

| TUESDAY 8 OCTOBER 2019 | | | | | | | | | | | | | |
|--|--|---|---|---|---|--|---|---|--|---|---|--|--|
| 12.00 LUNCH | | | | | | | | | | | | | |
| | Session/Room A | Session/Room B | Session/Room C | Session/Room D | Session/Room E | Session/Room F | Session/Room G | Session/Room H | Session/Room I | Session/Room J | Session/Room K | Session/Room L | Session/Room M |
| 13.00 | Major cooperative projects | Environmentally friendly technology | Structures | Materials | Processes | Aircraft and spacecraft system analysis | Aircraft and spacecraft system analysis | Structures, materials and processes | Sub-system and system analysis | Sub-system and system analysis | Engines | Aircraft and spacecraft technology | Operational availability, maintenance and support |
| | <i>Synergies between aeronautics and space</i> | | <i>Structures Loads</i> | <i>Materials Additive Manufacturing</i> | <i>Processes Automation</i> | | | <i>Composites</i> | | | | <i>Experimental</i> | <i>Optimal planning for maintenance and production</i> |
| | A1 Brazilian R&D minister and Christer Fuglesand, Saab/KTH | B1 39496 Split system dilemma - growth and noise in aviation (Pernilla Ulfvengren, KTH) | C1 38200 Wind Tunnel Test with Pressure Sensitive Paint (PSP) in the aircraft structural load definition (Oscar Wallentin, Saab AB) | D1 38028 Heat affected zone cracking in different heat treated conditions of selective laser melted Alloy 718 subjected to gas tungsten arc welding (Tahira Raza, HV) | E1 38231 Automated Sealing of Airframes (Jesper Birberg, Saab AB) | F1 38169 Establishing interoperability in aircraft system simulator development (Robert Hällqvist, Saab AB) | G1 38547 A Requirements Engineering-based Approach for Defining a System Modification Process during Aircraft Operation (Washington Resende, ITA) | H1 37788 Post-Buckling analysis in thin-web laminated composite beams (Bruna Luiza Noll, Federal University of Minas Gerais) | I1 39584 Space Environment Qualification as a Service – Commencing a new era of the New Space Industry (Emil Vinterhav, PASQ AB) | J1 38621 Automatic Deployment and Optimisation of Integrated Modular Avionics Systems (Mohammad Radaei, School of Aerospace) | K1 38422 Heat Transfer Measurements with Methane in Rocket Nozzle Cooling Channels (Jens Fridh, KTH) | L1 38111 Studies of a Pitch-Moment CHUTE for the GRIPEN 39 E/F (Kristen Fersan, Saab AB) | M1 37972 Phase out maintenance optimization (Olle Wijk, Systecon AB) |
| | A2 Panel discussion on synergies between aeronautics and astronautics. Aspects from large industries, SME:s, Universities and the Armed Forces. Panel: Henrik Runnemalm, GKN; Ola Isaksson, Chalmers; Anna Öhrwall Rönnbäck, | B2 39510 Global Watch Center – monitoring Earth’s health for the benefit of all (Tobias Roos, SSC) | C2 38837 Active and passive Load alleviation design possibilities and considerations on a fighter A/C (Bengt Mexnell, Saab AB) | D2 38719 Microstructural characterization of chessboard pattern in selective laser melted Ti-6Al-4V (Magnus Neikter, LTU) | E2 38247 Data based automated manufacturing control of fabricated components (Hugo Hultman, GKN/Chalmers) | F2 38815 Real-time Co-/Sub-Simulation of Aircraft Subsystems in a Flight Simulator Environment (Owais Shahid, LIU) | G2 38746 Modeling and identification of a UAV with a flexible wing (Luis Góes, ITA) | H2 38426 Failure induced by instability in structural composites under longitudinal compression (Alfredo Faria, ITA) | I2 38411 GPS denied navigation for airborne vehicles (Fredrik Andersson, Saab AB/LIU) | J2 38633 Experiences from Applying an Ontology in Hazard Analysis of Autonomous System of Systems (Malina Adach, Mälardalen University) | K2 38786 Intentional mistuning effects on the forced response of a compressor blisk (Mauricio Gutierrez Salas, KTH) | L2 38471 Experimental and Theoretical Assessment of Aerodynamic and Stability Derivatives of a Subscale Aircraft (Igor Soares, ITA) | M2 38042 Mathematical optimization of a tactical resource allocation problem for efficient capacity utilization of machining resources in aerospace component manufacturing (Sunney Fotedar, Chalmers) |
| A3 LU/LiU; Märta-Lena Antti, Luleå; Tomas Grönstedt, SARC; Göran Berlemo, ACS and others | B3 38316 Automation for Separation with CDOs: Dynamic Aircraft Arrival Routes (Valentin Polishchuk, LIU) | C3 38838 Load registration system on the multi-roll A/C Gripen – in the past, now and future possibilities (Lars Östling, Saab AB) | D3 39589 Heat Treatment of AM parts by Hot Isostatic Pressing (Anders Eklund, Quintus AB) | E3 38546 Airframe sealing automation using Snake-robot (Luis Gonzaga Trabasso, ITA) | F3 38835 Assessment of Pilot-Aircraft Interface as a Conceptual Design Tool (Emilia Villani, ITA) | G3 39596 Reexamining linear causal inferences using safety and reliability metrics (Matthew Stogsdill, KTH) | H3 38470 Factors affecting static failure of bolted joints in hybrid composite-aluminium aircraft structure (Hannes Wemming, Saab AB) | I3 38996 Detection of Camouflaged Vehicles for VHF-band SAR Based on Regression Models (Renato Machado, ITA) | J3 38841 Assurance Strategy for New Computing Platforms in Safety-Critical Avionics (Håkan Forsberg, Mälardalen University) | K3 38898 Experimental aero- and thermal investigation for a next generation engine exit module (Isak Jonsson, Chalmers) | L3 38974 Numerical and experimental investigations of laminar-turbulent transition over an airfoil (Pierluigi Morra, KTH/Linné FLOW Centre) | M3 38818 AeroLogLabTOOL, the development of a collaborative integrated Logistic Support Tool (Fernando Teixeira Mendes Abrahão, ITA) | |
| 14.30 COFFEE | | | | | | | | | | | | | |
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| 15.00- | Major cooperative projects | Environmentally friendly technology | Structures | Materials | Processes | Aircraft and spacecraft system analysis | Aircraft and spacecraft system analysis | Aircraft and spacecraft system analysis | Sub-system and system analysis | Sub-system and system analysis | Aircraft and spacecraft technology | Aircraft and spacecraft technology | Misc |
| | | | <i>Structural Testing</i> | <i>Materials Composites</i> | <i>Processes Additive Manufacturing</i> | | | | | | | | |
| | A4 38571 T-X, Saab and Boeing cooperation on the new Advanced Pilot Training System (Tomas Karlsson, Saab AB) | B4 37562 Aerodynamic Performance of Natural Laminar Flow Airfoils Applied to Low- and High-Speed Wings (Ramon Lopez Pereira, Universidad Europea de Madrid) | C4 38177 Verification and validation of calculated structural loads with flight test (Mats Wallin, Saab AB) | D4 38198 A comparative study on aging of high temperature polymer composites reinforced by carbon fibre thin-ply and satin weaves (Patrik Fernberg, LTU) | E4 38436 Modelling of pore formation and retention in additive manufacturing of Ti-6Al-4V (Andreas Lundback, LTU) | F4 38481 Conceptual design of a fifth generation Unmanned Combat Air Vehicle in a collaborative framework (Pedro Bravo-Mosquera, University of Sao Paulo) | G4 37664 Optimization Under Uncertainty Enhancing Decision-Making in Aircraft Conceptual Design (Davi Henrique Bossano Di Bianchi, Embraer/ITA) | H4 38493 Multi-Agent Multi-Objective Deep Reinforcement Learning for Efficient and Effective Pilot Training (Johan Källström, Saab AB/LIU) | I4 39017 Operator tracking for fighter pilots: review of sensing technologies for flexible cockpit automation (Magnus Bång, LIU) | J4 38583 Triple Modular Redundancy based on Runtime Reconfiguration and Formal Models of Computation (Denis Loubach, ITA) | K4 38573 NFP7 - Industrialization of improved predictions of complex aeronautical flows (Sebastian Arvidson, Saab AB/Chalmers) | L4 38830 Passive and Active Countermeasure Aerodynamics (Magnus Tormalm, FOI) | M4 38560 Development of Design Supports for Functionally Integrated Aero-Engine Structures (Visakha Raja, GKN/Chalmers) |
| | A5 38774 Swedish-Brazilian Cooperation in Aeronautics in Santa Catarina State, Brazil (Victor J. De Negri, Federal University of Santa Catarina) | B5 38278 Transition in a swept-boundary layer subject to surface roughness and free-stream turbulence (Luca De Vincentis, KTH) | C5 38375 Structural component testing of Gripen E/F (Martin Ekström, Saab AB) | D5 39486 Development of Three-dimensionally Heat Conducting Carbon Composites (Nandan Khokar, Fureho AB) | E5 38484 Experimental validation of a Phased Array Model applied in Ultrasonic Inspection of AM Parts (Xiangyu Lei, Chalmers) | F5 38483 Conceptual Design and Analysis of a Swept Half-Span Wing of a Supersonic Tactical Bomber Aircraft (Felipe Castro Baraky, University of Sao Paulo) | G5 38186 Design and Integration of a Low Observable Engine Intake and Outlet for the MULDICON Platform (Henrik Edefur, FOI) | H5 38800 Loss of Control in Flight: the accident characterized under quantitative and operational optics (João Paulo Macedo, University of São Paulo) | I5 39056 A gesture-based interface for flight controls. (Manuel Alejandro Rodriguez Diaz, ITA) | J5 38606 Lempel-Ziv–Markov Chain Algorithm Modeling using Models of Computation and ForSyDe (Ricardo Bonna, UNICAMP) | K5 38589 CFD as a tool for verification of intake/engine compatibility (Timea Kekesi, Saab AB) | L5 38984 Modeling, Simulation and Control of an aircraft with morphing wing (Carlos Eduardo de Souza, Universidade Federal de Santa Maria) | M5 39493 Operational Risk: Implementing Open Norms (Pernilla Ulfvengren, KTH) |
| A6 38727 Airborne Advanced Vision and Awareness functions developed and demonstrated in the framework of Clean Sky 2 (Amanda Peattie, Saab AB) | B6 38594 High-Fidelity simulations of the Unsteady Response of a Natural Laminar Flow Airfoil (Prabal Negi, KTH) | C6 38377 Full Scale Structural testing of Gripen E/F (Christina Altkvist; Martin Ekström Saab AB) | D6 38575 Reliable strength assessments of aeroengine components made from textile composites (Leif E. Asp, Chalmers) | E6 38194 Additive manufacture at industrial, aeronautical and defense area: How to control the production of a good and some questions related copyright, intellectual property, performance at an embargo scenario. (Juan Pascual, SaveInProcess©) | F6 38828 Aerodynamics and aircraft conceptual design optimization based on a surrogate model algorithm (Nelson J. Diaz G. UNIFEI) | G6 38229 Flying TeD, a flying technology demonstrator for the future! (Roger Larsson, Saab AB) | H6 38978 HUMAER: A Test-Bed Environment for Human Factors Investigations in the Aeronautic Domain (Oliveira Wesley Rodrigues, ITA) | I6 38579 A Human Factors Approach to Self-Explanatory Automation for Fighter Aircraft (Johan Bergsten, Saab AB) | J6 38844 Onboard Cyber-Physical Systems Ontology (Denis Loubach, ITA) | K6 38914 Turbulence control on a NACA4412 wing section assessed through high-fidelity simulations (Fermin Mallor, Linné FLOW Centre/KTH) | L6 39054 Detailed Analysis of Separated Flow in Space Nozzles During Startup (Niklas Andersson, Chalmers) | M6 38728 Method for the Implementation of Industry 4.0: Aircraft final assembly domain (Alexandre Leite Junior ITA) | |
| A7 38581 Enabling Remotely Piloted Aircraft System (RPAS) Traffic Insertion by Automatic Contingency and Emergency Management in case of Command and Control Data Link Loss (Tina Erlandsson, Saab AB) | B7 38052 Computational Aerodynamics and Aeroacoustics of Highly-Heated Rectangular Supersonic Jets (Mihai Mihaescu, Linné FLOW Centre) | C7 38829 Bird Strike Testing of the Saab JAS 39 Gripen E (Peter Årebo, Saab AB/Etteplan) | D7 | E7 38961 Radical Innovation and Qualification using Additive Manufacturing in Space Applications (Christo Dordlova, LTU) | F7 40016 Equations of State in Modelling Fighter Aircraft Oleo-Pneumatic Shock Absorber (Arttu Heininen Tampere University) | G7 38710 An open-source application for subscale flight test analytics and system identification (Alejandro Sobron, LIU) | H7 38959 Fidelity-adjusted modelling and simulation within conceptual design for Search & Rescue applications (Ingo Staack, LIU) | I7 38965 Human decision-making model for a single pilot operation (Luis Gonzaga Trabasso, ITA) | J7 38911 Considerations on Domain-Specific Architectures Applicability in Future Avionics Systems (Denis Loubach, ITA) | K7 38967 Unsteady aerodynamics modeling and simulation of a forward-swept-wing sailplane (Carlos Eduardo de Souza, Universidade Federal de Santa Maria) | L7 38025 Aero-Structural Optimization of a MALE Configuration using the AGILE MDO Framework (Mengmeng Zhang, Airinnova AB) | M7 | |

| WEDNESDAY 9 OCTOBER | | | | | | | | | | | | | |
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| 08.30 | Major cooperative projects | Environmentally friendly technology | Structures | Materials | Processes | Aircraft and spacecraft system analysis | Aircraft and spacecraft system analysis | Major cooperative projects | Sub-system and system analysis | Sub-system and system analysis | Engines | Operational availability, maintenance and support | |
| | | | Structural Dynamics | Materials, Welding and Forming | Processes, Welding and Machining | | System of Systems | | | | Design | Decision support, Maintenance and operations | |
| A8 | Invited keynote lecture Simon Weeks, ATI, UK, Technology for a sustainable future for aerospace () | B8 38991 Small Aircraft Revolution (Niklas Anderberg, Blackwing Sweden AB) | C8 37554 FE-model update concerning dynamic properties after GVT of a Gripen E test aircraft (Erik Holmberg, Saab AB) | D8 38032 Modeling and Simulation of Heat-Affected Zone Liquefaction Cracking in Alloy 718 (Joar Draxler, LTU) | E8 37745 Methods for simulation of residual stresses in hydroformed and welded vanes to airplane engines (Mats Werke, RISE IVF) | F8 38910 Single Model for Subsonic, Transonic and Supersonic Aerodynamics for Flight Simulation (Petter Krus, LIU) | G8 38698 Ontological Approach to System of Systems Engineering in Product Development (Ludvig Franzén, LIU) | H8 38634 A tested for space system testing in northern Sweden (Olle Norberg, LTU) | I8 39083 Aerospace electric generator specification and selection – opportunities and challenges (Avo Reinap, Lund University) | J8 38882 A discrete optimisation approach to scheduling of an integrated modular avionic system (Emil Karlsson, LIU/Saab AB) | K8 38372 Design for Fabrication of Turbofan Engine Structures (Julia Madrid, Chalmers) | L8 38482 Prescriptive Maintenance: Building Alternative Plans for Smart Operations (Henrique Marques, ITA) | |
| A9 | 38376 GKN Aerospace involvement the Clean Sky-2 engine demonstrators (Fredrik Wallin, GKN) | B9 38359 Flight Tests of Fuel Saving Formation Flight in General Aviation (Tomas Melin, Svenska Flygtekniska Institutet) | C9 38192 Modal analysis of a bi-dimensional tensegrity structure subject to large deformations (Paulo Kurka, UNICAMP) | D9 38558 Weld-Cracking in a Cast Ni-based Superalloy (Sukhdeep Singh, Chalmers) | E9 38007 Machining distortion analysis of aerospace components using the Contour method (Mats Werke, RISE IVF) | F9 39583 Zero Gravity on Parabolic Flights in Sweden (Sytze Veldman, V-kvadrat AB) | G9 39005 System-of-System Engineering, Overview of research activities within the NFFP cluster Overall Design and System Integration (Christopher Jouannet, Saab AB) | H9 38955 Academia and Industry Collaboration as a Driver for Competitiveness: the Case of the Graduate School of Space Technology (Anna Öhrwall Rönnbäck, LTU) | I9 38259 Additive Manufacturing in Airborne Sensor System (Martin Blennius, Saab AB) | J9 38047 Configurable PCB-Platform for Flash SoC FPGA (Pablo Viana, Federal University of Alagoas) | K9 38856 Virtual demonstrator platform for future propulsion technology (Tomas Grönstedt, Chalmers) | L9 38957 Enterprise Modeling for Dynamic Matching of Tactical Needs and Aircraft Maintenance Capabilities (Ella Olsson, Saab AB) | |
| A10 | 38587 Future fighter engine requirements and technologies (Richard Avellan, GKN) | B10 38857 Design of Electric Propelled Aircraft (Eduardo Bauzer Medeiros, Centro de Estudos Aeronauticos UFMG) | C10 38770 Ground Vibration Testing of the Gripen E Fighter Aircraft (Andreas Josefsson, Saab AB) | D10 39588 Formability of Titanium Ti-6Al-4V sheets at low temperature (Björn Carlsson, Quintus AB) | E10 38442 Weld cracking of nickel based superalloys for hot structural aero engine components – development of a testing method to investigate strain age cracking (Fabian Hanning, Chalmers) | F10 38847 Tactical trajectories generation using UAVs for the terrestrial displacement of mobile robots (Bruno Coelho, Universidade Federal de São João del-Rei) | G10 38230 Towards a Multi-Level, Multi-Disciplinary, and Multi-Fidelity Framework for Evaluating the System of Systems, Constituent Systems, and Sub-Systems Design Spaces during the Conceptual Development of Aerial Vehicles (Athanasios Papageorgiou, LIU) | H10 38580 Towards a future design of Swedish national airspace: a review of the current airspace limitations (Martin Wall, LfV) | I10 38353 Fibre Optic Acquisition Systems based on Fibre Bragg Gratings (FBG) - Applied to Over-heat detection for Commercial Aircraft (Anders Gustafsson, Saab AB) | J10 38988 Developing Predictable Time-Sensitive Distributed Avionics Systems (Mohammad Ashjaei, Mälardalen University) | K10 38480 Higher fidelity CFD of compressor duct bleed system (Elias Siggeirsson, Chalmers) | L10 39037 Air vehicle Digital Twins – enabling interaction between physical and virtual spaces (Olov Candell, Saab AB) | |
| 10.00 | COFFEE | | | | | | | | | | | | |
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| 10.30 | Major cooperative projects | Environmentally friendly technology | Structures | Materials | Processes | Aircraft and spacecraft system analysis | Aircraft and spacecraft system analysis | Structure, materials and processes | Sub-system and system analysis | Sub-system and system analysis | Engines | Operational availability, maintenance and support | |
| | | | Structural Integrity | New Materials | Processes, Composites and Surface Treatment | | | Structures Aeroelasticity | | | | Fault detection, condition based maintenance | |
| A11 | 38970 Analysis of the Impact of the Conclusion of the Collaborative Professional Master's program on Embraer and ITA (Paulo Lourencao, Embraer) | B11 39269 Assessment Of A Simplified Environmental Model For Aircraft Noise Prediction (Ilkka Karasalo, KTH) | C11 38367 Fatigue crack growth and failure in components made of AA2050 and AA7050 alloys (Zlatan Kapidzic, Saab AB) | D11 38986 Kraft lignin, waste from paper mill process, a promise to low cost green carbon fiber (Katia Nunes, ITA-CTE-Q) | E11 38137 Curing Simulation and Validation of High Temperature Composite L-Profiles using Incremental Viscoelastic Models (Sibin Saseendran, RISE SICOMP AB) | F11 38979 A MDO process applied to conceptual design of a remotely piloted aircraft (Carlos Eduardo de Souza, Federal University of Santa Maria) | G11 38845 Algebraic Modeling of Continuous Time Systems (Jose E. G. de Medeiros, University of Brasília) | H11 38705 Transonic Flutter for a Generic Fighter Configuration, the KTH-NASA Wind-Tunnel Model. (Axel Bååthe, Saab AB) | I11 38772 Challenges on the development of a digital hydraulic actuator for primary flight control surfaces (Victor J. De Negri, Federal University of Santa Catarina) | J11 38762 Applying Constraint Programming for Design Space Exploration in Avionics (Rodolfo Jordao, KTH) | K11 38843 Experimental aerodynamic investigation of powered nacelles for high bypass turbofan engines. (Vinicius Tavares Silva, Chalmers) | L11 38431 Fault detection and isolation based on bond graph models: application to an electromechanical actuator (Gabriel dos Santos Sobral, Embraer) | |
| A12 | 38860 ULTIMATE – a Chalmers led European effort for ultra-efficient propulsion (Tomas Grönstedt, Chalmers) | B12 39008 Understanding Loudness variations due to Landing procedures at Arlanda (Anders Johansson, KTH) | C12 38697 Effect of Surface Phenomenon and Defects on Fatigue Life in Electron Beam Melted Ti-6Al-4V (Viktor Sandell, LTU) | D12 39051 Working on Venus – a Project on Extreme Environment Electronics (Carl-Mikael Zetterling, KTH) | E12 38859 Fast forming of aircraft composite parts (Per Hallander, Saab Aeronautics) | F12 38378 Using UAS in Future Civil Command and Control Scenarios (Rego Granlund, RISE SICS East) | G12 39585 APEX – An ESA-CubeSat enabling new science in the exploration of the Solar system (Emil Vinterhav, V-kvadrat AB) | H12 38744 A Transient Formulation for Viscoelastic Materials using Fractional Calculus (André Garcia Cunha Filho, UFU) | I12 38262 Design and Control of the Digital Hydraulic Actuator for force-controlled flight control actuation (Alessandro Dell'Amico, Saab AB/LIU) | J12 38667 Languages and Tools for Formal Design of Cyber-Physical Systems (George Ungureanu, KTH) | K12 38912 Turbofans Fan Design Through the Integration of Computational Aeroacoustics and Computational Fluid Dynamics (Tania Marie Arispe Angulo, UNIFEI) | L12 39055 A Cost and Performance Optimization Model Proposal for Integrating Predictive and Scheduled Maintenance in Aviation (Danilo Figueiredo-Pinto, ITA) | |
| A13 | 38992 Meshing and CFD strategies for large scale turboprop WT model integrating morphing high-lift devices (Stefan Wallin, KTH) | B13 38246 Aircraft noise simulation with the SAFT-program (Ulf Tengzelius, CIT) | C13 38721 Static failure in components made of AA2050 and AA7050 alloys (Rikard Rentmeester, Saab AB) | D13 39535 Multilayered Thermal Barrier Coatings processed by Suspension Plasma Spraying (Per Nysten, University West) | E13 39023 New, sustainable corrosion protection of aircraft grade aluminium (Linnea Selegård, Saab AB) | F13 39590 Flow control for improved aerodynamic performance of aircraft (Shia-Hui Peng, FOI) | G13 38138 Towards automated design space exploration (Jakob R. Müller, Chalmers) | H13 39057 Study of Aeroviscoelastic systems using doublet lattice method (Denner Borges, UFU) | I13 | J13 38669 Formal High-Level Model of a Radar Signal Processing System (George Ungureanu, KTH) | K13 38925 Aeroacoustics Performance of a Counter Rotating Blades in Boxprop format in a Propfan Tractor Engine. (Germán Enrique Niño Del Río, UNIFEI) | L13 39479 Model-based Sensor Fault Detection and Reconfiguration in an Autonomous Solar-powered Aircraft (Paulo Padrao, Federal University of Rio de Janeiro) | |
| 12.00 | LUNCH | | | | | | | | | | | | |
| 13.00-16.30 | PLENARY PROGRAMME | | | | | | | | | | | | |