Research
Excellence

FASTER

Farmers' Adaptation and Sustainability in Tunisia
through Excellence in Research

2nd FASTER SPECIALIZED TRAINING

on Climate change effects on water & land management in the Mediterranean

22-26 March 2021 (ONLINE)

AGENDA

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 810812.

FASTER in a Nutshell

Farmers' Adaptation and Sustainability Through Excellence in Research (FASTER) is a Twinning Project funded by European Commission (Directorate General for Research and Innovation) through Horizon 2020 funding programme. FASTER aims to reinforce research and knowledge transfer capacity of INRGREF related to innovative land and water management in view of climate change and its implementation through the use of Farm Advisory Systems (FAS). To achieve its mission, FASTER will develop a sustainable framework for research capacity building, international networking and FAS practice. The consortium gathers seven European and Tunisian partners: Two EU partners of established scientific excellence in the topic, CREAF and the Lund University, will ensure strengthening of researchers and technicians of INRGREF and the associated IRESA (the Institution for Agricultural Research and Higher Education) centres. Europe for Business will then evaluate the experience from the economic perspective, and Vision Communication will ensure an appropriate public awareness, dissemination of results, and, jointly with The Node, trainings support. Finally, AVFA (the Agriculture Extension and Training Agency) will serve as a liaison with policy makers and related stakeholders making sure to integrate the FASTER results in national policies.

The training programme

One of the main goals of the FASTER project is to reinforce the research and knowledge transfer capacity of INRGREF and associated Tunisian partners in relation to innovative land and water management in view of climate change. Improving research excellence, enhancing reputation, and achieving higher competitiveness in the EU and beyond through national and international funding opportunities, also requires the reinforcement of knowledge on the specific thematic areas such of adaptation to climate change and water and land management including innovative governance.

The 2nd FASTER Specialized Training aims to improve research capacity as described in the FASTER thematic areas such as adaptation to climate change and water and land management. This will include knowledge and tools for key aspects such as:

- Improving research skills and knowledge in adaptation to climate change, terrestrial ecology and water resources management and innovative governance

- Providing examples of new research tools to students and researchers for developing improved education, research, and scientific output

- increasing networking and partnerships

Agenda, Topics and Thematic Experts

- Date 22-26 March 2021
- Venue: live-streaming using an on-line platform
- Trainings Coordinator: Lund University
- Topics and Trainers:
    - Climate change effects on water management in the Mediterranean, Ronny Berndtsson and Cintia Uvo (Lund University)
    - Integrated water & land resources management, Erik Nilsson and Linus Zhang (Lund University)
    - Geographical Information Systems (GIS) and remote sensing techniques for Landscape Studies, Linus Zhang and Hossein Hashemi (Lund University)
    - Recharge and groundwater modelling, Hossein Hashemi and Magnus Persson (Lund University)
    - Modelling of crop irrigation and salinity effects, Magnus Persson and Erik Nilsson (Lund University)

Certification:

Participants will receive an official recognition issued by FASTER.

Day 1

Climate change effects on water management in the Mediterranean

Lecturers: Ronny Berndtsson and Cintia Uvo

The course aims at supplying knowledge regarding climate variation and change effects on typical water management activities such as irrigation, hydropower, and drinking water. The course takes its start at the present-day climate of the Mediterranean and provides a discussion on future conditions and effects on the water use and management. Special emphasis is put on ways to adapt to future conditions with more scarce water resources.

Monday 22nd March 2021	
9:00-9:30	Welcome and presentations
9:30-10:00	Projections with effects on water availability
10:00-10:30	Facilitated debate
10:30-11:00	BREAK
11:00-11:30	Innovative mitigation to climate change and increasing demands
11:30-12:00	Facilitated debate
12:00-12:30	Explanation of tasks to do & Wrap up

Day 2

Integrated water & land resources management

Lecturers: Erik Nilsson and Linus Zhang

The course aims at delivering knowledge on Integrated Water Resources Management (IWRM) and related work in an international perspective. It discusses technical and non-technical issues, including the most common environmental water problems in both developed and developing countries. IWRM is discussed as regards common water related issues (floods, droughts, drinking water, sanitation, pollution, water allocation), and their links to environmental, social, and economic aspects.

Tuesday 23rd March 2021	
9:30-10:00	Introduction to techniques of integrated planning and management in view of competing stakeholders and demand
10:00-10:30	Facilitated debate
10:30-11:00	BREAK
11:00-11:30	User conflicts and IWRM optimization
11:30-12:00	Facilitated debate
12:00-12:30	Explanation of tasks to do & Wrap up

Day 3

Geographical Information Systems (GIS) and remote sensing (RS) techniques for Landscape Studies

Lecturers: Linus Zhang and Hossein Hashemi

The course aims to give knowledge in how to use GIS and RS data in landscape and water related problems. Through lectures and practical assignments, we treat the basic theory of spatial phenomenon, geographic data and analysis and remote sensing within studies of landscape processes. An emphasis is put on understanding of representation and analysis of spatial elements with applications in soil and water management.

Wednesday 24th March 2021	
9:30-10:00	Practical aspects related to water management
10:00-10:30	Facilitated debate
10:30-11:00	BREAK
11:00-11:30	Practical aspects related to water management and adaptation and increasing resilience
11:30-12:00	Facilitated debate
12:00-12:30	Explanation of tasks to do & Wrap up

Day 4

Recharge and groundwater modelling

Lecturers: Hossein Hashemi and Magnus Persson

The course aims to supply knowledge on groundwater recharge processes and ways to model these specifically in arid and semiarid areas. The related processes starting from rainfall occurrence to infiltration and deeper recharge processes are presented. Different modelling approaches for water and solutes are visualized through exercises and case studies.

Thursday 25th March 2021	
9:30-10:00	Techniques for estimating groundwater recharge in data poor regions
10:00-10:30	Facilitated debate
10:30-11:00	BREAK
11:00-11:30	Groundwater observations and simulations
11:30-12:00	Facilitated debate
12:00-12:30	Explanation of tasks to do & Wrap up

Day 5

Modelling of crop irrigation and salinity effects

Lecturers: Magnus Persson and Erik Nilsson

The course aims to give knowledge on water efficient crop production and ways to supply water and nutrients and avoid negative salinization effects. Various case studies and projects are explained and discussed and the potential for scarce water resources and presented. Modeling examples and exercises are visualizing transport of water and solutes and effects on different crop and irrigation systems.

Friday 26th March 2021	
9:30-10:00	Observation methods of salinity and soil water
10:00-10:30	Facilitated debate
10:30-11:00	BREAK
11:00-11:30	Modelling approaches and examples
11:30-12:00	Facilitated debate
12:00-12:30	Explanation of tasks to do & Wrap up

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CREAF

LUND UNIVERSITY
Center for Middle Eastern Studies

AVFA
وكالة الإرشاد و التكوين الفلاحي

VISION
COMMUNICATION
CONSULTANCY

EUROPE
for business

IRESA
Institution de la Recherche et de
l'Enseignement Supérieur Agricoles

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