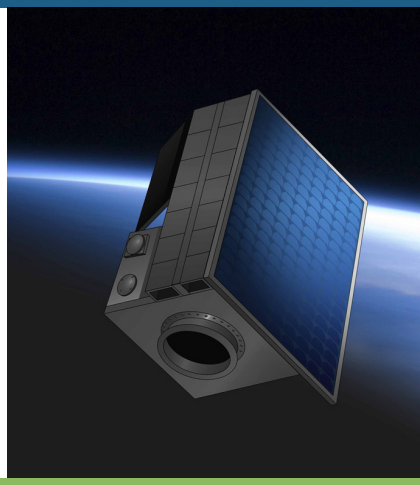
AEROSPACE TECHNOLOGY CONGRESS 2016

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
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Kaj Lundahl
Anders Blom
Olle Bååthe
Oscar Hag
Caroline Knies
Anna Linderoth

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**, TBD, Dep of Trade and Innovation
10.00	**Air Force Development,** Magnus Liljegren, Air Force Chief of Staff, FMV
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**, Fernando Ranieri (To be confirmed) Director, Embraer
13.40	**ATI UK Strategy in aerospace**, Simon Weeks, Chief Technology Officer, ATI
14.00	**Clean Sky II**, Ron von Manen, Programme Manager & Eric Dautriat, Executive Dirctor, Clean Sky II
14.20	**Airbus,** Garreth Williams, Manufacturing Manager & Torsten Bardwyck, Airbus
14.40	**SESAR 2020**, Florian Guillermet , Engineer & 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

TUESDAY 11 OCTOBER — Sessions A-C

Tid	SESSION A	SESSION B	SESSION C
13.00	**Aircraft and spacecraft system analysis I**	**Aircraft and spacecraft system analysis II**	**Sub-system and system technology I**
	System Concept Studies	***Space Systems***	***Aircraft Systems***
	A1: Teamwork in the Gripen F Two-Seater. **Anders Lundqvist, Saab Aeronautics**	B1: Bluestone – A system for optimizing downlink utilization in earth observation applications through smart selection and prioritization of data. **Emil Vinterhav, ÅAC Microtec**	C1: Robust MRAC augmentation of flight control laws for centre of gravity adaptation. **Daniel Simon, Saab Aeronautics**
	A2: Sensor model design for aircraft concept development. **Carina Marcus, Saab Aeronautics**	B2: The role of Sweden in the Golden Age of Mars Exploration. Javier **Martin-Torres, Luleå University of Technology**	C2: Human Pilot Modeling: Cognitive Architecture and System Identification applied to experimental data. **Felipe Turetta, EMBRAER**
	A3: Measuring of operational usability within the Gripen E development. **Jonas Jeppsson, Saab Aeronautics**	B3: The Conceptual Design of a Horizontal Take-off and Landing, Reusable Satellite Launcher. **Luciano Barbosa, Condax Tecnologia**	C3: Design decision and technology readiness assessment for aircraft electrical power systems. **Luciana Pereira, UFABC**
	A4: Ekranoplan for Cargo Transportation, **Ana Maria Minucci, Figwal Transportes Int. LTDA**	B4: System-Theoretic Process Analysis applied for a launch and rescue operation of the SARA space vehicle. **Jonas Fulindi, ITA**	C4: A health monitoring system for an electromechanical actuator used in aeronautical applications. **Rolf Henry Vargas Valdivia, Magnaghi Friuli Aerospace**
15.00	**COFFEE**		
15.30	**Major cooperative projects I**	**Environmentally friendly technology I**	**Aircraft and spacecraft system analysis V**
	Gripen and T-X	***Sustainable Flight Operation***	***Future Combat Air Systems***
	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. **João Paulo Souza, INPE**	C7: Artificial Bandits and Wingmen – A Framework for FCAS Scenario Analysis. **Henrique Marques, Aeronautics Institute of Technology**
17.00	**POSTER SESSION**		
17.30	**RECEPTION**		

PRELIMINARY TECHNICAL PROGRAMME

TUESDAY 11 OCTOBER — Sessions D-F

Tid	SESSION D	SESSION E	SESSION F
13.00	**Sub-system and system technology II**	**Sub-system and system technology III**	**Aircraft and spacecraft system analysis III**
	EWS, Radar Development	***Space Systems***	***Airframe Modelling***
	D1: Spiral Development of Radar and Electronic Warfare RF Sensors – It's about Critical Mass. **Fredrik Wising, Saab Aeronautics**	E1: Cots paving the road for Global Internet Coverage. **Patrik Sandin, RUAG Space AB**	F1: Aircraft Concepts Modelling with Subdivision Surfaces. **Christopher Jouannet, Saab Aeronautics**
	D2: Pushing the envelope with Gallium Nitride technology. **Johan Carlert, Saab AB**	E2: The use of Space qualified COTS data handling equipment for IXV. **Danny Gleeson, Curtiss-Wright**	F2: Time Domain Dynamic Simulations of Locally Nonlinear Large-Scale System. **Andreas Linderholt, Linnaeus University**
	D3: What's inside building? **Patrik Dammert, GKN Aerospace**	E3: Enabling advanced missions on small platforms by cost effective avionics in the CubeSat form factor. **Dan Ohlsson, ÅAC Microtec AB**	F3: Inverse simulation applied to an aeroelastic aircraft. **Euler Goncalves Barbosa, Condax Tecnologia**
	D4: Iterative Change Detection Algorithm for Low-Frequency UWB SAR. **Renato Machado, UFSM**	E4: Single-Event Upset Detector Based on COTS FPGA. **Johnny Öberg, KTH**	F4: Derivation of world largest KI-data base for twin cracks at countersunk holes. **Börje Andersson, Private company BARE**
15.00	**COFFEE**		
15.30	**Sub-system and system technology IV**	**Sub-system and system technology V**	**Aircraft and spacecraft system analysis VI**
	Integrated EW Systems	***Engine Research and Development***	***System Concept and Concept Evaluation***
	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**
17.00	**POSTER SESSION**		
17.30	**RECEPTION**		

PRELIMINARY TECHNICAL PROGRAMME

TUESDAY 11 OCTOBER — Sessions G-I

Tid	SESSION G	SESSION H	SESSION I
13.00	**Aircraft and spacecraft system analysis IV**	**Aircraft and spacecraft technology I**	**Aircraft and spacecraft technology II**
	Methods and Tools for Design & Analysis1	***Intake Design and Analysis***	***Survivability and Stealth***
	G1: Model Based Design within Conceptual Aircraft Design. **Ingo Staack, Linköping University**	H1: Integrated Duct Aerodynamics. **Elias Siggeirsson, Chalmers University of Technology**	I1: The future of low-signature platforms. Anders Höök, Saab AB
	G2: Models Based on Singular Value Decomposition for Aircraft Design. **Petter Krus, Linköpings Universitet**	H2: Aerodynamic analysis of the influence of canopy shape in the supersonic dorsal intake design. **Pedro David Bravo Mosquera, University of São Paul**	I2: Electromagnetic Characterization of Composite Structures. **Torleif Martin, Saab Aeronautics**
	G3: Knowledge-Based flight Control System and Control Surfaces Integration in rapid. **Raghu Chaitanya Munjulury, Linköping University**	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. **Uandha Barbosa, University of São Paulo**
	G4: Closed-loop Identification of Rigid-body Aircraft using Subspace Methods. **Raphaela Carvalho Machado, ITA**	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**
15.00	COFFEE		
15.30	**Aircraft and spacecraft system analysis VII**	**Aircraft and spacecraft technology IV**	**Aircraft and spacecraft technology V**
	Methods and Tools for Design & Analysis 2	***Aerodynamic Modelling, CFD***	***Propulsion Technology 1***
	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 – ω 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: Computation of aerodynamic sound with aeroacoustic analogies using a low dispersion numerical method. **Johan Hammar, Creo Dynamics AB**	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**
17.00	**POSTER SESSION**		
17.30	**RECEPTION**		

PRELIMINARY TECHNICAL PROGRAMME

TUESDAY 11 OCTOBER — Sessions J-L

Time	SESSION J	SESSION K	SESSION L
13.00	**Aircraft and spacecraft technology III**	**New materials and processes I**	**New materials and processes II**
	Applied Aerodynamics:	***Advanced Manufacturing Processes***	***Composite Structures***
	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: The influence of laser surface treatment on the fatigue crack growth of aluminum alloy sheet. **Milton Lima, IEAv**	L3: Low Cost Manufacturing and Assembly of Composite and Hybrid Structures. **Magnus Engström, SAAB Aeronatics**
	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 Tekniska Universitet/GKN-Aerospace**	L4: Damage tolerance of composite sandwich structures with thick face sheets. **Moeen Rajput, KTH Royal Institute of Technology**
15.00	**COFFEE**		
	Aircraft and spacecraft technology VI	**New materials and processes III**	**New materials and processes IV**
	Flow Control. Subscale Flight Testing	***Metal Alloys***	***Additive Manufacturing***
	J5: Numerical study of leading-edge flow control on a low signature UCAV. **Magnus Tormalm, Swedish Defence Research Agency**	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: Influence of Process Parameters on Microstructure using Laser Metal Powder Deposition. **Andreas Segerstark, University West**
	J6: Subscale flight testing of a generic fighter aircraft. **David Lundström, Linköpings University**	K6: Prediction of damage and fracture during forming simulations in Alloy 718. **Lluís Pérez Caro, IUC i Olofström AB**	L6: A review of selective laser melting - Process parameters and its influence on microstructure, defects and strength in superalloy Alloy 718. **Tahira Raza, University West**
	J7: 25775: Subscale flight testing of a generic fighter aircraft	K7: Modeling and validation of hot forming and mechanical cutting in Ti-6Al-4V. **Eva-Lis Odenberger, IUC in Olofström AB**	L7: Additive Manufacturing in Sweden and its Application in the Space Industry. **Christo Dordlofva, Luleå University /GKN Aerospace**
17.00	**POSTER SESSION**		
17.30	**RECEPTION**		

PRELIMINARY TECHNICAL PROGRAMME

TUESDAY 11 OCTOBER — Session M

Tid	SESSION M
13.00	**Operational availability, maintenance and support I**
	Operational Availability, Maintenance and Support
	M1: Aircraft Maintenance Data Evaluation Method Applied to Integrated Product Development Process. **Fabiana Teixeira, Embraer S.A.**
	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: Machine Learning Techniques for iVHM Self-Diagnostics. **Thomas Melia, Curtiss-Wright**
15.00	COFFEE
15.30	**Operational availability, maintenance and support II**
	Operational Availability, Maintenance and Support
	M5: Prognosis performance and management for efficient planning of aircraft engine maintenance. **Veronica Fornlöf, GKN Aerospace**
	M6: Prognosis performance in complex aviation systems. **Diego Galar, Lulea University of Technology**
	M7: Case study Swedish NH90 (HKP 14) - Decision support and cost savings through optimization, modelling and simulation. **Johan Elfvik, Systecon AB**
17.00	**POSTER SESSION**
17.30	**RECEPTION**

19.30
Congress Dinner
at Quality Hotel Friends

PRELIMINARY TECHNICAL PROGRAMME

WEDNESDAY 12 OCTOBER — Sessions A-C

Time	SESSION A	SESSION B	SESSION C
08.30	**Major cooperative projects II**	**Environmentally friendly technology II**	**Aircraft and spacecraft system analysis VIII**
	Space and Civil Aircraft	***Propulsion and Space***	***Simulation 1***
	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**
10.00	COFFEE		
10.30	**Major cooperative projects III**	**Major cooperative projects IV**	**Aircraft and spacecraft system analysis XI**
	Propulsion	***MIDCAS - Managing Complex Cooperative R&D***	***Simulation 2. Auto Landing System***
	A11: ULTIMATE - Ultra Low emission Technology Innovations for Mid-century Aircraft Turbine Engines. **Tomas Grönstedt, Chalmers University of Technology**	B11: Mid-air collision avoidance for RPAS – Findings from MIDCAS. **Bengt-Göran Sundqvist, Saab AB**	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: Dynamics of trust, control and risk in complex collaborative innovation projects. **Gunnar Holmberg, Saab Aeronautics**	C12: Formal Modeling of Run-Time Reconfigurable SoCs for Fault Tolerance Avionics Applications. **Daniel Mauricio Munoz Arboleda, University of Brasilia**
	A13: Research in the INNOVAIR Turbomachinery cluster. **Hans Mårtensson, GKN Aerospace Engine Systems**	B13: Managing coopetitive R&D Projects of Complex Product System - A case of an European R&D Consortium. **Jose Franca, Linköping University**	C13: Longitudinal automatic landing system using robust QFT controller for a military aircraft. **Adriellen Sousa, IFSC**
12.00	**LUNCH**		
13.00	**PLENARY PROGRAMME**		

PRELIMINARY TECHNICAL PROGRAMME

WEDNESDAY 12 OCTOBER — Sessions D-F

Time	SESSION D	SESSION E	SESSION F
08.30	**Sub-system and system technology VI**	**Sub-system and system technology VII**	**Aircraft and spacecraft system analysis IX**
	Avionics System Design, IMA	***Navigation, Tracking***	***Safety 1***
	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: STPA: A new Aerospace system safety analysis. **Carlos Lahoz, Instituto de Aeronautica e Espaco-IAE (Brazil) & Massachusetts Institute of Technology-MIT (USA)**
	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: An Integrated Approach for Safety and Security Analysis in Embedded Systems Development. **Celso Hirata, Instituto Tecnológico de Aernáutica**
	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: : Hidden failure scenarios of an aircraft collector fuel tank. Heitor **Azuma Kagueiama, Federal University of Santa Catarina**
10.00	**COFFEE**		
10.30	**Sub-system and system technology VIII**	**Sub-system and system technology IX**	**Aircraft and spacecraft system analysis XII**
	Avionics System Design, cont.	***Communication, Data Handling***	***Safety 2***
	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: Parametric Multi-physics Design of Antennas for Aerospace Applications. **Lucas Travassos, Federal University of Santa Catarina**	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**
12.00	**LUNCH**		
13.00	**PLENARY PROGRAMME**		

PRELIMINARY TECHNICAL PROGRAMME

WEDNESDAY 12 OCTOBER — Sessions G-I

Time	SESSION G	SESSION H	SESSION I
08.30	**Aircraft and spacecraft technology VII**	**Aircraft and spacecraft technology VIII**	**Aircraft and spacecraft technology IX**
	Spacecraft Technology	***Propulsion Technology 2***	***Structural Technology***
	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 MOTSTRÖM 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 Suaineadh 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**
10.00	**COFFEE**		
10.30	**Aircraft and spacecraft technology X**	**Aircraft and spacecraft technology XI**	**Aircraft and spacecraft technology XII**
	Materials and Structural Technology	***Weapons Integration. Man Machine Interface***	***Structural Dynamics and Unsteady Aerodynamics***
	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 Bauzermedeiros, Universidade Federal de Minas Gerais**
	G13: Mechanics of Carbon Based Hybrid Nanocomposites for Aerospace Applications. **Antonio Avila, Universidade Federal de Minas Gerais - UFMG**	H13: Airborne man-machine interface -aspects of airborne operations and the aid for the user. **Heike Schneider, Sjöland & Thyselius**	I13: Vibration Attenuation in Helicopter Blades using Semi-Passive Piezoelectric Circuit. **Marcela Anicezio, University of Sao Paulo - USP**
12.00	**LUNCH**		
13.00	**PLENARY PROGRAMME**		

PRELIMINARY TECHNICAL PROGRAMME

WEDNESDAY 12 OCTOBER — Sessions J-L

Time	SESSION J	SESSION K	SESSION L
08.30	**Aircraft and spacecraft system analysis X**	**New materials and processes V**	**New materials and processes VI**
	Efficient Design, Development and Manufacturing	***Manufacturing Methods***	***Composites 1***
	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: Advances in Nanostructured Composites for Aerospace Applications. **Danilo Carastan, Federal University of ABC (UFABC)**
	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: Assessment of fiber metal laminate panels reinforced with metallic pins deposited by welding. **Americo Scotti, Federal University of Uberlandia**
	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**	L10: Prediction of post-cure residual stresses and distortions in the fabrication of composite structures. **Alfredo Faria, ITA**
10.00	**COFFEE**		
10.30	**Aircraft and spacecraft technology XIII**	**New materials and processes VII**	**New materials and processes VIII**
	Air Vehicle Systems Technology	***Engine Materials***	***Composites 2***
	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: Effect of in-plane and out-of-plane waviness on the compressive strength of UD NCF-reinforced composites. **Leif Asp, Chalmers University of Technology**
	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: Damage and Failure Prediction of Composite Rotorcraft blades under combined Bending-Torsion Loading. **Sylvain Langlo, State University of Campinas**
	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: Effects of radius thinning on shape distortions of a composite beam. **Jens Sjölander, KTH**
12.00	**LUNCH**		
13.00	**PLENARY PROGRAMME**		

PRELIMINARY TECHNICAL PROGRAMME

WEDNESDAY 12 OCTOBER — Session M

Time	SESSION M
08.30	**Operational availability, maintenance and support III**
	Operational Availability, Maintenance and Support. Structural Health Monitoring
	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)**
	M10: Modal analysis applied to crack detection in aluminum alloy. **Jaime Izuka, University of Campinas**
10.00	**COFFEE**
10.30	**Operational availability, maintenance and support IV**
	Structural Health Monitoring
	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**
12.00	**LUNCH**
13.00	**PLENARY PROGRAMME**

For more information
please visit:
www.ft2016.se

POSTER SESSIONS

11-12 OCTOBER

Aircraft and spacecraft technology	Aircraft and spacecraft system analysis	New materials and processes
N1: Assessment or the influence on the fuel dilution with combustion products in the energy use. **Nattan Roberto Caetano, Federal University of Santa Maria - UFSM** N2: A Swedish National Competence Cluster in Aeronautical Engineering. **Roger Larsson, Saab Aeronautics**	O1: Knowledge-based Aircraft fuel system integration in rapid. **Raghu Chaitanya Munjulury, Linköpings University** O2: Analytical weight estimation of unconventional landing gear designs. **Raghu Chaitanya Munjulury. Linköping University** O3: Airship for heavy Cargo Transportation. **Ana Maria Minucci, FIigwal Transporters Internaticionais LTDA.**	P1: Liquid feedstock plasma spraying - an emerging process for the next generation aircraft engines. **Nicolaie Markocsan, University West** P2: Numerical modeling of Weld Hot Crack Nucleation in Nickel-Based Superalloys. **Joar Draxler, Luleå University of Technology**

Operational availability, maintenance and support	Sub-system and system technology	Major cooperative projects
Q1: Medical- and electronic mission equipment –how to comply with certification and maintenance requirements regarding aircraft installation? **Stefan Kuttainen, Sjöland & Thyselius**	R1: IoT Security. **Djamel Sadok, Universidade Federal de Pernambuco** R2: SEFIN - A Secure Emergency Fieldwork Network. **Djamel Sadok. Universidade Federal de Pernambuco**	S1: Detect and avoid for Remotely Piloted Aircraft in Air Traffic Control Simulations. **Jens Alfredson, Linköping University/Saab Aeronautics**

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

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