







ISMMA - Institute of Mathematical Statistics and Applied Mathematics of the Romanian Academy "Gheorghe Mihoc - Caius Iacob" University of Bucharest

The 39th "Caius Iacob" Conference on Fluid Mechanics and its Technical Applications 28 – 29 October 2021, Bucharest, Romania

Virtual Conference

Agenda

Day 1 Thursday, 28 October 2021							
Time (CET)		Plenary ROOM (Clik to join the Virtual Meeting)					
9:40	10:00	Welcome and introduction by the Conference Chairman Dr. Eng. Catalin NAE, President & CEO, INCAS – National Institute for Aerospace Research "Elie Carafoli", Bucharest, Romania Dr. Math. Stelian ION, "Gheorghe Mihoc-Caius Iacob" Institute of Mathematical Statistics and Applied Mathematics of Romanian Academy, Bucharest, Romania					
Plenary 10:00 – 10.40		Chair: Catalin NAE (INCAS)					
10:00	10.40	"Motion of social masses: Application of modelling with measures to pedestrian flows" Plenary Lecture speech by Prof. Dr. habil. Adrian MUNTEAN Department of Mathematics and Computer Science, Karlstad University, Sweden, Centre for Societal Risk Research (CSR), Karlstad University, Sweden					
10:40	11:00		Break				
	OMs sion	ROOM 1	ROOM 2	ROOM 3			
	- 12:40	Clik to join the Virtual Meeting ROOM 1	Clik to join the Virtual Meeting ROOM 2	Clik to join the Virtual Meeting ROOM 3			
Sessio	on Title	Mathematical Modeling	Technical Applications	WORKSHOP ASRO/CT 72 Aeronautica si spatiu			
Session	Chair(s)	Alexandru M. MOREGA (UPB)	Mihai-Victor PRICOP (INCAS)	Valentin BERCA (ASRO) Peter KALMUTCHI (ASRO)			
11:00	11:20	S4.1 Variational and numerical analysis of a thermal fluid-structure interaction problem Alexandra CIOROGAR, Ruxandra STAVRE	S5.1 A review on applications and technologies for flexible-winged-based UAVs Radu-Călin PAHONIE, Ciprian LARCO	INVITATIE AGENDA WORKSHOP ASRO/CT 72 LISTA INVITATI			
11:20	11:40	S4.2 Dam Break Problem. Numerical Simulations. Stelian ION, Dorin MARINESCU, Stefan Gicu CRUCEANU	S5.2 An extended comparison between BOS, thermal-calibrated and color-filter schlieren Emilia-Georgiana PRISĂCARIU, Tudor PRISECARU				
11:40	12:00	S4.3 Multiscale modeling and analysis for reaction-diffusion processes in composite media Claudia TIMOFTE	S5.3 Generalized optimization of supersonic ramp intakes in ideal and thermally perfect gas Mihai-Victor PRICOP, Mihaita Gilbert STOICAN, Dumitru PEPELEA				
12:00	12:20	S4.4 Three-layer Hele-Shaw displacement with intermediate non-Newtonian fluid Gelu PAŞA	S5.4 RANS-based global performance analysis of a four-seater general aviation aircraft Ioan-Laurențiu PĂDUREANU, Ștefan BOGOS, Dorin BÂRSAN, Bogdan RUSU				
12:20	12:40	S4.5 Thermal flows in fractured porous media Dan POLIŞEVSCHI, Isabelle GRUAIS	S5.5 Conceptual design of a Dandelion and Maple seed based Micro Unmanned Aerial Vehicle Aynul HOSSAIN	11:00 13:00			
12:40	13:20	Break		WORKSHOP ASRO/CT 72 13:00 13:20 Break			

ROOMs		ROOM 1	ROOM 2	ROOM 3		
Session 13:20 – 14:40		Clik to join the Virtual Meeting ROOM 1	Clik to join the Virtual Meeting ROOM 2	Clik to join the Virtual Meeting ROOM 3		
Session Title		Mathematical Modeling	Technical Applications	Basic Methods in Fluid Mechanics		
Session Chair(s)		Stelian ION (ISMMA)	Mihai-Victor PRICOP (INCAS)	Valentin BUTOESCU (INCAS)		
13:20	13:40	S4.6 Cooling the photovoltaic panels by natural and forced convection Florin SĂFTOIU, Alexandru M. MOREGA	S5.6 Performance analysis of electric aircraft configurations Ionut BUNESCU, Mihai-Vladut HOTHAZIE	S1.1 The truth on gravity and terrestrial global warming Horia DUMITRESCU, Vladimir CARDOŞ, Radu BOGATEANU		
13:40	14:00	S4.7 Numerical analysis of the aging heat treatment of Aluminum alloy plates Alexandru M. MOREGA, Marin PETRE, Alin A. DOBRE, Yelda VELI, Alexandra V. NECOLA	S5.7 Low-speed airfoil shape optimization using high-fidelity CFD analysis Mihai-Vladut HOTHAZIE, Ionut BUNESCU, Mihai-Victor PRICOP	S1.2 Wing in Ground Effect: A new Method for Modeling a Wavy Surface Valentin Adrian Jean BUTOESCU		
14:00	14:20	S4.8 Some practical remarks in solving partial differential equations using reduced order schemes obtained through the POD method Alexandru SOLOMON, Valentin Claudiu OLTEI, Alina BOGOI	S5.8 Fast inviscid transonic airfoil optimization using a nonlinear potential solver Georgiana ICHIM, Sterian DANAILA, Mihai-Victor PRICOP	S1.3 Low Speed Propeller Optimization Alexandra STĂVĂRESCU, Mihai-Victor PRICOP, Georgiana ICHIM, Ion FUIOREA		
14:20	14:40	S4.9 Numerical Estimation of Pressure Loss in Labyrinth Seals Ruxandra Maria Ileana MATEI, Sterian DĂNĂILĂ	S5.9 Experimental investigations on rheological properties of biogreases Alexandru Valentin RADULESCU, Irina RADULESCU	S1.4 Comparison between Compressible and Incompressible Solvers in OpenFoam Adrian CHELARU, Cristian Constantin ANDREI		
14:40	15:00		Break	1		
Time (CET)		Plenary ROOM (Clik to join the Virtual Meeting)				
Plenary 15:00 – 16:20		Chair: Catalin NAE, President & CEO, INCAS				
15:00	15:40	"Dynamics of immiscible liquids in rotational motion" Plenary Lecture speech by Prof. Dr. Eng. Corneliu BALAN and Diana BROBOANA, Ana-Maria BRATU REOROM Laboratory, University POLITEHNICA Bucharest, Romania				
15:40	16:20	"Prediction of a Flight Dynamics Model for the Unmanned Aerial System UAS-S4 from Hydra Technology" Plenary Lecture speech by Prof. Dr. Eng. Ruxandra Mihaela BOTEZ École de Technologie Supérieure, Université du Québec, LARCASE, 1100 Notre Dame West, Montréal, Qué., Canada, H3C-1K3				
ROOMs Session 16:25 – 17:25		ROOM 1 Clik to join the Virtual Meeting ROOM 1	ROOM 2 Clik to join the Virtual Meeting ROOM 2			
Sessio	on Title	Equations of Mathematical Physics	Technical Applications			
Session	Chair(s)	Sterian DANAILA (UPB) Stelian ION (ISMMA)	Mihai-Victor PRICOP (INCAS)			
16:25	16:45	S2.1 Smooth interface analysis in Kelvin-Helmholtz instability Ilinca-Laura BURDULEA, Alina BOGOI	S5.10 Aerodynamic assessment of a Vertical Take-Off and Landing rocket vehicle in hover and ground proximity Dumitru PEPELEA, Alexandru-Iulian ONEL.			
		,	Alexandru-Gabriel PERŞINARU			
16:45	17:05	S2.2 Acoustics pressure estimation due to thickness noise of a hovering helicopter Cosmin MICH, Alina BOGOI	Alexandru-Gabriel PERŞINARU S5.11 Free-free vibrations analysis of the aircraft IAR-99 HAWK based on a new and modern finite element model Tudor VLADIMIRESCU, Ion FUIOREA, Tudor VLADIMIRESCU-jr			
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Virtual Conference

Day 2 Friday, 29 October 2021						
Time (CET)		Plenary ROOM (Clik to join the Virtual Meeting)				
9:30	09:45	Welcome and introduction by the Conference Chairman Dr. Eng. Catalin NAE, President & CEO, INCAS – National Institute for Aerospace Research "Elie Carafoli", Bucharest, Romania Dr. Math. Stelian ION, "Gheorghe Mihoc-Caius Iacob" Institute of Mathematical Statistics and Applied Mathematics of Romanian Academy, Bucharest Dr. Fiz. Adriana STEFAN, President of the Scientific Council of the INCAS – National Institute for Aerospace Research "Elie Carafoli", Romania				
09:45	10:30	The "Caius IACOB" – Prize Award Ceremony The "Nicolae TIPE!" – Prize Award Ceremony				
		The "Nicolae TIPE!" – Prize Award Ceremony The "Gheorghe VASILCA" – Prize Award Ceremony				
		- Tribute presentation of awards by Dr. Eng. Victor MANOLIU (INCAS)				
10:30	11:00	- The winners' speech - Presentation of the awarded works				
11:00	11:20	- Fresentation of the awarded works	Break			
	OMs					
Se	ssion - 13:50	ROOM 1 Clik to join the Virtual Meeting ROOM 1	Clik to join the Virtual Meeting ROOM 2			
	ion Title	Dynamical Systems	Technical Applications			
Session Chair(s)		Laurentiu MORARU (UPB)	Marius Alexandru PANAIT (INCAS) Mihai-Victor PRICOP (INCAS)			
11:20	11:40	S3.1 Regarding the Linear and Linearized Responses of an Airplane in a Gust Laurentiu MORARU, Marius STOIA-DJESKA	S5.13 Numerical prediction of transonic airfoil buffet Mihai Leonida NICULESCU, Ruxandra Maria Ileana MATEI			
11:40	12:00	S3.2 Satellites FDI system design using sliding mode observers Florin-Adrian STANCU, Adrian-Mihail STOICA	S5.14 Analog versus Digital Anti-Aliasing Filtering in Modern Data Acquisition Marius Alexandru PANAIT			
12:00	12:20	S3.3 Automatic approach procedure of a flying vehicle on a mobile platform using backstepping controller Florin COSTACHE, Sandra-Elena NICHIFOR, Mihaela-Luminiţa COSTEA, Achim IONITĂ	S5.15 The Fly-by-Light system for military aircrafts Ilie NICOLIN, Bogdan Adrian NICOLIN			
12:20	12:40	S3.4 Automatic landing procedure of a flying vehicle on a mobile platform using optical flux Sandra-Elena NICHIFOR, Florin COSTACHE, Mihaela-Luminiţa COSTEA, Achim IONIŢĂ	S5.16 Failure Mode and Effect Analysis for military nose landing gear project lie NICOLIN, Bogdan Adrian NICOLIN			
12:40	13.00		S5.17 De-icing of aircraft on the ground and means of environmental protection Cornel DINU, Ion FUIOREA			
13.00	13.20		S5.18 Neural Network and Linear Programming Aircraft Boarding Strategy based on Passengers Preference Mihai Alexandru BARBELIAN, Cornel DINU, Casandra Venera PIETREANU			
13.20	13.50		S5.19 Prezentare Cluster INVENTIKUS Radu DIMA Dragos BORDESCU Ciprian OROS			
End of the 2rd Day of the 39th "Caius Iacob" Conference, Virtual Conference						

CONFERENCE TOPICS

- S1. Basic Methods in Fluid Mechanics
- S2. Equations of Mathematical Physics
- S3. Dynamical Systems
- S4. Mathematical Modeling
- S5. Technical Applications

Events associated with of the conference:

- WORKSHOP ASRO/CT 72 Aeronautica si spatiu 28 October 2021 The "Caius IACOB" Prize Award Ceremony 29 October 2021 The "Nicolae TIPEI" Prize Award Ceremony 29 October 2021 The "Gheorghe VASILCA" Prize Award Ceremony 29 October 2021