

8.30 *Check-in and morning coffee*10.00 **V. Schulze (Airtec) / Prof. R. Degenhardt (DLR, PFH)**
Welcome**Keynote lectures****Chair: Dr L. J. Cohen, Senior Vice President, Hitco Carbon Composites, Inc., USA**10.30 **Chris Pederson, Vice President Aerospace, Cytec, USA**
Advances in Composite Materials**Mr. Gregor Dirks, Chief Innovator, Airbus Innovation Cell, France**
Stimulating Innovation in Aerospace – a Continuous Challenge**Dr Mark J. Shuart, IPA/Sr. Advisor for Composites & Structures, NASA Langley Research Center, USA**
Composites Research and Technology for Aerospace Vehicles**Prof. Dr. Rolf-Jürgen Ahlers, ASG Luftfahrttechnik und Sensorik, General manager, Germany**
Future Technologies in Aerospace12.30 **Lunch break and B2B****Session A1a Part 1: Engines, Part 2: Systems****Chair: Helge Pfeiffer, Katholieke Universiteit Leuven, Belgium****Session A1b Improved simulation****Chair:****Invited speaker***F. daCunha, Dr C. Chaves, R. Degenhardt, F. C. de Araujo, T. Wille (Brazil, DLR, Federal University of Ouro Preto)*

Analysis of structures under uncertainties

H. Wang, X. Sun, D. Shihui, L. Gang (ASRI, China)

Carrying Capacity Analysis of Wing Structure with Nonlinear Finite Element Method

A. Silva, K. Bousson (CEIIA, Portugal)

3D Surface Reconstruction by Multiquadratic Approximation

D. Hernandez Rodero, J. Luis Maestro Cuadrado (Sener, Spain)

Curing process simulation for composite manufacturing optimisation

15.00 *M. Barry, L. Bianchini (PRIMA North America)*

Close loop control of the laser drilling process with airflow measurements on critical turbo-engine components

H.-C. Wüstner (SOCRATEC Telematic, Germany)

GPS-monitoring of airfreight containers improves flight security and logistic efficiency

P. Taubenreuther (STT-SystemTechnik, Germany)

Modern airborne C-Band Telemetry Transmitter using GaN technology

A. Nagy, Prof. J. Rohacs (Budapest University of Technology and Economics, Hungary)

Barometric sensor for smartphones used by sport and recreational pilots

16.20 **Coffee break****Session A2a Composite Structures****Chair: Dr Mark J. Shuart, Advisor for Composites & Structures, NASA, USA****Invited speaker***M. R. Schultz, L. Oremont, J.C. Guzman, C. A. Rose, Dr D. A. McCarville, M. W. Hilburger (NASA, Lockheed Martin Corporation, Boeing, USA)*

Compression Behavior of Fluted-Core Composite Panels

Prof. E. Nast (HAW, Germany)

Effective Elastic Moduli for Honeycomb Sandwich Cores

J. Rousseau, M. H. Shamsudin, G. Verchery, C. B. York (University of Bourgogne and Glasgow, Le Mans, France+UK)

Experimental validation of design concepts for laminated composite materials with thermal and or mechanical coupling response

Prof. J. Varna, K. Giannadakis (Lulea University of Technology, Sweden)

Shear modulus degradation in laminates with intralaminar cracks

A. Fernandez-Lopez, Prof. A. Güemes (Polytechnic University of Madrid, Spain)

Tests of composite isogrid structures

Session A2b Improved simulation**Chair:****Invited speaker***L. C. de Sá; P. R. Z. Pasquali; F. R. Barbosa; F. L. S. Bussamra (Embraer, Brazil)*

Aerodynamic Loads and Basic Structural Design of an Aircraft Wing of 50 passengers

T. Kotzakolios, D. Vlachos, V. Kostopoulos (University of Patras, Greece)

Explicit Blast Hardening of both metallic and composite Fuselage Aircraft Structures

G. Frulla, E. Cestino

Structural analysis of slender composite thin-walled box-beams for aeroelastic applications

L.G. Xing (ASRI, China)

Study on synthesis design optimization method of composite wing

19.00 **Conference reception**

8.30 **Check-in and morning coffee**

Keynote lectures **Chair: Dr L. J. Cohen, Senior Vice President, Hitco Carbon Composites, Inc., USA**

9.00 **Valery Godinez, Emanuel Butera, M. F. Carlos, USA**
Advanced Nondestructive Evaluation Methods for Aerospace Composites
Prof. Cord-Christian Rossow, Head of the Institute of Aerodynamics and Flow Technology, German Aerospace Center (DLR), Germany
Fuel Burn Reduction: Achievements and Perspectives
Mike Vander Wel, P.E., Director - Enterprise Manufacturing Technologies, The Boeing Company, USA
Technology—Driving Production Productivity
Peter Wu, Ph.D, Vice President/Chief Scientist, Spirit AeroSystems, Inc., USA
Performance Excellence and Aerospace Leadership

11.00 **Coffee break**

Session B1a Improved simulation
Chair:

11.30 *Prof. R. E. Sliwa, G. Budzik, J. Bernaczek, T. Kudasik (Rzeszow University of Technology, Poland)*
 Development of physical and numerical models for the analysis of stress distribution in the aircraft wheel hub
Dr W. Mutscheller (Siemens, Germany)
 Sinumerik Open Architecture in Aerospace Applications
Dr R. Lernbeiss (TU Wien/Austrian Airlines, Austria)
 Optimization of aircraft arrival time at hubs of network airlines
J. Didier, A. Limam, V. Taponier, F. Lorioux, S. Radulovic (Lgcie Insa, Cnes, Eads Astrium, France)
 Buckling of pressurized multilayered foam aluminum cylindrical shells submitted to shear load

12.50 **Lunch break and B2B**

Session B2a Composite Structures
Chair: Prof. R. E. Sliwa (Rzeszow University of Technology, Poland)

15.00 *Y. Yang, Z. Shen (ASRI, China)*
 Study on compressive failure mechanism of low-velocity-impact-damaged composite laminates by using three kinds of
J. Zettler, Prof. G. Reinhardt, T. Philipp, J. Arent, T. Dräger, C. Grabowski (EADS Innovation Works, TU München, Eurocopter, Frauenhofer, Germany)
 Influence of Integrated RFID Transponders on Structural Behavior of Carbon Fiber-Reinforced Plastics
M. Potoczek, R. E. Śliwa (Rzeszow University of Technology, Poland)
 Characteristics of AlMg/Al2O3 interpenetrating composites obtained by metal infiltration into gelcast Al2O3 foams
Prof. J. Varna, Prof. Z. Ayadi, M. Sahbi Loukil (Lulea University of Technology, Sweden)
 Thermo-elastic properties of damaged laminates at high density of cracks in layers

16.20 **Coffee break**

Session B3a Whole Aircraft design / Life Cycle assesment
Chair: Mr Robert Ilg (University of Stuttgart, Germany)

Invited speaker
 16.50 *V. Sapienza, G. Avalle (ALENIA Aeronautica)*
 As built vs as designed" differences between the manufactured aircraft and the designed one and the related implications
S. Arumugam, C. Tamilnadu (India)
 Design Optimization of Morphing Winglets for Aircrafts
R. Ilg (University of Stuttgart, Germany)
 How to become green: Assessing environmental benefits in air transport?
H. Krieg, R. Ilg (University of Stuttgart, Germany)
 Environmental performance analysis of the operation phase for an aircraft
C. Rosenberger (usb GmbH, Germany)
 Managing Mass Properties – Always a challenge

19.00 **AIRTEC 2011 Get together**

Session B1b Metallic structures
Chair:

Invited speaker
Prof. T. Sadowski, T. Balawender, R. Śliwa, P. Golewski, M. Kneć (Rzeszow University of Technology, Poland)
 Modern hybrid joints in aerospace: modelling and testing
F. Eberl, T. Warner, J.C. Ehrström, A. Daniélou, B. Bes (Constellium Global Aerospace, France)
 AIRWARETM: Light weight technology for future metallic airframes
M.K. Knyazyev, J. San José, I. Pérez (KhAI, Ukraine)
 Electrohydraulic Forming of Aircraft Engine Sheet Metal Components
P. Marconi, L.G. Bochese, D. Maestrini (EFFE Engineering, Feanor OÜ, Università degli Studi di Brescia, Italy, Estonia)
 Evaluation of Residual Stress Induced by Shot Peening on Aircraft Structural Components

Session B2b Metallic structures
Chair: Prof. P. Webb (Cranfield University, UK)

Dr J. Bartnicki, Prof. Z. Pater, Dr J. Tomczak (Lublin University of Technology, Poland)
 Forming of light alloys hollowed parts by means of rotary metal forming processes
Dr R. Freeman (TWI Ltd, UK)
 Welding developments in the aerospace industry
J. Kuczmaszewski, P. Pieśko, M. Włodarczyk (Lublin University of Technology, Poland)
 Milling of thin-walled aviation elements – analysis of the model and verification tests

Session B3b Manufacturing / Production
Chair: Steve Saitowitz (Platine Technologies, Israel)

Invited speaker
B. Johnson (Boeing, USA)
 The Use of Multiple Heads for High Deposition Rates of Composite Materials
G. Escobar-Palafox (University of Sheffield, UK)
 Characterisation of water-jet process for the production of fir-trees in Inconel 718
J. Hanssen (Europe Stratasys, Germany)
 Additive manufacturing
H. Handke (alpha-tec GmbH, Germany)
 Robot based Cleaning, activation and painting of high volume parts
Prof. V. Lopresto, prof. C. Leone (University of Naples, Italy)
 Indentation and delaminated area in BRFP laminates under low velocity impact

8.30 **Check-in and morning coffee****Keynote lectures**

Chair: Prof. R. E. Sliwa (Rzeszow University of Technology, Poland)

9.00 **Prof. Sun Xiasheng, Director, Aircraft Strength Research Institute, China****ASRI Role in Structural Certification Testing of ARJ21 and C919****Simon Weeks, Rolls-Royce plc, Head of Aerospace Research & Technology, UK****Future Aeroengine Technology – challenges for OEMs and the Supply Chain****Fernando Ferreira Fernandez, Head of Advanced Materials Technology, Embraer, Brazil****FSW Applied on Mid Size Aircraft****Prof. R. E. Sliwa, Rzeszow University of Technology, Poland**

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11.00 **Coffee break****Session C1a NDT and SHM**

Chair:

Invited speaker11.30 **C. Martin (Georg Martin GmbH)**

Laminated shims: development and results of test methods

R. Zakrzewski, B. Baird (Goodrich Corporation, Usa, Canada)

Landing Gear Overload Detection and Usage Monitoring System Using Strain Measurements

A. Isturiz, J. Vinals (Sener, Spain)

Health monitoring module for electromechanical actuation systems

H. Pfeiffer, I. Pitropakis, M. Patitsa, M. Wevers (Katholieke Universiteit Leuven, Belgium)

Leakage detection in aircraft by percolation sensors for the prevention of floor beam corrosion and detection of pinhole cracks in

12.50 **Lunch break and B2B****Session C2a Aerospace supply chain**

Chair:

14.00 **H. Canales (National Aerospace University, Ukraine)**

Analytic Tool for Developing Aerospace Supply Chain Opportunities in Mexico

R. Ilg (University of Stuttgart, Germany)

Analysing the aviation supply chain by considering environmental aspects

D. Snelson (Waer Systems Limited, UK)

A Replenishment Solution For A Tier 1 Aerospace Manufacturer

Session C1b Manufacturing / Production

Chair: Mr. Luca Bochese (Feanor, Estonia)

Invited speaker*M. Motilva, O. Rüscher (M.Torres Disenos Industriales)*

Novel automatic manufacturing method to improve a350xwb wing spars and stringers by increasing productivity and minimizing scrap

*Prof. M. BenBassat (Plataine Technologies, Israel)***invited speaker**

Enabling Multi-Dimensional Optimization and Management of the Composite Cutting Processes: An innovative technology Bridges the Gap

Prof. W. Hintze, H. Kober, S.-M. Kothe (TU Hamburg-Harburg, Germany)

Process Temperature in Edge Trimming of Composites

Prof. F. Klocke, D. Welling, D. Veselovac, Dr R. Perez (RWTH Aachen, Agie Charmilles New Technologies, Germany, Switzerland)

Wire-EDM developments for manufacturing safety critical turbine component features in Inconel 718

Session C2b Manufacturing / Production

Chair: Mr. Luca Bochese (Feanor, Estonia)

B. Denkena, M. Eikötter, B. Dengler, H. Apmann, R. Goesmann, G. Hicken (University of Hannover, Germany)

Planning of manufacturing capacity for titanium aircraft structure components with support of the Digital Factory

T. Berek, Dr K. Hoyer (EAST-4D Carbon Technology, Germany)

Machining of anisotropic composites for high-precision and flexible aerospace structures

Prof. P. Webb, M. To, M. Walton (Cranfield University, UK)

Enabling the Application of Automation in Aero-structure Assembly

H. Alexandre, C. Denis, L. Davy, N. Niko (Coriolis Composites, France)

Fiber replacement: New Materials and Process

16.00 **Closing notes (R. Degenhardt)**16.15 **End of conference****Conference Contact Address**

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