



## **5<sup>th</sup> ENDURE Summer School - The role of IPM in mitigating effects of climate change on pest dynamics – modelling approaches.**

Volterra (Italy), 9 - 14 October 2016

Organised by Network of Excellence ENDURE

Coordinated by: Institute of Life Sciences, Scuola Superiore Sant'Anna, Pisa (Italy)

### **Lecturers**

Camilla Moonen (Local organisation)	Scuola Superiore Sant'Anna, Pisa, Italy
Jean-Noël Aubertot (Coordinator)	INRA, France
Daniel Wallach	INRA, France
François Brun	ACTA, France
Til Feike	Julius Kuhn Institute, Germany
Mark Szalai	Szent Istvan University, Hungary
Niels Holst	Aarhus University, Denmark
Yves Dumont	CIRAD, France

### **History of the ENDURE Summer School**

This is the fifth ENDURE Summer School organized by Scuola Superiore Sant'Anna with participation of ENDURE partners. The first ENDURE Summer School took place in 2007 and was entitled 'Biodiversity supporting crop protection', the second one followed in 2009 and dealt with 'Modelling approaches to support Integrated Pest Management'. In 2010 the Summer School focused on 'New and emerging agricultural pests, diseases and weeds' and in 2012 'Agroecological engineering for crop protection'

These summer school activities for PhD students are part of the Education activities envisaged in the European Research Group ENDURE (European Network for the Durable Exploitation of Crop Protection Strategies).

ENDURE is a consortium of 14 research institutes, universities and extension organisations providing information and a platform for knowledge exchange regarding all aspects of Integrated Pest Management (IPM). The group builds on the experience and knowledge amassed within the European Commission-funded ENDURE Network of Excellence (2007-2010) which has continued its activities with internal funding since.

ENDURE supports scientists, policy and farm advisers, and trainers by providing research tools, a freely available online information centre and a Network of Experts.

ENDURE is driven by scientists and farm advisers from institutions across a wide range of European countries. It offers support and resources to farm advisers, scientists and policy advisers concerned by IPM. All resources can be accessed on the ENDURE website at [www.endure-network.eu](http://www.endure-network.eu).

The Summer School will take place at SIAF, an International School of Advanced Education recently established by the Scuola Superiore Sant'Anna of Pisa and the Foundation of the Cassa di Risparmio di Volterra. SIAF is located at Volterra (60 km SE of Pisa), in the heart of Tuscany countryside (<http://www.siafvolterra.it/wp/>).

### **Aims and rationale**

The objective of the Fifth ENDURE Summer School is to make PhD students meet scientists who are actively implementing modelling approaches to develop IPM strategies able to take into account future climate. Climate change, through its effect on temperature, rainfall and atmospheric CO<sub>2</sub> concentration, will impact many agricultural production situations worldwide. In addition to direct impact on yield, climate change will also affect biocenosis dynamics. In particular, pest (plant pathogens, animal pests and weeds) and beneficial dynamics will be affected and lead to new injury profiles and associated quantitative and qualitative damage to crop production. Given the complexity of the crop-soil-atmosphere-pest-auxiliary system, modelling is a key scientific approach to help design future cropping systems more resilient to biotic stress, with limited reliance on pesticides.

### **Programme**

The Summer School programme will include (1) lectures given by internationally-renowned experts (guest lecturer Prof. Katia Laval, Emeritus Professor at the Université Pierre et Marie Curie, Paris), (2) team work to facilitate active participation of the selected PhD students and their interaction with the lecturers and (3) opportunities during the whole week for students to discuss individually with the lecturers about their PhD project or related questions.

The teaching objectives are to:

- Present up-to-date knowledge on climate change and its impact on pest and beneficial dynamics.
- Present the conceptual and methodological principles of various modelling approaches.
- Illustrate how modelling can be used to help design IPM strategies for future climate
- Give hands-on experience in a class modelling project that will test IPM strategies under climate change.

The exact programme is being developed by the team of Summer School lecturers and details will be decided based on the CVs of selected students.

## Application and deadlines

### Who can apply

The summer school is directed to a maximum of 30 PhD students. The PhD students applying for this course are expected to be enrolled in a PhD programme whose topic is connected to IPM for sustainable crop protection. **Upon request, the selection committee may decide to accept participation of researchers with a special interest in this topic who are not performing a PhD.** At the start of the summer school students need to be basic users of R. However, based on the entrance level of interested participants, we may decide to provide an introductory course to the use of R, before the start of the Summer School (6-7 October 2016) at the Scuola Superiore Sant'Anna in Pisa. The course is for free but students should arrange their own accommodation. Alternatively, we will suggest some on-line course approved by the lecturers that students will have to follow before the start of the Summer School.

### Selection criteria

Interested students are requested to register to [this website](#) and complete the online application procedure. Applications must include:

- Short CV (max two A4 pages, Times New Roman 12 pt)
- Summary of PhD Project (max one A4 page, Times New Roman 12 pt)
- A motivation letter (max one A4 page, Times New Roman 12 pt)
- A support letter from PhD supervisor(s)

Based on these documents a selection committee will evaluate your application and communicate within 14 days if you are accepted. The first 30 eligible applications will be honoured.

### Costs

Participation cost to the summer school is €750, and includes housing, meals, access to lecture room, daily coffee breaks, and a guided tour to visit Volterra on Wednesday afternoon. The cost is reduced with respect to the actual cost of participation thanks to co-financing by ENDURE partners which covers participation of lecturers. Travel is not included, except for the bus from Pisa airport to SIAF-Volterra on Sunday evening and back again on Friday afternoon.

### Deadlines

- December 2015: Application active on-line. You will receive communication of acceptance within 14 days from submission.
- 15 April 2016: Students who have been accepted for the Summer School have to communicate formally their acceptance to participate and payment will be issued.
- 9 October 2016 at 17.00: meeting at Pisa Airport and departure by buss to SIAF, Volterra.

### Information

Requests for information can be sent to [moonen@sssup.it](mailto:moonen@sssup.it) or [endure.summerschool@sssup.it](mailto:endure.summerschool@sssup.it).