

## Wednesday, August 28, 2024

### Registration and Welcome

08:30 - Arrival and registration  
09:00 - Welcome

### Buoyancy and Stratification – Marie Poulain-Zarcos

09:10 - Bottom roughness effects on mixing properties of a gravity current - *Paolo Monti*, Department of Civil, Building and Environmental Engineering- University of Rome La Sapienza  
09:30 - Dispersion of Passive and Dense Plumes over a Step-Change in Wall Roughness – *Deebank Charles*, University of Surrey  
09:50 - Gravity currents advancing on heated walls: experimental and numerical analysis - *Stefano Lanzini*, Laboratoire de Mécanique des Fluides et d'Acoustique, Lyon  
10:10 - Investigation of the influence of atmospheric stability on pollutant concentration using field observation data - *Tachibana Takumi*, Wind Engineering Institute Co., Ltd.

### Break

10:30 - Coffee break

### Buoyancy and Stratification – Paolo Monti

11:00 - Passive scalar dispersion in stable boundary layers - *Salizzoni Pietro*, Laboratoire de Mécanique des Fluides et d'Acoustique, Lyon  
11:20 - Pollutant Dispersion of Ship Emissions under Realistic Operating Conditions: Focus on Methodology - *Stefanie Gillmeier*, Eindhoven University of Technology  
11:40 - Two-dimensional Particle Image Velocimetry Measurements in a Wind Tunnel Model of the Jack Rabbit II Field Tests - *Tom Spicer*, University of Arkansas  
12:00 - Unravelling the Impact of Urban Morphology on Non-Isothermal Flow Dynamics: Insights from High-Resolution Experimental Investigations - *Yunpeng Xue*, Singapore ETH Centre

### Break

12:30 - Lunch

### Invited Speaker Presentation

14:00 - Retrospective/Perspectives of Atmospheric Wind Tunnels - *Alan Robins*

### Indoor Air Circulation – Sofia Fellini

**14:30** - Laboratory-scale modeling of air velocity and pollutant concentration fields in an amphitheatre classroom - *Agnese Pini*, Department of Civil, Building and Environmental Engineering- University of Rome La Sapienza

**14:50** - Natural ventilation and stochastic wind fluctuations: preliminar experimental results - *Teresa Di Renzo*, Department of Environment, Land and Infrastructure Engineering - Politecnico di Torino, Laboratoire de Mecanique des Fluides et d'Acoustique, Lyon

**15:10** - Wind tunnel study on the effect of wind direction on the indoor airflow pattern for a naturally ventilated pig barn with an outdoor exercise yard - *Xuefei Wu*, Department of Sensors and Modelling, Leibniz Institute for Agricultural Engineering and Bioeconomy

### Break

**15:30** - Coffee break

### Urban Greening – Christof Gromke

**16:00** - Flow and dispersion in a tree-lined perpendicular street canyon - *Sofia Fellini*, Department of Environment, Land and Infrastructure Engineering - Politecnico di Torino

**16:20** - Turbulent flow field within an urban canyon with vegetation for any wind directions - *Annika Vittoria Del Ponte*, Department of Environment, Land and Infrastructure Engineering - Politecnico di Torino, Laboratoire de Mecanique des Fluides et d'Acoustique, Lyon

**16:40** - Wind tunnel measurements on the interaction between an isolated tree and the atmospheric boundary layer - *Livia Grandoni*, Laboratoire de Mecanique des Fluides et d'Acoustique, Lyon

**17:00** - Experimental investigation of influence of tree-like structures on urban canyon airflow: A comparative study under isothermal and variable thermal conditions - *Giorgos Alexandrou*, Environmental Fluid Mechanics Laboratory, University of Cyprus

**17:20** - Flow past a building with surface greening: comparison of PIV and LDV in two wind tunnels - Vasiliki Pappa, National Technical University of Athens, School of Mechanical Engineering - *Demetri Bouris*, National Technical University of Athens, School of Mechanical Engineering

### Poster Session & expo

**17:40 - 18:30** - *Poster presentation. Opportunity to go see the posters as well as an exposition in the showroom, next to the ice-breaker event.*

- Dispersion of gas and aerosols within urban canopy - *Hana Chaloupecka*, Institute of Thermomechanics (Prague, Czech Republic)
- Turbulent transport characteristics of coherent structures in ideal vegetation morphology based on wind tunnel experiments - *Guoliang Chen*, Chen Guoliang
- Exploring the influence of wind patterns on SUHI: a case study on Italian cities - *Antonio Esposito*, Dipartimento di Scienze e Tecnologie Biologiche e Ambientali

### Social Event

**18:30** - Ice-breaker

## Thursday, August 29, 2024

### Quality Assurance and Improvement of Experimental Techniques – Bernd Leidl

**08:50** - FFID Matters - *Alan Robins*, University of Surrey

**09:10** - A viable alternative to FFID for tracer concentration measurement - *David Birch*, University of Surrey

**09:30** - PIV as an alternative to LIF systems for wind experiments: a study on street canyon pollution - *Štěpán Nosek*, Institute of Thermomechanics, Czech Academy of Sciences

**09:50** - Multiscale inhomogeneous grids for experimental atmospheric boundary layer generation: a comparison with spires - *Thomas Huret*, Univ. Lille, CNRS, ONERA, Arts et Métiers Institute of Technology, Centrale Lille, UMR 9014 - LMFL – Laboratoire de Mécanique des Fluides de Lille -Kampé de Fériet, F-59000 Lille, France

**10:10** - Time Resolved Surface Pressure and Concentration Correlations in an Atmospheric Boundary Layer - *Joy Schmeer*, University of Surrey, National Physical Laboratory

### Break

**10:30** - Coffee break

### Flow and Dispersion in the Built Environment – Lionel Souhac

**11:00** - Analyzing the influence of small fireplaces to the air quality of residential areas - *Frank Harms*, Meteorologisches Institut der Universität Hamburg

**11:20** - Evaluation of Taylor's hypothesis validity in urban street-canyon flows - *Robin Combette*, Laboratoire de recherche en Hydrodynamique, Énergétique et Environnement Atmosphérique

**11:40** - Decomposition methods POD and OPD: Can they tell us something about pollutant ventilation capacity? - *Zuzana Babuková*, Institute of Thermomechanics of the CAS, Charles University, Faculty of Mathematics and Physics

**12:00** - Reynolds number independence of approaching flow and pollutant concentration at very low wind speed in wind tunnel experiments - *Ryuichiro Yoshie*, Tokyo Polytechnic University

**12:20** - Scale interaction between the urban boundary layer and a street canyon in a morphological model - *Haoran Du*, University of Western Ontario, Department of Mechanical and Materials Engineering

### Break

**12:40** - Lunch

**Flow and Dispersion in the Built Environment – Eric Savory**

**14:10** - The Effects of Wind Direction on Pollutant Dispersion in Tall Building Clusters - *Dianfang Bi*, University of Surrey

**14:30** - Validation of wind tunnel measurements with air quality measurements on a ship - *Stephan Van den Akker*, Peutz bv

**14:50** - Wind Tunnel Modeling in Support of the Evaluation of an Urban Radiation Protection Model - *Bernd Leitl*, University of Hamburg, Meteorological Institute, Environmental Wind Tunnel Lab

**15:10** - Turbulence characteristics within an idealized urban canopy layer - *Fei Li*, Department of Mechanical Engineering, The University of Hong Kong

**Break**

**15:30** - Coffee break between H10 & KCA

**Visit**

**16:00-17:30** - Visit of LMFA's wind-tunnels

**Social Dinner**

**19:30** - Dinner at a restaurant in Lyon

## Friday, August 30, 2024

### Validation and intercomparison of numerical analytical and physical models – Ariane Emmanuelli

**08:50** - Validation of LES with Coarser and Finer Resolutions against the Wind Tunnel Study - *Radka Kellnerova*, Institute of Thermomechanics (Prague, Czech Republic)

**09:10** - Assessing the capability of Large-Eddy Simulation in reproducing stable atmospheric boundary layers - *Marilina Barulli*, Laboratoire de Mécanique des Fluides et d'Acoustique, Lyon

**09:30** - Integrating wind tunnel, numerical model and measurement data for ship plume assignment - *Ronny Badeke*, Institute of Coastal Environmental Chemistry, Helmholtz-Zentrum hereon GmbH

**09:50** - Comparison between simulation and wind-tunnel experiment for an idealised industrial site - *Claudia Schiavini*, Department of Environment, Land and Infrastructure Engineering - Politecnico di Torino, Laboratoire de Mécanique des Fluides et d'Acoustique, Lyon

**10:10** - Do the wind profiles shown in the guidelines exist in reality? - *Klara Jurcakova*, Institute of Thermomechanics (Prague, Czech Republic)

**10:30** - Reciprocity principle and application to inverse modelling - *Jean Salles Loustau*, Laboratoire de Mécanique des Fluides et d'Acoustique, Lyon, Laboratoire Qualité de l'Air

### Break

**10:50** - Coffee break

### Atmospheric Boundary Layer Flow – Klára Jurčáková

**11:20** - Characterisation of the boundary layer wind tunnel facility at the University of Bristol - *Nada Taouil*, School of Civil, Aerospace and Design Engineering, University of Bristol

**11:40** - Wake characteristics of a model wind turbine immersed in a boundary layer - *Valery Babin*, IIBR - Environmental Wind Tunnel Laboratory, Department of Applied Mathematics, Israel Institute for Biological Research

**12:00** - Turbulent scales in the wake of a model wind turbine immersed in a boundary layer - *Yardena Bohbot-Raviv*, IIBR - Environmental Wind Tunnel Laboratory, Department of Applied Mathematics, Israel Institute for Biological Research

**12:20** - Wake Characteristics of Multi-scale Buildings in a Turbulent Boundary Layer - *Southgate-Ash Cameron*, University of Reading

### Break

**12:40** - Lunch

**Atmospheric Boundary Layer Flow – Stefanie Gillmeier**

**14:10** - Roughness Sublayer Flows over Cubes with Uniform and Non-uniform Height: A Wind Tunnel Study - *Ziwei Mo*, School of Atmospheric Sciences, Sun Yat-sen University, Southern Marine Science and Engineering Guangdong Laboratory (Zhuhai), Zhuhai, China

**14:30** - Assessing the Dispersion Characteristics of Ship Exhausts in Neutral Boundary Layers: Wind Tunnel Testing - *Abhilash Sankaran*, Department of Aerospace Engineering, Institute of Fluid Mechanics and Aerodynamics, University of the Bundeswehr Munich

**14:50** - Intermittency Analysis of the Turbulence over Idealized Urban Areas - *Ruiqi Wang*, Department of Mechanical Engineering, The University of Hong Kong

**Closure**

**15:10** - Announcement of award laureates

**15:30** - PHYSMOD community discussion