



## Workshop on Advances in Meso- and Micrometeorology

**3-4 November 2014, Donja Stubica,  
Croatia**

**ORGANIZED BY**  
**University of Zagreb, Faculty of Science,**  
**Department of Geophysics, Andrija**  
**Mohorovičić Geophysical Institute (AMGI)\***

### **ORGANIZING COMMITTEE**

**Maja Telišman Prtenjak, Croatia**

**Željko Večenaj, Croatia**

**Antun Marki, Croatia**

**Damir Ptičar, Croatia**

### **KEYNOTE PARTICIPANTS**

**Joan Cuxart, Spain**

**Branko Grisogono, Croatia**

**Stefano Serafin, Austria**

**Mathias Rotach, Austria**

**Dino Zardi, Italy**

# **PROGRAM**

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# WORKSHOP PROGRAM

<b>Sunday, 02 November 2014</b>	
17:00 - 20:00	Arrival of participants, early registration
<b>Monday, 03 November 2014</b>	
08:30 - 09:00	Arrival of domestic participants & registration
09:00 - 09:10	Opening session <ul style="list-style-type: none"> <li>• Welcome address by representatives of Department of Geophysics, Faculty of Science, University of Zagreb (CATURBO-HRZZ and BORA-MZOS projects)</li> <li>• Practical information (Local Organizers)</li> </ul>
<b>Topic area 1: Boundary layer over complex terrain</b>	
<i>Chairs: Branko Grisogono and Hrvoje Kozmar</i>	
09:10 – 09:30	<b>T1.1</b> - On the boundary layer structure over mountainous complex terrain <i>Mathias W Rotach and Ivana Stiperski</i>
09:30 – 09:50	<b>T1.2</b> - A NWP-based mesoscale climatology of boundary-layer processes over complex terrain <i>Stefano Serafin, Stephan F.J. de Wekker and Jason C. Knievel</i>
09:50 – 10:10	<b>T1.3</b> - Evaluating regional climate models over complex topography <i>Ivan Güttler</i>
10:10 – 10:30	<b>T1.4</b> - Dynamics of rotor formation in single layer flows over topography <i>Johannes Sachsperger, Stefano Serafin and Vanda Grubišić</i>
10:30 – 10:50	<b>T1.5</b> - Bora flow over the complex terrain of the mid-Adriatic area <i>Kristian Horvath, Željko Večenaj and Branko Grisogono</i>
10:50 – 11:20	<b>Coffee Break</b>
<b>Topic area 2: Measurements of turbulence over heterogeneous surfaces- Part 1</b>	
<i>Chair: Dino Zardi</i>	
11:20 – 11:40	<b>T2.1</b> - Imbalance of the Surface Energy Budget and role of the terrain heterogeneities <i>Joan Cuxart</i>
11:40 – 12:00	<b>T2.2</b> - I-Box: Issues with studying boundary layers in very complex terrain <i>Ivana Stiperski and Mathias W. Rotach</i>
12:00 – 12:20	<b>T2.3</b> - Observations of the bora-wind turbulence using the hot-wire anemometer <i>Željko Večenaj, Damir Ptičar, Hrvoje Hegeduš, Goran Lončar, Goran Gjetvaj and Branko Grisogono</i>

**Monday, 03 November 2014**

**Topic area 2: Measurements of turbulence over heterogeneous surfaces-  
Part 2**

*Chair: Ivan Güttler*

12:20 – 12:40 **T2.4** - A multipurpose microcontroller-based data acquisition system for meteorological measurements  
*Marko Jurčević, Hrvoje Hegeduš and Petar Mostarac*

12:40 – 13:00 **T2.5** - Inter-annual variability of CO<sub>2</sub> fluxes measured at mixed forest of pedunculate oak with eddy covariance  
*Hrvoje Marjanović, Mislav Anić and Maša Zorana Ostrogović Sever*

13:00 – 13:20 **T2.6** - Wind-tunnel experiments on flow and turbulence in complex terrain  
*Hrvoje Kozmar, Davide Allori, Enzo Marino, Gianni Bartoli, Claudio Borri*

13:20 – 14:50 **Lunch**

**Topic area 3: Atmospheric mesoscale/boundary layer flows and air quality-  
Part 1**

*Chairs: Ivana Stiperski and Stefano Serafin*

14:50 – 15:10 **T3.1** - Mountain wave-induced turbulence: “Lower turbulent zones” revisited  
*Lukas Strauss, Vanda Grubišić, Stefano Serafin and Rita Mühlgassner*

15:10 – 15:30 **T3.2** - Where do we slope?...  
Some elementary thoughts on our present understanding of thermally driven slope flows  
*Dino Zardi*

15:30 – 15:50 **T3.3** - New developments on Prandtl model for simple slope flows  
*Branko Grisogono, Toni Jurlina, Željko Večenaj and Ivan Güttler*

15:50 – 16:10 **T3.4** - Anthropogenic influence on mesoscale weather – an example of construction of the man-made lake  
*Zyjezdana Bencetić Klaić and Marko Kvakić*

16:10 – 16:30 **T3.5** - High-resolution numerical simulations of wintertime atmospheric boundary layer processes in the Adige Valley during an ALPNAP project field campaign  
*Elena Tomasi, Lorenzo Giovannini, Dino Zardi and Massimiliano de Franceschi*

16:30 – 17:00 **Coffee Break**

**Topic area 3: Atmospheric mesoscale/boundary layer flows and air quality-  
Part 2**

*Chair: Joan Cuxart*

17:00 – 17:20 **T3.6** - Development of eddy diffusivity method based on LES simulations in convective atmospheric boundary layers  
*Amela Jeričević and Željko Večenaj*

17:20 – 17:40 **T3.7** - Influence of WRF parameterization on air quality modeling  
*Goran Gašparac and Amela Jeričević*

17:40 – 18:00 **T3.8** - Quantifying the influence of local meteorological conditions on air quality in Zagreb using generalized additive models  
*Andreina Belušić, Ivana Herceg Bulić and Rachel Lowe*

18:30 - **Workshop Dinner**

**Tuesday, 04 November 2014**

**Topic area 3: Numerical modeling and forecasts of atmospheric mesoscale/boundary layer flows-Part 1**

*Chair: Mathias W. Rotach*

09:00 – 09:20	<b>T3.9</b> - Investigation of land surface atmosphere feedback combining WRF simulations with water vapor DIAL measurements <i>Josipa Milovac, Kirsten Warrach-Sagi, Andreas Behrendt, Florian Späth, Joachim Ingwersen and Volker Wulfmeyer</i>
09:20 – 09:40	<b>T3.10</b> - Characterization of the solar irradiation field for the Trentino region in the Alps <i>Lavinia Laiti, Lorenzo Giovannini and Dino Zardi</i>
09:40 – 10:00	<b>T3.11</b> - A nested large-eddy simulation study of the Ora del Garda wind in the Alps <i>Lorenzo Giovannini, Lavinia Laiti and Dino Zardi</i>
10:00 – 10:20	<b>T3.12</b> - The prognostic deep convection parameterization for operational forecast in horizontal resolutions of 2, 4 and 8 km <i>Martina Tudor, Stjepan Ivatek-Šahdan and Antonio Stanešić</i>
10:20 – 10:50	<b>Coffee Break</b>

**Topic area 3: Numerical modeling and forecasts of atmospheric mesoscale/boundary layer flows-Part 2**

*Chair: Stjepan Ivatek-Šahdan*

10:50 – 11:10	<b>T3.13</b> - Wind speed ensemble predictions with an analog-based method in complex terrain <i>Iris Odak Plenković, Luca Delle Monache, Kristian Horvath, Mario Hrastinski, and Alica Bajić</i>
11:10 – 11:30	<b>T3.14</b> - Evaluation of the ability of progressively finer MNWP models to reproduce wind regimes over complex terrain <i>Mario Hrastinski, Kristian Horvath, Iris Odak, Stjepan Ivatek-Šahdan and Alica Bajić</i>
11:30 – 11:50	<b>T3.15</b> - Persistency as a reference in determining rare event forecasting skill <i>Iris Odak Plenković and Zoran Pasarić</i>

**Topic area 4: New insights into bora wind characteristics**

*Chair: Zvezdana Bencetić Klaić*

11:50 – 12:10	<b>T4.1</b> - Some features of near-ground bora turbulence <i>Petra Lepri, Hrvoje Kozmar, Željko Večenaj and Branko Grisogono</i>
12:10 – 12:30	<b>T4.2</b> - MET service provision challenges related to bora at the Dubrovnik airport <i>Igor Kos and Jadran Jurković</i>
12:30 – 12:50	<b>T4.3</b> - Wind forecast verification during bora events at the Dubrovnik airport <i>Jurković Jadran and Zoldoš Marko</i>
12:50 – 13:00	Summary and closing remarks (Branko Grisogono & others)
13:00 – 14:30	<b>Lunch</b>
14:30 –	Departure of participants