Title of the side event: Rice simulation models to address challenges for rice production under changing climate

Organizer: Toshihiro Hasegawa (NARO, Japan)

I. Introduction (AgMIP (Agricultural Model Intercomparison and Improvement Project)
T. Hasegawa, K. Boote

II. AgMIP Rice team group activities
1. Uncertainties in predicting rice yield by current crop models under a wide range of climatic conditions
T. Hasegawa and AgMIP-Rice team
2. Rice responses to elevated temperature: Observations and crop model predictions.
K. Boote, L. Allen, Jr., J. Baker, R. Gesch, A. Snyder, and AgMIP-Rice Team
3. A taxonomy-based approach to shed light on the babel of mathematical models for rice simulation
R. Confalonieri and AgMIP rice team
4. Beyond GWAS and Genomic Prediction: Integration of genomics and cop modeling for prediction of complex traits
Y. Yang and AgMIP-rice team

III. Individual modeling activities
1. Recent application of the CERES-rice model in the field of climate change
U. Singh and J. Fugice
2. A model for simulating the effects of N fertilizer applications on the occurrence of chalky grains in rice
H. Yoshida, H. Nakagawa
3. Recent improvements of the SAMARA model and key drivers of climate change affecting yield in South America.
M.C. Rebolledo and T. Lafarge
4. Multi-model estimates of spatio-temporal yield gap across rice main growth region of China
Y. Zhu, L. Liu
5. Analysis and quantification of nitrogen effects based on global critical nitrogen curve in rice
L. Tang and B. Liu
6. GenomeBasedModel: An R package for estimating parameters of arbitrary biological statistical models and effects of genome-wide SNPs on the parameters simultaneously
A. Onogi
7. Island-model genomic selection for long-term improvement in rice breeding
S. Yabe, M. Yamasaki, K. Ebana, T. Hayashi, H. Iwata

IV. Data for model improvement
1. Outline of the rice antennas initiative of the CGIAR Research Program on Rice (RICE CRP)
T. Lafarge and M.C. Rebolledo
2. Long-term field trials: Valuable data sources for testing crop models

V. Discussion