
Editorial

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Biographical notes: Bruno Chanetz is a Research Engineer at Onera in 1983, Head of Hypersonic Group in 1990, Head of Hypersonic Hyperenthalpic Project in 1997, Head of Experimental Simulation and Physics of Fluid Unit in 1998 and Deputy Director of the Fundamental and Experimental Aerodynamics Department in 2003. Since 2000, he has been a Master of Research, Level 2 at Onera. Since 2009, he has been an Associate Professor at the University Paris-Ouest. He is also a member of the Aerodynamics Technical Committee of the 3AF (French Aeronautics and Astronautics Society).

Jean Délerly has been the Director of the DAFE at Onera until 2003. He is currently an Emeritus Advisor for this department, Chairman of the Aerodynamics Technical Committee of the 3AF (French Aeronautics and Astronautics Society), Chairman of the Scientific Committee of the National Centre for Technological Research in the field of aerodynamics and aeroacoustics of land vehicles.

Abderrahmane Baïri is a Professor at the University Paris-Ouest. His main teaching activity in the Thermal and Energy Engineering Department (GTE) is related to heat transfer and engineering numerical methods. His research is performed in Laboratoire de Thermique, Interfaces et Environnement (LTIE). He is a member of the Aerodynamics Commission of the 3AF (French Aeronautics and Astronautics Society, 3AF), and member of the French National Centre for Technological Research in the field of aerodynamics and aeroacoustics of land vehicles (CNRT R2A).

The International Symposium of Applied Aerodynamics is organised each year by the French Aeronautics and Space Society (3AF) in a different venue in France known for its

activities in the domain of aeronautics and/or space. The symposium is an excellent opportunity for scientific exchanges among the aerospace community where

aerodynamicists from industry, research institutions and academics meet. Scientists and engineers from other domains involving fluid mechanics are also welcome. The symposium concentrates each year on a different topic representative of the present concerns in the field of aerodynamics.

In 2013, the symposium was hosted by the French-German Research Institute at Saint-Louis (ISL), in the eastern part of France close to both the German and Swiss frontiers.

The 48th International Symposium of Applied Aerodynamics (AERO 2013) has focused on specific problems encountered in the aerodynamic design and performance prediction of small objects such as micro air vehicles, projectiles and flow control devices. Similar difficulties may be caused by small discontinuities or defects on the vehicle body leading to substantial parasitic drag and significant noise generation. Such small defects can compromise any attempt to decrease drag by laminarity control. The influence on the flow simulation of taking into account all geometrical details, such as technological effects in turbomachinery, or detailed helicopter rotor head, is also very important. Given the current emphasis on fuel consumption reduction and environmental impact such as noise, these problems have taken a vital importance in vehicle design and propulsion system definition.

Among the many aspects of the problem, the following items were considered:

- micro air vehicles (MAV) and projectiles
- appendices and gap flows
- low Reynolds effects
- technological effects
- control devices
- surface effects and geometrical uncertainties
- laminarity and noise generation.

The symposium was attended by 58 participants coming from seven different countries (Belgium, France, Germany, Japan, Russia, UK, USA), 31 papers having been presented (the keynote conferences being included). The present special issue of the *International Journal of Engineering Systems Modelling and Simulation* is a selection of eight articles among the most representative topics considered during this symposium.

The next 3AF International Symposium of Applied Aerodynamics (AERO 2014) will be held in Lille and will focus on specific problems resulting from interactions between aerodynamics and environment. This involves both the effects of environment on aerodynamics performance and the impact of aerodynamics on the environment. As regards the effects of environment, the main topics considered will be the impact of weather conditions, atmospheric turbulence, ground effects, etc., on aircrafts as well as on terrestrial vehicles and buildings.