

AST 2017 Program



Tuesday, February 21, 2017

09:00	Welcome	Prof. Dr.-Ing. Otto von Estorff	
09:05	Welcome Address by the President of the Hamburg University of Technology	Prof. Dr. Dr. h.c. Garabed Antranikian	
09:15	Plenary Lecture: From Slim Mold to a Bionic Partition: "Learning from Nature – Print the Future"	Peter Sander Airbus Operations GmbH, Head of Emerging Technologies & Concepts	
09:45	Plenary Lecture: Innovation and Digitalization in the Aviation and MRO Industry	Dr.-Ing. Helge Sachs Lufthansa Technik AG, Vice President, Head of Corp. Innov. Management & Product Develop.	
10:15	<i>Coffee</i>		
10:50	Presentations Block Ia: <i>Airframe Systems and Equipment - Global System Level</i>	Room "Elbkuppel" Chair: F. Thielecke	Presentations Block I-b: <i>Cabin and Comfort</i>
	Key Note: Drivers for the Future of Environmental Control Systems	W. Casas Airbus Operations GmbH	Key Note: Future Trends and Design Thinking in Cabin Design
	A Functional-Driven Design Approach for Advanced Flight Control Systems of Commercial Transport Aircraft	T. Lampl, D. Sauterleute, M. Hornung	Influence of Load Elements on the Dynamic Behaviour of Lightweight Structures
	ASTIB: A Research Programme on Innovative Electro-Mechanical Actuators and Iron Bird within the Clean Sky 2 Research Initiative	A. Dellacasa, G. Jacazio, J.-C. Maré	Measurement of the Influence of an Active Noise Control System on the Sound Energy Flow into an Aircraft Cabin Mock-Up
	Application of Active Flow Control on Aircrafts - State of the Art	A. Batikh, L. Baldas, S. Colin	Assessment of Thermal Comfort in Cabin and Galley Using the Dressman 2.0 Measurement System
12:30	<i>Lunch</i>		
14:00	Presentations Block II-a: <i>Airframe Systems and Equipment - Maintenance / Actuators</i>	Room "Elbkuppel" Chair: F. Thielecke / J.-C. Maré	Presentations Block II-b: <i>Information and Communication Management</i>
	Health Monitoring Applied to Electrical Systems	A. Debiane, B. Ould Bouamama	Key Note: Data & Knowledge as Key Systems Design Components; Analytics and Optimization in Airline Operations
	Real-Time Model- and Harmonics Based Actuator Health Monitoring	F. L. J. van der Linden, A. Dorkel	The Future of Cabin Management Systems – Cabin Operation with Wearable Devices
	Reduction of Uncertainties in SHM Data Transmission and Failure Analysis within Limitations to Economic and Safety Aspects	H. Meyer, S. Thyagarajan, V. Gollnick	Challenges to Wireless Sensor Network in Aircraft
	Towards a Model-Based Systems Life-Cycle: CPCS from Design to Operations	D. Huart, O. Olechowski	Cabin Operations – Mobile Devices as an Integral Part of the Cabin Systems
	An Innovative All-Active Hybrid Actuation System Demonstrator	T. Röben, E. Stumpf, T. Grom, G. Weber	A Methodology for the Flexible Platform Technology for Fly-By-Wire Systems
16:00	<i>Coffee</i>		
16:30	Presentations Block III-a: <i>Airframe Systems and Equipment - Actuators</i>	Room "Elbkuppel" Chair: F. Thielecke / G. Jacazio	Presentations Block III-b: <i>Information and Communication Management</i>
	Architecture Development for Slim Wing, Distributed Electro-Mechanical Actuation Systems	M. Slater, P. Smith, C. Whitley, S. Rivera, D. Evans, A. Gibson, S. Laycock, A. O'Neil, S. Kirk	Heterogenous All-Ethernet Networking for Aircraft Systems
	The Development and Testing of the Wave Gear Rotary EMA for Aerospace Applications	V. Ursu, E. Erofeev, A. Steblinkin	Rapid Prototyping of Packet Processing Devices for Aeronautical Applications
	FailSafe-Geared Rotary Actuator as a Part of the Secondary Flight Control Actuation System for Next Generation Single Aisle Aircraft	S. Beetz, A. Geißler	Simulation-Based Validation of Near Field Communication Effects on Aircraft Wiring
17:45	<i>Break</i>		
19:00	Reception and Dinner (Rickmer Rickmers) Welcome Address by the Free and Hanseatic City of Hamburg	Dr. Rolf Bösinger State Secretary Ministry of Economy, Transport and Innovation	

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Wednesday, February 22, 2017

09:00	Presentations Block IV-a: Materials and Production		Room "Elbkuppel" Chair: W. Hintze	Presentations Block IV-b: Airframe Systems and Equipment		Room "Ellipse II-III" Chair: F. Thielecke / G. Schmitz
	Key Note: Potentials of Augmented Reality in Aircraft Assembly and MRO	A. Friedewald Hamburg University of Technology		Towards a Complete Virtual Prototype of Aircraft Ice Protection System	G. S. Baruzzi, M. Oswald, A. Pett, B. I. Gerber, R. Bhat, B. Sasanapuri, B. Lehugeur, R. Harwood	
	Cabin Interior Components as Substrate Material for Printed Electronical Circuits	N. Ischdonat, D. Gräf, W. Gleine, C. Dreyer, M. Bauer, J. Franke		Experimental Study of Ice Accretion and Release in Jet Fuel Flows	M. Schmitz, G. Schmitz	
	Interlaminar Fracture Toughness of Fibre Metal Laminates	B. Bosbach, D. Stange, B. Fiedler		A Framework for the Conceptual and Preliminary Design of Embedded Mechatronic Systems	S. Delbecq, F. Tajan, M. Budinger, J.-C. Maré, F. Sanchez	
	Electrical Properties of Carbon Nanotube Modified Epoxy Matrix for Sensing Applications in Composites	C. Leopold, T. Augustin, J. Lehmann, W. V. Liebig, B. Fiedler		A Framework for Automated Design, Verification, and Simulation of Electrical Power Systems for Aircraft	J. Menu, M. Nicolai	
10:40	<i>Coffee</i>					
11:10	Presentations Block V-a: Materials and Production		Room "Elbkuppel" Chair: H. Wittich	Presentations Block V-b: Airframe Systems and Equipment		Room "Ellipse II-III" Chair: D. Sachau
	Geom. Relationships of Sensor, Tool and Actuator Flange via Defined Machine Movements for Fully Automated Bracket Install.	D. Valencia, J. Wollnack		Electromagnetic Simulations to Complete Aircraft Testing	M. Kunze	
	Accuracy Analysis and Optimization of Industrial Robots for Aerospace Production	S. Kothe, S. P. von Stürmer, P. Koch, C. Böhlmann, W. Hintze		Simulation of Helmholtz Resonance Effects in Aircraft ECS	A. Pollok, A. Schröffer	
	Adaptive Robot Trajectory Planning for the Automated Bonding of Large CFRP Structures	F. Schmick, S. Rao, J. Wollnack		Multi-Disciplinary Optimization and Additive Manufacture of Airbus Main Landing Gear Manifolds	M. Muir, J. Roizès, F. Schubert, B. Marguet	
	Reliability Based Shape Optimization of Topologically Optimized Structures	B. Kriegesmann, J. K. Lüdeker		Wireless Tyre Pressure Indication System for Aircraft	A. Bill, J. Roizès, B. Pichon, C. Hennemann	
12:50	<i>Lunch</i>					
14:30	Presentations Block VI-a: Materials and Production		Room "Elbkuppel" Chair: B. Fiedler			
	Towards an Automated Part Screening for Additive Manufacturing	J.-P. Rudolph, C. Emmelmann				
	Additive Manufacturing of Large Scale Titanium Parts with Increased Productivity	M. Möller, V. J. Prakash, J. Weber, C. Emmelmann				
	Finish Machining of Titanium-Components - Challenges of New Process Chains and Recent Alloys	W. Hintze, C. Möller, R. Schötz				
15:45	Concluding Remarks		Prof. Dr.-Ing. Frank Thielecke			
	<i>Farewell Coffee</i>					