

# Seminar on

## Ground- and space-based GNSS data in meteorological applications

2 July 2015

At the seminar sessions we will take an in depth look at current approaches and future perspectives in GNSS meteorology for the remote sensing of the troposphere from both, ground- and space-based platforms. The meteorology session with invited speaker from Institute of Meteorology and Water Management will touch on issues in weather and climate forecasting. The second part lead by GPSARC team of National Central University in Taiwan will discuss radio occultation technique, introducing the follow-on COSMIC-II mission. The last part is intended for ground-based applications of GNSS&Meteo group as well as University of Wroclaw.

### *Seminar Topics:*

- GPS radio occultation
- clock and orbit determination
- data assimilation
- GNSS tomography

### *Registration:*

All researchers and postgraduate students interested in the seminar topics are welcome to join the event. There is no admission fee. Should you have any question, feel free to ask.

### *Contact:*

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### *Venue:*

Didactic and Scientific Center  
Grunwaldzki Square 24a  
The Council Boardroom 018  
50-365 Wroclaw

### *Local Organizing Committee:*

Prof. Jaroslaw Bosy  
Dr . Witold Rohm  
Mr. Pawel Hordyniec



# SEMINAR PROGRAMME

## Session I: Meteorology

9:00 – 9:15 **Opening speech**

Witold Rohm, Wrocław University of Environmental and Life Sciences

9:15 – 9:30 **Talk 1.** COSMO model implementation used in IMGW

Andrzej Mazur, Institute of Meteorology and Water Management

9:30 – 9:45 **Talk 2.** Satellite techniques in measurements of atmosphere trace gases concentration

M. Zimnoch, J. Nęcki, Ł. Chmura, A. Jasek, M. Gałkowski, K. Rózański, TU AGH

9:45 – 10:00 **Talk 3.** E-GVAP / COST

Jarosław Bosy, Wrocław University of Environmental and Life Sciences

10:00 – 10:30 **Coffee Break**

## Session II: Space-based GNSS

10:30 – 10:40 **Talk 4.** Introduction to FORMOSAT-7 mission

Cheng-Yung Huang, National Central University, Taiwan

10:40 – 11:00 **Talk 5.** Atmospheric radio occultation data processing

Cheng-Yung Huang, National Central University, Taiwan

11:00 – 11:20 **Talk 6.** The clock determination of GNSS satellites in near-real time

Tzu-Pang Tseng, National Central University, Taiwan

11:20 – 11:40 **Coffee break**

11:40 – 12:00 **Talk 7.** The application of ray tracing method on radio occultation

Wen-Hao Yeh, National Central University, Taiwan

12:00 – 12:15 **Talk 8.** Quality of radio occultation atmospheric products

Paweł Hordyniec, Wrocław University of Environmental and Life Sciences

12:15 – 12:30 **Talk 9.** The new empirical orbit model for GNSS satellites

Krzysztof Sośnica and the CODE team

12:30 – 14:00 **Lunch break**

## Session III: Ground-based GNSS

14:00 – 14:15 **Talk 10.** Near Real time GNSS processing service for Poland, Australia and Lithuania

Jan Kapłon, Wrocław University of Environmental and Life Sciences

14:15 – 14:30 **Talk 11.** Real-time GNSS troposphere estimates

Tomasz Hadaś, Wrocław University of Environmental and Life Sciences

14:30 – 14:45 **Talk 12.** SPIN-LAB LIGIG a simple web based tool to retrieve GNSS and NWP data

Jan Sierny, Wrocław University of Environmental and Life Sciences

14:45 – 15:00 **Talk 13.** GNSS data assimilation with the WRF model (SONATA)

Jakub Guzikowski, University of Wrocław

15:00 – 15:15 **Talk 14.** GNSS tomography commercialization (TANGO)

Witold Rohm, Wrocław University of Environmental and Life Sciences

15:15 – 15:45 **Discussion**

15:45 – 16:00 **Seminar closing**