

## An international course on

### **Integrated Assessment of Agricultural Systems (IAAS) at regional level: September 2-4, 2010 Montpellier (France)**

September 2<sup>nd</sup> to 4<sup>th</sup> 2010  
IAMM, Montpellier, France

**Organized by:** CIHEAM-IAMM (France), Montpellier Supagro (France), the SEAMLESS Association (The Netherlands) and Purdue University (USA).

**Chair:** Hatem Belhouchette (IAMM)

**Organising Committee,** Jacques Wery (Montpellier SupAgro), Martin van Ittersum (SEAMLESS Association, Wageningen University), Sylvestre Delmotte (Montpellier SupAgro), Guy Trebuil (Cirad UR GREEN) and Rabi Mohtar (Purdue University).

#### **General information:**

This course on “Integrated Assessment of Agricultural Systems” at regional level will be organized by Montpellier SupAgro and IAM-Montpellier in collaboration with the SEAMLESS association ([www.seamlessassociation.org/](http://www.seamlessassociation.org/)) and the Purdue University, from 2 to 4 September 2010. It will be organized in conjunction with the Agro2010 congress organized in the same place from August 29 to September 3, 2010 ([www.agropolis.fr/agro2010/index.html](http://www.agropolis.fr/agro2010/index.html)).

#### **Course objectives and set up.**

The objectives of the course are:

1. To present **concepts for integrated assessment** of agricultural systems at regional level.
2. To gain theoretical and practical understanding of the **methods, models and tools** used in integrated assessment of agricultural systems.
3. To understand conceptually and practically how integrated assessment and modelling can support **ex-ante impact assessment and decision making processes**.

In the course, the model-chain approach (including the ones recently developed in the SEAMLESS project) and the multi-agents based approaches will be used as an example to present how concepts, tools and models (conceptual and numerical) can be integrated to assess complex agricultural systems and sustainable development. The course is problem orientated, so all lectures are linked to practical applications, such as the Water Framework Directive in the Midi-Pyrenees region, southern France and a watershed management in Thailand. Models used for these practical applications will be presented and discussed, but gaining detailed understanding of specific components is not the objective of this course. At the end of the course participants will understand how an integrated research framework and its individual components contribute to integrated assessment of a problem and how this may contribute to decision-making.

Besides a series of plenary presentations by speakers, a number of interactive activities will allow participants to discuss general and detailed issues with the specialists and other participants. Participants are expected to actively contribute to the course by leading discussions and presenting outputs of parallel workshop sessions.

### WHO CAN APPLY?

PhD students, post docs and young researchers are the target of this course.

Participants should have experience in the field of agronomy, agri-environmental policy analysis, agricultural/environmental economics, integrated assessment or related academic fields.

### PROGRAMME:

<b>Day 1: Thursday, September 2, 2010</b>
<b>Morning (3h15)</b>
<ul style="list-style-type: none"> <li>- Background and introduction of the course (<b>IAMM-Director</b>) -15 min</li> <li>- How to assess the impact of policy and technological innovation using IA approach: scenario based approaches (<b>Martin van Ittersum</b>) -1.30 h</li> <li>- <b>Practical illustration:</b> web-based GIS-Hydrologic Modelling for sitting Water Harvesting Reservoirs using Analytical Hierarchy Process (AHP) (1.30h) (Rabi Mohtar).</li> </ul>
<b>Afternoon (3h)</b>
<ul style="list-style-type: none"> <li>- The model chain approach exercise: how to assess at farm and regional scale the impact of policy and technological innovations on cropping system sustainability? (<b>Jacques Wery + Hatem Belhouchette</b>) -1.30 h</li> <li>- <b>Group work:</b> Multi-criteria and multi-scale assessment of the nitrate directive scenario in the Midi-Pyrenees region (data analysis and conclusions) (<b>Hatem Belhouchette+ Jacques Wery</b>) -1.30 h</li> </ul>
<b>Day 2: Friday, September 3rd 2010</b>
<b>Morning (3h)</b>
<b>Group work:</b>
<ul style="list-style-type: none"> <li>- APES, cropping system model: presentation and exercises (<b>Myriam Adam</b>) -1.30 h</li> <li>- FSSIM, bio-economic model: presentation and exercises (<b>Guillermo Flichman</b>) -1.30 h</li> </ul>
<b>Afternoon (3h)</b>
<ul style="list-style-type: none"> <li>- Multi-agents based approaches (<b>Senthold Asseng</b>) -1.30 h</li> <li>- The case of companion modelling (ComMod) approach: concepts, methodological principles, key tools and examples. (<b>Guy Trébuil</b>) -1.30 h</li> </ul>
<b>Day 3: Saturday, September 4<sup>th</sup> 2010</b>
<b>Morning (3)</b>
<ul style="list-style-type: none"> <li>- <b>Group work:</b> multi-agent systems in companion modelling for integrated watershed management (<b>Guy Trébuil and Christophe Le Page</b>) -3.0 h</li> </ul>
<b>Afternoon (2.15h)</b>
<ul style="list-style-type: none"> <li>- <b>Presentation/discussion:</b> Participative evaluation of scenarios of agriculture evolution at farm and regional scale: combination of linear programming and multi-agent systems (<b>Sylvestre Delmotte and Santiago Lopez Ridaura</b>). -2.0 h</li> <li>- <b>Course evaluation</b> (<b>Hatem Belhouchette+ Jacques Wery, Sylvestre Delmotte and Rabi Mohtar</b>) -15 min</li> </ul>