

Tentative Program for the 7th Plant International Symposium on Plant-Soil Interactions at Low pH

September 14 (Sunday)

09:00 - 17:00 Registration

18:30 - Welcome Reception

September 15 (Monday)

8:30-9:30 Opening Ceremony Chairpersons: *Leon Kochian, Xiaolong Yan*

- 1) Opening Remarks: *Leon Kochian*,
- 2) Welcome address by the President of South China Agricultural University
- 3) Remarks by Representatives from Government of Guangdong Province, the Chinese Society of Soil Science, and the Chinese Society of Plant Nutrition and Fertilizer

9:30-10:00 Coffee break and taking group pictures

Plenary lectures Chairpersons: *Yoko Yamamoto; Hong Liao*

10:00-10:50 Molecular and physiological basis for crop aluminum resistance
Leon Kochian

10:50-11:40 Can crop yield, nutrient use efficiency and soil productivity be increased at the same time? *Fushuo Zhang*

11:40-12:30 Root breeding for better nutrient efficiency on acid soils *Xiaolong Yan*

12:30-14:30 Lunch

Plenary lectures

14:30-15:20 Kenyan highlands versus Brazilian cerrado acid soils: chemistry, mineralogy, and phosphorus sorption and availability *Darrell Schulze*

Session 1: Chemistry and physics of acid soils

Chairpersons: Renkou Xu; Darrell Schulze

Keynote presentations

15:20-15:45 Chemical fertility of an oxisol in Malaysia planted to cocoa as affected by the application of ground basalt and rice husk compost
Jusop Shamshuddin

15:45-16:10 Effect of interaction between negative and positive surface charges of soil particles on soil acidification *Renkou Xu*

Short oral presentations

16:10-16:20 Characteristics of acid forest soils in a mountainous region with relatively low influence of acid deposition *Ondrej Drabek*

16:20-16:30 What pH is the most adequate for high-quality and environmentally sound green tea production? *Masahiko Saigusa*

16:30-16:40 Composition structure and diversity of fungus and bacteria in acid metal mine drainage polluted soil *Yongtao Li*

16:40-17:30 Coffee break and poster presentation

17:30-18:00 Discussion *Chairperson: Darrell Schulze*

18:30- Dinner

September 16 (Tuesday)

Session 2. Physiological and molecular mechanisms of plant adaptation to acid soils *Chairpersons: Samuel Gudu; Jianfeng Ma*

Keynote presentations

8:30-8:55 Aluminium toxicity and resistance in *Phaseolus vulgaris* - physiology drives molecular biology *Water Horst*

8:55-9:20 The relationship between protein structure and transport function for ALMT-type transporters *Miguel Piñeros*

9:20- 9:45 The role for the cell wall in aluminum resistance *Shaojian Zheng*

Short oral presentations

9:45-9:55 Aluminium bound to plant cell walls – does staining give clues about the bound Al species? *Bernhard Wehr*

9:55-10:05 Biochemical and molecular properties of a phosphorus starvation induced apase isoform, PvPAP3, in common bean (*Phaseolus vulgaris* L.)
Cuiyue Liang

10:05-10:50 Coffee break and poster presentation

Keynote presentations

10:50-11:15 Evolution of aluminium-resistance in hexaploid wheat *Peter Ryan*

11:15-11:40 Molecular regulators of phosphate deficiency in plants
Kashchandra Raghothama

Short oral presentations

- 11:40-11:50 Signal transduction pathway of Al responsive malate release in *Arabidopsis* – involvement of reversible protein phosphorylation and STOP1 transcription factor *Hiroyuki Koyama*
- 11:50-12:00 Aluminum-activated citrate and malate transporters from the MATE and ALMT families function independently to confer *Arabidopsis* aluminum tolerance *Jiping Liu*

12:00-12:30 Discussion *Chairperson: Jianfeng Ma;*

12:30-14:30 Lunch

Session 3: Genetics and breeding of crops for acid soils

Chairpersons: Water Horst; Peter Ryan

Keynote presentations

- 14:30-14:55 Transporters involved in Al resistance in gramineous crops *Jianfeng Ma*
- 14:55-15:20 Positional cloning and association analysis of a *MATE* gene that confers aluminum tolerance in sorghum via the AltSB locus
Jurandir Magalhaes
- 15:20-15:45 Al resistance mechanisms in *Lespedeza bicolor* *RenFang Shen*

Short oral presentations

- 15:45-15:55 Transcriptional profiling of aluminum toxicity and tolerance responses in maize roots *Lyza G. Maron*
- 15:55-16:05 Screening of Kenyan and exotic maize germplasm for aluminium tolerance in hydroponics *Samuel Gudu*

16:05-16:50 Coffee break and poster presentation

Keynote presentations

- 16:50-17:15 Genetics and breeding strategies for phosphorus efficiency and responsiveness in tropical maize cultivated in oxissols
Sidney Netto Parentoni
- 17:15-17:30 Joint linkage-association analysis of aluminum tolerance in maize
Owen Hoekenga

Short oral presentations

- 17:30-17:50 Investigating whole root systems: advances in root quantification tools and techniques *Randy T Clark*
- 17:50-18:00 Modeling of root system architecture *in situ* based on data scanned by 3D laser scanner and its application to phosphorus uptake in rice
Suqin Fang

18:00-18:30 Discussion *Chairperson: Peter Ryan*

18:30- Dinner

September 17 (Wednesday): Mid-Symposium Field Tour

September 18 (Thursday)

Session 4. Aluminum toxicity and other acid soil limitations and their amelioration and remediation

Chairpersons: Renfang Shen; Nand Kumar Fageria

Keynote presentations

8:30-8:55 Field validation of near isogenic lines and hybrids contrasting for tolerance to aluminum toxicity and comparison of parameters derived from nutrient solution and field evaluation at various levels of aluminum

Robert Schaffert

8:55-9:20 Effect of calcium silicate as a source of silicon and as amendment on growth and yield of rice in coastal zone soils of Karnataka, South India

Prakash Nagabovanalli

Short oral presentations

9:20-9:30 Similarities and differences in the kinetics of and recovery from toxicities of aluminium, copper and lanthanum *Peter Kopittke*

9:30-9:40 High external phosphate (Pi) increases sodium ion uptake and reduces salt tolerance of “Pi tolerant” soybean *Hon-Ming Lam*

9:40-9:50 Evaluating the effect of root whorl number on performance of common bean (*Phaseolus vulgaris* L.) plants grown under low phosphorus

Magalhaes Amade Miguel

9:50-10:40 Coffee break and poster presentation

Keynote presentations

10:40-11:05 Aluminium stress alters physiological oscillations in intracellular Ca²⁺

Zed Rengel

11:05-11:30 Natural basalt as a potential amendment for highly weathered acid soils

Markus Anda

Short oral presentations

11:30-11:40 Cultivation accelerates soil acidification *Kazumichi Fujii*

11:40-11:50 Improvement of soils fertility management in cocoa plantations in Togo

Tchimondjro Koudjega

11:50-12:00 Influences of liming on maize yields *Mihajlo Markovic*

12:00-12:30 Discussion *Chairpersons: Nand Kumar Fageria*

12:30-14:30 Lunch

Session 5: Sustainable utilization and management of agricultural and natural ecosystems in acid soil regions

Chairpersons: Zed Rengel; Robert Schaffert

Keynote presentations

14:30-14:55 Sustainable Agroecosystem patterns in subtropical South China with acid soils *Shiming Luo*

14:55-15:20 Boron deficiency in acid soils and its role in root phosphorus acquisition strategy of P-efficient genotypes *Longbin Huang*

Short oral presentations

15:20-15:30 Investigation on effect of agricultural management on land degradation in Gholam *Reza Zehtabian*

15:30-15:40 Influences of planosol fertilization with P and K on field crop yields and soil status *Vlado Kovacevic*

15:40-16:30 Coffee break and poster presentation

Keynote presentations

16:30-16:55 Water management, irrigation performance and grain yields of rice on acidic wetlands soils in Nigeria *Adesola Olutayo Olaleye*

16:55-17:20 Microbial and abiotic interactive transformation of reducible pollutants on the interface of subtropical soil clays and water *Fangbai Li*

Short oral presentations

17:20-17:30 Soil productivity determination and fertilizer recommendations in Croatia and Hungary *Zdenko Lončarić*

17:30-17:40 Wood ash: a superior lime amendment for acidic agricultural soils *Yoong-Kee SOON*

17:40-17:50 Agricultural management practices to improve adaptation and growth of grain legume crops on acid soil of Southern Cameroon *Martin Jemo*

17:50-18:20 Discussion *Chairperson: Robert Schaffert*

18:20-18:30 Closing remarks (*Leon Kochian, Xiaolong Yan*)

19:30- Banquet