



Ministry of Research and Innovation



INCAS – National Institute for Aerospace Research “Elie Carafoli”
(Under the aegis of The Romanian Academy)

**International Conference of Aerospace Sciences,
“AEROSPATIAL 2018”
25 – 26 October 2018, Bucharest, Romania**

The conference is held under the aegis of the Ministry of Research and Innovation.

CONFERENCE DETAILED PROGRAM - “Elie CARAFOLI” Amphitheatre

Time	ID	Title	Authors and affiliation
Day 1: Thursday, October 25th, 2018			
08:00 - 18:45	Registration		
Session 1 (Welcome address and plenary) Session Chair: Catalin NAE (INCAS – National Institute for Aerospace Research “Elie Carafoli”, Bucharest, Romania)			
09:20 - 09:30	1	Welcome address	Acad. Dorel BANABIC (President of the Technical Sciences Section of the Romanian Academy)
09:30 - 09:40	2	Welcome address	TBA (Minister of Research and Innovation, RO)
09:40 - 09:50	3	Welcome address	Gen. lt. (rez) Dumitru-Dorin PRUNARIU , Dr. Eng., Cosmonaut, (Honorary Member of the Romanian Academy, Honorary President of the Romanian Space Agency)
09:50 - 10:00	4	Welcome address	Dr. Eng. Catalin NAE (President & CEO, INCAS – National Institute for Aerospace Research “Elie Carafoli”, Bucharest, Romania)
10:00 - 10:30	PL1	Research and design activity in Institute of Aviation performed with cooperation of Warsaw University of Technology and focused on novel aircraft configurations	Prof. Zdobyslaw GORAJ (Institute of Aviation, Poland)
10:30 - 11:00	PL2	High-Lift Aerodynamics – another 100 years anniversary	Dr. Ing. Jochen WILD (German Aerospace Center DLR, Germany)
11:00 - 11:15	Coffee break		

Session 2 (Plenary)			
Session Chair: Liviu COSEREANU (INCAS – National Institute for Aerospace Research “Elie Carafoli”, Bucharest, Romania)			
11:15 - 11:45	PL3	<i>New radar techniques and their applications to aviation: from research to anticipation of operational needs</i>	Prof. Marc LESTURGIE (ONERA, France)
11:45 - 12:15	PL4	<i>Advanced Numerical Modeling of Impact and Other High Strain Rate Phenomena in Aeronautical Structures</i>	Prof. Ivica SMOJVER (University of Zagreb, Croatia)
12:15 - 12:45	PL5	<i>Various Wing Morphing Technologies Simulation and Experimental Tests Research</i>	Prof. Dr. Eng. Ruxandra Mihaela BOTEZ (ETS, University of Quebec, Montreal, Canada)
12:45 - 13:00	Book launch: “Si noi am construit avioane IAR 93, 99, supersonicul 95” – Mihail CALOMFIRESCU (Germany)		
13:00 - 14:00	Lunch		
Session 3 (Plenary)			
Session Chair: Sorin RADNEF (INCAS – National Institute for Aerospace Research “Elie Carafoli”, Bucharest, Romania)			
14:00 - 14:30	PL6	<i>Rotorcraft Transmissions: Improvement of traditional gearboxes, transmissions for new rotorcraft concepts, safety of drivetrains – approaches of TU Wien</i>	Univ.-Prof. Dipl.-Ing. Dr.-Ing. Michael WEIGAND (Vienna University of Technology, Austria)
Session 4 (Section works). Aerodynamics			
Session Chairs: Sterian DANAILA (POLITEHNICA University of Bucharest, Romania), Marius STOIA-DJESKA (POLITEHNICA University of Bucharest, Romania)			
14:30 - 14:45	S1.1	<i>Wing in Ground Effect over a Wavy Surface (3D Case)</i>	Valentin BUTOESCU (Aerospace Consulting, Bucharest, Romania)
14:45 - 15:00	S1.2	<i>Estimation of Wind Tunnel Corrections Using Potential Models</i>	Ionut BUNESCU (INCAS – National Institute for Aerospace Research “Elie Carafoli”, Bucharest, Romania), Sterian DANAILA (“POLITEHNICA” University of Bucharest, Faculty of Aerospace Engineering, Romania), Mihai-Victor PRICOP (INCAS – National Institute for Aerospace Research “Elie Carafoli”, Bucharest, Romania), Adrian DINA (INCAS – National Institute for Aerospace Research “Elie Carafoli”, Bucharest, Romania)
15:00 - 15:15	S1.3	<i>Nonlinear Lifting-Line Model using a Vector Formulation of the Unsteady Kutta-Joukowski Theorem</i>	Oliviu ŞUGAR GABOR (Aeronautical and Mechanical Engineering, School of Computing, Science and Engineering, University of Salford, UK)
15:15 - 15:30	S1.4	<i>The Sensitivities of the Surface Pressure for the Indirect Determination of the Mach Number and Angle of Attack of Supersonic Flows over Sharp and Multi-Slopes Wedge</i>	Marius STOIA-DJESKA (“POLITEHNICA” University of Bucharest, Faculty of Aerospace Engineering), Florin FRUNZULICA (“POLITEHNICA” University of Bucharest, Faculty of Aerospace Engineering, Romania) and Florin MINGIREANU (Romanian Space Agency, Bucharest, Romania)

15:30 - 15:45	S1.5	<i>The Twisted Contact Structures in Turbulent Flows</i>	Horia DUMITRESCU (“Gheorghe Mihoc – Caius Iacob” Institute of Mathematical Statistics and Applied Mathematics of the Romanian Academy, Bucharest, Romania), Vladimir CARDOS (“Gheorghe Mihoc – Caius Iacob” Institute of Mathematical Statistics and Applied Mathematics of the Romanian Academy, Bucharest, Romania), Radu BOGATEANU (INCAS – National Institute for Aerospace Research “Elie Carafoli”, Bucharest, Romania)
15:45 - 16:00	S1.6	<i>Using genetic algorithms to optimize aerodynamic profiles in incompressible flow</i>	Adrian DINA (INCAS – National Institute for Aerospace Research “Elie Carafoli”, Bucharest, Romania), Sterian DĂNĂILĂ (“POLITEHNICA” University of Bucharest, Faculty of Aerospace Engineering, Romania), Mihai-Victor PRICOP (INCAS – National Institute for Aerospace Research “Elie Carafoli”, Bucharest, Romania), Ionut BUNESCU (INCAS – National Institute for Aerospace Research “Elie Carafoli”, Bucharest, Romania)
Session 5 (Section works). Aerodynamics Session Chairs: Valentin SILIVESTRU (COMOTI – Romanian Research & Development Institute for Gas Turbines, Bucharest, Romania), Valentin BUTOESCU (Aerospace Consulting, Bucharest, Romania)			
15:00 - 16:15	S1.7	<i>Possible Design of a Future Electrical/BLI European Business/Passenger Aircraft with Dispersing of Shock Wave through Corona Effect</i>	Constantin SANDU (COMOTI – Romanian Research & Development Institute for Gas Turbines, Bucharest, Romania), Valentin SILIVESTRU (COMOTI – Romanian Research & Development Institute for Gas Turbines, Bucharest, Romania), Bogdan FILIPESCU (TELETRANS, Craiova, Romania), Constantin-Radu SANDU (S.C. Structural Management Solutions S.R.L., Bucharest, Romania)
16:15 - 16:30	Coffee break		
Session 6 (Section works). Aerodynamics Session Chairs: Valentin SILIVESTRU (COMOTI – Romanian Research & Development Institute for Gas Turbines, Bucharest, Romania), Valentin BUTOESCU (Aerospace Consulting, Bucharest, Romania)			
16:30 - 16:45	S1.8	<i>Development of a genetic algorithm for aerodynamic shape optimization</i>	Lucian CONSTANTIN, Ciprian-Marius LARCO, Maria DEMȘA, Paul-Virgil ROȘU (Military Technical Academy, SATAS Center of Excellence, Bucharest, Romania)
16:45 - 17:00	S1.9	<i>Applications of the Coanda Effect in Aerospace Technology - a Review</i>	Alexandru DUMITRACHE (“Gheorghe Mihoc – Caius Iacob” Institute of Mathematical Statistics and Applied Mathematics of the Romanian Academy, Calea 13 Septembrie 13, 050711 Bucharest, Romania), Florin FRUNZULICA (“Gheorghe Mihoc – Caius Iacob” Institute of Mathematical Statistics and Applied Mathematics of the Romanian Academy, Calea 13 Septembrie 13, 050711 Bucharest, Romania, “POLITEHNICA” University of Bucharest, Faculty of Aerospace Engineering, Department of Aerospace Sciences “Elie Carafoli”, Str. Polizu 1-7, 011061, România), Horia DUMITRESCU (“Gheorghe Mihoc – Caius Iacob” Institute of Mathematical Statistics and Applied Mathematics of the Romanian Academy, Calea 13 Septembrie 13, 050711 Bucharest, Romania)

Session 7 (Section works). Astronautics and Astrophysics			
Session Chair: Corneliu BERBENTE (<i>"POLITEHNICA" University of Bucharest, Faculty of Aerospace Engineering, România</i>)			
17:00 - 17:15	S3.1	<i>An Interpretation of the Black Energy in Universe by Using a Hydro-Dynamical Model of the Newtonian Gravity</i>	Corneliu BERBENTE (<i>"POLITEHNICA" University of Bucharest, Faculty of Aerospace Engineering, România</i>), Sorin BERBENTE (<i>INCAS – National Institute for Aerospace Research "Elie Carafoli", Bucharest, Romania</i>)
17:15 - 17:30	S3.2	<i>Regression Rate Sensitivities for the Mathematical Modeling of Solid and Hybrid Rocket Motors</i>	Marius STOIA-DJESKA (<i>"POLITEHNICA" University of Bucharest, Faculty of Aerospace Engineering, România</i>) and Florin MINGIREANU (<i>Romanian Space Agency, Bucharest, Romania</i>)
Session 8 (Section works). Astronautics and Astrophysics			
Session Chair: Constantin SANDU (<i>COMOTI – Romanian Research & Development Institute for Gas Turbines, Bucharest, Romania</i>)			
17:30 - 17:45	S3.3	<i>The future of Air Space Industries based on Space Advanced Research Dark Energy power and Dark Matter pre-physical structure</i>	Gheorghe RADULESCU (<i>Sanremo (IM) Italy</i>)
17:45 - 18:00	S3.4	<i>Technology for Reaching of Alfa-Centaury Star by the End of This Century</i>	Constantin SANDU (<i>COMOTI – Romanian Research & Development Institute for Gas Turbines, Bucharest, Romania</i>), Valentin SILIVESTRU (<i>COMOTI – Romanian Research & Development Institute for Gas Turbines, Bucharest, Romania</i>), Constantin-Radu SANDU (<i>S.C. Structural Management Solutions S.R.L., Bucharest, Romania</i>)
18:00 - 18:15	S3.5	<i>Using PID Controller and SDRE methods for tracking control of Spacecrafts in Closed-Rendezvous Process</i>	Thein Van NGUYEN (<i>INCAS – National Institute for Aerospace Research "Elie Carafoli", Bucharest, Romania</i>), Ana-Maria BORDEI (<i>INCAS – National Institute for Aerospace Research "Elie Carafoli", Bucharest, Romania</i>) and <i>"POLITEHNICA" University of Bucharest, Faculty of Aerospace Engineering, România</i>), Achim IONITA (<i>INCAS – National Institute for Aerospace Research "Elie Carafoli", Bucharest, Romania</i>)
18:15 - 18:30	S3.6	<i>Kinematical Structure for the Three Body problem</i>	Sorin RADNEF (<i>INCAS – National Institute for Aerospace Research "Elie Carafoli", Bucharest, Romania</i>)
Session 9 (Section works). ATS and full Automation ATM			
Session Chair: Sorin RADNEF (<i>INCAS – National Institute for Aerospace Research "Elie Carafoli", Bucharest, Romania</i>)			
18:30 - 18:45	S7.1	<i>Optimising ATM – Modular Network Management</i>	Ionut-Cristian PEREDERIC , Ionel SIMION (<i>"POLITEHNICA" University of Bucharest, Department "Engineering Graphics and Industrial Design", Faculty of Aerospace Engineering, Bucharest, Romania</i>)
19:00	Gala Dinner – Restaurant "Turbotequila"		