



## 8<sup>th</sup> International Workshop on Numerical Modelling in Aerospace Sciences, “NMAS 2022”

25 - 26 May 2022, Bucharest, Romania

Workshop will be held in Bucharest, at INCAS, B-dul Iuliu Maniu no. 220, sector 6

### List of participants with accepted papers

**Topics:**

- 1 – Launchers propulsion technologies and simulations of rocket engines
- 2 – Flight dynamics simulation
- 3 – Modelling of structural problems in aerospace airframes
- 4 – System design for small satellites

#### *Keynote Speakers*

Author(s)	Title of paper	Company
<b>QIAN Zhansen</b> <sup>1,2,*</sup> , LENG Yan <sup>1,2</sup> , WANG Di <sup>1,2</sup>	Progress and applications of ARI_Boom software for sonic boom prediction	<sup>1</sup> AVIC Aerodynamics Research Institute, Shenyang, 110034, China, <sup>2</sup> Key Laboratory of High Mach number Aerodynamic Force and Heat Technology, 110034, China
Iulian Constantin COROPEȚCHI <sup>a,b</sup> , Alexandru VASILE <sup>a,b</sup> , <b>Dan Mihai CONSTANTINESCU</b> <sup>b,*</sup> , Catalin R. PICU <sup>b,c</sup> , Ștefan SOROHAN <sup>b</sup>	Microstructural Design of Two-Phase Composites by using Finite Element Analyses with Greedy and Simulate Annealing Algorithms	<sup>a</sup> Military Technical Academy „Ferdinand I”, Bulevardul George Coșbuc nr. 39-49, 050141 Bucharest, Romania <sup>b</sup> University POLITEHNICA of Bucharest, Splaiul Independenței nr. 313, 060042 Bucharest, Romania <sup>c</sup> Rensselaer Polytechnic Institute, 110 Eighth Street, Troy, NY, USA 12180 <i>*Professor, Corresponding Member of the Technical Sciences Academy of Romania            Head of Department, Head of Laboratory for Modelling and Simulation of Behaviour and Damage of Materials, Department of Strength of Materials, University POLITEHNICA of Bucharest, Splaiul Independentei nr. 313, 060042 Bucharest, Romania</i>

(in alphabetical order of the first author)

Author(s)	Title of paper	Company
Răzvan-Ionuț BĂLAȘA* <sup>1</sup> , Marian-Ciprian BÎLU <sup>1</sup> , Alina-Ioana CHIRA <sup>1</sup> , Cătălin IORDACHE <sup>1</sup> , Cătălin Sever MOISOIU <sup>1</sup> , Camelia MUNTEANU <sup>1</sup>	Design and Analysis of a Flight Simulator based on a Robotic Motion Platform	<sup>1</sup> INCAS – National Institute for Aerospace Research “Elie Carafoli”, B-dul Iuliu Maniu 220, Bucharest 061126, Romania
Răzvan-Ionuț BĂLAȘA <sup>1</sup> , Marian-Ciprian BÎLU <sup>1</sup> , Alina-Ioana CHIRA <sup>1</sup> , Cătălin IORDACHE* <sup>1</sup>	Workspace Optimization of a Flight Simulator based on a Robotic Motion Platform	<sup>1</sup> INCAS – National Institute for Aerospace Research “Elie Carafoli”, B-dul Iuliu Maniu 220, Bucharest 061126, Romania
Mircea BOCIOAGA* <sup>1</sup> , Cesar BANU <sup>1</sup> , Laurentiu-Nicolae FIRTAT <sup>1</sup>	Spring-in simulation of a large scale demonstrator CFRP wing box	<sup>1</sup> INCAS – National Institute for Aerospace Research “Elie Carafoli”, B-dul Iuliu Maniu 220, Bucharest 061126, Romania
Ionuț BUNESCU* <sup>1,2</sup> , Mihai-Vladuț HOTHAZIE <sup>1,2</sup> , Mihai-Victor PRICOP <sup>2</sup>	Aerodynamic Optimization of Subsonic Aircraft Configuration	<sup>1</sup> Faculty of Aerospace Engineering, POLITEHNICA University Bucharest Str. Gheorghe Polizu 1-7, 011061, Bucharest, Romania <sup>2</sup> INCAS – National Institute for Aerospace Research “Elie Carafoli”, B-dul Iuliu Maniu 220, Bucharest 061126, Romania
Cătălin Constantin CHELMUȘ* <sup>1</sup> , Trifu Marius CONSTANTIN <sup>1</sup> , Andrei Mădălin GRIGORE <sup>1</sup> , Robert Mihai IONIȚĂ <sup>1</sup> , Andrei Cristian MANDOC <sup>1</sup> , Constantin Romica STOICA <sup>1</sup>	2Space team rocket design and analysis for EuRoC competition	<sup>1</sup> POLITEHNICA University Bucharest, Str. Gheorghe Polizu 1-7, 011061, Bucharest, Romania

Mihai-Vladut HOTHASIE* <sup>1,2</sup> , Ionut BUNESCU <sup>1,2</sup> , Laurentiu PADUREANU <sup>2</sup>	Parametric study of the effect of passive vortex generators on wing aerodynamic performance	<sup>1</sup> Faculty of Aerospace Engineering, POLITEHNICA University Bucharest Str. Gheorghe Polizu 1-7, 011061, Bucharest, Romania <sup>2</sup> INCAS – National Institute for Aerospace Research “Elie Carafoli”, B-dul Iuliu Maniu 220, Bucharest 061126, Romania
Laurentiu MORARU* <sup>1</sup> , Marius STOIA-DJESKA <sup>1</sup>	Notes Regarding the Loads Induced by Gusts on Airplane Structures	The University Politehnica Bucharest, The Faculty of Aerospace Engineering, The “Elie Carafoli” Department of Aerospace Sciences
Ana-Maria NECULĂESCU* <sup>1</sup> , Tudorel-Petronel AFILIPOAE <sup>1</sup> , Adrian TOADER <sup>1</sup>	Demonstrator for Technologies Validation (DTV) free-flights result	<sup>1</sup> INCAS – National Institute for Aerospace Research “Elie Carafoli”, B-dul Iuliu Maniu 220, Bucharest 061126, Romania
Andrei NENCIU* <sup>1</sup> , Alexandra Raluca PETRE <sup>1</sup> , Alexandru Mihai CISMILIANU <sup>1</sup> , Camelia-Elena MUNTEANU <sup>1</sup>	VTVL Engine Attachment Structural Optimization	<sup>1</sup> INCAS – National Institute for Aerospace Research “Elie Carafoli”, Systems Department, Bd. Iuliu Maniu 220, 061126 Bucharest, Romania
Bogdan Adrian NICOLIN* <sup>1</sup> , Ilie NICOLIN <sup>1</sup>	Military aircraft: LED lights for high-speed take-offs, landing, and taxi	<sup>1</sup> INCAS – National Institute for Aerospace Research “Elie Carafoli”, Systems Department, Bd. Iuliu Maniu 220, 061126 Bucharest, Romania
Marius Alexandru PANAIT	Neural Reflex Networks for Automating Quadcopter Drone Obstacle Avoidance	INCAS – National Institute for Aerospace Research “Elie Carafoli”, Systems Department, Bd. Iuliu Maniu 220, 061126 Bucharest, Romania
Mihai-Victor PRICOP* <sup>1</sup> Mihăiță-Gilbert STOICAN <sup>1</sup> Dumitru PEPELEA <sup>1</sup>	Supersonic-hypersonic ramp-lip intakes optimization in calorically and thermally perfect gas	<sup>1</sup> National Institute for Aerospace Research ‘Elie Carafoli’ – INCAS, Iuliu Maniu Blvd., 220, sector 6, 061126, Bucharest, Romania
Nicolae-Florin ZĂGĂNESCU <sup>1</sup> , Rodica ZĂGĂNESCU <sup>2</sup> , Constantin-Marcian GHEORGHE* <sup>3</sup>	Wernher Von Braun’s Pioneering Work in Modelling and Testing Liquid Propellants Rockets	<sup>1</sup> Air flotilla general (ret), University professor, PhD engineer, Honorary Member of the International Academy of Astronautics (IAA) <sup>2</sup> Senior Scientific Researcher, Professor <sup>3</sup> Commander (AF) (ret), M.Sc. Aircraft and propulsion systems

<i>Event associated with of the workshop</i>		
<b>European Project Semester - Student Session</b>		
Tibor van Stapele <sup>1</sup> , Robin Gourret <sup>2</sup> , Dina Ion-Alexandru <sup>3</sup> , Aya Elmoussaw <sup>4</sup> , Youness ELLAKIB <sup>5</sup> , Mihail BOTAN <sup>6</sup>	Unmanned Aerial System with endurance light structures for special missions' operation	<sup>1</sup> University Sultan Moulay Slimane, Morocco, <sup>2</sup> National School of Engineering in Tarbes, France <sup>3</sup> Universitatea Politehnica Bucuresti, Romania, <sup>4</sup> University Sultan Moulay Slimane, Morocco, <sup>5</sup> Hochschule Osnabrück, Germany <sup>6</sup> INCAS – National Institute for Aerospace Research “Elie Carafoli”, Bucharest, Romania
AGRICHE Soufiane <sup>1</sup> , BARBEYRON Clément <sup>2</sup> , ENCICA Sergiu <sup>3</sup> , HMITOU Ayoub <sup>4</sup> , UPHAUS Johannes <sup>5</sup> , Mihail BOTAN <sup>6</sup>	Additive manufacturing and coatings by direct energy deposition for aerospace application	<sup>1</sup> University Sultan Moulay Slimane, Morocco, <sup>2</sup> National School of Engineering in Tarbes, France <sup>3</sup> Universitatea Politehnica Bucuresti, Romania, <sup>4</sup> University Sultan Moulay Slimane, Morocco, <sup>5</sup> Hochschule Osnabrück, Germany <sup>6</sup> INCAS – National Institute for Aerospace Research “Elie Carafoli”, Bucharest, Romania