

ICAS Emerging Technology Forum 2019

Digital Transformation in Aerospace

Storey Hall
RMIT University
336–348 Swanston Street
Melbourne, Australia

Monday, 09 September 2019

08:00 - 08:30	Registration
08:30 - 09:00	Introduction and Welcome

Cyber-Physical Systems

09:00 - 09:40	ISSAC (Integrated Simulation System for Aerospace Vehicle) – Toward Digital Flight Based on High-Fidelity Numerical Simulation Yuichi Matsuo, Aeronautical Technology Directorate, JAXA, Japan
09:40 - 10:20	Virtual, Mixed and Augmented Reality in Aeronautics: Challenges and Applications Emilia Villani, Instituto Tecnológico de Aeronáutica, ITA, Brazil
10:20 - 10:30	Coffee Break
10:30 - 11:10	Digital Thread Implementation at Boeing Aerostructures Australia Peter Aldridge, Boeing Australia, Australia
11:10 - 11:50	Towards the Virtual Fatigue Test Madeleine Burchill, Defence Science and Technology Group (DSTG), Australia
11:50 - 12:30	Round Table Discussion on Cyber-Physical Systems
12:30 - 14:00	Lunch

Digital Twin Concepts

14:00 - 14:40	Towards a Big Data-enabled Digital Twin for Large-Scale Infrastructure Planning Dimitri Mavris, Georgia Institute of Technology, USA
14:40 - 15:20	Data Mining for Aircraft Design Space Shigeru Obayashi, Tohoku University, Japan
15:20 - 16:00	Leveraging the Digital Revolution for Industrial Performance: A Step Change for A320 Nose Section François Bouissiere, Airbus, France
16:00 - 16:10	Coffee Break
16:10 - 16:50	Industry Renaissance: The Future of Manufacturing in the Aerospace Industry Prashanth Mysore, Dassault Systemes, Australia
16:50 - 17:30	Smart Factories, Using the Digital Thread from Design to Production to Quality Kingsley Edgar and Shripathi Vittal Rao, MSC Software Corporation, Australia
17:30 - 18:10	Round Table Discussion on Digital Twin Concepts

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Digital Factory and Advanced Manufacturing

08:30 - 09:05	Digital Factory – EMBRAER: Being Digital from Design to Manufacturing João Zerbini, Embraer, Brazil
09:05 - 09:40	Digital Design for Manufacturing: A Case Study Kellie Johnston, Boeing Australia, Australia
09:40 - 10:15	Defence’s Experience in Additive Manufacture Alex Shekhter, Defence Science and Technology Group (DSTG), Australia
10:15 - 10:50	3-Dimensional Manufacture of Aerospace Titanium Component Parts Edward Lui, RMIT University, Australia
10:50 - 11:00	Coffee Break
11:00 - 11:35	An Industry 4.0 Approach to 3D Printing of Carbon Fibre Composites Bronwyn Fox, Swinburne University of Technology, Australia
11:35 - 12:10	Additive Manufacturing and Certification of Aircraft Interior Components Doug McPherson and Inam Ullah, Memko Pty Ltd, Australia
12:10 - 12:50	Round Table Discussion on Digital Factory and Advanced Manufacturing
12:50 - 14:00	Lunch

Digital Product Operations & Sustainment

14:00 - 14:40	Data-Driven Capabilities and In-Service Experience: The Next Era for Product Improvement Mattia Padulo, Airbus, France
14:40 - 15:20	Repair of High Value Aerospace Components through Laser Metal Deposition Cameron Barr, RMIT University, Australia
15:20 - 16:00	Operationalising Industry 4.0 in Business Nico Adams and Shanti Krishnan, Swinburne University of Technology, Australia
16:00 - 16:10	Coffee Break
16:10 - 16:50	The Digital Gap Between Design, Manufacturing and Maintenance Miro Miletic, Memko Pty Ltd, Australia
16:50 - 17:30	Towards the Digital Thread – Operating Digital Design Systems Björn Nagel, German Aerospace Center (DLR), Germany
17:30 - 18:10	Round Table Discussion on Digital Product Operations & Sustainment
18:10 - 18:20	Workshop Conclusions Shinji Suzuki, ICAS President