HYPSTAIR workshop: Current State of Art in Hybrid Propulsion Components and Future Developments

64th Workshop: Variational Analysis and Aerospace Engineering III: Mathematical Challenges for the Aerospace of the Future

Erice (Sicily), 3th September 2015

Venue: Ettore Majorana Foundation and Centre for Scientific Culture (Via Guarnotta 26, 91016 ERICE) − ROCCO ROOM

Session 1	**Current state of the art in hybrid propulsion systems**
9:00–9:15	**Opening** *Tine Tomažič, Pipistrel,* *Aldo Frediani, University of Pisa,* *Franco Giannessi, Director of the International School of Mathematics "G. Stampacchia".*
9:15–9:30	**Current Development of Hybrid Propulsion Systems** *Tine Tomažič, Pipistrel*
9:30–9:45	**Performance Advantages of Hybrid-powered Aeroplanes** *Vittorio Cipolla and Fabrizio Oliviero, University of Pisa*
9:45–10:00	**Electric Propulsion Components with High Power Densities for Aviation** *Claus Zeumer, Siemens AG*
10:00–10:20	**Minimum Induced Drag Theorems for Joined Wings, Closed Systems, and Generic Biwings** *Luciano Demasi, San Diego State University*
10:25–10:45	**Fuel Cells as Battery Alternative** *Josef Kallo, German Aerospace Centre − DLR*
10:45 - 11:00	**Coffee break**
11:00–11:15	**Functional Safety Requirements for Airborne Devices Using Hybrid Propulsion Systems** *Stefan Walter, Siemens AG*
11:15–11:30	**Current State of the Art of Functional Safety Requirements in Automotive Industry and Their Application into Aviation Industry** *Miran Rodič, University of Maribor*

11:30–11:55	**Quantifying the Impact of Future Technologies**
	Björn NAGEL,German Aerospace Centre − DLR
12:00−12:30	**Open Discussion Session**
12:30−13:30	**Lunch break**

Session 2	**Future challenges and developments of hybrid propulsion systems**
13:30–13:45	**Challenges of Hybrid Propulsion System Addressed by HYPSTAIR Project**
	Vid Plevnik, Pipistrel
13:45–14:00	**Twin Engine Concept in HYPSTAIR Serial Hybrid Electric Propulsion System and Future Challenges**
	Claus Zeumer, Siemens AG
14:00–14:15	**HYPSTAIR Flight Simulator Model of a Hybrid Aircraft and Future Challenges**
	Vittorio Cipolla and Fabrizio Oliviero, University of Pisa
14:15–14:45	**Coffee break**
14:45–15:00	**HMI Solutions of Hybrid Aircraft Designed in HYPSTAIR and Future Challenges**
	Max Pinucci, MBVision
15:00–15:15	**Haptic Solutions of Hybrid Aircraft Developed in HYPSTAIR and Future Challenges**
	Aleš Hace, University of Maribor
15:15–15:30	**Future Challenges of Hybrid Electric Propulsion System for Aviation due to Certification Processes**
	Tine Tomažič, Pipistrel
15:30–15:50	**Closing Session**
15:50–16:00	**Coffee break**
16:00–17:30	**Future Research Cooperation and Developments of Hybrid Systems**
	Tine Tomažič, Pipistrel
19:00	**Networking dinner**