

# Summer School COST FAIRNESS

## Training Program

VOLOS, Greece, June 27 - July 1 2022

**ZOOM Link for all "Lectures" during the Summer school:**

<https://bokuvienna.zoom.us/j/99653018274>

**Meeting-ID: 996 5301 8274**

<b>Monday, June 27</b>		
<b>Time</b>	<b>Teachers</b>	<b>Title / Content</b>
9:00-9:20	Lalic	<b>Welcome and Introduction</b> to COST FAIRNESS Action (Location: Teaching room)
9:30-11:00	Foken	<b>Lecture:</b> Introduction to the World of Micrometeorological Measurements: History, Scales, Turbulence, Micrometeorological elements, Hierarchy of instruments, Footprint and other influencing factors, Data quality. (Location: Teaching room) <i>Online Lecture by ZOOM:</i> <a href="https://bokuvienna.zoom.us/j/99653018274">https://bokuvienna.zoom.us/j/99653018274</a> Meeting-ID: 996 5301 8274
11:15-12:00	Saylan	<b>LectureGen1:</b> Introduction to Measurement Principles 1 (Location: Teaching room)
<b>12:00-13:00</b>		<b>LUNCH BREAK</b>
13:00-16:00	Saylan	<b>TrainingGen1 – Group 1</b> Content: Campbell Datalogger based station building with sensors (Air temp. and humidity, soil temp. and soil water content/tension, wind, rain, soil heat flux, radiation, leaf wetness) (Location: Teaching room)
13:00-16:00	Eitzinger, Mursch-Radlgruber	<b>TrainingGen2 – Group 2</b> Content: Cost efficient data logging and sensor options (Air temp. and humidity, soil temp. and soil water content, wind, rain, evaporation, radiation, leaf wetness) (Location: Teaching room)
<b>16:00-21:00</b>	Dalezios, Lalic, Koci	<b>Excursion</b> to Microclimatic Field Experimental site, Larisa (incl. Introduction Lecture)
<b>Tuesday, June 28</b>		
9:00-9:45	Eitzinger	<b>LectureGen2:</b> Introduction to Measurement Principles 2
10:00-13:00	Eitzinger, Mursch-Radlgruber	<b>TrainingGen 2 – Group 1</b> (Content and Location see Monday afternoon)
10:00-13:00	Saylan	<b>TrainingGen1 – Group 2</b> (Content and Location see Monday afternoon)
<b>13:00-14:00</b>		<b>LUNCH BREAK</b>
14:00-17:00	Altobelli	<b>TrainingAgro1</b>

		Content: Use of weather time series from Personal Weather Stations (PWS), for crop modeling applications in urban and peri urban agriculture (Location: Teaching room)
<b>Wednesday, June 29</b>		
9:00-9:45	Savic	<b>LectureUrban1/2:</b> Instruction of thermal comfort monitoring and assessment at urban micro-environment scale (Location: Teaching room)
10:00-12:00	Savic, Lalic, Koci	<b>TrainingUrban1</b> Content: Using three Kestrel 5400 Heat Stress Tracker sensors in urban area of Volos. Selection of three different urban environment, installation of sensors, minimum one hour measurement with comparison of values in three different sites, download datasets and further assessment. Focus on: air temperature, globe temperature, RH, wind speed (Location: Outside)
12:00-14:00		LUNCH BREAK
14:00-14:45	Potchter	<b>LectureUrban3:</b> Measurement methodologies for characterizing urban climate and human comfort. (Location: Teaching room)
15:00-17:00	Potchter	<b>TrainingUrban3</b> Content: A field survey: Portable methodologies for measuring personal and place exposure to heat stress (Location: Outside at outdoor environment)
21:00-23:30	Saylan, Eitzinger, Mursch-Radlgruber, Altobelli	<b>TrainingUrban2</b> Content: Night-time mobile urban measurements (Location: Outside)
<b>Thursday, June 30</b>		
9:00-9:45	Koci	<b>LectureAgro2:</b> Case study PIS - Detection of significant biological events in a protection of plant production using micrometeorological measurements. (Location: Teaching room)
10:00-12:00	Saylan, Potchter, Eitzinger, Mursch-Radlgruber, Savic, Altobelli	<b>TrainingUrban2</b> Content: Night time measurements data and phenomena analysis (Location: Teaching room)
10:00-12:00	Koci	<b>TrainingAgro2</b> Content: Bio-met measurements and observations on a micro scale : data flows; From measurements/observations to digitaly transformed recommendations: proof of concept (Location: Teaching room)
12:00-13:00		LUNCH BREAK

13:00-14:00	Nejedlik, Lalic	<b>Summer school organization - instructions for students</b> (Location: Teaching room)
14:00-14:45	Mandelmilch	<b>LectureRS:</b> Remote sensing tools for micrometeorological applications; from satellite images to airborne images and hand-held Infra-Red cameras (Location: Teaching room)
15:00-17:00	Mandelmilch	<b>TrainingRS</b> Content: Fluke TI 300 pro camera and the student's computers with the relevant programs. Each student will download a satellite image and the students will process it using different tools. (Location: we will acquire the thermal images outside near the teaching room. In the next step we will process the images in the class room and we will work with satellite images).
<b>Friday, July 1</b>		
9:00-9:45	Lalic	<b>LectureFAIR:</b> How much your data is FAIR? Obstacles to enhanced data FAIRness: objective vs. subjective.
10:00-10:45	Lalic	<b>LectureGapFil:</b> What is the gap in data and how to fill it? General concepts in data quality control and gap filling. Sources of data for gap filling – powerful assets if handled with care.
11:00-12:00	Lalic/Petric	<b>TrainingGapfil1</b> Content: Quality control of Raw Data (Gross Error Checks, Basic Time Checks), Quality Control of Processed Data (Plausible Value Checks, Time Consistency Checks, Internal Consistency Checks, Extended QC Procedures) (Location: Teaching room)
12:00-14:00		LUNCH BREAK
14:00-17:00	Lalic/Petric	<b>TrainingGapfil2</b> Content: ERA5 data acquisition (Setting up the ERA5 API call, downloading data for different variables, geographic location, and period), ERA5 data processing (Data visualization and pre-processing, time series analysis in python) (Location: Teaching room)
17:30-19:00	COST	<b>WG-Meeting (teachers only)</b>
19:00		Dinner