

**International Conference of Aerospace Sciences,
“AEROSPATIAL 2022”
13 – 14 October 2022, Bucharest, Romania
Hybrid Conference**

Agenda

Day 1 | Thursday, 13 October 2022

Day 1 Thursday, 13 October 2022			
Time (CET)		Plenary ROOM 1 (Amphitheater “Elie Carafoli”) Click to join the Hybrid Meeting	
10:00	10:20	Welcome and introduction by the Workshop Chairman Dr. Eng. Catalin NAE , President & CEO, INCAS – National Institute for Aerospace Research “Elie Carafoli”, Bucharest, Romania Dr. Eng. Fiz. Mihail-Liviu COSEREANU , Scientific director, INCAS – National Institute for Aerospace Research “Elie Carafoli”, Bucharest, Romania Prof. Dr. Eng. Daniel-Eugeniu CRUNTEANU , Dean of Faculty of Aerospace Engineering, “POLITEHNICA” University of Bucharest, Romania Dr. Fiz. Adriana STEFAN , President of the Scientific Council of the INCAS – National Institute for Aerospace Research “Elie Carafoli”, Bucharest, Romania	
Invited Speakers 10:20 – 11:50		Chair: Catalin NAE (INCAS)	
10:20	10:50	“A real application in gate assignment problems combining optimization, simulation, and delay prediction” Alejandro MURRIETA-MENDOZA* , Roberto Salvador FELIX PATRON, Miguel MUJICA MOTA Aviation Management Amsterdam University of Applied Sciences, Amsterdam, the Netherlands	
10:50	11:20	“Scaling of morphing structures: a case study on selected effects” Antonio CONCILIO* , Salvatore AMEDURI CIRA - the Italian Aerospace Research Centre, Italia	
11:20	11:50	“Hybrid manufacturing of thermoplastic composite structure” Konrad KOZACZUK* , Bartłomiej WASNIEWSKI, Wojciech KRAUZE Lukaszewicz Research Network – Institute of Aviation, Center for Composite Technologies, Warsaw, Poland	
11:50	12:50	LUNCH	
ROOMs Session 13:00 – 15:00		ROOM 1 (Amf. “Elie Carafoli”) Click to join the Hybrid Meeting ROOM 1	ROOM 2 (Materials and Tribology) Click to join the Hybrid Meeting ROOM 2
Session Title		Astronautics and Astrophysics	Materials and Structures
Session Chair(s)		Constantin OLIVOTTO (INCAS)	Adriana STEFAN (INCAS) Viorel ANGHEL (UPB)
13:00	13:20	S3.1 Relative Mechanical Movement of Bodies in Outer Space - the relative inertia Sorin Stefan RADNEF*	S4.1 FEM Applications of Catenary Type Structures Viorel ANGHEL* , Ştefan SOROHAN Daniel HODOR
Session Title		ATS and full Automation ATM	
Session Chair(s)		Constantin OLIVOTTO (INCAS)	
13:20	13:40	S7.1 Enhancing the performance of the Primary Surveillance Radar using Multilateration Nicolae CONSTANTINESCU* , Emil CONSTANTINESCU , Alina-Ioana CHIRA	S4.2 Experimental studies on grease performance during operating time Alexandru Valentin RĂDULESCU* , Irina RADULESCU
Session Title		Aerodynamics	
Session Chair(s)		Daniel-Eugeniu CRUNTEANU (UPB) Alexandru-Iulian ONEL (INCAS)	
13:40	14:00	S1.1 Active Flux Scheme for Time-Dependent, Viscous, Compressible Flows Oliviu ŞUGAR-GABOR (UK)	S4.3 Aspects regarding the load transmissibility on a squeeze film damper supported rotor Laurentiu MORARU*
14:00	14:20	S1.2 Non-Intrusive Reduced-Order Model for Unsteady Fluid Flow and Fluid-Structure Interaction Problems Oliviu ŞUGAR-GABOR (UK) , Daniel FAIRCHILD (UK)	S4.4 Lightweight reinforced thermoplastic materials for vacuum thermoformed encapsulation applications in unmanned aerial vehicles (UAVs) Cristina-Elisabeta PELIN* Maria SONMEZ , George PELIN , George Cătălin CRISTEA , Adriana ŞTEFAN , George STOIAN , Mihail BOTAN , Mihai GEORGESCU , Mihaela NITUICA , Maria Daniela STELESCU
Session Title			Experimental Investigations in Aerospace Sciences
Session Chair(s)			Cristian POSTOLACHE (IFIN-HH) Ioan URSU (INCAS)
Session Title			S6.1 On the evaluation of turbulence parameters in the wind tunnel Daniela ENCIU* , Ioan URSU , George TECUCEANU
Session Chair(s)			
Session Title			S6.2 Gamma irradiation facility for evaluation of space radiation effects on biological systems Cristian POSTOLACHE* , Andi Sebastian CUCOANES , Catalin Stelian TUTA , Gina MANDA
Session Chair(s)			
Session Title			S6.3 Opportunities at ELI-NP: Materials testing under the influence of high energy ionizing radiation Andi Sebastian CUCOANES* , Cristian POSTOLACHE , Ovidiu TESILEANU , Catalin Stelian TUTA , Gina MANDA
Session Chair(s)			
Session Title			S6.4 Analysis of the effects of electrostatic field interaction with photovoltaic cells used to power a solar UAV Andrei BUZDUGAN* , Nicolae JULA
Session Chair(s)			

14:20	14:40	S1.3 Design and analysis of a morphing winglet based on a biomimetic mechanism with flexible composite skin: Application on the UAS-S45 <i>Musavir BASHIR (Ca), Simon Longtin-MARTEL (Ca), Ruxandra Mihaela BOTEZ* (Ca), Tony WONG (Ca)</i>	S4.5 A (Historical) Review of Deployable Reflector Antennas for Space Applications <i>Bianca MOLDOVANU*</i>	S6.5 Experimental research of hydraulic cylinder with the built-in throttle for steering <i>Bogdan Adrian NICOLIN*, Ilie NICOLIN</i>
14:40	15:00	S1.4 Morphing Trailing Edge with Seamless Transition Flaps: A High-Fidelity Optimization Study <i>Mir Hossein NEGAHBAN (Ca), Ruxandra Mihaela BOTEZ* (Ca)</i>	S4.6 Microstructure, microhardness and thermal shock behavior of laser cladding MCrAlY based alloy on Nimonic 90 substrate <i>Mihail BOTAN*, Adriana STEFAN, Victor MANOLIU, Gheorghe IONESCU, George Catalin CRISTEA</i>	S6.6 Experimental Investigations of Free Air Turbulence Using Low Mass, Data Linked UAVs <i>Alexandru Marius PANAIT*</i>
15:00	15:10	Break		
Time (CET)		Plenary ROOM 1 (Amphitheater "Elie Carafoli") Click to join the Hybrid Meeting		
Invited Speakers 15:10 – 16:10		Chair: Catalin NAE, President & CEO, INCAS		
15:10	15:40	"Advanced air mobility: a dream nearing fulfillment" James A. SHERMAN Aviation Forum Executive – American Institute of Aeronautics and Astronautics (AIAA), USA		
15:40	16:10	"Artificial Neural Networks use in Unmanned Aerial Systems Modelin" Ruxandra Mihaela BOTEZ ETS, University of Quebec, Montreal, Canada		
16:10	16:20	Break		
ROOMS Session 16:20 – 18:20		ROOM 1 (Amf. "Elie Carafoli") Click to join the Hybrid Meeting ROOM 1	ROOM 2 (Materials and Tribology) Click to join the Hybrid Meeting ROOM 2	ROOM 3 (Corp B. et. 2) Click to join the Hybrid Meeting ROOM 3
Session Title		Aerodynamics	Materials and Structures	Systems, Subsystems and Control in Aeronautics
Session Chair(s)		Valentin Adrian Jean BUTOESCU (INCAS) Daniel-Eugeniu CRUNTEANU (UPB)	Adriana STEFAN (INCAS) Viorel ANGHEL (UPB)	Ioan URSU (INCAS) Sorin Stefan RADNEF (INCAS)
16:20	16:40	S1.5 Study of an autonomous hybrid solar - wind renewable energy system using HOMER <i>Alexandru DUMITRACHE*, Sergiu-Alexandru POPESCU, Radu BOGATEANU</i>	S4.7 Thermo-mechanical properties of fused filament fabricated PLA at elevated temperatures <i>Mihail BOTAN, George PELIN*, Adriana STEFAN, Cristina- Elisabeta PELIN, George- Cătălin CRISTEA</i>	S5.1 Study on commutation of power supplies used in a solar UAV <i>Andrei BUZDUGAN*, Nicolae JULA</i>
16:40	17:00	S1.6 Numerical simulations of a general aviation aircraft in the high-lift configuration <i>Ioan – Laurențiu PĂDUREANU, Ștefan BOGOS, Dorin BĂRSAN, Bogdan RUSU</i>	S4.8 Mathematical description of the functioning of the pulsatory liposome <i>Dumitru POPESCU*, Dumitru Petru IGA, Alin Gabriel POPESCU, Valentin I. R. NICULESCU</i>	S5.2 Visual based GNC system from prototype to flight software <i>Florin-Adrian STANCU*, Victor Manuel MORENO VILLA (Es), Carlos DOMÍNGUEZ SÁNCHEZ (Es),, Andrei Valentin PLĂMĂDEALĂ, Daniel OVEJERO PROVENCIO (Es)</i>
17:00	17:20	S1.7 Roll damping coefficient determination and correction for Basic Finner Model <i>Ionuț BUNESCU*, Mihai-Vlăduț HOTHAZIE, Mihai-Victor PRICOP, Mihăiță Gilbert STOICAN</i>		S5.3 Calculation of steering system parameters of a military training aircraft <i>Bogdan Adrian NICOLIN*, Ilie NICOLIN</i>
17:20	17:40	S1.8 Aerodynamic study of a small rocket engine <i>Mihai Leonida NICULESCU*, Adrian TOADER</i>		S5.4 Actuator fault reconstruction using FDI system based on sliding mode observers <i>Florin-Adrian STANCU*, Adrian-Mihail STOICA</i>
Session Title		Management in Aerospace Activities		
Session Chair(s)		Sorin Stefan RADNEF (INCAS)		
17:40	18:00	S8.1 Contractual Requirements Review and Management <i>Manuela RUSU*, Ilinca SOARE, Valentin SOARE, Sergiu TONOIU, Ovidiu BLAJINA</i>		

18:00	18:20	<p>S8.2</p> <p>Considerations regarding the risk of using counterfeit products in the aerospace industry</p> <p><i>Ilinca SOARE*, Manuela RUSU, Valentin SOARE, Sergiu TONOIU, Ovidiu BLAJINA</i></p>		
End of the 1st Day of the 10th "AEROSPATIAL", Hybrid Conference				

Day 2 | Friday, 14 October 2022

Time (CET)		Plenary ROOM 1 (Amphitheater "Elie Carafoli") Click to join the Hybrid Meeting		
10:00	10:10	<p style="text-align: center;">Welcome and introduction by the Conference Chairman Dr. Eng. Catalin NAE, President & CEO, INCAS – National Institute for Aerospace Research "Elie Carafoli", Bucharest, Romania Dr. Fiz. Adriana STEFAN, President of the Scientific Council of the INCAS – National Institute for Aerospace Research "Elie Carafoli", Romania</p>		
10:10	11:00	The "Nicolae TIPEI" – Prize Award Ceremony		
		The "Gheorghe VASILCA" – Prize Award Ceremony		
		- <i>Tribute presentation of awards by Dr. Eng. Victor MANOLIU (INCAS)</i>		
		- <i>Presentation of the awarded works</i>		
Invited Speaker 11:00 – 11:30		Chair: Catalin NAE (INCAS)		
11:00	11:30	"Current and future materials research in aerospace"		
Svjetlana STEKOVIC Associated Professor/ Docent at the Division Engineering Materials, the Department of Management and Engineering, Linköping University, Linköping, Sweden				
11:30	11:50	Coffee Break		
ROOMS Session 11:50 – 14:20		ROOM 1 (Amf. "Elie Carafoli") Click to join the Hybrid Meeting ROOM 1	ROOM 2 (Materials and Tribology) Click to join the Hybrid Meeting ROOM 2	ROOM 3 (Corp B. et. 2) Click to join the Hybrid Meeting ROOM 3
Session Title		Aerodynamics	Round Table – Current and future challenges in advanced materials and processes	WORKSHOP "Propulsion systems with detonation"
Session Chair(s)		Valentin Adrian Jean BUTOESCU (INCAS) Alexandru-Iulian ONEL (INCAS)	Mihail BOTAN (INCAS) Konrad KOZACZUK (ILOT)	Ionut PORUMBEL (COMOTI) Daniel-Eugeniu CRUNȚEANU (UPB)
11:50	12:10	<p style="text-align: center;">S1.9</p> <p>Trajectory simulation of EGLIN test case using overset mesh and adaptive mesh</p> <p style="text-align: center;">Georgiana ICHIM* Ioan – Laurențiu PĂDUREANU</p>	<p><i>INCAS – National Institute for Aerospace Research "Elie Carafoli" - Advanced materials and Tribology</i></p> <p style="text-align: center;"><i>Mihail BOTAN, Adriana STEFAN, Cristina- Elisabeta PELIN, George PELIN, George- Cătălin CRISTEA</i></p>	<p style="text-align: center;">W6.1.1</p> <p>Review of pulsed detonation engine aerodynamic systems</p> <p style="text-align: center;"><i>Andrei Vlad COJOCEA, Mihnea GALL, Daniel Cristian ASOLTANEI*, Tudor CUCIUC</i></p>
12:10	12:30	<p style="text-align: center;">S1.10</p> <p>Airfoil lift prediction using a neural network</p> <p style="text-align: center;">Adrian CHELARU*</p>	<p style="text-align: center;">Łukasiewicz Research Network – Institute of Aviation- Composite Technologies Center</p> <p style="text-align: center;">Konrad KOZACZUK (PI), Małgorzata ZALEWSKA (PI), Piotr KOPERNIAK (PI), Bartłomiej WAŚNIEWSKI (PI)</p>	<p style="text-align: center;">W6.1.2</p> <p>Detonation wave characterization in pulsed detonation engine</p> <p style="text-align: center;">Andrei Vlad COJOCEA*, <i>Mihnea GALL, Daniel-Cristian ASOLTANEI, Tudor CUCIUC, Cornel Mihai TĂRĂBÎC</i></p>
12:30	12:50	<p style="text-align: center;">S1.11</p> <p>CFD Numerical Predictions for Aerodynamic Roll Damping Coefficients on Basic Finner Model</p> <p style="text-align: center;">Mihai-Vladut HOTHAZIE*, <i>Ionut BUNESCU, Mihai-Victor PRICOP, Dumitru PEPELEA</i></p>		<p style="text-align: center;">W6.1.3</p> <p>A review of detonation based combustion architectures for modern propulsion systems</p> <p style="text-align: center;">Andrei Vlad COJOCEA*, <i>Daniel Eugeniu CRUNȚEANU</i></p>
12:50	13:00	Session change		Restricted Session
Session Title		WORKSHOP "Automatic LAnding on MOBILE PLATform (ALAMOPLAT)"		
Session Chair(s)		Achim IONITA (INCAS)		
13:00	13:20	<p style="text-align: center;">S5.1.1</p> <p>ALAMOPLAT Robotic System – a facility for RvD Simulation, Tests and Verification. Results and future development</p> <p style="text-align: center;">Achim IONIȚĂ*, Mihai TUDOSE*</p>		<p style="text-align: center;">W6.1.5</p> <p>Parametric analyzes of jet engines combustion chambers</p> <p style="text-align: center;">Vasile PRISACARIU*, <i>Irina ANDREI, Ionică CÎRCIU, Alexandru TUDOSIE</i></p>
13:20	13:40	<p style="text-align: center;">S5.1.2</p> <p>Use of robotic system for SIL/HIL simulation of an aerospace vehicle approach on a mobile platform</p> <p style="text-align: center;">Florin COSTACHE*, Sandra NICHIFOR*, <i>Nicolae APOSTOLESCU, Mihai TUDOSE, Daniel VIȘAN, Achim IONIȚĂ</i></p>		Q & A

13:40	14:00	<p>S5.1.3 Autonomous landing of a mobile air vehicle on a moving target Sandra NICHIFOR*, Florin COSTACHE*, Nicolae APOSTOLESCU, Mihai TUDOSE, Daniel VIȘAN, Achim IONIȚĂ</p>				
14:00	14:20	<p>S5.1.4 Software solution for Operational Monitoring and Control (OMC) of Robotic System on INCAS – Maneciu platform Nicolae APOSTOLESCU*, Achim IONIȚĂ*</p>				
End of the 2rd Day of the 10th "AEROSPATIAL", Hybrid Conference						