



# FINAL PROGRAMME

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Thursday, 4 November 2021

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**09.30-10.00**

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## PLENARY SESSION 1: OPENING

Moderator: *Beth Bechdol, Deputy Director-General, FAO*

### Opening remarks

**QU Dongyu**, Director-General, FAO

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**10.00-12.30**

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## PLENARY SESSION 2: KEYNOTE ADDRESSES

Moderator: *Ismahane Elouafi, Chief Scientist, FAO*

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### Section A: Developing solutions for farmers

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- *Solutions for small-scale farmers*  
**Fatma Ben Rejeb**, Chief Executive Officer, Pan-African Farmers' Organization (PAFO)
  - *Advanced technologies impacting the green development of seed industries*  
**Mauricio Lopes**, Research Scientist, Embrapa Agroenergy, Brazilian Agricultural Research Corporation (Embrapa), Brazil
  - *Crop improvement – from conservation of crop biodiversity to impactful use*  
**Marco Ferroni**, Chair, CGIAR System Board
  - Discussion
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### Section B: Delivering solutions to farmers

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- *Seed systems as enablers to seed choice*  
**Michael Keller**, Secretary General, International Seed Federation (ISF)
  - *Showcase of green development of seed industries*  
**Hanzhong Wang**, Vice President, Chinese Academy of Agricultural Sciences (CAAS), China
  - *Policies and governance: Providing clarity and coherence to shape a robust and inclusive seed industry*  
**Rachel Chikwamba**, Group Executive for Chemicals, Agriculture, Food and Health, Council for Scientific and Industrial Research, South Africa
  - Discussion
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**12.30-13.30**

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Break

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## PARALLEL SESSIONS: THEME 1 AND 2

### Theme 1: ADVANCED TECHNOLOGIES

13.30-15.30

### Session 1.1 Modern plant breeding technologies

Co-Chairs:

- **Rajeev K Varshney**, Research Program Director, Accelerated Crop Improvement, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and Professor, Murdoch University, Australia
- **Cathrine Ziyomo**, Senior Scientist, BECA-ILRI Hub, International Livestock Research Institute (ILRI)

Rapporteurs:

- **Ndjidjo Kane**, Director, Centre d'Étude Régional pour l'Amélioration de l'Adaptation à la Sécheresse (CERAAS), Institut Sénégalais de Recherches Agricoles (ISRA), Senegal
- **Rhodora Romero-Aldemita**, Director, International Service for the Acquisition of Agri-biotech Applications Southeast Asia Center (ISAAA SEAsia Center), Philippines

- Introduction
- *Next generation genomics and genomics assisted breeding for international agriculture*  
**Rajeev Varshney**, Research Program Director, Accelerated Crop Improvement, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and Professor, Murdoch University, Australia
- *Genome design of hybrid potato*  
**Sanwen Huang**, Director General, Agricultural Genomics Institute at Shenzhen, Chinese Academy of Agricultural Sciences (CAAS), China
- *Genome editing: Opportunities & challenges*  
**Dave Bubeck**, Research Director, Seed Product Development, Corteva Agriscience
- *Policy and regulatory issues of new breeding technologies in the European Union*  
**Irene Sacristán Sánchez**, Head of Unit E3, Biotechnology, Directorate-General for Health and Food Safety, European Commission
- Brief interventions:
  - *Gene-editing of banana for disease resistance*  
**Leena Tripathi**, Director Eastern Africa Hub, International Institute of Tropical Agriculture (IITA)
  - *GM pulses*  
**TJ Higgins**, Honorary Fellow, Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia
  - *Genome editing for cassava (*Manihot Esculenta Crantz*) improvement*  
**Ihuoma Okwuonu**, Plant Biotechnologist, National Root Crops Research Institute, Nigeria
  - *Policy and governance of new breeding technologies*  
**John McMurdy**, Vice-President, Innovation and Development, CropLife International
  - *Principles for the governance of gene editing*  
**Gregory Jaffe**, Biotechnology Project Director, Center for Science in the Public Interest, United States of America
- Q&A session and discussion based on all presentations
- Summary



Thursday, 4 November 2021

16.00-18.00

## Session 1.2 Emerging biotechnologies and informatics technologies

Co-Chairs:

- **Vittorio Venturi**, Scientific Coordinator and Group Leader, Bacteriology and Strains4Plants, International Centre for Genetic Engineering and Biotechnology (ICGEB)
- **Sobhana Sivasankar**, Section Head, Plant Breeding and Genetics, Joint FAO-IAEA Centre for Nuclear Techniques in Food and Agriculture

Rapporteurs:

- **Anandita Singh**, Professor, Department of Biotechnology, The Energy and Resources Institute (TERI) School of Advanced Studies, India
- **Kassahun Tesfaye**, Director General, Ethiopian Biotechnology Institute, Addis Ababa University, Ethiopia

### • Introduction

#### • *Plant microbiomes*

**Vittorio Venturi**, Scientific Coordinator and Group Leader, Bacteriology and Strains4Plants, International Centre for Genetic Engineering and Biotechnology (ICGEB)

#### • *AI and big data – Advancements, opportunities and threats*

**Dionysis Bochtis**, Director, Centre of Research and Technology Hellas (CERTH), Institute for Bio-economy and Agri-technology (iBO), Greece

#### • *A scale-based framework for governance and risk of emerging biotechnologies*

**Jack Heinemann**, Professor, School of Biological Sciences, University of Canterbury, New Zealand

#### • *Policy and governance issues in synthetic biology*

**Marianela Araya**, Environmental Affairs Officer, Secretariat of the Convention on Biological Diversity

### • Brief interventions:

#### • *Germplasm meets systems biology – understanding intraspecific crop plant adaptation in the climate crisis*

**Wolfram Weckwerth**, Director, Vienna Metabolomics Center, University of Vienna, Austria

#### • *International treaties and genetic resources*

**Emily Marden**, Research Associate, Department of Botany and Biodiversity Research Centre, University of British Columbia, Canada

#### • *Emerging technologies from the farmer's perspective*

**Mark Watne**, President of North Dakota Farmers Union, United States of America, and Representative of the World Farmers' Organisation

### • Q&A session and discussion based on all presentations

### • Summary



Thursday, 4 November 2021

## PARALLEL SESSIONS: THEME 1 AND 2

### Theme 2: CONSERVATION OF PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

13.30-15.30

#### Session 2.1 The global conservation system

Co-Chairs:

- **Charlotte Lusty**, Head of Programs and Genebank Platform Coordinator, Global Crop Diversity Trust
- **Lamis Chalak**, Professor, Head of Plant Production Department, Faculty of Agronomy, The Lebanese University, Lebanon

Rapporteurs:

- **Tilabilenji Phiri**, Senior Programmes Officer: In-situ Conservation, Southern African Development Community (SADC) Plant Genetic Resources Centre (SPGRC)
- **Thomas Payne**, Former Wheat Germplasm Bank Curator, International Maize and Wheat Improvement Center (CIMMYT)

- Introduction
- The Global Conservation System – how it works:
  - *Plant genetic resources for food and agriculture (PGRFA) conservation – global overview of diversity in situ, ex situ and on farm, how it is conserved and used*  
**Nigel Maxted**, Professor of Plant Genetic Conservation, School of Biosciences, University of Birmingham, United Kingdom of Great Britain and Northern Ireland
  - *Facilitating conservation of and access to PGRFA diversity through new technologies, approaches and data*  
**Fiona Hay**, Senior Researcher, Department of Agroecology, Aarhus University, Denmark
  - *Analysing data for finding adaptive traits in crop diversity*  
**Ahmed Amri**, Former Head, Genetic Resources, International Center for Agricultural Research in the Dry Areas (ICARDA)
- Q&A session and discussion
- The Global Conservation System – what impact has it had?
  - *Conversation about Cherokee heirloom genetics*  
**Pat Gwin**, Cherokee Ethnobotanist, Cherokee Nation, United States of America
  - *Farming systems based on PGRFA diversity – impact on livelihoods and resilience in the Pacific*  
**Karen Mapusua**, Director, Land Resources Division, Pacific Community (SPC)
  - *Economic impacts of using PGRFA diversity in crop improvement*  
**Nelissa Jamora**, Agricultural Economist, Global Crop Diversity Trust
- Q&A session and discussion
- Summary



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**16.00-18.00**

### Session 2.2 Access and benefit-sharing

Co-Chairs:

- **Lamis Chalak**, Professor, Head of Plant Production Department, Faculty of Agronomy, The Lebanese University, Lebanon.
- **Charlotte Lusty**, Head of Programs and Genebank Platform Coordinator, Global Crop Diversity Trust

Rapporteurs:

- **Isabel Lopez Noriega**, Scientist, Policy Specialist, Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT)
- **Mariana Yazbek**, Scientist, International Center for Agricultural Research in the Dry Areas (ICARDA)

- Introduction
- *Twenty years of the International Treaty on Plant Genetic Resources for Food and Agriculture: where are we now?*  
**Kent Nnadozie**, Secretary, International Treaty on Plant Genetic Resources for Food and Agriculture
- *Successful case studies for implementing ABS measures in South America - What can we learn?*  
**Simone Ferreira**, Lawyer, Nogueira Ferreira Advogados Associados, Brazil
- *Evolving ABS systems in China for sustainable development and food security*  
**Qingwen Yang**, Professor and Group Leader, Institute of Crop Sciences, Chinese Academy of Agricultural Sciences (CAAS), China
- *Exchanges between public and private sectors*  
**Marisé Borja**, Biosolutions Director, Syntech Research Group
- *ABS in an increasingly digitized future*  
**David Ellis**, Scientist Emeritus, International Potato Center
- Q&A session and discussion
- Panel discussion

Moderator:

- **Michael Halewood**, Head, Policy Unit, Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT)

Panelists:

- **Szonja Csörgő**, Intellectual Property and Legal Affairs Director, Euroseeds
- **Yasmine Lara Beau**, IPM and Seed Collection Manager, Buzuruna Juzuruna Network, Lebanon
- **Tilabilenji Phiri**, Senior Programmes Officer: In-situ Conservation, Southern African Development Community (SADC) Plant Genetic Resources Centre (SPGRC)
- **Ehsan Dulloo**, Scientist, Alliance of Bioversity International and the International Center for Tropical Agriculture
- **Elzbieta Martyniuk**, Professor, Institute of Animal Sciences, Department of Animal Genetics and Conservation, Warsaw University of Life Sciences, Poland
- *Five ideas for optimizing access and benefit-sharing*  
**Amber Scholz**, Deputy to the Director, Leibniz Institute DSMZ–German Collection of Microorganisms and Cell Cultures, Germany
- Summary



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## PARALLEL SESSIONS: THEME 3 AND 4

### Theme 3: CROP VARIETAL DEVELOPMENT AND ADOPTION

9.00-11.00

#### Session 3.1 Accelerating genetic gains in crops

Co-Chairs:

- **Emmanuel Okogbenin**, Director, Programme Development and Commercialization, African Agricultural Technology Foundation (AATF)
- **Idah Sithole Niang**, Professor, Department of Biotechnology and Biochemistry, University of Zimbabwe, Zimbabwe

Rapporteurs:

- **Ikhide Imumorin**, Executive Director, California State University Program for Education and Research in Biotechnology (CSUPERB), United States of America
- **Oluwole Fatunbi**, Senior Technical Cluster Leader/Innovation Systems Specialist, Forum for Agricultural Research in Africa (FARA)

- Introduction
- **Keynote: Accelerating genetic gain for sustainable development**  
**Barbara Wells**, Global Director, Genetic Innovations, CGIAR
- **Case study 1: Climate-smart maize**  
**Sylvester Oikeh**, TELA Maize Project Manager/Maize Scientist, African Agricultural Technology Foundation (AATF)
- **Case study 2: Bean improvement at Embrapa**  
**Elcio Perpetuo Guimaraes**, Director General, Embrapa Rice and Beans Research Center, Brazil
- **Case study 3: Orange sweetpotato: The model for biofortified crops with a visible trait**  
**Maria Andrade**, Sweet Potato Breeder, International Potato Centre
- Panel discussion: Capacity development in developing countries and need-based breeding

Moderator:

- **Humberto Gómez Paniagua**, Independent Professional, Costa Rica

Panelists:

- **Seungho Cho**, Director General, Central Area Crop Science, National Institute of Crop Science, Rural Development Administration, Republic of Korea
- **Vivienne Anthony**, Senior Scientific Advisor, Syngenta Foundation for Sustainable Agriculture
- **Mark Laing**, Director, African Centre for Crop Improvement, South Africa
- **Lorena Basso**, President, Basso Semillas, Argentina and President, Seed Association of the Americas (SAA)
- **Gigi Manicad**, Independent Consultant on biodiversity for climate resilience
- **Case study 4: Wheat quality improvement in China**  
**Zhonghu He**, Head, Research Group, Wheat Quality Breeding, Center for Crop Genetics and Breeding, Chinese Academy of Agricultural Sciences (CAAS), China and International Maize and Wheat Improvement Center (CIMMYT)
- Summary



Friday, 5 November 2021

**11.30-13.30**

### Session 3.2 Facilitated adoption of improved varieties by small-scale farmers

Co-Chairs:

- **Maryke Labuschagne**, Professor in Plant Breeding, University of the Free State, South Africa
- **Maria Andrade**, Sweet Potato Breeder, International Potato Centre (CIP)

Rapporteurs:

- **Daniel Kyalo Willy**, Programme Officer, TAAT Policy, African Agricultural Technology Foundation (AATF)
- **Julius Pyton Sserumaga**, Senior Research Scientist, National Agricultural Research Organization, National Livestock Resources Research Institute, Uganda

- Introduction
- **Keynote: Improving the low level and rates of adoption of improved varieties in the developing world**  
**Ian Barker**, Global Potato Agri-Food Systems Program Director, International Potato Center (CIP)
- **Development of nutrient efficient rice varieties on small-scale farms in Madagascar**  
**Matthias Wissuwa**, Senior Scientist, Japan International Research Center for Agricultural Sciences (JIRCAS), Japan
- **Policy reforms to incentivize adoption**  
**Peter Okoth Mbogo**, Senior Maize Breeder, Seed Co
- **Role of cooperatives in adoption of new crop varieties**  
**Rinaldo Gosparini**, General Manager, Santa Rosa Semillas Cooperative, Rosario, Argentina
- **Role of quality seed in improving rice yields: A case study**  
**Rakesh K. Singh**, Program Leader and Principal Scientist (Plant Breeding), Crop Diversification and Genetics, International Center for Biosaline Agriculture (ICBA)
- Panel discussion: Enabling farmers to accept, adopt and grow improved crop varieties

Moderator:

- **Martin Ekvad**, Former President, Community Plant Variety Office (CPVO)

Panelists:

- **Tania López Lee**, Executive Director, National Seed Office, Ministry of Agriculture, Costa Rica
  - **Peter Button**, Vice Secretary-General, International Union for the Protection of New Varieties of Plants (UPOV)
  - **Rasheed Sulaiman V**, Member, Board of the Global Forum for Rural Advisory Services (GFRAS) and Focal Point, Agricultural Extension in South Asia (AESAs)
  - **Dominic Glover**, Research Scientist, Institute of Development Studies, United Kingdom of Great Britain and Northern Ireland
  - **Ousmane Ndiaye**, Director, Senegalese Association for the Promotion of Small Development Projects (ASPRODEB), Senegal
  - **Stella Salvo**, Head of Breeding Partnerships for Smallholder Farming, Bayer Crop Science
- Summary



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## PARALLEL SESSIONS: THEME 3 AND 4

### Theme 4: SEED SYSTEMS

9.00-11.00

#### Session 4.1 System innovations in the seed value chain

Co-Chairs:

- *Martin Ekvad, Former President, Community Plant Variety Office (CPVO)*
- *Alison Powell, Chair, International Seed Testing Association (ISTA) Seed Science Advisory Group to the ISTA Executive Committee and Chair, ISTA Vigour Technical Committee*

Rapporteurs:

- *Csaba Gaspar, Programme Manager, OECD Seed Schemes, Organisation for Economic Co-operation and Development (OECD)*
- *Andreas Wais, Secretary General, International Seed Testing Association (ISTA)*

- Introduction
- *Keynote: Seed systems: their importance and policy challenges*  
**Niels Louwaars**, Managing Director, Plantum, Netherlands
- *Quality seed production systems: A success story of India: Telangana State as global seed hub*  
**Keshavulu Kunusoth**, Director, Telangana State Seed & Organic Certification Authority (TSSOCA), India and Vice President, International Seed Testing Association (ISTA)
- *Seed testing for sustainability in Latin America*  
**Enriqueta Molina**, Associate, Santamarina and Steta Law Firm, Mexico
- *Quality seed production systems: Different quality control systems in one regulatory framework*  
**Bellah Mpfu**, Policy Development Specialist, Feed the Future Southern Africa Seed Trade Project, Zambia
- *Quality seed production systems*  
**Ali Üstün**, Secretary General, Economic Cooperation Organization Seed Association (ECOSA)
- *Seed authenticity: Consequences of counterfeit seed in the market and innovative remedies*  
**Duncan Ochieng' Onduu**, Executive Officer, Seed Trade Association of Kenya, Kenya
- *Seed treatments: The contribution of seed treatment to green innovation of plant production*  
**Tim Loeffler**, Business Owner, Seed Vigor Consulting LLC, United States of America
- Joint Q&A based on the chat – towards lessons learnt across countries
- Summary





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**11.30-13.30**

## Session 4.2: Seed enterprise development and international trade

Co-Chairs:

- **Keshavulu Kunusoth**, Director, Telangana State Seed & Organic Certification Authority, India and Vice President, International Seed Testing Association (ISTA)
- **Shaun Ferris**, Senior Technical Advisor, Agriculture/Livelihoods and Markets, Catholic Relief Services

Rapporteurs:

- **Catherine Langat**, Technical Manager, Plant Breeding and Variety Registration, Euroseeds
- **Hélène Khan Niazi**, International Agricultural Manager, International Seed Federation

- Introduction
- **Government incentives for seed business development – Nigeria**  
**Okelola Folarin**, Senior Technical Adviser to Director General, National Agricultural Seeds Council (NASC), Nigeria
- **Government incentives for seed business development in China**  
**Jikun Huang**, Professor and Director, New Rural Development Research Institute, Peking University, China
- **Seed sector development for resilience: Finding formal seed solutions in an informal world**  
**Shaun Ferris**, Senior Technical Advisor, Agriculture/Livelihoods and Markets, Catholic Relief Services
- **Government incentives for seed business development in Viet Nam**  
**Nguyen Thanh Minh**, Director, Viet Nam Seed Service Support Centre, Viet Nam
- **Embracing market-based approaches to development: The East-West Seed Story**  
**Lysette Lacambra**, KT Technical Specialist, East-West Seed Knowledge Transfer
- **Phyto-sanitary: new approaches on phytosanitary controls to support cross border seed trade**  
**Rose Souza Richards**, Seed Health Manager, International Seed Federation
- **Seed policy and regional harmonization**  
**Justin Rakotoarisaona**, Secretary General, African Seed Trade Association (AFSTA)
- Closing panel based on chat questions

Moderator:

- **Niels Louwaars**, Managing Director, Plantum, Netherlands

Panelists:

- **Kristiina Digryte**, Councillor for Agriculture and Fisheries, Permanent Representation of Estonia to the European Union
  - **Francois Burgaud**, Senior Advisor to the Presidency, French Interprofessional Organisation for Seeds and Plants (SEMAE), France
  - **Kanokwan (May) Chodchoey**, Executive Director, Asia and Pacific Seed Association
  - **Tsungai Bwerazuva**, Seed Expert, Champion Farmer Seeds Cooperative Company, Zimbabwe
- Summary



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**14.30-16.00**

## PLENARY SESSION 3: REPORTS ON CONFERENCE THEMES AND RECOMMENDATIONS

Moderator: *Jingyuan Xia, Director, FAO Plant Production and Protection Division*

### Reports on conference themes

- Theme 1: Advanced technologies  
**Rajeev K Varshney**, Research Program Director, Accelerated Crop Improvement, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and Professor, Murdoch University, Australia
- Theme 2: Conservation of plant genetic resources for food and agriculture  
**Charlotte Lusty**, Head of Programs and Genebank Platform Coordinator, Global Crop Diversity Trust  
**Lamis Chalak**, Professor, Head of Plant Production Department, Faculty of Agronomy, The Lebanese University, Lebanon
- Theme 3: Crop varietal development and adoption  
**Emmanuel Okogbenin**, Director, Programme Development and Commercialization, African Agricultural Technology Foundation (AATF)
- Theme 4: Seed systems  
**Keshavulu Kunusoth**, Director, Telangana State Seed & Organic Certification Authority (TSSOCA), India and Vice President, International Seed Testing Association (ISTA)
- Discussion

### Report on conference recommendations

- Recommendations  
**Long Mao**, Head, Research Group of Wheat Complex Traits Dissection, Institute of Crop Sciences, Chinese Academy of Agricultural Sciences (CAAS), China
- Discussion

**16.00-17.30**

## PLENARY SESSION 4: HIGH-LEVEL MINISTERIAL SEGMENT AND CLOSING

Moderator: *Beth Bechdol, Deputy Director-General, FAO*

### High-level ministerial segment

- **Thomas Vilsack**, Secretary of Agriculture, United States of America
- **Zhang Taolin**, Vice Minister for Agriculture and Rural Affairs, China
- **Marije Beens**, Vice-Minister for Agriculture, Nature and Food Quality, the Netherlands
- **Jorge Solmi**, Secretary of Agriculture, Ministry of Agriculture, Livestock and Fisheries, Argentina
- **Julian Jaftha**, Chief Director, Plant Production and Health, Department of Agriculture, Land Reform and Rural Development, South Africa
- **Mohamed Soliman**, President, Agricultural Research Center, Egypt

### Concluding remarks

**Beth Bechdol**, Deputy Director-General, FAO

