

## WATERLINE TRAINING COURSE

# Multi source data processing and assimilation in hydrological models and forecasting

Thursday 6<sup>th</sup> to Friday 7<sup>th</sup> of October, 2022

**Venue:** **OK!Thess Building** [Komotinis 2, Thessaloniki (Entrance from: Kidonion & Maria Kallas)]

The course will also be available on line free of charge for PhD students but also for all interested scientists. Registration is required (please register at <https://forms.gle/mhWEUzKPCBoS8qLg9>). A Certificate of Attendance will be provided by the organizers after the training course. The time table refers to local Greek time (**EEST time zone**).

For any further information please contact Dr. Stavros Stathopoulos at [stavstat@gmail.com](mailto:stavstat@gmail.com)

### Thursday October 6<sup>th</sup> – Day 1

#### **-)Application of Hydrological Models, Smart Sensors, Python Language in Jupyter Notebooks and Soil Moisture Downscaling Techniques**

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| <b>10:00 – 10:40</b> | Calibration of a Coupled SWAT-Modflow Model with Limited Hydrological Data - Case Study of Puck Bay Area, Northern Poland ( <i>Prof. Adam Szymkiewicz, Gdansk University of Technology, Poland</i> ) |
| <b>10:40 – 11:10</b> | Use of Groundwater Level Measurements in Calibration of 1D Vadose Zone Flow Models ( <i>Prof. Adam Szymkiewicz, Gdansk University of Technology, Poland</i> )  |
| <b>11:20 – 12:20</b> | Introducing the Soil Moisture Downscaling Algorithm and its Application and Validation ( <i>Bin Fang, Post Doc Researcher, University of Virginia, USA</i> )   |
| <b>12:30 – 13:30</b> | Smart Monitoring Sensors ( <i>Konstantinos Sarmidis, ICT Expert, Democritus University of Thrace, Greece</i> )   |
| <b>13:30 – 14:30</b> | <b>SHORT BREAK</b>   |
| <b>14:30 – 15:00</b> | QSWAT Model Development ( <i>Maria Kofidou, PhD Candidate, Democritus University of Thrace, Greece</i> )   |
| <b>15:10 – 17:00</b> | Geospatial Data Processing Using Python Language in Jupyter Notebooks ( <i>Radek Szostak, PhD Candidate, AGH University of Science and Technology, Poland</i> )                                      |

### **Friday October 7<sup>th</sup> – Day 2**

#### **-)Application of Remote Sensing Data in Hydrology and Downscaling Techniques**

- 10:00 – 13:30** Download and Process the Data acquired from NASA's Earthdata Website and Develop/Implement the Downscaling Algorithm Using Python (*Bin Fang, Post Doc Researcher, University of Virginia, USA*)
- 13:30 – 14:30** **SHORT BREAK**
- 14:30 – 16:30** Retrieval of Irrigation Information Using EO Data (*Luca Zappa, PhD candidate, Vienna University of Technology, Austria*)
- 16:30 – 17:30** Downscaling GPM – IMERG Precipitation Estimates Using Statistical Methods (*Stavros Stathopoulos, Post Doc Researcher, Democritus University of Thrace, Greece*)