

# FOREWORD

Dr. Math. Ioan URSU<sup>1</sup>

President of the Scientific Council of INCAS, Member of INCAS Bulletin Editorial Board

<sup>1</sup>INCAS – National Institute for Aerospace Research “Elie Carafoli”

B-dul Iuliu Maniu 220, Bucharest 061126, Romania

ursu.ioan@incas.ro

The **8<sup>th</sup> edition** of the International Conference “**AEROSPATIAL 2018**”, as well as all the significant national technical-scientific and cultural events of the year, was marked by the great event of the Romanian nation, the *Centenary of the Great Union*. The Conference took place on October 25-26, 2018, at INCAS Headquarters, being prefaced on October 24, 2018, by an emotional celebrating event held in the Aula of the Romanian Academy – “*100 Years of Aviation in Romania: 1918-2018*”.

In the following, apologizing for possible subjectivity, I will present a short chronicle of these noteworthy three days, to highlight the main moments and to list the remarkable personalities who have honored the endeavor of INCAS in a major and challenging event developed in the year of a Centenarian history.

Therefore, the Opening Ceremony was held at the Romanian Academy and chaired by Academician Dorel Banabic, President of the Technical Sciences Section of the Romanian Academy, Professor Mihnea Costoiu, Rector of The “Politehnica” University of Bucharest, and Dr. Eng. Catalin Nae, General Manager/CEO and Chairman of the Board of Directors of INCAS.

The substantial Program of the event took place in two successive Sections.

*The Military Aviation Section* included five conferences, as follows:

- GLT (retired) Iosif Rus, President of the Romanian Association for Propaganda and History of Aeronautics: “*Aviatia militara in realizarea si apararea Marii Uniri*”/“*Military Aviation in the Achievement and Defense of Romanian Unification*”.
- Air Flotilla Gen. Dr. Iulian Patilea, Operations and Training Deputy of the Chief of General Staff: “*1918-2018 – Evolutia mediului de securitate si adaptarea Fortelor Aeriene Romane*”/ “*1918-2018 - Evolution of Security Environment and Romanian Air Force Readjustment Process*”.
- MG (retired) Dr. Janel Tanase, Lecturer at “Henri Coanda” Air Force Academy in Brasov: “*Traditii si evolutii in aeronautica nationala*”/“*Traditions and Developments in National Aviation*”.
- LTG (retired) Dr. Eng., Cosmonaut, Honorary Member of the Romanian Academy and Honorary President of the Romanian Space Agency Dumitru-Dorin Prunariu: “*De la rachetele lui Conrad Haas la integrarea cosmica a Romaniei in structurile europene*”/ “*From Conrad Haas's Missiles to the Romanian Cosmic Integration in European Structures*”.

*The Aeronautics Industry Section* included eight conferences:

- Mihail N. Toncea, President of the Association of Romanian Aeronautical Companies (OPIAR), President and General Manager of S.C. IAROM S.A.: “*Industria aeronautica din Romania: De la pragmatism la globalizare*”/ “*The Romanian Aeronautics Industry in Romania: from Pragmatism to Globalization*”.

- Dr. Eng. Constantin Olivotto, Associated Prof., AEROSPACE Consulting: *“Permanente si prioritati in cercetarea aeronautica romaneasca”/ “Permanence and Priorities in Romanian Aeronautics Research”*.
- MG (retired) Dr. Eng. Ioan Ștefanescu: *“Scurt istoric al avionului IAR 99 Soim”/ “Brief History of IAR 99 Hawk”*.
- Air Flotilla Gen. Dr. Eng. Ion Fuiorea, ARPIA Advisor, Assoc. Prof. at the Faculty of Aerospace Engineering, UPB: *“Profilul inginerului din Fortele Aeriene vazut prin perspectiva ingineriei sistemelor”/ “The Air Force Engineer Profile Seen from the Perspective of System Engineering”*.
- Dr. Eng. Nicolae-Șerban Tomescu, Assoc. Prof. at the “Politehnica” University of Bucharest, Faculty of Aerospace Engineering: *“Personalitati din aeronautica romana si contributiile lor privind dezvoltarea invatamantului, cercetarii-proiectarii si productiei”/ “Romanian Aeronautics Personalities and Their Contributions to the Development of Education, Research, Design and Production”*.
- Prof. Dr. Eng. Corneliu Berbente, The “Politehnica” University of Bucharest, Faculty of Aerospace Engineering: *“Profesorul Elie Carafoli si intemeierea invatamantului de aviatie in Romania”/ “Professor Elie CARAFOLI and the foundation of aviation education in Romania”*.
- Air Flotilla Gen. (retired) Dr. Eng. Nicolae-Florin Zaganescu, Member of the International Academy of Astronautics, Comandor (retired) Eng. Constantin-Marcian Gheorghe: *“Henri Coanda - academician, inventator, patriot”/ “Henri Coanda - scholar, inventor and patriot”*.
- Prof. Dr. Eng. Ruxandra Mihaela Botez, École de Technologie Supérieure, Université de Québec, Montreal, Canada: *“Aviatorii romani din timpul celor doua razboaie mondiale”/ “Romanian Pilots during the Two World Wars”*.



All speakers were awarded Diplomas “Celebrating excellence in Romanian Aerospace Research” and Anniversary Medals from INCAS represented by Dr. Eng. Catalin Nae, General Manager and Dr. Ioan Ursu, President of the Scientific Council of INCAS.

The “**AEROSPATIAL 2018**” Conference Program included 8 Plenary Conferences, 64 Ordinary Conferences in 6 Sessions, as follows: Aerodynamics (9), Materials and Structures (15), Systems, Subsystems and Control in Aeronautics (6 conferences, plus a Workshop dedicated to a Project *CONTUR* comprising 8 conferences), Astronautics and Astrophysics (9), Experimental Investigations in Aerospace Sciences (8) and Aerospace Activities Management (9). At the end of the Conference, a Round Table entitled *Romanian Cluster for Earth Observation* was organized. Some of the papers presented at the Conference were published in this issue of INCAS Bulletin.



It has already become a tradition for “Nicolae Tîpei” Prize to be awarded at the biannual Conference “AEROSPATIAL”, based on rigorous selections and deliberations. The prize is intended to encourage young people in the field of tribology and fluid mechanics. Sever Tîpei, Professor at the University of Illinois, USA, sponsors this award to pay tribute to his father, Professor Nicolae Tîpei, in partnership with INCAS. Professor Emeritus Nicolae Tîpei (1913-1999), a correspondent member of the Romanian Academy, member of the American Aeronautics and Astronautics Institute, worked at General Motors Research Laboratory, Department of Fluid Mechanics (1978-1983).

Starting with 2018, a new Prize entitled “Gheorghe Vasilca” comes to reward promising results of young people in the field of advanced material tribology. The prize is a tribute to the scientific and technical work of Dr. Gheorghe Vasilca, laureate of the Traian Vuia Prize awarded by the Romanian Academy, doctoral advisor in the field of tribology and basic theoretical and experimental works that govern the behavior of surfaces in relative motion.

The prizes were awarded as follows:

- “Nicolae Tîpei” Prize for the license/master Section was given to Eng. Adrian Dina for the work “*Using genetic algorithms for optimizing aerodynamic profiles in incompressible mode*”.
- “Nicolae Tîpei” Prize for the doctoral Section was awarded to Dr. Petrica Turtoi, for the paper “*Contributions to the Study of Expulsion Processes through Complex Media*”.
- “Gheorghe Vasilca” Prize was awarded to Dr. Eng. Nicolae Alexandru Stoica for his work “*Contributions to the tribological process in the disc brake system, with applications to automobiles*”.

Another tradition for INCAS on the special occasion of “AEROSPATIAL” and “Caius Iacob” Conferences, is to celebrate some personalities whose contributions in the field of aerospace research are believed to be important to posterity. In 2018, the choice of INCAS Management was Prof. Nicolae-Florin Zaganescu, Air Flotilla Gen. (Retired), Emeritus professor in Senate of the Military Technical Academy, Honorary Member of the International Academy of Astronautics, 2018. Dr. Zaganescu is a former researcher of INCAS, Manager of Research Laboratory (1971), Research Department (1973) and Research Section (1977) at INCREST (currently INCAS, formerly ICPAS (1968), IMFCA, INCREST, IMFDZ) and National Thermic Engines Institute (INMT), until 1989. Prof. Zaganescu was a close collaborator of Henri Coanda who was an honorary director of ICPAS, then of INCREST, after returning to his homeland (1969-1972). Dr. Zaganescu was a doctoral advisor for nine PhD candidates.



During the opening speech of the second day of the conference held in Amphitheater “Elie Carafoli” of INCAS, Dr. Constantin Olivotto delivered a Laudatio to Prof. Zaganescu. Then the Professor was awarded the Diploma of excellence for outstanding results in the area of Romanian aerospace scientific research.

A last mention: as a rule, the “AEROSPATIAL” Conferences take place under the aegis of the Romanian Academy. The Conference “AEROSPATIAL 2018” benefited also from the auspices/ support of the Ministry of Research and Innovation.