

International Conference of Aerospace Sciences

“AEROSPATIAL 2010”

Bucharest, 20-21 October, 2010

GRAPHIC PROGRAM

Hour	20 October 2010			Hour	21 October 2010	
8. ⁰⁰ -9. ⁰⁰	REGISTRATION Cofee Break			9. ⁰⁰ -10. ⁰⁰	REGISTRATION Cofee Break	
9. ⁰⁰ -9. ³⁰	OPENING SESSIONS			10. ⁰⁰ -10. ²⁰	Plenary Session	
10. ⁰⁰ -10. ²⁰	Plenary Session					
10. ⁴⁰ -11. ⁰⁰	S1.1.1	S2.1.1	S5.1.1	10. ⁴⁰ -11. ⁰⁰	S4.2.1	S7.1.1
11. ⁰⁰ -11. ²⁰	S1.1.2	S2.1.2	S5.1.2	11. ⁰⁰ -11. ²⁰	S4.2.2	S7.1.2
11. ²⁰ -11. ⁴⁰	S1.1.3	S2.1.3	S5.1.3	11. ²⁰ -11. ⁴⁰	S4.2.3	S7.1.3
11. ⁴⁰ -12. ⁰⁰	S1.1.4	S2.1.4	S5.1.4	11. ⁴⁰ -12. ⁰⁰	S4.2.4	S7.1.4
12. ⁰⁰ -12. ²⁰	S1.1.5	S2.1.5	S5.1.5	12. ⁰⁰ -12. ²⁰	S4.2.5	S7.1.5
12. ²⁰ -12. ⁴⁰	S1.1.6	S2.1.6	S5.1.6	12. ²⁰ -12. ⁴⁰	S4.2.6	S7.1.6
12. ⁴⁰ -13. ⁰⁰	S1.1.7	S2.1.7	S5.1.7	12. ⁴⁰ -13. ⁰⁰	S4.2.7	S7.1.7
13. ⁰⁰ -14. ⁰⁰	Lunch			13. ⁰⁰ -14. ⁰⁰	Lunch	
14. ⁰⁰ -14. ²⁰	S1.2.1	S2.2.1	S5.2.1	14. ⁰⁰ -14. ²⁰	S4.3.1	S7.2.1
14. ²⁰ -14. ⁴⁰	S1.2.2	S2.2.2	S5.2.2	14. ²⁰ -14. ⁴⁰	S4.3.2	S7.2.2
14. ⁴⁰ -15. ⁰⁰	S1.2.3	S2.2.3	S5.2.3	14. ⁴⁰ -15. ⁰⁰	S4.3.3	S7.2.3
15. ⁰⁰ -15. ²⁰	S1.2.4	S4.1.1	S5.2.4	15. ⁰⁰ -15. ²⁰	S4.3.4	S7.2.4
15. ²⁰ -15. ⁴⁰	S1.2.5	S4.1.2	S5.2.5	15. ²⁰ -15. ⁴⁰		S7.2.5
15. ⁴⁰ -16. ⁰⁰	S1.2.6	S4.1.3	S5.2.6	15. ⁴⁰ -16. ⁰⁰		S7.2.6
16. ⁰⁰ -16. ²⁰	Cofee Break			16. ⁰⁰ -16. ²⁰		S7.2.7
16. ²⁰ -16. ⁴⁰	S1.2.7	S4.1.4	S6.1.1	CLOSING SESSIONS		
16. ⁴⁰ -17. ⁰⁰	S1.2.8	S4.1.5	S6.1.2			
17. ⁰⁰ -17. ²⁰	S1.2.9	S4.1.6	S6.1.3			
17. ²⁰ -17. ⁴⁰	S1.2.10	S4.1.7	S6.1.4			
17. ⁴⁰ -18. ⁰⁰	S1.2.11	S4.1.8	S6.1.5			
18. ⁰⁰ -18. ²⁰	S1.2.12	S4.1.9	S6.1.6			
18. ²⁰ -18. ⁴⁰	S3.1.1	S4.1.10	S6.1.7			
18. ⁴⁰ -19. ⁰⁰	S3.1.2	S4.1.11	S6.1.8			
19. ⁰⁰ -19. ²⁰	S3.1.3	S4.1.12	S6.1.9			
19. ³⁰	DINNER					

- S1 - Section 1. Aerodynamics
- S2 - Section 2. Flight Mechanics and Systems Integration
- S3 - Section 3. Astronautics and Astrophysics
- S4 - Section 4. Materials and Structures
- S5 - Section 5. Systems, Subsystems and Control
- S6 - Section 6. Experimental investigations in aerospace sciences
- S7 - Section 7. Management in aerospace activities

- “ELIE CARAFOLI” Amphitheatre
- “Nicolae TIPEI” Amphitheatre
- “Alexe MARINESCU” Conference room, Building block B, First Floor

CONFERENCE PROGRAM

Wednesday 20.10.2010 – “ELIE CARAFOLI” Amphitheatre

Hour: 8.⁰⁰ - 9.⁰⁰ REGISTRATION

9.⁰⁰ - 9.³⁰ OPENING SESSIONS

Welcome speech:

- Cătălin NAE, General Manager, INCAS
- Prof. Corneliu BERBENTE, UPB
- Marius-Ioan PISO, President of ROSA

PLENARY SESSION

Hour: 10.⁰⁰-10.²⁰ *Invited lecturer*

Prof. Victor GIURGIUȚIU (University of South Carolina, Mechanical Engineering Dept., Columbia, SC, USA) *Structural Health Monitoring of Aerospace Structures with Piezoelectric Wafer Active Sensors*

Wednesday 20.10.2010 – “ELIE CARAFOLI” Amphitheatre

Section 1. Aerodynamics

Wednesday 20.10.2010. Morning Session

S1.1 Chairmen:

Horia DUMITRESCU
Ștefan BOGOS

Hour: 10.⁴⁰-11.⁰⁰

S1.1.1 *Prediction of ice shapes and effects of roughness on aerodynamic performance.* Maria ALEXANDRESCU and Nicușor ALEXANDRESCU (INCAS - National Institute for Aerospace Research “Elie Carafoli”)

Hour: 11.⁰⁰-11.²⁰

S1.1.2 *An improved analytical solution for the inviscid incompressible flow in a 2-D channel with wall fluid injection and wall regression.* Corneliu BERBENTE; Sterian DĂNĂILĂ and Sorin BERBENTE (“POLITEHNICA” University of Bucharest, Faculty of Aerospace Engineering)

Hour: 11.²⁰-11.⁴⁰

S1.1.3 *An Analytical Model for Inviscid Incompressible Flow around Lifting Surfaces of any Shape.* Marius BREBENEL (“POLITEHNICA” University of Bucharest)

Hour: 11.⁴⁰-12.⁰⁰

S1.1.4 *The rotational velocities evaluation for the engine mounts gyroscopic loads.* Ștefan BOGOS (GECI Engineering Services s.r.l. Romania)

Hour: 12.⁰⁰-12.²⁰

S1.1.5 **A Vortex Method Approach to Study the Flow about Wings and Bodies.** Valentin BUTOESCU*, Andrei CRĂIFĂLEANU**, Ștefan NEBANCEA* (*INCAS - National Institute for Aerospace Research "Elie Carafoli", **"POLITEHNICA" University of Bucharest)

Hour: 12.²⁰-12.⁴⁰

S1.1.6 **A Vortex Model of a Ducted Propeller and its Free Jet.** Valentin BUTOESCU, Ștefan NEBANCEA, Cornelia NIȚĂ (INCAS - National Institute for Aerospace Research "Elie Carafoli")

Hour: 12.⁴⁰-13.⁰⁰

S1.1.7 **Numerical Investigation of the Free Boundary Flow past an Obstacle.** Adrian CARABINEANU*, Ștefan Gicu CRUCEANU** (*University of Bucharest, **"Gheorghe Mihoc-Caius Iacob" Institute of Mathematical Statistics and Applied Mathematics of Romanian Academy)

Hour: 13.⁰⁰-14.⁰⁰

Lunch

Wednesday 20.10.2010 – “ELIE CARAFOLI” Amphitheatre

Section 1. Aerodynamics

Wednesday 20.10.2010. Afternoon Session

S1.2 Chairmen:

**Adriana NĂSTASE
Adrian CARABINEANU**

Hour: 14.⁰⁰-14.²⁰

S1.2.1 **On the use of Lattice Boltzmann methods for reduced order modeling of bluff body aerodynamics.** Marius Gabriel COJOCARU, Claudiu Cristian VĂDEAN (INCAS - National Institute for Aerospace Research "Elie Carafoli")

Hour: 14.²⁰-14.⁴⁰

S1.2.2 **Blowing Jet as an Active Circulation Enhancement for Horizontal Axis Wind Turbine.** Alexandru DUMITRACHE*, Horia DUMITRESCU*, Octavian PREOTU**, Florin FRUNZULICĂ****, (**"Gheorghe Mihoc-Caius Iacob" Institute of Mathematical Statistics and Applied Mathematics of Romanian Academy, Bucharest, **University of Craiova, Avionics Department, ****"POLITEHNICA" University of Bucharest)

Hour: 14.⁴⁰-15.⁰⁰

S1.2.3 **An Improved BEM Model for the Power Prediction of Vertical Axis Wind Turbines.** Horia DUMITRESCU*, Radu BOGĂȚEANU**, Vladimir CARDOȘ* (**"Gheorghe Mihoc-Caius Iacob" Institute of Mathematical Statistics and Applied Mathematics of Romanian Academy, **INCAS - National Institute for Aerospace Research "Elie Carafoli")

Hour: 15.⁰⁰-15.²⁰

S1.2.4 **Computational studies of the effects of turbulent wall jet over a curved surface.** Florin FRUNZULICĂ^{*,**}, Alexandru DUMITRACHE^{*}, Horia DUMITRESCU^{*}, Vladimir CARDOȘ^{*} ("POLITEHNICA" University of Bucharest, Faculty of Aerospace Engineering, "Gheorghe Mihoc-Caius Iacob" Institute of Mathematical Statistics and Applied Mathematics of Romanian Academy)

Hour: 15.²⁰-15.⁴⁰

S1.2.5 **In-flight Ice Accretion Prediction Code.** Vladimir HORAK^{*}, Zdenek CHARA^{**} (*University of Defence, Brno, Czech Republic, **Institute of Hydrodynamics, Academy of Sciences of the Czech Republic)

Hour: 15.⁴⁰-16.⁰⁰

S1.2.6 **Analysis of Low-Reynolds-Number Flows past Airfoils.** Dan Mateescu (McGill University, Department of Mechanical Engineering, H3A 2K6, Montreal, Quebec, Canada)

Hour: 16.⁰⁰-16.²⁰

Cofee break

Hour: 16.²⁰-16.⁴⁰

S1.2.7 **Simulation of Wake Vortex Aircraft Submitted to Ground Effect.** Cristian-Emil MOLDOVEANU^{*}, Andre GIOVANNINI^{**}, Henri-Claude BOISSON^{**}, Pamfil ȘOMOIAG^{*} (*Military Technical Academy Bucharest and **Institute of Fluid Mechanics Toulouse, France)

Hour: 16.⁴⁰-17.⁰⁰

S1.2.8 **Local correlations for flap gap oscillatory blowing active flow control technology.** Cătălin NAE (INCAS - National Institute for Aerospace Research "Elie Carafoli", Bucharest)

Hour: 17.⁰⁰-17.²⁰

S1.2.9 **A Finite Element Approach for a Darcy-Stokes Flow.** Alin POHOAȚĂ^{*}, Emil LUNGU^{*}, Adrian CARABINEANU^{**} (*Valahia University of Târgoviște, **University of Bucharest, Romania)

Hour: 17.²⁰-17.⁴⁰

S1.2.10 **The Determination of the Parameters Characterizing a Cycle of the Pulsatory Vesicle.** Dumitru POPESCU^{*} and Alin Gabriel POPESCU^{**} (*Department of Mathematical Modelling in Life Sciences, "Gheorghe Mihoc-Caius Iacob" Institute of Mathematical Statistics and **Applied Mathematics of Romanian Academy, Department of Computer Sciences, IT CORE SRL)

Hour: 17.⁴⁰-18.⁰⁰

S1.2.11 **Internal Flow Modelling for Combustion Chamber of Turbojet Engines.** Constantin ROTARU (Department of Aviation Integrated Systems, Military Technical Academy)

Hour: 18.⁰⁰-18.²⁰

S1.2.12 **A Method for Aerodynamic Interference Calculation of Some Non-Planar Body-Tails Arrangements.** Mihai NEAMȚU, Ștefan NEBANȚEA (INCAS - National Institute for Aerospace Research "Elie Carafoli", Bucharest)

Wednesday 20.10.2010 – “ELIE CARAFOLI” Amphitheatre

Section 3. Astronautics and Astrophysics

Wednesday 20.10.2010. Afternoon Session

S3.1 Chairman:

George SAVU

Hour: **18.²⁰-18.⁴⁰**

S3.1.1 *An Overview of Theory and Design of Sonic Electromagnetic Gravitational Spacecraft (SEGS)*. Constantin SANDU*, Dan BRAȘOVEANU** (*SC Turbomecanica SA - Bucharest Romania, **CSC-Washington USA)

Hour: **18.⁴⁰-19.⁰⁰**

S3.1.2 *Earth-Mars Similarity Criteria for Martian Vehicles*. George SAVU*, Octavian TRIFU** (*COMOTI National Research and Development Institute for Gas Turbines, Bucharest, Romania, **Ecole Polytechnique Montreal, Canada)

Hour: **19.⁰⁰-19.²⁰**

S3.1.3 *Relative Motion of Multibody Systems with Respect to Circular Orbits*. Ion STROE, Petrișor PÂRVU (“POLITEHNICA” University of Bucharest, Romania)

Hour: **19.³⁰**

DINNER

Wednesday 20.10.2010 – “Nicolae TIPEI” Amphitheatre

Section 2. Flight Mechanics and Systems Integration

Wednesday 20.10.2010. Morning Session

S2.1 Chairmen:

Cornel Șerban OPRIȘIU
Neculai PĂUN

Hour: 10.⁴⁰-11.⁰⁰

S2.1.1 **Multirotor, Multifunctional VTOL Flying Platform.** Florin FRUNZULICĂ, Sorin DINEA
("POLITEHNICA" University of Bucharest, Faculty of Aerospace Engineering, Romania)

Hour: 11.⁰⁰-11.²⁰

S2.1.2 **Echipment Future directions to be followed in the development of military aircraft maneuverability.** Alexandru GHEORGHIU, Mircea BOȘCOIANU (Air Force Academy
"Henri Coanda" Brasov, Romania)

Hour: 11.²⁰-11.⁴⁰

S2.1.3 **Landing gear shock control with MR devices.** Gheorghe GHIȚĂ*, Constantin CĂLINOIU** (*Institute for Theoretical and Experimental Analysis of Aeronautical Structures STRAERO, Bucharest, **"POLITEHNICA" University of Bucharest – CCEPM, Romania)

Hour: 11.⁴⁰-12.⁰⁰

S2.1.4 **Saab 2000 AEW&C – Platform Flight Testing.** Daniela SVENSSON (Flight Test Engineer
Performance & Flying Qualities, Flight Dynamics, Saab Aerosystems, Sweden)

Hour: 12.⁰⁰-12.²⁰

S2.1.5 **Integrated Modelling Concept of Helicopter Dynamics considering Body Rotor Couplings for Multidisciplinary Design Optimization and Flying Qualities.** Achim IONIȚĂ*, Sorin RADNEF**, Ionel POPESCU* (*Institute for Theoretical and Experimental Analysis of Aeronautical Structures STRAERO, Bucharest, **INCAS - National Institute for Aerospace Research "Elie Carafoli").

Hour: 12.²⁰-12.⁴⁰

S2.1.6 **Spatial disorientation, a model proposition.** Cornel Șerban OPRIȘIU (INCAS - National
Institute for Aerospace Research "Elie Carafoli")

Hour: 12.⁴⁰-13.⁰⁰

S2.1.7 **Jet engine thrust on ground determination method using differential GPS.** Neculai PĂUN (Flight Test Center (CCIZ), Craiova, Romania)

Hour: 13.⁰⁰-14.⁰⁰

Lunch

Wednesday 20.10.2010 – “Nicolae TIPEI” Amphitheatre

Section 2. Flight Mechanics and Systems Integration

Wednesday 20.10.2010. Afternoon Session

S2.2 Chairmen:

**Cornel Șerban OPRIȘIU
Neculai PĂUN**

Hour: **14.⁰⁰-14.²⁰**

S2.2.1 *Direction cosine matrix method. Inertial control and command system for scale model airplanes.* Dan-Ștefan PÂRVU, Petrișor Valentin PÂRVU (“POLITEHNICA” University of Bucharest)

Hour: **14.²⁰-14.⁴⁰**

S2.2.2 *The study of the active control of air flow in a supersonic air plane’s admission device.* Andreea Cristina PETCU (COMOTI National Research and Development Institute for Gas Turbines, Romania)

Hour: **14.⁴⁰-15.⁰⁰**

S2.2.3 *Common aspects and differences in the behaviour of classical configuration versus canard configuration aircraft in the presence of vertical gusts, assuming the hypothesis of an elastic fuselage.* Octavian PREOTU*, Alexandru DUMITRACHE**, Mihai LUNGU* (*University of Craiova, Avionics Department, **"Gheorghe Mihoc-Caius Iacob" Institute of Mathematical Statistics and Applied Mathematics of Romanian Academy)

Wednesday 20.10.2010 – “Nicolae TIPEI” Amphitheatre

Section 4. Materials and Structures

Wednesday 20.10.2010. Afternoon Session

S4.1 Chairmen:

Viorel ANGHEL
Ion DINCĂ

Hour: 15.⁰⁰-15.²⁰

S4.1.1 **Practical Aspects of the Use of Infrared Thermography as NDT for Aerospace Structures.** Viorel ANGHEL, Nicolae CONSTANTIN, Andreea BORITU, Mircea GĂVAN, Ștefan SOROHAN (“POLITEHNICA” University of Bucharest, Department of Strength of Materials, Laboratory for integrity evaluation of composite structures)

Hour: 15.²⁰-15.⁴⁰

S4.1.2 **Analysis of a composite material landing gear from a light aircraft.** Dragoș Alexandru APOSTOL*, Matei Constantin MIRON*, Dan Mihai CONSTANTINESCU*, Marin SANDU*, Dorin ROȘU**, Mădălina STOICA* (*Department of Strength of Materials, “POLITEHNICA” University of Bucharest, **Compozite SRL, Brasov, Romania)

Hour: 15.⁴⁰-16.⁰⁰

S4.1.3 **Buckling of Flat Plates under Axial Loading. A Comparison between Numeric Methods and Hand Calculations.** Radu BISCĂ*, Bogdan CALOIAN** (*INCAS - National Institute for Aerospace Research “Elie Carafoli”, **Department of Strength of Materials “POLITEHNICA” University of Bucharest)

Hour: 16.⁰⁰-16.²⁰

Cofee break

S4.1 Chairmen:

Daniela BARAN
Ion DINCĂ

Hour: 16.²⁰-16.⁴⁰

S4.1.4 **ALOAD- a code to determine concentrated forces equivalent with a distributed pressure field for a FEM analysis.** Daniela BARAN, Nicolae APOSTOLESCU (INCAS - National Institute for Aerospace Research “Elie Carafoli”)

Hour: 16.⁴⁰-17.⁰⁰

S4.1.5 **Loads in the Design of Flight Vehicles.** Dorin LOZICI-BRÎNZEI*, Simion TĂTARU**, Daniela BARAN* (*INCAS - National Institute for Aerospace Research “Elie Carafoli”, **Aerospace Consulting, Romania)

Hour: 17.⁰⁰-17.²⁰

S4.1.6 **Coupling Multiphysics Phenomena with a Single FEA Solver: MD NASTRAN.** Mircea BOCIOAGĂ (MAGIC Engineering S.R.L., Brasov, Romania)

Hour: 17.²⁰-17.⁴⁰

S4.1.7 Numerical Simulation for UAV Wing Structure. Adina BOTEANU, Petru MAZĂRE, Mihai ENACHE (Military Equipment and Technologies Research Agency, Romania)

Hour: 17.⁴⁰-18.⁰⁰

S4.1.8 The Romanian Agrarian Aeroplane Realization by the Engineer Radu Manicatide. Mircea Dimitrie CAZACU ("POLITEHNICA" University of Bucharest, Hydraulics and Hydraulic Machines Department)

Hour: 18.⁰⁰-18.²⁰

S4.1.9 Analysis of Propagation Modes in H Plan Composed Waveguides for Increasing the Sensitivity of Tracking Aircraft with High Maneuverability. Mihai ENACHE, Adina BOTEANU, Oana PORUMB (Military Equipment and Technologies Research Agency, Romania)

Hour: 18.²⁰-18.⁴⁰

S4.1.10 Some Aspects of the Explosive Forming Application in the Aerospace Industry. Victor GHIZDAVU*, Niculae MARIN** (*Military Technical Academy of Bucharest, **Aerospace Consulting, Romania)

Hour: 18.⁴⁰-19.⁰⁰

S4.1.11 Electrothermic Actuators with Applications in the Morphing Wing Systems. Mircea IGNAT, Gabriela HRISTEA, Ioan PUFLEA (National Institute of Electrical Engineering Researche-Advanced Researche (INCDIE-CA, Dep. MNE), Romania)

Hour: 19.⁰⁰-19.²⁰

S4.1.12 Applications of the Magnetostrictive Actuators in the Aerospace Structures. Mircea IGNAT, Laurențiu CĂTĂNESCU, Ioan PUFLEA (National Institute of Electrical Engineering Researche-Advanced Researche (INCDIE-CA, Dep. MNE), Romania)

Hour: 19.³⁰

DINNER

Wednesday 20.10.2010 – “Alexe MARINESCU” Hall

Section 5. Systems, Subsystems and Control

Wednesday 20.10.2010. Morning Session

S5.1 Chairmen:

Ștefan BALINT
Teodor-Viorel CHELARU

Hour: 10.⁴⁰-11.⁰⁰

S5.1.1 **Attenuation of sound emissions in the intakes and bypass ducts of turbofan aircraft engines.** Ștefan BALINT, M.-Agneta BALINT, Mirela DARAU (West University of Timisoara, Romania)

Hour: 11.⁰⁰-11.²⁰

S5.1.2 **Unmanned aircrafts and guided missiles, configurations, technical solutions, performances.** Teodor-Viorel CHELARU*, Niculae MARIN**, Adrian CHELARU* (*“POLITEHNICA” University of Bucharest, **INCAS - National Institute for Aerospace Research “Elie Carafoli”)

Hour: 11.²⁰-11.⁴⁰

S5.1.3 **Free Flight vs. Centralized Air Traffic Management.** Bogdan DONCIU, Octavian Thor PLETER (“POLITEHNICA” University of Bucharest)

Hour: 11.⁴⁰-12.⁰⁰

S5.1.4 **Analysis of the Miniaturized Inertial Sensors Stochastic Errors with the Allan Variance Method: A Review.** Teodor Lucian GRIGORIE, Mihai Aureliu LUNGU, Ioana Raluca EDU, Radu OBREJA (University of Craiova, Faculty of Electrical Engineering, Avionics Division, Romania)

Hour: 12.⁰⁰-12.²⁰

S5.1.5 **Data Encryption Solution for Secured Radio Communications with Mini UAV-SACT BOREAL5.** Gheorghe GUIMAN, Gigi-Daniel BUDARIU, Gabriel TÂRȘA, Ionuț RĂDOI (Military Equipment and Technology Research Agency, Romania)

Hour: 12.²⁰-12.⁴⁰

S5.1.6 **Aircraft Piloting Capability Assessment.** Pericle Gabriel MATEI (Institute for Theoretical and Experimental Analysis of Aeronautical Structures STRAERO, Romania)

Hour: 12.⁴⁰-13.⁰⁰

S5.1.7 **Upgrading the turbojet engine test bench at Aerostar SA.** Laurian Tiberiu MOCANU, Alexandru Tristian BALMUȘ, Anton PAL, Adrian DUMITRESCU, Ștefan POPA (Aerostar SA Bacau, Romania)

Hour: 13.⁰⁰-14.⁰⁰

Lunch

Wednesday 20.10.2010 – “Alexe MARINESCU” Hall

Section 5. Systems, Subsystems and Control

Wednesday 20.10.2010. Afternoon Session

S5.2 Chairmen:

Mihai POPESCU
Ioan URSU

Hour: 14.⁰⁰-14.²⁰

S5.2.1 **Prediction of Pilot Induced Oscillations.** Valentin PANĂ (“POLITEHNICA” University of Bucharest)

Hour: 14.²⁰-14.⁴⁰

S5.2.2 **Minimum Time Control and Minimum Energy Problem for Linear Systems in Hilbert Spaces.** Mihai POPESCU (“Gheorghe Mihoc-Caius Iacob” Institute of Mathematical Statistics and Applied Mathematics of Romanian Academy)

Hour: 14.⁴⁰-15.⁰⁰

S5.2.3 **Methodologies for robust control of piezoelectric smart structures. Theoretical and experimental results.** Ioan URSU*, Lucian IORGA**, George TECUCEANU*, Adrian TOADER*, (*INCAS - National Institute for Aerospace Research “Elie Carafoli”, Romania)

Hour: 15.⁰⁰-15.²⁰

S5.2.4 **Unfalsified Control; Application to automatic flight control system design.** Andrei NEAMȚU*, Adrian-Mihail STOICA** (*INCAS - National Institute for Aerospace Research “Elie Carafoli”, **“POLITEHNICA” University of Bucharest)

Hour: 15.²⁰-15.⁴⁰

S5.2.5 **Reducing Fuel Consumption in Bucharest Terminal Area for Flights Using a Standard Instrument Departure.** Alin George DIACONU, Octavian Thor PLETER, Virgil STANCIU (“POLITEHNICA” University of Bucharest, Faculty of Aerospace Engineering, Romania).

Hour: 15.⁴⁰-16.⁰⁰

S5.2.6 **Some Aspects Regarding the Modeling of Highly Pressurized Squeeze Film Dampers.** Laurențiu MORARU (“POLITEHNICA” University of Bucharest, Faculty of Aerospace Engineering, The “Elie Carafoli” Chair of Aerospace Sciences)

Hour: 16.⁰⁰-16.²⁰

Cofee break

Wednesday 20.10.2010 – “Alexe MARINESCU” Hall

Section 6. Experimental investigations in aerospace sciences

Wednesday 20.10.2010. Afternoon Session

S6.1 Chairmen:

Eugen DUMITRU
Niculae MARIN

Hour: 16.²⁰-16.⁴⁰

S6.1.1 **Aspects regarding an innovative design of a low cost wind tunnel for supporting the education in academia.** Călin-Cornel BRUDAN, Ionică CIRCIU, Simona LAZA (Air Force Academy “Henry Coanda”, Brasov, Romania)

Hour: 16.⁴⁰-17.⁰⁰

S6.1.2 **Synchronized processing of flight test parameters with audio-video information provided by the avionics system of IAR 99 SOIM aircraft.** Eugen DUMITRU (Research and Flight Test Center, Romania)

Hour: 17.⁰⁰-17.²⁰

S6.1.3 **Numerical Simulation of DFB-FL Sensors for Aeronautical Applications.** Ion LĂNCRĂNJAN*, Sorin MICLOȘ**, Dan SAVASTRU** (*Advanced Study Center–National Institute of Aerospace Research “Elie Carafoli”, **INOE 2000, Romania)

Hour: 17.²⁰-17.⁴⁰

S6.1.4 **Theoretical and experimental research in the field of aeromechanics air forces carried out in the „Henri Coanda” Air Force Academy.** Vasile PRISĂCARIU and Cătălin CIOACĂ (Air Force Academy “Henry Coanda”, Brasov, Romania)

Hour: 17.⁴⁰-18.⁰⁰

S6.1.5 **Antithermal Shield for Rockets with Heat Evacuation by Infrared Radiation Reflection.** Ioan RUSU (Electrica Serv, SISE Muntenia Nord, Romania)

Hour: 18.⁰⁰-18.²⁰

S6.1.6 **Regarding the Evaluation of the Pressure Coupled Solid Rocket Propellant Response Function.** Doru SAFTA, Titică VASILE, Ioan ION (Military Technical Academy, Romania)

Hour: 18.²⁰-18.⁴⁰

S6.1.7 **Design of a Compact Six-Component Force and Moment Sensor for Aerodynamic Testing.** Marin SANDU, Adriana SANDU (“POLITEHNICA” University of Bucharest, Romania)

Hour: 18.⁴⁰-19.⁰⁰

S6.1.8 **Wind tunnel testing of aircraft IAR 99 SOIM equipped with means for discovery and control of weather risk phenomena.** Pătru SPĂTARU*, Florin MUNTEANU**, Niculae MARIN** (*INCAS - National Institute for Aerospace Research “Elie Carafoli”, **Aerospace Consulting, Bucharest, Romania)

Hour: **19.⁰⁰-19.²⁰**

S6.1.9 Experimental research methodology applied to wind turbine aerodynamic by means of Stereo PIV. Corneliu-Ioan STOICA, Radu BOGĂȚEANU (INCAS - National Institute for Aerospace Research "Elie Carafoli", Romania)

Hour: **19.³⁰**

DINNER

Thursday 21.10.2010 – “ELIE CARAFOLI” Amphitheatre

Hour: 9.⁰⁰ - 10.⁰⁰ REGISTRATION

PLENARY SESSION

Hour: 10.⁰⁰-10.²⁰ *Invited lecturer*

Prof. Adriana NĂSTASE (Aerodynamik des Fluges, RWTH - Aachen, Germany).
Evolutive, Iterative Optimum-Optimorum Theory

Thursday 21.10.2010 – Amfiteatrul “Nicolae TIPEI”

Section 4. Materials and Structures

Thursday 21.10.2010. Morning Session

S4.2 Chairmen:

Ion FUIOREA
Marin SANDU

Hour: 10.⁴⁰-11.⁰⁰

S4.2.1 Photovoltaic cells based on A_2B_6 compounds used in space applications. Sorina IFTIMIE¹, Veta GHENESCU², Cristina BESLEAGA¹, Tudor Luca MITRAN¹, Oana PORUMB¹, V. A. ANTOHE¹, Mihai RADU¹, Cezar TAZLAOANU¹, Adrian RADU¹, Lucian ION¹, Ștefan ANTOHE¹ (¹Faculty of Physics, Department of Solid State Physics, University of Bucharest, Magurele-Ilfov, Romania, ²Institute for Space Sciences, Magurele-Ilfov, Romania)

Hour: 11.⁰⁰-11.²⁰

S4.2.2 Aerospace Ribs Functional Modeling in Catia v5. Sorin ISTOC (MAGIC Engineering S.R.L., Brasov, Romania)

Hour: 11.²⁰-11.⁴⁰

S4.2.3 Smart composites based on NiTi alloys. Mariana LUCACI, Violeta TSAKIRIS, Ion DOBRIN, Mihaela VĂLEANU (National Institute for Research & Development in Electrical Engineering ICPE – Advanced Researches (INCDIE ICPE - CA) Multifunctional Metallic Materials Department, Romania)

Hour: 11.⁴⁰-12.⁰⁰

S4.2.4 Waveguiding in piezoelectric phononic crystal. Cristina PACHIU, Jean Louis IZBICKI, Carmen MOLDOVAN (National Institute for Research and Development in Microtechnologies, Romania)

Hour: 12.⁰⁰-12.²⁰

S4.2.5 New Chemical Synthesis of Y_2O_3 - ZrO_2 - Al_2O_3 Nanomaterials and Characterisation Method for Thermal Barrier Coatings. Radu R. PITICESCU*, Victor MANOLIU**, Dionezie BOJIN#, Ion TRUSCA### (*National R&D Institute for Nonferrous and Rare Metals, **Aerospace Consulting, #“POLITEHNICA” University of Bucharest, ###PlasmaJet srl Magurele, Romania)

Hour: 12.²⁰-12.⁴⁰

S4.2.6 **Analytical and Numerical Study Concerning the Behaviour of Single-Sided Bonded Patch Repairs.** Adriana SANDU, Marin SANDU, Loredana TERZEA, Gheorghe OPAȚCHI ("POLITEHNICA" University of Bucharest, Romania)

Hour: 12.⁴⁰-13.⁰⁰

S4.2.7 **An analytical solution for differential equation of a composite plate.** Iuliana SPRINȚU*, Ion FUIOREA** (*Military Technical Academy, **Institute for Theoretical & Experimental Analysis of Aeronautical Structure, Romania)

Hour: 13.⁰⁰-14.⁰⁰

Lunch

Thursday 21.10.2010 – Amfiteatrul “Nicolae TIPEI”

Section 4. Materials and Structures

Thursday 21.10.2010. Afternoon Session

S4.3 Chairman:

Victor MANOLIU
Constantin CIOLOFAN

Hour: 14.⁰⁰-14.²⁰

S4.3.1 **Effects of epoxy and phenolic polymers additivated with carbon nanotubes and nanostructured silicates on thermo-mechanical, tribological and rheological properties.** Ana STAN*, Ion DINCĂ**, Adriana ȘTEFAN*, Lavinia Gavrila FLORESCU***, Liviu DUMITRACHE#, Horia PAVEN# (*INCAS - National Institute for Aerospace Research, **Aerospace Consulting, ***National Institute for Lasers, Plasma and Radiation Physics, Laser Department, #ICECHIM - National Institute for Research & Development in Chemistry and Petrochemistry)

Hour: 14.²⁰-14.⁴⁰

S4.3.2 **Structural changes induced by extreme temperatures in multilayer ceramic structures.** Adriana ȘTEFAN*, Sorin DIMITRIU**, Victor MANOLIU***, Dionezie BOJIN**, Gheorghe IONESCU*, Constantin VALCU**** (*INCAS - National Institute for Aerospace Research "Elie Carafoli", **"POLITEHNICA" University of Bucharest, ***Aerospace Consulting Bucharest, Romania, ****COMOTI National Research and Development Institute for Gas turbine Bucharest)

Hour: 14.⁴⁰-15.⁰⁰

S4.3.3 **Torsion in Thin Walled Hollow Sections.** Marcel STERE (Aerospace Consulting, Bucharest, Romania)

Hour: 15.⁰⁰-15.²⁰

S4.3.4 **Impact analysis of an aircraft with a small solid, during flight.** Florin VLĂDULESCU, Constantin CIOLOFAN (SC INAS SA Craiova, Romania)

Thursday 21.10.2010 – “Alexe MARINESCU” Hall

Section 7. Management in aerospace activities

Thursday 21.10.2010. Morning Session

S7.1 Chairman:

Ştefan RADNEF
Aurelian Virgil BALUŢĂ

Hour: **10.⁴⁰-11.⁰⁰**

S7.1.1 *Data Mining Techniques Used in Aeronautics Industry.* Maria ANDRONIE, Mihai ANDRONIE (Spiru Haret University, Bucharest, Romania)

Hour: **11.⁰⁰-11.²⁰**

S7.1.2 *New Applications of Enterprise Resource Planning in the Aeronautics Industry.* Maria ANDRONIE, Mihai ANDRONIE (Spiru Haret University, Bucharest, Romania)

Hour: **11.²⁰-11.⁴⁰**

S7.1.3 *Management Based on Costs in the Aeronautic Industry and Research in Romania.* Aurelian Virgil BALUŢĂ (Spiru Haret University, Bucharest, Romania)

Hour: **11.⁴⁰-12.⁰⁰**

S7.1.4 *Overview on educational FP7 Project - REStARTS.* Claudia DOBRE (INCAS - National Institute for Aerospace Research "Elie Carafoli", Bucharest, Romania)

Hour: **12.⁰⁰-12.²⁰**

S7.1.5 *Advanced Aerospace Management of Integrated Education and Training Towards Comprehensive Security.* Miroslav KELEMEN, Pavel NEČAS, Peter TEREM (Armed Forces Academy of General M. R. Štefánik, Demänová 393, 031 01 Liptovský Mikuláš, Slovak Republic)

Hour: **12.²⁰-12.⁴⁰**

S7.1.6 *Emerging aspects regarding the spatial disorientation (SD).* Simona LAZA, Călin-Cornel BRUDAN (Air Force Academy "Henri Coanda" Brasov, Romania)

Hour: **12.⁴⁰-13.⁰⁰**

S7.1.7 *Specific technologies for achieving the survivability of transport aircrafts.* Gheorghe MATIŞ, Adrian MURARU (Air Force Academy "Henri Coanda" Brasov, Romania)

Hour: **13.⁰⁰-14.⁰⁰**

Lunch

Thursday 21.10.2010 – “Alexe MARINESCU” Hall

Section 7. Management in aerospace activities

Thursday 21.10.2010. Afternoon Session

S7.2 Chairman:

**Ștefan RADNEF
Aurelian Virgil BALUȚĂ**

Hour: **14.⁰⁰-14.²⁰**

S7.2.1 *Some Aspects Regarding "Sense and Avoid" Requirements for UAV Integration in the National Airspace.* Adrian MURARU, Gheorghe MATIȘ (Air Force Academy "Henri Coandă", Brasov, Romania)

Hour: **14.²⁰-14.⁴⁰**

S7.2.2 *Aerospace Management in Nigeria.* AMUSAN FOLASAYO OLUSOLA, WAHAB KAMORU OLUFEMI, BABATUNDE ADEKUNLE KAZEEM, AMOO IDRIS ADELANI, OYEFESO ZAKARIYAHU OLAYINKA (Lattix Aviation Nigeria Limited, Lagos, Nigeria)

Hour: **14.⁴⁰-15.⁰⁰**

S7.2.3 *The Safety Management System of the Nigerian Aerospace. CorpHourte Safety Commitment.* EKEDO IFEANYI CHUKWU, MEROGUN FELIX, OGBUJI UGOCHUKWU KENNEDY (Lattix Aviation Nigeria Limited, Lagos, Nigeria)

Hour: **15.⁰⁰-15.²⁰**

S7.2.4 *Aircraft "Advanced Jet Trainer/ Light Fighter Jet".* Sorin Șt. RADNEF*, Victor EMANOIL**, Dorin LOZICI-BRÎNZEI* (*INCAS - National Institute for Aerospace Research "Elie Carafoli", Romania, **Aerospace Consulting Bucharest, Romania)

Hour: **15.²⁰-15.⁴⁰**

S7.2.5 *From Collaborative Network Organization Towards Future Internet Enterprise Systems in Aeronautics Industry.* Aurelian Mihai STĂNESCU, Ioan DUMITRACHE, Mihnea Alexandru MOISESCU, Ioan Ștefan SACALA, Irina Gabriela LOLU ("POLITEHNICA" University of Bucharest, Romania, Automatic Control and Applied Informatics Department)

Hour: **15.⁴⁰-16.⁰⁰**

S7.2.6 *Integrating the Safety Dimension in Modern Air Traffic Management.* Virgil STANCIU***, Irina Carmen ANDREI**, Gabriela Liliana STROE*** ("POLITEHNICA" University of Bucharest, Romania, Faculty of Aerospace Engineering, *Department "Elie Carafoli" of Aerospace Sciences, **Department "Nicolae Tîpei" of Avionics, ***Engineering and Management in Aeronautics)

Hour: **16.⁰⁰-16.²⁰**

S7.2.7 *Procedure DOCGRAVIM for controlling "CatProduct" file and computing gravimetric database in CATIA V5.* Dan VĂTUI