening ceremony**, FTF chair Roland Karlsson, Brazilian Ambassador Marcos Pinta Gama
09.10	**USAF Research & Development,** Major General Robert D. McMurry Jr., US Air Force
09.40	**Importance of Aeronautics in Sweden**, Hans G Petterson, Dep of Trade and Innovation
10.00	**Air Force Development,** Magnus Liljegren, Head of Training & Development, Air Force, Swedish Armed Forces
10.20	**Saab´s vision**, Ulf Nilsson, CEO, Saab Aeronautics
10.40	COFFEE
11.00	**GKN Aerospace R&T centre in Trollhättan**, Sweden. Henrik Runnemalm, Technical Director, GKN Aerospace
11.20	**Swedish Aeronautical Innovation System**, Charlotte Brogren, General Director, Vinnova
11.40	**Sweden and Space – Investments in Research and Development for the Benefit of Society**, Olle Norberg, General Director, Swedish National Space Board
12.00	LUNCH
13.00	Parallel, technical sessions
15.00	COFFEE
15.30	Parallel, technical sessions
17.00	POSTER SESSION
19.30	Congress Dinner at Quality Hotel Friends

WEDNESDAY 12 OCTOBER

08.30	Parallel, technical sessions
10.00	COFFEE
10.30	Parallel, technical sessions
12.00	LUNCH
13.00	**Small and Medium Enterprises in Aeronautics**, Börje Andermård, Director, Brogren Industies
13.20	**Embraer future strategies**, Francisco De Assis Ferreira Gomes, Program Director Technology Development Embraer S.A.
13.40	**ATI UK Strategy in aerospace**, Simon Weeks, Chief Technology Officer, ATI
14.00	**Clean Sky II**, Ron van Manen, Programme Manager, Clean Sky II
14.20	**Airbus,** Torsten Bardewyck, Head of Business Development European Affairs, Airbus
14.40	**SESAR 2020**, Michael Standar, Chief Strategy & External Affairs, SESAR
15.00	COFFEE
15.30	**Global Space Trends & Driving Forces**, Stefan Gardefjord, CEO, Swedish Space Corporation
15.50	**Swedish space systems in a globalized world**, Gierth Ohlsson, Managing Director, OHB Sweden
16.10	**Global market presence – strategy for innovation and growth**, Folke Brundin, Marketing Director, RUAG
16.30	Conclusions FTF chair Roland Karlsson

PRELIMINARY TECHNICAL PROGRAMME

Tid	SESSION A	SESSION B	SESSION C
13.00-15.00	**Major cooperative projects I**	**Sub-system and system technology I**	**Sub-system and system technology II**
	MIDCAS - Managing Complex Cooperative F&D	*Aircraft Systems*	*EWS, Radar Develepment*
	Chair: Knut Övrebö	*Chair: Birgitta Lantto*	*Chair: Odd Romell*
	A1: Mid-air collision avoidance for RPAS – Findings from MIDCAS. **Bengt-Göran Sundqvist, Saab AB**	B1: Robust MRAC augmentation of flight control laws for centre of gravity adaptation. **Daniel Simon, Saab Aeronautics**	C1: Spiral Development of Radar and Electronic Warfare RF Sensors – It's about Critical Mass. **Fredrik Wising, Saab AB**
	A2: Detect and avoid for Remoely Piloted Aircraft in Air Traffic Controll Simulations. **Jens Alfredson, Linköping University/Saab Aeronautics**	B2: Human Pilot Modeling: Cognitive Architecture and System Identification applied to experimental data. **Felipe Turetta, EMBRAER**	C2: Pushing the envelope with Gallium Nitride technology. **Johan Carlert, Saab AB**
	A3: Dynamics of trust, control and risk in complex collaborative innovation projects. **Gunnar Holmberg, Saab Aeronautics**	B3: Design decision and technology readiness assessment for aircraft electrical power systems. **Luciana Pereira, UFABC**	C3: What's inside the building? **Patrik Dammert, Saab AB**
	A4: Managing coopetitive R&D Projects of Complex Product System - A case of an European R&D Consortium. **Jose Franca, Linköping University**	B4: Assessment of the influence on the fuel dilution with combustion products in the energy use. **Nattan Roberto Caetano, Federal University of Santa Maria - UFSM**	C4: Iterative Change Detection Algorithm for Low-Frequency UWB SAR. **Renato Machado, UFSM**
	COFFEE		
15.30-17.00	**Major cooperative projects II**	**Environmentally friendly technology I**	**Aircraft and spacecraft system analysis III**
	Gripen and T-X	*Sustainable Flight Operation*	*Future Combat Air Systems*
	Chair: Anders Blom	*Chair: Knut Övrebö*	*Chair: Roger Larsson*
	A5: Saab and Embraer a true partner co-operation within the Gripen NG Brazil Program. **Linus Narby, Saab Aeronautics**	B5: The VINGA Project. **Henrik Ekstrand, Novair**	C5: Exploration of Future Combat Air System in a 2040 perspective. **Stefan Andersson, Saab Aeronautics**
	A6: Analysis of Technology Transfer Mechanisms for the Defense Industrial Complex in Brazil. **Alcides Neto, UFSCar**	B6: SAFT Simulering av Atmosfär och Flygtrafik för en Tystare omvärld. Ulf Tengzelius,	C6: How to integrate and validate disruptive technologies within Future Combat Air System. **Peter Furenbäck, Saab Aeronautics**
	A7: Saab and Boeing Cooperation on the new T-X Advanced Pilot Training System. **Tomas Karlsson, Saab Aeronautics**	B7: Lean-Integrated Management System for Sustainability Improvement: Aerospace Industry Application. **Prof. Dr. Luis Gonzaga Trabasso**	C7: Artificial Bandits and Wingmen – A Framework for FCAS Scenario Analysis. **Henrique Marques, Aeronautics Institute of Technology**

PRELIMINARY TECHNICAL PROGRAMME

Tid	SESSION D	SESSION E	SESSION F
13.00-15.00	**Sub-system and system technology III**	**Aircraft and spacecraft system analysis I**	**Aircraft and spacecraft system analysis II**
	Space Systems	*Airframe Modelling*	*Methods and Tools for Design & Analysis I*
	Chair: Björn Kullberg	*Chair: Anders Blom*	*Chair: Björn Jonsson*
	D1: Cots paving the road for Global Internet Coverage. **Per-Olof Lindqvist, RUAG Space AB**	E1: Aircraft Concepts Modelling with Subdivision Surfaces. **Christopher Jouannet, Saab Aeronautics**	F1: Model Based Design within Conceptual Aircraft Design. **Ingo Staack, Linköping University**
	D2: Enabling advanced missions on small platforms by cost effective avionics in the CubeSat form factor. **Dan Ohlsson, ÅAC Microtec AB**	E2: Time Domain Dynamic Simulations of Locally Nonlinear Large-Scale System. **Andreas Linderholt, Linnaeus University**	F2: Models Based on Singular Value Decomposition for Aircraft Design. **Petter Krus, Linköpings Universitet**
	D3: Single-Event Upset Detector Based on COTS FPGA. **Johnny Öberg, KTH**	E3: Inverse simulation applied to an aeroelastic aircraft. **Euler Goncalves Barbosa, Condax Tecnologia**	F3: Computation of aerodynamic sound with aeroacostic analogies using a low dispersion numerical method. **Raphaela Carvalho Machado, ITA**
		E4: Derivation of world largest KI-data base for twin cracks at countersunk holes. **Börje Andersson, Private company BARE**	F4: Closed-loop Identification of Rigid-body Aircraft using Subspace Methods. **Raphaela Carvalho Machado, ITA**
	COFFEE		
15.30-17.00	**Sub-system and system technology IV**	**Sub-system and system technology V**	**Aircraft and spacecraft system analysis IV**
	Integrated EW Systems	*Engine Research and Development*	*System Concept and Concept Evaluation*
	Chair: Björn Kullberg	*Chair: Mårten Staaf*	*Chair: Emil Vinterhav*
	D5: Future sensor combat. **Anders Höök, SAAB AB**	E5: Methods to account for the effect of water and ice ingestion on compressor performance. **Lars Ellbrant, GKN Aerospace**	F5: Prediction of Physiological and Psychological Crew Performance under Various Thermal Conditions. **Jörg Schminder, Linköpings universitet**
	D6: Evaluation of Interoperable Open Architecture's by means of Capability Development in the Mission Planning Domain. **Ella Olsson, Saab Aeronautics**	E6: Autonomous powering of wireless sensors for gas turbine applications. **Peter Enoksson, Chalmers**	F6: The Virtual TUrbine Module Demonstrator (VITUM) research project. **Peter Johansson, GKN Aerospace**
	D7: Airborne surveillance of sea surface activities –what technology is needed for improved effectiveness? **Heike Schneider, Sjöland & Thyselius**	E7: An approach to support robust design and identify producibility parameters for jet engine components. **Johan Vallhagen, GKN Aerospace**	F7: 25824: Experimental evaluation of the contribution of adding a motion system to an EDS. **Anderson Harayashiki Moreira, Instituto Mauá de Tecnologia**

PRELIMINARY TECHNICAL PROGRAMME

Tid	SESSION G	SESSION H	SESSION I
13.00-15.00	**Aircraft and spacecraft technology I**	**Aircraft and spacecraft technology II**	**Aircraft and spacecraft technology III**
	Flow Control. Subscale Flight Testing	*Intake Design and Analysis*	*Survivability and Stealth*
	Chair: Petter Krus	*Chair: Tomas Melin*	*Oscar Hag*
	G1: Numerical study of leading-edge flow control on a low signature UCAV. **Magnus Tormalm, Swedish Defence Research Agency**	H1: Integrated Duct Aerodynamics. **Elias Siggeirsson, Chalmers University of Technology**	I1: The future of low-signature platforms. **Anders Höök, Saab AB**
	G2: Subscale flight testing of a generic fighter aircraft. **David Lundström, Linköpings University**	H2: Aerodynamic analysis of the influence of canopy shape in the supersonic dorsal intake design. **Fernando Martini Catalano, University of São Paul**	I2: Electromagnetic Characterization of Composite Structures. **Torleif Martin, Saab Aeronautics**
	G3: Subscale Ground and Flight Testing Methodologies for Advanced Aircraft Design. **Roberto Silva, IVA**	H3: Experimental Aerodynamic Analysis of a Fighter Aircraft with a Canard, Forward Swept Wing and Dorsal Intake operating at high incidences. **Fernando Catalano, University of Sao Paul**	I3: Analysis of radar cross section and wave drag reduction of fighter aircraft. **Raghu Munjulury, Linköpings University**
	G4: Wind Tunnel Experiments of Winglet, C-wing, Droop and Fences coupled to a ”Blended Wing Body” Model. **Hernàn Ceron-Muños**	H4: Hybrid RANS-LES simulations for prediction of inlet distortion on the Gripen E fighter. **Sebastian Arvidson, Saab Aeronautics/Chalmers**	I4: BaToLUS – European programme for including increased battle damage resistance technology in UAV design and development. **Niclas Persson, Saab AB**
	COFFEE		
15.30-17.00	**Aircraft and spacecraft system analysis V**	**Aircraft and spacecraft technology V**	**Aircraft and spacecraft technology VI**
	Methods and Tools for Design & Analysis 2	*Aerodynamic Modelling, CFD*	*Propulsion Technology 1*
	Chair: Vijay Sharan	*Chair: Hans Mårtensson*	*Chair: Oscar Hag*
	G5: Schedulability analysis and worst case execution time estimation in cyber physical systems. **Abdeldjalil Boudjadar, Linköpings Universitet**	H5: Zonal hybrid RANS-LES modeling using a Low-Reynolds-Number $k - \omega$ approach. **Sebastian Arvidson, Saab Aeronautics/Chalmers**	I5: VINK - Virtual Integrated Compressor Demonstrator. **Nenad Glodic, KTH Royal Institute of Technology**
	G6: Efficient Worst-case Analysis of Mechatronic Systems with Parametric Uncertainty. **Moises Ferber, Federal University of Santa Catarina**	H6: General Sensitivities For Euler Flows Using The Adjoint Method. **Marcelo Hayashi, University of São Paulo**	I6: Optimization of transonic axial compressor blades. **Marcus Lejon, Chalmers University of Technology**
	G7 : Knowledge-based flight control sysem and control surfaces integration in rapid. **Raghu Chaitanya Munjulury, Linköping University**	H7: Modal Analysis of Separated Nozzle Flow. **Ragnar Lárusson, Chalmers University of Technology**	I7: Multidisciplinary Optimization for Integrated Design of Aero-engine Components. **Visakha Raja, GKN Aerospace**

PRELIMINARY TECHNICAL PROGRAMME

Time	SESSION J	SESSION K	SESSION L
13.00-15.00	**Aircraft and spacecraft technology IV**	**New materials and processes I**	**New materials and processes II**
	Applied Aerodynamics:	*Advanced Manufacturing Processes*	*Composite Structures*
	Chair: Lasse Karlsen	*Chair: Vijay Sharan*	*Chair: Hans Ansell*
	J1: A summary of the AFRODITE project: Advanced Fluid Research On Drag reduction In Turbulence Experiments. **Jens Fransson, KTH - Royal Institute of Technology**	K1: Analysis of superplastic forming process applied to aerospace industry: Case study of AL 5083 alloy. **Daniel Pereira, Institute for Technological Research**	L1: Static and fatigue failure of bolted joints in hybrid composite-aluminium aircraft structures. **Zlatan Kapidzic, Saab AB**
	J2: Disciplinary Data Fusion of Aerodynamic Database for Flight Simulation. **Mengmeng Zhang, Airinnova AB**	K2: Keyhole laser process for welding Titanium alloy: modelling and experiment. **Josefine Svenungsson, University West**	L2: Methodology for fatigue damage prediction in NCF composites for applications in aircraft engines. **Andrejs Pupurs, Lulea University of Technology**
	J3: Countermeasure Aerodynamics. **Torsten Berglind, FOI**	K3: Numerical modeling of Weld Hot Crack Nucleation in Nickel-Based Super-alloys. **Joar Draxler; Luleå University of Technology**	L3: Low Cost Manufacturing and Assembly of Composite and Hybrid Structures. **Magnus Engström, SAAB Aeronautics**
	J4: Multi-objective Aerodynamic Optimization of an Unmanned Aerial Vehicle. **Edna Raimunda Da Silva, MDH Mälardalen University**	K4: Microstructure variations in Ti-6Al-4V manufactured with different additive manufacturing processes. **Magnus Neikter, Luleå University of Technology/GKN-Aerospace**	L4: Damage tolerance of composite sandwich structures with thick face sheets. **Moeen Rajput, KTH Royal Institute of Technology**
	COFFEE		
15.30-17.00	**Aircraft and spacecraft system analysis VI**	**New materials and processes III**	**New materials and processes IV**
	System Concept Studies	*Metal Alloys*	*Composites 1*
	Chair: Christina Ahremark	*Chair: Robert Lundberg*	*Chair: Tonny Nyman*
	J5: Teamwork in the Gripen F Two-Seater. **Anders Lundqvist, Saab Aeronautics**	K5: Examination of Electromagnetic Absorption Efficiency Base from the Additives of Mn-Zn Ferrites for Shielding in Electronic Equipments Aeronautic and Spatial. **Carlos Alberto Reis De Freitas, DCTA-IEAv**	L5: Effect of in-plane and out-of-plane waviness on the compressive strength of UD NCF-reinforced composites. **Leif Asp, Chalmers University of Technology**
	J6: Sensor model design for aircraft concept development. **Carina Marcus, Saab Aeronautics**	K6: Prediction of damage and fracture during forming simulations in Alloy 718. **Lluís Pérez Caro, Swerea IVF**	L6: Damage and Failure Prediction of Composite Rotorcraft blades under combined Bending-Torsion Loading. **Sylvain Langlo, State University of Campinas**
	J7: Measuring of operational usability within the Gripen E development. **Jonas Jeppsson, Saab Aeronautics**	K7: Modeling and validation of hot forming and mechanical cutting in Ti-6Al-4V. **Eva-Lis Odenberger, Swerea IVF**	L7: Effects of radius thinning on shape distortions of a composite beam. **Jens Sjölander, KTH**

PRELIMINARY TECHNICAL PROGRAMME

Tid	SESSION M
13.00-15.00	**Operational availability, maintenance and support I**
	Operational Availability, Maintenance and Support
	Chair: Olov Candell
	M1: Aircraft Maintenance Data Evaluation Method Applied to Integrated Product Development Process. **Luís Gonzaga Trabasso, Linköping University**
	M2: Interoperable and Agile Maintenance Planning, **Ella Olsson, Saab Aeronautics**
	M3: The Development of Aerologlab-ITA at the Aeronautics Institute of Technology. **Fernando Teixeira Mendes Abrahão, ITA**
	M4: Prognosis performance and management for efficient planning of aircraft engine maintenance. **Johan Vallhagen, GKN**
	COFFEE
15.30 17.00	**Operational availability, maintenance and support II**
	Operational Availability, Maintenance and Support
	Chair: Olle Bååthe
	M5: Prognosis performance and management for efficient planning of aircraft engine maintenance. **Veronica Fornlöf, GKN Aerospace**
	M6: Case study Swedish NH90 (HKP 14) - Decision support and cost savings through optimization, modelling and simulation. **Johan Elfvik, Systecon AB**

19.30
Congress Dinner
at Quality Hotel Friends

PRELIMINARY TECHNICAL PROGRAMME

Time	SESSION A	SESSION B	SESSION C
08.30-10.00	**Major cooperative projects II**	**Environmentally friendly technology II**	**Aircraft and spacecraft system analysis VII**
	Space and Civil Aircraft	*Propulsion and Space*	*Simulation 1*
	Chair: Robert Lundgren	*Chair: Daniel Granquist*	*Chair: Björn Kullberg*
	A8: Esrange Space Center – A Future Center of Excellence for Cubesats. **Anna Rathsman, SSC**	B8: An Intergrated Aeroacoustics Framework for Subsonic Aircraft and Engines. **Fakhre Ali, Chalmers University of Technology**	C8: Tool Support for Credibility Assessment of Aircraft System Simulators. **Magnus Eek, Saab Aeronautics**
	A9: GF Demo project "Next Generation Composite Structures for Civil aircraft". **Maria Weiland, SAAB AB**	B9: Overview of the development of green rocket propellants. **Niklas Wingborg, FOI**	C9: Experimental Evaluation of a Robotic Flight Simulator based on FOQA. **Diego Arjoni, ITA-Instituto Tecnológico de Aeronáutica**
	A10: GKN Aerospace involvement the Clean Sky engine demonstrators. **Robert Lundberg, GKN Aerospace**	B10: The MATS micro satellite mission – tomographic perspective on the mesosphere. **Niclas Larsson, OHB Sweden AB**	C10: Modeling Functional Specifications of Ground Systems in the National Airspace System. **Christian Krantz, KTH**
	COFFEE		
10.30-12.00	**Major cooperative projects III**	**Aircraft and spacecraft system analysis X**	**Aircraft and spacecraft system analysis XI**
	Propulsion	*Space Systems*	*Simulation 2. Auto Landing System*
	Chair: Petter Krus	*Chair: Per Ingvarsson*	*Chair: Odd Romell*
	A11: ULTIMATE - Ultra Low emission Technology Innovations for Mid-century Aircraft Turbine Engines. **Tomas Grönstedt, Chalmers University of Technology**	B11: Bluestone – A system for optimizing downlink utilization in earth observation applications through smart selection and prioritization of data. **Emil Vinterhav, ÅAC Microtec**	C11: Grey-box Modelling of a Quadrotor Using Closed-loop Data. **Marcus Bäck, Saab Aeronautics**
	A12: The Pratt & Whitney PW1000G engine family; Past, present and future for GKN Aerospace. **Marcus Borg, GKN Aerospace Sweden AB**	B12: The role of Sweden in the Golden Age of Mars Exploration. **Javier Martin-Torres, Luleå University of Technology**	C12: Formal Modeling of Run-Time Reconfigurable SoCs for Fault Tolerance Avionics Applications. **Ingo Sander, KTH Royal Institute of Technology**
	A13: Research in the INNOVAIR Turbomachinery cluster. **Hans Mårtensson, GKN Aerospace Engine Systems**	B13: The Conceptual Design of a Horizontal Take-off and Landing, Reusable Satellite Launcher. **Luciano Barbosa, Condax Tecnologia**	C13: Longitudinal automatic landing system using robust QFT controller for a military aircraft. **Adriellen Sousa, IFSC**

PRELIMINARY TECHNICAL PROGRAMME

Time	SESSION D	SESSION E	SESSION F
08.30-10.00	**Sub-system and system technology VI**	**Sub-system and system technology VII**	**Aircraft and spacecraft system analysis VIII**
	Avionics System Design, IMA	*Navigation, Tracking*	*Safety 1*
	Chair: Ingemar Söderquist	*Chair: Roger Larsson*	*Chair: Emil Vinterhav*
	D8: Gripen E Avionics Architecture - the new frontline against cost and complexity. **Pär Hammarström, Saab Aeronautics**	E8: Inertial-Vision Navigation with Support from a Flat Terrain Map. **Zoran Sjanic, Saab Aeronautics**	F8: An Integrated Approach for Safety and Security Analysis in Embedded Systems Development. **Celso Hirata, Instituto Tecnológico de Aernáutica**
	D9: Efficient Correct-by-Construction Design of Avionics Systems. **Ingo Sander, KTH Royal Institute of Technology**	E9: Real Time Embedded Image Processing System for Autonomous Unmanned Aerial Vehicles. **Edison Pignaton De Freitas, Federal University of Rio Grande do Sul**	F9: : Hidden failure scenarios of an aircraft collector fuel tank. **Heitor Azuma Kagueiama, Federal University of Santa Catarina**
	D10: IMA Platform Computing Module based on Partial Reconfigurable FPGA. **Rodrigo Romero, ITA**	E10: Uncertainty Determination of Real-Time Optical Tracking System used for External Store Separation. **Nelson Leite, Instituto de Pesquisas e Ensaios em Voo (IPEV)**	F10: STPA: A new Aerospace system safety analysis. **Carlos Lahoz, Instituto de Aeronautica e Espaco-IAE (Brazil) & Massachusetts Institute of Technology-MIT (USA)**
	COFFEE		
10.30-12.00	**Sub-system and system technology VIII**	**Sub-system and system technology IX**	**Aircraft and spacecraft system analysis XII**
	Avionics System Design, cont.	*ISR and Space Systems*	*Safety 2*
	Chair: Daniel Simon	*Chair: Lasse Karlsen*	*Chair: Emil Vinterhav*
	D11: Towards Runtime Adaptivity by using Models of Computation for Real-Time Embedded Systems Design. **Denis Loubach, University of Campinas - UNICAMP**	E11: RAAISR: intelligent ISR data node in the sky. **Bob Moll, Spacemetric B.V.**	F11: Using the Unscented Transform to Assess Systems Reliability. **Jose Edil Guimaraes De Medeiros, University of Brasilia**
	D12: Real-Time Reconfiguration Approach Based on Efficient Deep Learning Diagnosis of Embedded Systems. **Euripedes Nobrega, University of Campinas**	E12: Opportunity Concepts of Aerospace Testing at Esrange Space Center, **Mattias Abrahamsson, SSC**	F12: Influence of the device positioning inside aircraft on its SEU rate. **Adriane Prado, Instituto Tecnológico de Aeronáutica**
	D13: A practical Study on WCET Estimation on Multicore Processors for Avionics Applications. **Edison Pignaton De Freitas, Federal University of Rio Grande do Sul**	E13: Antenna design and optimization for nanosatellites communications. **Lucas Travassos, UFSC**	F13: Mercury: An Integrated Environment for Performance and Dependability Evaluation of Systems. **Danilo Oliveira, Federal University of Pernambuco**

PRELIMINARY TECHNICAL PROGRAMME

Time	SESSION G	SESSION H	SESSION I
08.30-10.00	**Aircraft and spacecraft technology VII**	**Aircraft and spacecraft technology VIII**	**Aircraft and spacecraft technology IX**
	Spacecraft Technology	*Propulsion Technology 2*	*Structural Technology*
	Chair: Odd Romell	*Chair: Tomas Melin*	*Chair: Oscar Hag*
	G8: The HABIT (Habitability, Brine Irradiation and Temperatur) instrument for the ExoMars Surface Platform. **Javier Martin-Torres, Luleå University of Technology**	H8: An Overview of the MOT-STRÖM Project: Motståndsminskning för Strömningsytor i Kompressor. **Bengt Fallenius, KTH Mechanics**	I8: Influence of type of discrete modeling of fasteners in FEM models of composite materials. **Rodrigo Martins, Embraer**
	G9: Analysis of REXUS12's Suaine-adh Experiment: Centrifugal Force Deployment of Space Web from Sounding Rocket. **Huina Mao, KTH Royal Institute of Technology**	H9: Performance Analysis of Gas Turbine Blade Cooling on Aero Gas Turbine Cycle. **Lucilene Silva, Technological Institute of Aeronautics (ITA)**	I9: Input-Output and Operational Modal Analysis of a High Aspect Ratio Flexible Unmanned Aerial Vehicle using Accelerometers and Strain Sensors. **Luiz Carlos Góes, ITA-Instituto tecnologico de Aeronautica**
	G10: Modelling and control of a long flexible guyed structure. **Paola Gonzalez Ramos, UNICAMP**	H10: An optimization platform for high speed propellers. **Alexandre Capitao Patrao, Chalmers University of Technology**	I10: Topology optimization of an aircraft component as a fluid-structure system with unstructured mesh. **Walter Casas, Federal University of Rio Grande do Sul**
	COFFEE		
10.30-12.00	**Aircraft and spacecraft technology X**	**Aircraft and spacecraft technology XI**	**Aircraft and spacecraft technology XII**
	Materials and Structural Technology	*Weapons Integration. Man Machine Interface*	*Unsteady Aerodynamics, Aeronautical Engineering*
	Chair: Tomas Melin	*Chair: Christina Ahremark*	*Chair: Oscar Hag*
	G11: An invariant-based design approach to carbon fiber reinforced polymer composite laminates. **Jose Daniel Melo, Federal University of Rio Grande do Norte**	H11: Nonlinear aeroelastic analysis of fighter-like aircraft with external stores. **Anders Karlsson, Saab Aeronautics**	I11: Studies on strategies for flutter speed optimization through fiber orientation. **Carlos Eduardo De Souza, Federal University of Santa Maria**
	G12: Conceptual structural airframe design using topology optimization. **Erik Holmberg, Saab Aeronautics**	H12: Cost and Time Efficient Gripen Weapon Integration. **Gideon Singer, Saab AB**	I12: Elementary source arrays in the synthesis of acoustic fields due to turbulent fluctuations around fuselage panels. **Eduardo Bauzer-medeiros, Universidade Federal de Minas Gerais**
	G13: Liquid feedstock plasma spraying - an emerging process for the next generation aircraft engines. **Nicolaie Markocsan, University West**	H13: Airborne man-machine interface -aspects of airborne operations and the aid for the user. **Heike Schneider, Sjöland & Thyselius**	I13: A Swedish national Competence Cluster in Aeronautical Engineering. **Roger Larsson, Saab Aeronautics**

PRELIMINARY TECHNICAL PROGRAMME

Time	SESSION J	SESSION K	SESSION L
08.30-10.00	**Aircraft and spacecraft system analysis IX**	**New materials and processes V**	**New materials and processes VI**
	Efficient Design, Development and Manufacturing	*Manufacturing Methods*	*Composites 2*
	Chair: Per Ingvarsson	*Chair: Tomas Ireman*	*Chair: Tonny Nyman*
	J8: 2 Competencies development in an aerospace organization in the globalized world. **Lucio Amaro, Aeronautics Institute of Technology– ITA**	K8: Systematic redesign of manufacturing systems for aerospace. **Johan Vallhagen, GKN Aerospace Engine Systems**	L8: Assessment of fiber metal laminate panels reinforced with metallic pins deposited by welding. **Americo Scotti, Federal University of Uberlandia**
	J9: PTC Innovatum a Unique Arena for Production Research and Development. **Elis Carlström, Swerea IVF**	K9: Future-oriented dimensional management and production engineering metrology. **Richard Lindqvist, Saab Aeronautics**	L9: Prediction of post-cure residual stresses and distortions in the fabrication of composite structures. **Alfredo Faria, ITA**
	J10: Aircraft Interior Design Using Photorealistic Augmented Reality. **Bernardo Reis, Federal University of Pernambuco (UFPE)**	K10: Assessing form error through simulation platforms. **Anders Forslund, Chalmers**	
	COFFEE		
10.30-12.00	**Aircraft and spacecraft technology XIII**	**New materials and processes VII**	**New materials and processes VIII**
	Air Vehicle Systems Technology	*Engine Materials*	*Additive Manufacturing*
	Chair: Knut Övrebö	*Chair: Anders Blom*	*Chair: Richard Lindqvist*
	J11: Piezoelectric Crystals Application on Landing Gears for Harvesting Energy. **Jose Carlos Pereira, Federal University of Santa Catarina**	K11: The effect of microstructure and defects on mechanical properties of Ti6Al4V welds produced by different processes. **Sakari Tolvanen, Chalmers University of Technology**	L11: Influence of Process Parameters on Microstructure using Laser Metal Powder Deposition. **Andreas Segerstark, University West**
	J12: A synergetic methodology for mechatronic design parameters of an ideal landing gear. **Guaraci Bastos, Federal University of Pernambuco**	K12: Testing procedures for the evaluation of strain age cracking in nickel based superalloys. **Fabian Hanning. Chalmers University of Technology**	L12: A review of selective laser melting - Process parameters and its influence on microstructure, defects and strength in superalloy Alloy 718. **Tahira Raza, University West**
	J13: New perspectives on digital hydraulics for aerospace applications. **Lie P. G. Pinto, Linköping University**	K13: Hot Cracking in Nickel-Based Superalloys. **Sukhdeep Singh, Chalmers University of Technology**	L13: Additive Manufacturing in Sweden and its Application in the Space Industry. **Christo Dordlofva, Luleå University /GKN Aerospace**

PRELIMINARY TECHNICAL PROGRAMME

Time	SESSION M
08.30	**Operational availability, maintenance and support III**
	Operational Availability, Maintenance and Support. Structural Health Monitoring
	Chair: Catarina Lindholm
	M8: Mediated Reality for Aircraft Maintenance Procedures. **Bernardo Reis, Federal University of Pernambuco (UFPE)**
	M9: Tool for Aiding Maintenance Procedures with Augmented Reality. **Bernardo Reis, Federal University of Pernambuco (UFPE)**
	COFFEE
10.30-12.00	**Operational availability, maintenance and support IV**
	Structural Health Monitoring
	Chair: Hans Ansell
	M11: Aircraft distributed structural health monitoring based on φ-OTDR. **Carolina Franciscangelis, Unicamp**
	M12: Multiple Damage Detection in Plate Structure using Piezoelectric Array Sensors and 2D-MUSIC Spectrum. **Sergio Farias, Aeronautics Institute of Technology – ITA**
	M13: Structure Health Monitoring using Discrete Wavelet Transform and Piezoelectric Sensor Array. **Osamu Saotome, Aeronautics Institute of Technology – ITA**

For more information
please visit:
www.ft2016.se

POSTER SESSIONS

TUESDAY 11 OCTOBER

Time	Operational availability, maintenance and support	Aircraft and spacecraft system analysis	Sub-system and system technology
17.00-17.30	N1: Medical- and electronic mission equipment –how to comply with certification and maintenance requirements regarding aircraft installation? **Stefan Kuttainen, Sjöland & Thyselius**	O1: Analytical weight estimation of unconventional landing gear designs. **Raghu Chaitanya Munjulury. Linköping University**	P1: IoT Security. **Djamel Sadok, Universidade Federal de Pernambuco** P2: SEFIN - A Secure Emergency Fieldwork Network. **Djamel Sadok. Universidade Federal de Pernambuco**

Please register at:

www.ft2016.se

PRACTICAL INFORMATION

VENUE

The Congress is being held at Quality Hotel Friends, Råsta Strandväg 1, Solna, co-located with Friends Arena and Mall of Scandinavia in Solna, 8 minutes by train from Stockholm Central Station.
For more information about the conference venue and location please visit www.ft2016.se

PROGRAMME

The final programme will be presented at the Congress

REGISTRATION

The registration fee is SEK 5.900 + 25% VAT.
Students, SEK 4.900 + VAT
Early registration until 30 June, SEK 4.900 + VAT

The registration fee includes:
Admission to the Congress
Documentation
Daily lunch, coffee & tea
Congress dinner at Quality Hotel Friends on October 11th.

Please register at www.ft2016.se

ACCOMMODATION

The Secretariat has reserved a number of rooms at Quality Hotel Friends. Book your accommodation when registering for the Congress to a discounted price.

EXHIBITION

The exhibition is planned in direct connection to the meeting halls. Companies are invited to participate. Please contact the Secretariat for further information.

SECRETARIAT

Meetagain Konferens
Aerospace Technology 2016
Råsundavägen 13
SE-169 67 Solna
Telephone: +46-(0) 8 664 58 00
E-mail: ft2016@meetagain.se

SAAB

GKN AEROSPACE

Sjöland&Thyselius
Experts in Advanced Technology

AEROSPACE
CLUSTER
SWEDEN

AEROSPACE TECHNOLOGY CONGRESS 2016
Swedish Aerospace Technology in a Globalised world
www.ft2016.se