7th International Workshop for Farming Systems Design

Designing Climate Smart Agricultural Systems for a Sustainable Transformation in the Agri-food Systems of the Dry Areas

Marrakech (Morocco)
Oct. 30 to 3 Nov. 2022
One of the four Institutes of the CIHEAM, international intergovernmental organisation founded under the aegis of the OECD in 1962, which gathers thirteen Member States around Mediterranean

Tree main mission: Education, Research and cooperation.

CIHEAM Montpellier welcomes 70 Mediterranean Master students per year... with a full scholarship.

A doctoral platform with 20 PhD students as an average per year.

Support decision-making for resilient and sustainable agri-food systems in the context of agro-ecological transition in the Mediterranean:

à Co-design household farming systems
à Characterizing territorial systems to support agricultural and rural policies
à Coordination, governance, strategies of actors and organizations in agri-food chains
Mohammed VI Polytechnic University - UM6P
Université Mohammed VI Polytechnique

Moroccan non-profit private research university. Its main campus in Ben Guerir (70K North of Marrakesh)

Originally established by the charitable foundation of the state-owned OCP Group (Phosphate rock miner and fertilizer)

First cohort of students in 2013, officially inaugurated on January 12, 2017 (currently > 3,500 students)

Prioritises research and innovation relevant to Morocco and Africa: industrialization, management, food security, sustainable development, mining, behavioural and social sciences...

Bruno Gérard
Institut Agronomique et Vétérinaire Hassan II

1972 – 2022 About 17,000 graduates

6 Schools

Agronomy
Halieutic
Geomatic
Mapping
Food Sciences
Industry
Veterinary
Sciences
Rural
Engineering
Horticulture
(Horticultural
Campus of Agadir)

APESA: Preparatory Year for High Studies in Agriculture, Common to all six colleges

22 Departments

6

2066

400

year 2020

180

Lecturers and researchers

315

Technical et Administratif staff

6

Laboratories of research and services

Experimental greenhouses
Veterinary hospital

2,5 % acceptance in APESA

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Doctoral school
Masters
MBA

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ICARDA’s Comparative Advantage

- The only CGIAR center headquartered in WANA region
- +40 years dryland agriculture experience
- Long-term partnerships and agreements with countries, government, NARS, private sector, and farmers
- Widely-adopted people-centered farming solutions
- A long history of work in fragile states

Michael Baum
ICARDA’s Comparative Advantage

Research focus: Drylands
• Crops: Wheat, barley, faba bean, chickpea, lentil, grass pea
  - Genetic resources: conservation and utilization (e.g. pre-breeding)
  - Breeding: yield, quality, abiotic (drought, heat) and biotic (rusts, insects, weeds) stress
  - Seed delivery systems: formal and/or informal

• Livestock: Small ruminants (sheep and goats)
  - Characterization focusing on adaptive traits
  - Community-based breeding programs (local breeds)
  - Value chain transformation through market-driven business opportunities
  - Integration with crop/range/forage production

• Integrated water and land management
  - Watershed management and modeling, supplementary irrigation, rainwater harvesting,
  - Developing and disseminating practical, low-cost options for ecosystem restoration (reverse soil degradation, reducing salinity in drylands, ..)
L’Institut Agro: The French institute for higher education & research in Food, Agriculture & the Environment

Created in early 2020 through the merging of three major French “grandes écoles”, L’Institut Agro is now France’s largest player in this field. By its sheer size, its broad territorial embeddedness, the number of graduate students and permanent faculty within the institution, the wide range of its specializations, expertise and international partnerships.

Student body: 4,900
- including 2,950 graduate students (Master’s level)
- 450 PhD candidates
- 40 graduate majors

1,300 staff
- including 300 permanent faculty

60,000 alumni

6 campuses
- 4 agricultural experiment stations
- 1 distance learning centre

39 research labs

16 chairs
- in partnership with companies (large and SMEs)
- Support provided to

180+ international mobility agreements

800 agricultural vocational schools

1 philanthropic foundation
FSD in a nutshell

• FSD is an informal interdisciplinary scientific community of practice. The overall objective of FSD is to promote research and capacity building on methodologies for the analysis and design of Agricultural Systems on a worldwide level.

• The core is science: The research focus of this FSD community is the farm system level, the interactions and feedbacks at lower and higher levels of integration and the tools and methods required for understanding and implementing multi-functional farming systems expressing good trade-offs between agricultural production and ecosystems services.

http://www.fagro.edu.uy/fsd/agro2015/
Agricultural systems by design

Science-based

https://fsd7.sciencesconf.org/
https://fsd7.sciencesconf.org/
An exciting program – open for discussions – looking forward

Still need session rapporteurs from session 10 to 14!

- Watch daily
- Download
- Upload

https://cloud.iamm.fr/index.php/s/tGTwH2gL7Z6cpxi?path=%2F
Thank you for this day

- Morrocan Biodiversity and Livelihood organization (https://www.mblaassociation.org/)
- AlMoutmir (https://www.almoutmir.ma/)
- UM6P (https://um6p.ma/)
- CIHEAM Montpellier (https://www.iamm.ciheam.org/fr/)
• **9.45 – 10.45 : Session 1** (chair Jacques Wery; rapporteur : Bruno Gérard): challenges of farming systems design in the drylands of Africa and Asia: discussion based on short presentations of expected outcome of new projects.
• **10.45 – 11.00**: break
• **11.00 – 12.30 : Session 2** (chair Marie-Hélène Jeuffroy, ; rapporteur : Laure Hossard): What’s new in co-design methods and tools for agrifood systems?
• **12.30 – 14.00 : lunch**

• **14.00 – 15.30 : Session 3** (chair Bruno Gerard; rapporteur : Hatem Belhouchette): Designing/Promoting/Scalling agro-ecologically based farming systems in the MENA region: can we manage the complex trade-offs between food/nutrition security and the preservation of natural resources under climate change and water scarcity?
• **15.30 – 15.45**: break
• **15h45 – 17.00 : Session 4** (chair Jacques Wery ; rapporteur An Nottenbaert): Capacity Building in AgriFood systems analysis and design: International collaboration on methods, tools and curriculae.
• **17.00 – 18.00**: Special Session to prepare students day (chair Bruno Gérard, UM6P)
• **18.00 – 21.00**: free visit of town and dinner.
Open to the academic and student community in Morocco interested in systems research

Participants from:
- IAV Rabat
- ENA Meknes
- UM6P Ben Guerir
- The FSD community
Sharing outcome of the FSD7 workshop

9.15 - 11.30: A series of short presentations by FSD7 participants, related to farming systems design organized in three topics:
• what is agri-food systems analysis and design? (coord. : Hatem)
• what is the impact of this research? (coord. : Bruno)
• how to learn and teach it? (coord. : Jacques)

Preparing youth engagement

• 14.00 – 15.30 : Round table discussions with students (parallel)
• 15.30 – 16.45 : Plenary discussion and conclusion
To do until wednesday

Think of key messages and questions to students and teachers

To do this afternoon (special session) (open to all)
Split in three groups and organize presentations

To do on wednesday (special session)

1. What is agri-food systems analysis and design? (coord. : Hatem)
2. What is the impact of this research? (coord. : Bruno)
3. How to learn and teach it? (coord. : Jacques)

Special session to present and discuss the key messages of the workshop for the student day (chair Bruno Gerard (UM6P))