Oral Presentations

Paper Presentation Session 1A: Improving Crop Models to Capture Extreme Climate Responses Tuesday, June 27th 14:00-15:30 (UTC-4)	
Lead Author	*Abstract*
Abdisa Alemu	Impacts of Climate Variability on Sorghum crop yield in Babile District, Eastern Ethiopia
Bruce A Kimball	Simulation of Evapotranspiration and Soil Temperature under Maize: an Inter-comparison Among 41 (ET) and 33 (Soil T) Maize Models
Davide Cammarano	Response of crop models' sub-routines to changes in atmospheric CO2
Kenneth J. Boote	Lessons Learned from Crop Model Intercomparisons
Montse Salmeron	Intercomparison of soybean models for simulation of evapotranspiration and uncertainty under variable environmental conditions

Paper Presentation Session 1B: Improving Crop Models to Capture Extreme Climate Responses Wednesday, June 28th 11:15-12:30 (UTC-4)	
Lead Author	*Abstract*
Akinseye Folorunso M	Finding adaptation options for smallholder farmers in West and Central Africa by improving the modeling of millet under climate risk scenarios using APSIM
Rogério de S. Nóia Júnior	Improving DSSAT-Nwheat to extreme wet climate responses
Sifang Feng	Interdependence among subregional crop production affects global crop failure risk
Soora Naresh Kumar	Quantification of uncertainty in impacts on crop yield due to the GCM and RCM scenarios and Crop simulation models in diverse environments
Xuhui Wang	Extreme rainfall reduces one-twelfth of China's rice yield

Paper Presentation Session 2A: Regional Integrated Assessments Tuesday, June 27th 14:00-15:30 (UTC-4)	
Lead Author	*Abstract*
Babacar Faye	Can crop variety affect climate change impacts signal on major crop yields in Senegal?
Wajid Nasim	Consortium on Climate Change, Sustainability & Conservation (CCSC): A Way Forward for Sustainable Food Security & Smart Policies to Address Global Food Systems
Espoir Mukengere Bagula	Climate Change Effect on Water Use Efficiency under Selected Soil and Water Conservation Practices in the Ruzizi Catchment, Eastern D.R. Congo
Manyazwal Getachew	Effects of Climate Change on rain-fed agriculture and evaluating the irrigation potential to enhance crop production, a case of Hare Watershed, Ethiopia
Sabine Homann-Kee Tui	Balancing co-benefits and trade-offs between climate change mitigation and adaptation under mixed crop-livestock systems in semi-arid Zimbabwe
Valentin Pret	Don't put all your eggs in one basket: legumes diversification to improve resilience of rainfed cropping systems in sub-humid Zimbabwe

Paper Presentation Session 2B: Regional Integrated Assessments Thursday, June 29th 11:00-12:30 (UTC-4)	
Lead Author	*Abstract*
Benjamin Stuch	New land use change scenarios in the southwestern Amazon and the need of novel integrative approaches for assessing sustainable land use trajectories.
Elena V. Samokhvalova	Grain crop Simulation modelling in relation to agricultural land assessment in the Samara region (Russia)
Fasil M. Rettie	Regional-scale evaluation of uncertainty in the multi-model simulation of climate change impact on maize and wheat
Priyanka Swami	Climate risk area identification and shock prediction for pearl millet production in North-West India
Prof. Dr. Shakeel Ahmad	Regional Integrated Assessment of Climate Change Impact on Cotton Production in a Semi-arid Environment
Siwa Msangi	Capturing production technologies and field practices in regional economic models: the examples of REAP and USARM
Subash Nataraja Pillai	Science with participatory approach on assessment of climate change impact on farm production under Sustainable Agricultural Pathway

Paper Presentation Session 3: Global Assessments of Food Systems, Trade & Diets in a Changing World Tuesday, June 27th 14:00-15:30 (UTC-4)	
Lead Author	*Abstract*
Hasan Alkhaza'leh	Effect of irrigation with treated wastewater on potatoes' yields, soil chemical, physical and microbial properties
Julia M. Schneider	Modeling Global Cropland Expansion: Trade-Offs with Biodiversity, Carbon Emissions, and Food Security
Marco Springmann	Options for reforming agricultural subsidies from health, climate, and economic perspectives
Ruth Delzeit	Assessing impacts of climate change on agricultural markets taking uncertainties in global crop yield projections into account
Tony Carr	Addressing the Rising Food Demand in The Gambia: Can Climate-Smart Agriculture and Increased Crop Productivity Reduce Dependence on Imports?

Paper Presentation Session 4: Modeling Nutrition, Food Security and Crop Losses Tuesday, June 27th 14:00-15:30 (UTC-4)	
Lead Author	*Abstract*
Gatien Falconnier	Increased mineral fertilizer use on maize can improve both household food security and regional food production in East Africa
Jonas Jägermeyr	Climate change impacts on global crop productivity and its nutritional value
Jyoti Singh	Improving the ozone damage parameterization in Community Land Model 5 (CLM5)
Mareike Köster	Effects of climate change and autonomous adaptation on spring barley production across 18 sites in Europe
Molly Brown	Enabling Anticipatory Action to Reduce Acute Malnutrition
Rosita Endah epse Yocgo	Hotspots for Fall Army Worm in Africa under CMIP6 scenarios
Sreeja Jaiswal	Projecting a food insecure world: Equity implications of land-based mitigation in IPCC modelled mitigation pathways

Paper Presentation Session 5: Seasonal Forecasting and Food Shocks Tuesday, June 27th 14:00-15:30 (UTC-4)	
Lead Author	*Abstract*
Divya Uniyal Chamoli	Statistical analysis of Relationship between rainfall and yield (estimated from from Remote sensing during last 19 years) of Wheat crop in Hilly state of Uttarakhand of India
Mariaelisa Polsinelli	Combining a Process Based Model with Machine Learning for Potato Yield Prediction in Prince Edward Island, Canada
Marlene Palka	Assessing the performance of crop forecasts for in-season nitrogen management of winter wheat
Ritvik Sahajpal	How's it Growing? Results from Global Application of GEOCIF Model to Forecast Crop Yields from Field To Regional Scales.
Rogerio de Souza Noia Junior	Implications of wheat supply disruptions for global food security
Ron Sands	Multi-Breadbasket Failures and Shocks to Food Systems: AgMIP Simulations

Paper Presentation Session 6: Data Assimilation and Remote Sensing Tuesday, June 27th 14:00-15:30 (UTC-4)	
Lead Author	*Abstract*
EL houssaine Bouras	Within-field Crop Yield Estimation at High Spatial Resolution through the Assimilation of Sentinel-2 Data into a Crop Growth Model
Hossein Zare	Exploring the role of model structure and input uncertainty in data assimilation-based crop yield prediction: a comparative study of three crop models and their ensemble
Luke Monhollon	LAI Integration to Reconcile Cultivar and Soil Inaccuracies in DSSAT-Maize
Luleka Dlamini	Coupling WOFOST with Sentinel-2 data to estimate maize yields under rainfed small-scale farming systems in the Eastern Cape, South Africa
Raphael Linker	Combining model-based optimization and data assimilation: The next generation of decision support systems?
Xiangming Xiao	Satellite-based modeling of sugarcane photosynthesis and transpiration at the field scale

Paper Presentation Session 7: Data and Information Technologies Advances for Ag Modeling Tuesday, June 27th 14:00-15:30 (UTC-4)	
Lead Author	*Abstract*
Adama Faye	Climate information's translation into agricultural and economic terms to support strategic decisions in crop production: the case of SIMAGRI in Senegal
Endalkachew Kebede	A global open-source dataset of monthly irrigated and rainfed cropped areas (MIRCA-OS) for the 21st century
Kwang soo kim	COMPASS: An ensemble modeling platform based on containerized crop models
Kwang soo kim	GLUEOS: A high performance computing system based on the orchestration of containers for the GLUE parameter calibration of a crop growth model
Mohamed Jabloun/ Mike Rivington	MySmartFarm: A crop growth monitoring and decision support system for Scottish farmers
Pierre Martre	Crop2ML: a framework for crop model component exchange and reuse to increase model reproducibility and accelerate model improvement

Paper Presentation Session 8: Livestock, Grasslands and Multi-Cropping Wednesday, June 28th 11:15-12:30 (UTC-4)	
Lead Author	*Abstract*
Fabiani Denise Bender	ECOSMOS-Forage model for simulating palisadegrass
Gatien Falconnier	Sustainable intensification of cereal-based cropping systems in semi-arid sub-Saharan Africa: intercropping or combining cereal and legume sole crops?
Greg Kiker	Global Rangeland Modeling Highlights Zones of Challenge and Opportunity for Livestock Production Areas Under Future Climate Change Conditions
Katharina Waha	Land use modelling needs to better account for multiple cropping to inform pathways for sustainable agricultural transitions
Mariana Rufino	Advancing modelling tools to analyse livestock-grassland-cropland interactions
Michael Adedotun Oke	Economic Behaviour and Livestock Production in the Forestry Zones of Abuja, the Federal Capital Territory of Nigeria.
Weldemichael Tesfuhuney	Innovative knowledge of rainwater harvesting techniques in semi-arid ecosystems: Maize-bean intercrop productivity and resources use efficiency

Paper Presentation Session 9: Crop Model Products in Practical Application Wednesday, June 28th 11:15-12:30 (UTC-4)	
Lead Author	*Abstract*
Anthony Whitbread	Innovating and scaling risk-reducing measures for farmers and livestock keepers in the drylands
Anupam Bhar	Optimization of small farm holder profit using the MISSION framework's model-predictive in-season irrigation or nitrogen fertilizer scheduling
Mara Gabbrielli	Development of an integrated system that combines a cropping system model and a tool for the optimisation of manure redistribution
Siyabusa Mkuhlani	Crop model inter-comparison for optimal site-specific sowing date recommendation
Soora Naresh Kumar	Simulation modelling assisted climatic risk adaptation in small-holder farms in India

Paper Presentation Session 10A: Projections of Future Crop Productivity Wednesday, June 28th 11:15-12:30 (UTC-4)	
Lead Author	*Abstract*
Alex Ruane	Initial climate change impacts on crop yields may misinform stakeholders
Christoph Müller	Don’t mind the yield: central lessons from a decade of AgMIP
Mikhail Semenov	Estimating global genetic yield gap by designing crop ideotypes
Oleksandr Mialyk	Historical look at crop water productivity: the results of global crop modelling
Pierre Martre	Is crop intensification necessary to increase the yield potential of wheat under climate change?
Yean-Uk Kim	Methodologies to assess changing climate risks on agroecosystems

Paper Presentation Session 10B: Projections of Future Crop Productivity Thursday, June 29th 11:00-12:30 (UTC-4)	
Lead Author	*Abstract*
Davide Cammarano	Impact of projected climate on processing tomato production
Leonard Borchert	Change of negative year-to-year agricultural yield extremes under global warming
Meijian Yang	Projecting Maize Yield in the US Corn Belt and Ethiopia Using Process-Based Model and Machine Learning Models
Paulina Ansaa Asante	Climate change impacts on cocoa production in the major producing countries of West and Central Africa by mid-century
Sam Rabin	Observation-based sowing dates and cultivars significantly affect yield and irrigation for some crops in the Community Land Model (CLM5)

Paper Presentation Session 11: Land and Climate Modeling Wednesday, June 28th 11:15-12:30 (UTC-4)	
Lead Author	*Abstract*
Audrey Brouillet	Attribution and impacts of excessive rainfall and drought on maize yields in low-inputs systems using crop models
David Helman	Detecting wheat response to drought under elevated CO2 using remote sensing metrics
Kaela Lucke	Land Surface Model Sensitivities and Its Impacts on Land Cover Change in the Northern Great Plains
Ligalem Agegn Asres	Effect of Historical Climate Data on Reference Evapotranspiration and Crop Water Requirement for Maize Crop
Paulino Omoj Omay	Observed Changes and Variability in wet days and Dry Spells over IGAD region of Eastern Africa
Wenfeng Liu	Safeguarding China's climate spaces for crop production

Paper Presentation Session 12: Water Resources Wednesday, June 28th 11:15-12:30 (UTC-4)	
Lead Author	*Abstract*
Christopher Jung	A land use change model to simulate the global development of irrigated cropland areas
Isaac Olaposi Oladipo	Development of Arduino module based automated irrigation management system (AIMS) for optimal water use
Meijian Yang	Coupling high-resolution DSSAT crop model into NASA Land Information System
Shichao Chen	Spatial and temporal variability in global irrigation water demand under climate change
Yi Yao	The irrigation impact model intercomparison project (IRRMIP)

Paper Presentation Session 13A: Modeling Mitigation and Adaptation Wednesday, June 28th 11:15-12:30 (UTC-4)	
Lead Author	*Abstract*
Gerald (Jerry) Nelson	The limits to adaptation in agriculture: Physics, the chemistry of biology, and human behavior
Huey-Lin Lee	Spatial reallocation helps to reduce methane emissions from paddy rice cultivation.
Ipsa Gupta	Sustainable management of urban invasions by Broussonetia papyrifera using biochar technology
Mike Rivington	Assessing risks and opportunities for land use transformations to achieve multiple social and ecological benefits considering climate change impacts
Mohammad Ibrahim Khalil	Using Whole Farm Modelling to Inform Land Use Planning for Greenhouse Gas Emissions Mitigation and Offsetting
Shelby C. McClelland	Climate 'penalty' on the efficacy of cropland soil mitigation strategies

Paper Presentation Session 13B: Modeling Mitigation and Adaptation Thursday, June 29th 11:00-12:30 (UTC-4)	
Lead Author	*Abstract*
Florian Zabel	Modeling global integrative land-use adaptation
Lorenzo Villani	Hydrologic and agricultural impacts of climate change and management practices in a Mediterranean catchment
Sonali Shukla McDermid	Co-benefits and tradeoffs of agricultural mitigation and adaptation in rice based cropping systems
Sotirios Archontoulis	Predicting the Inputs
Vellingiri Geethalakshmi	Simulating climate-smart rice production system in south India: DSSAT model improvement
Wei Ren	Quantifying Biogeochemical Footprints of Conservation Tillage at Multiple Scales: Perspectives from Climate-Smart Agriculture

Paper Presentation Session 14: Machine Learning for Agricultural Applications Thursday, June 29th 11:00-12:30 (UTC-4)	
Lead Author	*Abstract*
Andres Castellano	Machine learning emulators and empirical models combining climate and global crop models for seasonal agricultural production
Guiling Wang	Deep Learning Models for Crop Yield Prediction and Comparison with a Process-Based Model
Jingye Han	Knowledge-guided machine learning for modeling crop growth dynamics
Lily-belle Sweet	Using interpretable machine learning to identify meteorological drivers of crop yield failure
Max Vilgalys	Estimating Continuous Treatment Effects in Panel Data using Machine Learning with an Agricultural Application
Oumnia Ennaji	Application of Machine learning in crop yield prediction.
Syeda Anum Masood Bokhari	Revolutionizing Food Systems: The Power of New Tools and Technologies

Paper Presentation Session 15: Modeling Soils and Carbon Thursday, June 29th 11:00-12:30 (UTC-4)	
Lead Author	*Abstract*
Elnaz Ebrahimi	Modeling maize yield affected by underground Pipeline installation and tillage practices
Margarita Garcia-Vila	Representing waterlogging and its effects in crop models: Where are we now and where do we need to go?
Mohammad Mamunur Rasid sarker	Assessing the long-term impact of conservation agriculture on rice-maize systems in Bangladesh under climate change using the APSIM model
Muhammad Atif	Three-Dimensional Structure of Preferential flow and its influencing factors
Prakriti Bista	Simulating the Long-term Impact of Cover Crops on Soil organic Carbon on Semi-Arid Southwestern USA
Ritvik Sahajpal	Soil Organic Carbon Model Intercomparison Protocol for Sustainable and Regenerative Agriculture

Paper Presentation Session 16: New Crop Species Models Thursday, June 29th 11:00-12:30 (UTC-4)	
Lead Author	*Abstract*
Ashifur Rahman Shawon	Assessing the Climate Change Impacts on Rye Production in Europe and Canada
Louise Busschaert	FAO crop growth model AquaCrop v7.0 for regional simulations: new advances and opportunities
Monique Pires Gravina de Oliveira	Hierarchical calibration of a crop growth model of intermediate complexity
Ruoling Tang	How to develop vegetable versions based on originally-designed-for-cereals models? Take WOFOST-Chili as an example
Zhe Zhang	Modeling food-water system in high-resolution convection-permitting regional climate models

Paper Presentation Session 17: Calibration and Crop Model Improvement Thursday, June 29th 11:00-12:30 (UTC-4)	
Lead Author	*Abstract*
Balaji Sesha Srikanth Pokuri	Cloud-Hosting of Agricultural Crop Simulator and Optimizer for Calibration and Management Decision Support Systems
Daniel Wallach	How to calibrate crop models?
Bhuvanaswri P	Assessing the impact of climate variability and change on tomato productivity using DSSAT model
Hillary Mugiyo	Sorghum management practices in rain-fed production: a crop modelling approach
Navinkumar C	Calibration and Validation of Drip Irrigated Maize in Semi-Arid Region of Tamil Nadu using CROP WAT and AQUACROP Model
Seyedreza Amiri	Optimizing agronomic practices for closing chickpea yield gaps in rainfed agroecosystems