

**Tuesday 15<sup>th</sup> March - Morning****Keynote / Parallel Sessions**

- author (speaker) / title -

Time

09:00	<b>Welcome</b> Claas Nendel, Frank Ewert		
09:15	<b>Plenary Keynote Session I:</b> <b>J. Jones / Toward a next generation of crop models</b> Chair: Peter Thorburn		
09:45	<b>Plenary Keynote Session IV:</b> <b>S. Savary / Models for crop diseases: an overview of approaches and scales to design a research agenda</b> Chair: Peter Thorburn		
10:15	<i>Break</i>		
	<b>Session I</b>	<b>Session III</b>	<b>Session IV</b>
	Chair: Senthold Asseng	Chair: Claas Nendel	Chair: Katrien Descheemaeker
10:45	Wang / Inter-comparison of wheat models to identify knowledge gaps and improve process modeling	Elliott / Past and future weather-induced risk in crop production	Fronzek / Classifying simulated wheat yield responses to changes in temperature and precipitation across a european transect
11:10	Webber / Canopy temperature for simulation of heat stress in irrigated wheat in a semi-arid environment: a multi-model comparison	Gobin / Meteorological risks and crop yield modelling	De Vries / A promising tool to model heterogeneity in crop systems: functional-structural plant modelling
11:30	Maiorano / Model improvements reduce the uncertainty of wheat crop model ensembles under heat stress	Ruane / The AgMIP Coordinated Climate Crop Modeling Project (C3MP) – uncertainty in climate response across 1100+ crop modeling sets	Korhonen / Intercomparison of timothy models in northern countries
11:50	Li / Improving rice models for more reliable prediction of responses of rice yield to CO <sub>2</sub> and temperature elevation	Vanwindekens / Assessing agroecosystems' vulnerability and risk regarding extreme weather events	Caubel / A generic coupled crop-disease model to analyze climate change effects on leaf rust of wheat
12:10	Boote / Modeling sensitivity of grain yield to elevated temperature in the DSSAT crop models for peanut, soybean, bean, chickpea, sorghum, and millet	Karimi (Stöckle) / Climate change and dryland wheat systems in the US Pacific Northwest	Jennings / The abiotic and biotic impacts of climate change on potato agriculture
12:30	<i>Lunch</i>		

Tuesday 15<sup>th</sup> March - Afternoon

	Session I	Session III	Session IV
	Chair: Senthold Asseng	Chair: Heidi Webber	Chair: Taru Palosuo (tbc)
14:00	Lizaso / Improving CSM-IXIM maize model in DSSAT to simulate impact of elevated temperatures	Wallach / A framework for evaluating uncertainty in crop model predictions	Brown / APSIM next generation, an improved environment for crop model development
14:20	Liu (Zhu, Y.) / Testing and improving the responses of wheat models to heat stress at anthesis and grain filling	Berg / Handling uncertainties with multi-ensemble and multi-model simulations in the LandCaRe-DSS	Donatelli / Modelling agricultural management in multi-model simulation systems
14:40	Naab / Modelling sorghum yield response to heat stress and irrigation: a comparison of three crop growth models	Teixeira (Brown) / Uncertainty due to genotype and management in wide-area maize simulations	Porter / Framework to Advance Climate, Economic, and Impact Investigations with Information Technology (FACE-IT)
15:00	de Wit / Simulating the impact of winter conditions on the survival and yield potential of winter wheat	Nicklin / Addressing uncertainty in model input and evaluation data	Pugh / Widespread vulnerability of current crop production to climate change demonstrated using a data-driven approach
15:20	<i>Coffee break</i>		
	Chair: Michael Dingkuhn	Chair: Delphine Deryng	Chair: Jørgen E. Olesen
15:50	McMaster / Estimating winter wheat phenological parameters: implications for crop modeling	Fischer (Sun) / Shift in China's agro-climatic resource inventory under climate change	van Ittersum / Filling caveats in yield gap analysis
16:05	Dingkuhn / SAMARA: a crop model for simulating rice phenotypic plasticity	Liu (Asseng) / Comparison of methods and aggregation approaches to assess temperature impacts on global wheat production	Schulthess / Use of remote sensing data to determine stress factors for the SALUS model
16:20	Ratjen / Field data based derivation of process descriptions in crop growth models. Is there still room for improvement?	Sentelhas / Sugarcane yield gap in Brazil: magnitude, causes and strategies to its mitigation	Verburg / Model-based functional uncertainty analyses to inform required accuracy of PAWC estimation methods
16:35	Barillot / A wheat model with detailed account of C and N metabolism	Balwinder (Singh) / Risk analysis and yield potential of dry-seeded rice in Bihar, India	Sharif / Comparison of wheat models and their sensitivity towards tillage and N fertilization with different calibration approaches
16:50	Pao / Optimal photosynthetic nitrogen partitioning in cucumber leaves for maximizing canopy photosynthesis	Tian / Balancing the trade-off between food security and GHG emission for paddy field in China based on the coupling of DNDC, DSSAT and AEZ models	Mielenz / Advances in representing the role of water content in modelling nitrous oxide emissions
17:05	Zhu, J. / Integrating xylem and phloem fluxes into whole-plant models for simulating fleshy fruits	Öztürk / Analyzing the effect of catch crops on nitrate leaching in a maize cropping system under climate change using a response-surface approach	Haas / Simulation of landscape-scale nitrogen cycling and redistribution with the coupled hydrology biogeochemistry model CMF-LandscapeDNDC
17:20	Introduction to Poster Session	Introduction to Poster Session	Introduction to Poster Session
17:30	Poster Session		
18:30	<i>End of the Day</i>		

**Wednesday 16<sup>th</sup> March - Morning****Keynote / Parallel Sessions**

- author (speaker) / title -

Time			
09:00	<b>Plenary Keynote Session II:</b> <b>G. Hammer / Integrating crop physiology and modelling with genetic improvement</b> Chair: Kenneth Boote		
09:30	<b>Plenary Keynote Session III:</b> <b>A. Challinor / What does the Paris agreement mean for crop-climate modelling?</b> Chair: Kenneth Boote		
10:00	<i>Break</i>		
	<b>Session I</b>	<b>Session II</b>	<b>Session III</b>
	Chair: Yan Zhu	Chair: Pierre Martre	Chair: K. Christian Kersebaum
10:30	Delusca / Do maize crop models catch the impact of future [CO <sub>2</sub> ] on maize yield and water use	Messina / Towards workable solutions for phenotypic prediction within complex GxExM systems: integrating crop growth models (CGM) with whole genome prediction (WGP)	Webber (Gaiser) / Uncertainty in future European irrigation water demand
10:55	Vanuytrecht / Crop responses to atmospheric CO <sub>2</sub> concentrations: diversity, parameterization and validation in crop models	Lacube / Introducing genetic variability into crop models by combining phenotyping with modelling	Jägermeyr / Integrated crop water management could sustainably halve the global food gap
11:15	Emberson / The development of crop modeling methods to assess the combined threat of ozone and climate extremes on crops in South Asia	Singels / Sugarcane genetic trait parameter estimation	Zhao (Hoffmann) / Vulnerability of grain maize yield under meteorological droughts: a comparison of commercial and subsistence farms in South Africa
11:35	Kassie / Simulating the impact of source-sink manipulations in wheat	Wu / Improving crop models by incorporating photosynthetic biochemistry to support crop yield improvement	Calanca / Simulating the effects of water stress on grassland dynamics – a challenge for current grassland models
11:55	Timlin / Assessment and comparison of leaf area modeling approaches for maize	Dambreville / Modelling the genetic variability and genotype by environment interactions for leaf growth and senescence in wheat	Yin / Uncertainty in simulating N uptake and N use efficiency in the crop rotation systems across Europe
12:15	<i>Lunch</i> Lunch Presentation: A. Ruane / The AgMIP coordinated global and regional assessments of climate change impacts on agriculture and food		

Wednesday 16<sup>th</sup> March - Afternoon

13:45	Poster Session		
15:05	Coffee Break		
	<b>Session I</b>	<b>Session II</b>	<b>Session III</b>
	Chair: Kenneth Boote	Chair: Matthew Reynolds	Chair: Andy Challinor
15:35	Corbeels / The SoilC&N model: simulating short- and long-term soil nitrogen supply to crops	Semenov (Stratonovitch) / Designing wheat ideotypes for a changing climate	Ruiz-Ramos / An ensemble of projections of wheat adaptation to climate change in Europe analyzed with impact response surfaces
16:55	Nendel / Soil nitrogen mineralisation simulated by crop models across different environments and the consequences for model improvement	Tao / Using crop model ensembles to design future climate-resilient barley cultivars	Holzkämper / Climate impacts on grain maize in Switzerland – do the results from three different modelling approaches agree?
16:15	Adam / Linking a phosphorus module to CSM-CERES-Sorghum and evaluating it for West African conditions	Ramirez-Villegas / Towards a genotypic adaptation strategy for Indian groundnut cultivation using model ensembles	Reidsma / Assessing uncertainty in bio-economic farm models: the importance of simulated crop yields and price changes on farm plans and gross margins
16:35	Carlson (Sommer) / Enhancing CropSyst for intercropping modeling	Chenu / From a global sensitivity analysis of a crop model to wheat improvement in the field	Descheemaeker / Effects of climate change and adaptation on crops and livestock in mixed farming systems in southern Africa
16:55	Gaudio / Evaluation of the STICS soil-crop model for modelling arable intercrops	Radanielson / Modelling adaptive traits to screen for salinity tolerance in rice	Durand / Using earth observation and ancillary data sources as an alternative to household surveys for regional integrated assessments
17:15	Break		
19:15	Conference Dinner		

**Thursday 17<sup>th</sup> March****Keynote / Parallel Sessions**

- author (speaker) / title -

Time			
09:00	<b>Plenary Keynote:</b> <b>A. Dobermann / How do we become champions for transforming agri-food systems?</b> Chair: Reimund Rötter		
09:30	<b>Plenary Keynote:</b> <b>B. Keating / Modelling crops and cropping systems – evolving purpose, practice and prospects</b> Chair: Reimund Rötter		
10:00	<i>Break</i>		
	<b>Session I</b>	<b>Session II</b>	<b>Session III</b>
	Chair: Claudio Stöckle	Chair: Graeme Hammer	Chair: César Izaurralde
10:30	Folberth / Impacts of parameterization and input data on simulated yields in global gridded crop model frameworks	Vadez / Integrated crop-systems research: a trait-based breeding pipeline	Fleisher / Assessing regional food security in the U.S. using crop models
10:55	Hoffmann / Analysing data aggregation effects on large-scale yield simulations	Yin / Bringing genetics and biochemistry to crop modelling, and vice versa	Leclère / Towards systematic evaluation of crop model outputs for global land-use models
11:15	Kuhnert / Impacts of soil and weather data aggregation in spatial modelling of net primary production of croplands	Chapman / Integration of crop models into breeding programs	Müller / Global gridded crop model evaluation: benchmarking, skills, deficiencies and implications
11:35	<i>Break</i>		
11:40	<b>Plenary Keynote:</b> <b>M. Kropff / The role of crop modelling in agricultural research</b> Chair: Frank Ewert		
12:10	<b>Final Plenary</b> Chair: Frank Ewert + panel (Session Chairs)		
12:45	<i>End of the Symposium</i>		