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1349th Conference

Scientific Program

2nd International Conference on

FLUID DYNAMICS & AERODYNAMICS

October 19-20, 2017 Rome, Italy



Conference Series-America

One Commerce Center-1201, Orange St. #600, Wilmington, Zip 19899, Delaware, USA
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Kemp House, 152 City Road, London EC1V 2NX, UK
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Opening Ceremony

Keynote Forum

- 09:30-09:35 **Introduction**
Title: Recent developments in accuracy and stability improvement of nonlinear filter methods for DNS and LES of compressible flows
09:35-10:15
H C Yee, NASA Ames Research Center, USA

Special Session

- 10:15-10:50 Title: LES predictions of self-sustained oscillations in round free jets
Andrzej Boguslawski & Artur Tyliczszak, Czestochowa University of Technology, Poland

Networking and Refreshments Break @ Foyer 10:50-11:10

Plenary Session

- 11:10-11:45 Title: Flow-sound interaction mechanisms during the resonance of trapped diametral modes in shallow cavities
Samir Ziada, McMaster University, Canada

Sessions: Fluid Dynamics | Microfluidics | Numerical Methods | Magneto Hydrodynamics | Heat Transfer System

Session Chair: Faik Hamad, Teesside University, UK

Session Co-chair: Tomoaki Kunugi, Kyoto University, Japan

Session Introduction

- 11:45-12:05 Title: The liquid-liquid and gas-liquid two-phase flow studies with and without heat transfer
Faik Hamad, Teesside University, UK
- 12:05-12:25 Title: Generation of Tollmien-Schlichting waves by free-stream turbulence
Maksim V Ustinov, TsAGI, Russia
- 12:25-12:45 Title: Wavy interface behavior and droplet entrainment of annular two-phase flow in rod-bundle geometry with spacers
Tomoaki Kunugi, Kyoto University, Japan
- 12:45-13:05 Title: Development of control systems of sintering processes in rotary tubular kilns on base 2D-modelling with using thermistor's scanning
I V Sharikov, Saint Petersburg Mining University, Russia

Lunch Break @ Hotel Restaurants 13:05-14:00

- 14:00-14:20 Title: Extreme computation of Stokes flow using axial Green function method on refined axial lines
Do Wan Kim, Inha University, South Korea
- 14:20-14:40 Title: Investigation on the internal two-phase flow induced vibration characteristics of the marine riser system
Qihui Hu, China University of Petroleum, China
- 14:40-15:00 Title: Two particle correlation in heavy-ion collisions using momentum kick
Jin-Hee Yoon, Inha University, South Korea
- 15:00-15:20 Title: Variational principles for topological non-barotropic fluid dynamics
Asher Yahalom, Ariel University, Israel

15:20-15:40 Title: **Near-wall domain decomposition in turbulence modeling: Current state of the art and perspectives**

Sergey Utyuzhnikov, University of Manchester, UK

15:40-16:00 Title: **Mathematical analysis of the exterior problem of Navier-Stokes using weighted Sobolev spaces**

Ulrich Razafison, Université de Bourgogne Franche-Comté, France

Networking and Refreshments Break @ Foyer 16:00-16:20

16:20-16:40 Title: **Numerical simulation of the airfoils icing processes**

Sergey V Alekseyenko, Oles Honchar Dnipro National University, Ukraine

16:40-17:00 Title: **Droplet deformation and breakup in the shoulder region of an aerodynamic surface: Experimental characterization**

Adelaida Garcia-Magarino, Isdefe, Spain

17:00-17:20 Title: **Traditional and innovative methodologies (UAV-based) for the study of the dynamics of atmospheric aerosols**

R Alberto Bernabeo, Abu Dhabi University, UAE

17:20-17:40 Title: **Reshaping the future of aircraft design**

Emiliano Costa, RINA Consulting, Italy

17:40-18:00 Title: **Design of an active fluidic injection system for jet noise reduction through a hybrid CFD-stochastic approach**

Mattia Barbarino, CIRA, Italy

Panel Discussion

Day 2 October 20, 2017

Hall Name - Appia 1+2

Keynote Forum

09:00-09:35 Title: **Simultaneous aerodynamic pressure measurements and modern structural design for wind**

Emil Simiu, National Institute of Standards and Technology, USA

09:35-10:10 Title: **Stable detonative combustion of hydrogen in a supersonic flow coming in a convergent – divergent nozzle**

Yuri V Tunik, Research Institute for Mechanics of MSU, Russia

Sessions: Aero Dynamics | Aero Acoustics | CFD- Methodology | Thermo- Fluid Dynamics

Session Chair: Konstantinos Kontis, University of Glasgow, UK

Session Co-chair: I V Sharikov, Saint Petersburg Mining University, Russia

Session Introduction

10:10-10:30 Title: **New meshless formulations for aeroacoustics and compressible aerodynamic computations**

Xesús Nogueira, Universidade da Coruña, Spain

10:30-10:50 Title: **CFD analysis and experimental tests of a fire safety pressurized smokeproof enclosure**

Piergiacomo Cancelliere, Italian National Fire Rescue and Service – CNVVF – Rome, Italy

Networking and Refreshments Break @ Foyer 10:50-11:10

11:10-11:30 Title: **Optimization analysis of the combinations of concentrator and wind turbine with flap in CFD**

Tahir Yavuz, Başkent University, Turkey

11:30-11:50 Title: **The features of the modeling the nanofluid flows**

Valery Ya Rudyak, Novosibirsk State University of Architecture and Civil Engineering, Russia

11:50-12:10 Title: **High speed aerodynamic phenomena and interactions including their control**

Konstantinos Kontis, University of Glasgow, UK

12:10-12:30 Title: **Computational fluid dynamic simulation of leakage acoustic waves propagation model for gas pipelines**

Cuiwei Liu, China University of Petroleum, China

- 12:30-12:50** Title: **Anticipating of chaotic dynamics via schemes without time-delay terms**
T Pyragiene, Center for Physical Sciences and Technology, Lithuania
- 12:50-13:10** Title: **Aerodynamic characterization of new filters of bioaerosol for INTA investigation aerial platforms**
Suthyvann Sor, INTA, Spain

Lunch Break @ Hotel Restaurants 13:10-14:05

- 14:05-14:25** Title: **Flow structure in the vicinity of flapping elephants' pinnae and thermal implications**
Moise Y Koffi, Hostos Community College, USA
- 14:25-14:45** Title: **Missile-motion performance analysis of gas-steam launch system utilizing multiphase flow model and dynamic grid system**
Hyun Muk Kim & Jeong Soo Kim, Pukyong National University, South Korea

Young Researchers Forum

- 14:45-15:00** Title: **Finite-time blow-up for the 3-D primitive equations of oceanic and atmospheric dynamics**
Lin Zheng, Beijing University of Technology, China
- 15:00-15:15** Title: **The boundary layer problem on the incompressible MHD system with non-characteristic Dirichlet boundary condition for velocity**
Na Wang, Beijing University of Technology, China
- 15:15-15:30** Title: **An Investigation of heat transfer performance of rectangular plate-fin heat exchanger by using common flow up & common flow down configurations of vortex generators with different wings attack angle**
Seyfi Girgin, Istanbul Technical University, Turkey
- 15:30-15:45** Title: **Blood Flow Analysis in presence of static magnetic field of 3.0 T**
J Alfredo Soto Á, University of Guanajuato, Mexico

Networking and Refreshments Break @ Foyer 15:45-16:05

Poster Presentations 16:05-16:25

Poster Judge: Piergiacomo Cancelliere, Italian National Fire Rescue and Service – CNVVF – Rome, Italy

- FAD 1** Title: **Power consumption of liquid atomization device by using rising film flow along a rotating cone and disk**
Yutaro Takahashi, Akita University, Japan
- FAD 2** Title: **Pressure drop evaluation of heat exchanger model with disturbance promoters**
Satoshi Hotta, Akita University, Japan
- FAD 3** Title: **Dynamic impact on a frozen support caused by natural and quasinnatural oscillations of an ice plate**
Aleksei Greshilov, Lavrentyev Institute of Hydrodynamics of SB RAS, Russia
- FAD 4** Title: **Bi-stability in turbulent wakes past 3D bluff bodies**
Luc R Pastur, ENSTA ParisTech, France

Video Presentation

- 16:25-17:10** Title: **Diffraction of shock waves**
R S Srivastava, Defence Science Centre, India

Panel Discussion

Awards & Closing Ceremony

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3rd International Conference on

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