

-PROGRAM-

International Workshop

Applied Mathematics and Omics Technologies for Discovering Biodiversity and Genetic Resources for Climate Change Mitigation and Adaptation for Sustainable Agriculture in Drylands

Rabat, Morocco 24–27 June 2014



Co-organizers

ICARDA, INRA Morocco, CGIAR (CAAFS), Concordia University, University of Helsinki, ARCAD, NordGen, CIMMYT, GRDC, and IAV Hassan II



23 JUNE (MONDAY) IAV Hassan II Auditorium

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| 10:00 AM | Early Registration |
| 06:00 PM | Mixer for participants, accompanying persons, and members of the Local Organizing Committee |

24 JUNE (TUESDAY)

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| 09:00 - 9:30 AM | Registration |
| 9:30 AM | Welcome & Introduction |

Introduction: Targeted search for crop germplasm with climate change adaptive traits to sustain agriculture in dryland systems – Selvadurai Dayanandan and Abdallah Bari

10:00 AM THEME - 1 Climate change and its impact on agriculture

[Moderator: Adi Damania]

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| 10:00 AM | Presentation 1 - Anticipated dryland expansion in scenarios of global warming Christopher T. Simmons and H. Damon Matthew |
| 10:30 AM | Tea/Coffee Break & GROUP PHOTO |
| 11:00 AM | Presentation 2 – Geoinformatics and genetic resources under changing climate Biradar Chandrasekhar, Abdallah Bari, Prashant Patil, Ahmed Amri, Murari Singh, C. Jeganathan |
| 11:30 AM | Presentation 3 – Adaptation of farmers to climate change: A system approach – A case study of cereal production in Benslimane Region, Morocco S. B. Alaoui, A.M. Adnan, Y. Imani, and O. Lahlou |
| 12:00 PM | Presentation 4 – Mining CIMMYT germplasm bank for assessing breeding targets for Climate Change adaptation Zakaria Kehel, Jose Crossa, Thomas Payne, and Mathew Reynolds |
| 12:30 - 1:30 PM | Lunch |
| 1:30 PM | Discussion (of Presentations 1,2,3, & 4) |

2:00 PM THEME - 2 Applied mathematics and the modelling approaches for adaptation of crops to changing climate conditions

[Moderator: Abdallah Bari]

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| 2:00 PM | Presentation 1 - Patterns of genetic variability and their implications for the prediction to explore genetic resources for adaption and mitigation to changes in the climate Abdallah Bari, Selvadurai Dayanandan, Hamid Khazaei, Yogendra P. Chaubey, Frederick L. Stoddard, Damon Matthews, Kenneth Street, Mikko J. Sillanpää, Lhassane Sikaoui, Hassan Ouabbou, Bennasser Alaoui and Chandrashekha Biradar |
| 2:30 PM | Presentation 2 - On normalizing transformations of the coefficient of variation for a normal population with an application to evaluation of uniformity of plant varieties Yogendra P. Chaubey |
| 3:00 PM | Presentation 3 – Identifying climate patters during the crop growing cycle from 30 years of CIMMYT elite spring wheat international yield trials Zakaria kehel, Jose Crossa, and Mathew Reynolds |
| 3:30 PM | Tea/Coffee Break |
| 4:00 PM | Presentation 4 – Adaptation of the potato crop to climate change Roland Schafleitner, Julian Ramirez, Andy Jarvis, Daniele Evers, Raymundo Gutierrez, and Mariah Scurrah |
| 4:30 PM | Discussion |

5:00 PM THEME – 3 Plant phenomics for adaptation of crops to changing climate in dryland systems

[Moderator: Fred Stoddard]

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| 5:00 PM | Presentation 1 - Root traits differ between wet- and dry-adapted sets of faba bean accessions selected by FIGS Hamid Khazaei |
| 5:30 PM | Presentation 2 - Testing, screening, and improving salt tolerance of durum wheat genetic resources Ramzi Chaabane |
| 6:00 PM | Close |

25 JUNE (WEDNESDAY)

9:00 AM THEME – 3 [Continued] Plant phenomics for adaptation of crops to changing climate in dryland systems [Moderator: Fred Stoddard]

- 9:30 AM Presentation 3 - Barley genetic resources under climate changes: a possible way in field study
A. Jilal, M. Maatougui, and H. Ouabbou
- 10:00 AM Presentation 4 - Wheat improvement for a changing climate: Heat-stress environments
Izzat S.A. Tahir
- 10:30 AM Tea/Coffee Break
- 11:00 AM Discussion

11:30 AM THEME - 4 Plant genomics for adaptation of crops to changing climate in dryland systems [Moderator: Daya Dayanandan]

- 11:30 AM Presentation 1 – Spatial and temporal variation in selection of genes associated with varietal quantitative traits in situ
Cedric Mariac, Issaka Salia Ousseini, Abdel-Kader Alio, Helene Jugde, Jean-Louis Pham, Gilles Bezancon, Joelle Ronfort, Luc Descroix, and Yves Vigouroux
- 12:00 PM Presentation 2 – Genomic diversity and domestication of soyabean
Ying-hui Li, Jianxin Ma, Guangyu Zhou, Scott Jackson, Rui-qiang Li, Lijuan Qiu
- 12:30 PM Lunch
- 1:30 PM Presentation 3 - Detecting selection along environmental gradients: analysis of eight methods and their effectiveness for outbreeding and selfing populations
Stéphane De Mita, Anne-Céline Thuillet, Lauréne Gay, Nour Ahmadi, Stéphanie Manel, Joelle Ronfort, Yves Vigouroux
- 2:00 PM Discussion
- 3:30 PM Tea/Coffee Break

04:00 PM THEME 5 Region-specific challenges and opportunities for maintaining genetic resources for sustainable agricultural productivity under changing climatic conditions in the Dry Lands [Moderator: Zakaria Kehel]

- 4:00 PM Presentation 1- Climate change and an increasing protein deficit: Why Europe needs to exploit genetic resources of protein crops now
Fred Stoddard
- 4:30 PM Presentation 2 – Climate change, biodiversity and food security in West Africa
Aichatou Assoumane
- 5:00 PM Presentation 3 – Crop genetic resource conservation and its threat – the case for Ethiopia
T. G. Alganesh
- 5:30 PM presentation 4 – Olive of Marrakech: An opportunity to study the behavior of olive genotypes with respect to climate change
Sikaoui Lhassane
- 6:00 PM Close

26 JUNE (THURSDAY)

9:30 AM THEME 5 [Continued] Region-specific challenges and opportunities for maintaining genetic resources for sustainable agricultural productivity under changing climatic conditions in the Dry Lands [Moderator: Zakaria Kehel]

- 9:30 AM Presentation 5 – Technology transfer in to agriculture: An operational framework
Jean A. Nyemba
- 10:00 AM Presentation 6 – Fruit genetic resources facing increasing climate uncertainty
O. Saddoud Dabbebi., S. Mnasri, S. Abdelaali, and M. Mars
- 10:30 AM Tea/Coffee Break
- 11:00 AM Presentation 7 - Efficacy of herbicides and genetics resistance for managing Striga infestations of sorghum in West Africa
Souley Soumana, Issoufou Kapran, Aboubacar Toure, Mountaga Kayentao, Kassim Al-Khatib, Newton Ochanda, Aad van Ast, Lamert Bastiaans, and Mitchell Tuinstra
- 11:30 AM Discussion
- 12:30 - 1:30 PM Lunch
- 1:30 PM Field Visit
- 6:00 PM Close (return to hotel)

27 JUNE (FRIDAY)

- 9:00 AM Break up into 2 to 3 separate rooms for Discussion Groups led by one Group Leader and one recorder to discuss the presentations of various themes/topics and prepare a brief report of one page (each group) for the closing speech.
- 10:30 AM Tea/Coffee Break
- 11:00 AM Closing session: a) End summary report by A. Bari or D. Dayanandan; b) Impressions and appreciation of the Workshop given any one member of the participants; Vote of Thanks to INRA, ICARDA Rabat and IAV Hassan II and the Organizers and support staff.
- 12:30 - 1:00 PM Lunch

Evening free for visit to the old city, shopping, etc

