

<b>18<sup>th</sup> International Plant Nutrition Colloquium 2017</b> Location: Tivoli Congress Center, Copenhagen, Denmark			
17:00-21:00	20 August, Sunday <b>Registration and poster mounting</b> <b>Welcome reception from 19:30</b>		
21 August, Monday			
9:00-10:15	<b>Opening session</b> <b>9:00-9:10      Welcome by Jan K. Schjoerring, Denmark</b> Chairman of the Colloquium and President of International Plant Nutrition Council <b>9:10-9:20      H.C. Andersen parade</b> <b>9:20-9:30      Welcome by Thomas Bjørnholm, Denmark</b> Pro-rector for Research, University of Copenhagen <b>9:30-10:15    Opening plenary presentation</b> Plant nutrition for global green growth - Designing next generation fertilizers for crop nutrition <b>Mike McLaughlin, Australia</b>		
10:15-10:45	Coffee break and poster viewing		
10:45-12:25	<b>Keynote presentations</b> <b>10:45-11:10</b> Exploiting the root-soil microbiome for benefit to plant nutrition <b>Alan E. Richardson, Australia</b> <b>11:10-11:35</b> Phosphorus promotes nitrogen fixation in soybean <b>Hong Liao, China</b> <b>11:35-12:00</b> Non-mycorrhizal strategies to acquire phosphorus from soils with very low phosphorus availability <b>Hans Lambers, Australia</b> <b>12:00-12:25</b> Plant nutrients - The functional ionome <b>Philip White, United Kingdom</b>		
12:25-14:00	Lunch and poster viewing		
	Parallel sessions		
14:00-15:30	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> <b>Theme: Plant-microorganism interactions and nutrient acquisition</b> </td> <td style="width: 50%; vertical-align: top;"> <b>Theme: Nutrient functions in plants</b> </td> </tr> </table>	<b>Theme: Plant-microorganism interactions and nutrient acquisition</b>	<b>Theme: Nutrient functions in plants</b>
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14:15-14:30	A quantitative analysis of phosphorus acquisition efficiency of direct pathway and mycorrhizal pathway of maize <b>Feng Gu, China</b>	Photoprotective responses and PSII functionality under magnesium deficiency <b>Merle Tränkner, Germany</b>
14:30-14:45	The root external mycelium of mycorrhizal fungi has a key role in plant nutrition but is suppressed by the soil microbiota <b>Carla Cruz Paredes, Denmark</b>	Functional impacts of phosphorus deficiency on the photosynthetic machinery <b>Andreas Carstensen, Denmark</b>
14:45-15:00	Identifying the mechanisms behind mycorrhiza-enhanced plant zinc nutrition <b>Stephanie Watts-Williams, Australia</b>	Frost increases internal potassium requirements for alleviation of sterility and grain yield of wheat <b>Richard Bell, Australia</b>
15:00-15:15	Complementarity between citrate and phytase exudation enhances acquisition of soil phosphorus by plants <b>Timothy George, United Kingdom</b>	Limiting physiological processes for maize growth under magnesium deficiency <b>Stephan Jung, Germany</b>
15:15-15:30	Do bioeffectors matter? - A meta-analysis of more than 150 experiments <b>Jonas Duus Stevens Lekfeldt, Denmark</b>	Potassium – silicon interaction under drought stress condition in barley <b>Seyed Abdollah Hosseini, France</b>
15:30-16:30	Coffee break and poster viewing	
16:30-18:00	<b>Marschner session: Nurturing the future</b> 4 presentations á 20 min from young awardees + ceremony	
Evening	Poster viewing and welcome reception – City Hall	

22 August, Tuesday	
8:30-10:10	<p><b>Keynote presentations</b></p> <p><b>08:30-08:55</b> A paradigm of nutrient management for fertilizer industry and global society <b>Fusuo Zhang, China</b></p> <p><b>8:55-09:20</b> Factors affecting the permeability and efficacy of foliar fertilisers: An update <b>Victoria Fernandez, Spain</b></p> <p><b>09:20-09:45</b> Node-based distribution of mineral elements in rice <b>Jian Feng Ma, Japan</b></p>

	<b>09:45-10:10</b> Silicon mediates ion uptake, transport and homeostasis in plants under mineral stress <b>Miroslav Nikolic, Serbia</b>	
10:10-10:45	Coffee break and poster viewing	
	Parallel sessions	
10:45-12:15	<b>Theme: Nutrient management and fertilizers in crop production</b>	<b>Theme: Nutrient uptake, transport and homeostasis</b>
10:45-11:00	From research to farmers: An example of knowledge transfer on potassium benefit in Turkey <b>Dilek Anaç, Turkey</b> (SOPIB awardee)	Iron-nicotianamine transporters regulate long distance shoot to root signalling of iron deficiency in Arabidopsis <b>Elsbeth Walker, USA</b>
11:00-11:15	Efficiency of foliar applications of potassium sulphate on field crop production <b>Michel Marchand, France</b>	The iron-chelate transporter OsYSL9 is crucial in iron distribution in developing rice grain <b>Naoko Nishizawa, Japan</b>
11:15-11:30	Establishing high-yielding maize system for sustainable intensification in China <b>Xinping Chen, China</b>	Associative transcriptomics reveals potential new targets for calcium and magnesium uptake in <i>Brassica napus</i> <b>Thomas Alcock, United Kingdom</b>
11:30-11:45	Proximal and remote quantification of nitrogen fertilizer demand – A case study in sugar beet <b>Frank Liebisch, Switzerland</b>	Increasing rice nitrogen use efficiency by altering nitrate transporter activity <b>Guohua Xu, China</b>
11:45-12:00	Comparing ammonium sulfate to recent sulfur fertilizers in sulfur availability to crop growth <b>S.H. (Norman) Chien, USA</b>	The kinase CIPK23 inhibits ammonium transport in <i>Arabidopsis thaliana</i> <b>Benjamin Neuhäuser, Germany</b>
12:00-12:15	Nutrient management increases crop water use efficiency <b>Dejene Eticha, Germany</b>	Cis- and epi-regulation of amino acid transporters contribute to inhibition of ear growth by nitrogen limitation in maize <b>Xuexian Li, China</b>
12:15-14:00	Lunch and poster viewing	
14:00-15:40	<b>Keynote presentations</b> <b>14:00-14:25</b> The root endodermis acts as a gateway for vascular transport <b>David E. Salt, United Kingdom</b>	

	<p><b>14:25-14:50</b> AMT-type transporters mediate radial transport pathways and root-to-shoot translocation of ammonium <b>Nicolaus von Wirén, Germany</b></p> <p><b>14:50-15:15</b> Making waves ... Einstein's lessons for crop nutrition research <b>Paul E. Fixen, USA</b></p> <p><b>15:15-15:40</b> Plant nutritional challenges in an industrialized agriculture – The Danish lesson <b>Leif Knudsen, Denmark</b></p>
15:40-16:30	Coffee break and poster viewing
	Parallel sessions
16:30-18:30	<p><b>Theme: Nutrient management and fertilizers in crop production</b></p> <p><b>Theme: Nutrient uptake, transport and homeostasis</b></p>
16:30-16:45	<p>Phosphorus availability of fertilizers recycled from urban waste water in combination with bioeffectors – Pot and field experiments <b>Iris Wollmann, Germany</b></p> <p>Natural variation in <i>Arabidopsis thaliana</i> to identify genes underlying zinc deficiency response <b>Valeria Ochoa, The Netherlands</b></p>
16:45-17:00	<p>Improving soil of low phosphorus availability with biochar produced from bonemeal <b>Sander Bruun, Denmark</b></p> <p>Zinc controls leaf length via FLOWERING LOCUS T in early-flowering <i>Arabidopsis thaliana</i> <b>Uwe Ludewig, Germany</b></p>
17:00-17:15	<p>Rock phosphate-enriched compost in combination with PGPR; a cost-effective source for better soil health and wheat (<i>Triticum aestivum</i>) productivity <b>Motsim Billah, Pakistan</b></p> <p>Absorption and distribution of foliar-applied zinc (<sup>70</sup>Zn) in maize and wheat grown with low or adequate zinc supply <b>Raheela Rehman, Turkey</b></p>
17:15-17:30	<p>The effects of pH on root morphology and physiology of narrow-leaf lupine, grown with a recycled phosphorus source <b>Ana A. Robles Aguilar, Germany</b></p> <p>Role of trichomes, stomata, and the cuticle in the absorption of foliar-applied zinc fertiliser <b>Cui Li, Australia</b></p>
17:30-17:45	<p>BASS - A new sulfur fertilizer <b>Diedrich Steffens, Germany</b></p> <p>Proteomic responses to zinc deficiency stress in maize (<i>Zea mays</i> L.) <b>Wang Hong, China</b></p>

17:45-18:00	Efficiency of polyhalite as a fertilizer supplying potassium, magnesium, calcium and sulfate <b>Uri Yermiyahu, Israel</b>	Sulfur deficiency negatively affects nitrate root to shoot translocation and leaf cytokinin concentration in wheat <b>Jose Maria García-Mina, Spain</b>
18:00-18:15	Tomato responses to polyhalite in comparison to other conventional potassium fertilizers in Southeast Brazil <b>Kiran Pavuluri, United Kingdom</b>	Rice HRZ ubiquitin ligases are involved in both iron deficiency and excess responses and jasmonate signalling <b>Takanori Kobayashi, Japan</b>
18:15-18:30	Leaching rate of selected sulphur fertilizers; understanding selenate - sulphate competition <b>Linxi Jiang, United Kingdom</b>	Jack of all trades: Inositol polyphosphates regulate phosphorus and mineral cation nutrition as well as jasmonate-dependent defenses <b>Gabriel Schaaf, Germany</b>
Evening	Poster viewing and happy hour – Tivoli Congress Centre	

23 August, Wednesday		
<b>Keynote presentations</b>		
8:30-10:10	<b>8:30-08:55</b>	The role of high throughput root phenotyping in crop improvement for adaptation to acid soils <b>Leon Kochian, Canada</b>
	<b>08:55-09:20</b>	Root system architecture in maize determined by genome-wide association analyses <b>Lixing Yuan, China</b>
	<b>09:20-09:45</b>	Arsenic biogeochemistry in paddy systems and impacts on crop production and quality <b>Fangjie Zhao, China</b>
	<b>09:45-10:10</b>	Novel green fertilizers and soil amendments promoting recirculation of plant nutrients <b>Lars Stoumann Jensen, Denmark</b>
10:10-10:45	Coffee break and poster viewing	
Parallel sessions		
10:45-12:30	<b>Theme: Nutrient availability in soils, toxicity and remediation</b>	<b>Theme: Roots and genetics of crop nutrient uptake</b>
10:45-11:00	How does phosphorus accumulate in a clayey tropical soil under fertilizer sources and cover crops? <b>Amin Soltangheisi, Brazil</b>	Genetic control of root type-specific response of lateral roots to local high nitrate in maize <b>Peng Yu, China</b>

11:00-11:15	Bread from stone: Greenlandic glacial flour as soil amendment for tropical weathered soils <b>Andreas de Neergaard, Denmark</b>	Nutrient uptake-based assessment of genetic variation of nitrogen and phosphorus response in rice <b>Yoshiaki Ueda, Japan</b>
11:15-11:30	Effect of deoxymugineic acid application to calcareous soil compared with other chelating agents <b>Motofumi Suzuki, Japan</b>	Genetic variation for nitrogen responsiveness in Australian spring wheat <b>Mamoru Okamoto, Australia</b>
11:30-11:45	The positive effects of the Silicic Acid Agro Technology <b>Henk-Maarten Laane, The Netherlands</b>	Genetic variants associated with the root system architecture of oilseed rape under contrasting phosphate supply <b>Lei Shi, China</b>
11:45-12:00	Nutrient uptake by barley grown in chemically amended salt affected soil <b>Ibrahim Abdulrazzaq, Iraq</b>	Categorizing wheat genotypes for phosphorus efficiency; parameters vs methods <b>Tariq Aziz, Pakistan</b>
12:00-12:15	Phytoremediation by elucidating chemical compounds which alter accumulation of or response to caesium in plants <b>Shin Ryoung, Japan</b>	Dynamics of localised supply of nitrogen-species in soil and their relevance for root system morphology – What have we learned from Drew? <b>Sebastian Blaser, Germany</b>
12:15-12:30	Identification of glycosyltransferases involved in biosynthesis of hydrolyzable tannins in an aluminum-resistant eucalyptus tree <b>Ko Tahara, Germany</b>	Taking the phosphorus: Genetic mapping of QTLs for soybean protein, volume, seed and pod weight <b>Gokhan Hacisalihoglu, USA</b>
12:30-14:00	Lunch and poster viewing	
14:00-15:30	<b>Keynote presentations</b> <b>14:00-14:25</b> Fighting human malnutrition with plant nutrition <b>Ismail Cakmak, Turkey</b> <b>14:25-14:50</b> GeoNutrition: Spatial aspects of hidden hunger <b>Martin R. Broadley, United Kingdom</b> <b>14:50-15:10</b> Identification and characterization of novel metal homeostasis genes in bread wheat <b>Alexander Johnson, Australia</b> <b>15:10-15:30</b> Genotype behaviour, water management and zinc fertilization in different rice systems; their implications for grain zinc biofortification <b>Hafeez ur Rehman, Pakistan</b>	

15:30-16:30	Coffee break and poster viewing	
16:30-18:00	Parallel sessions	
	<b>Theme: Nutrient availability in soils, toxicity and remediation</b>	<b>Theme: Plant nutrition and food quality</b>
16:30-16:45	Root/rhizosphere processes and management for improving nutrient use efficiency and yield in Chinese maize-cropping systems <b>Jianbo Shen, China</b>	Biofortification of cassava storage roots to achieve nutritionally significant levels of iron and zinc <b>Narayanan Narayanan, USA</b>
16:45-17:00	Mixed cropping promotes the ability of wheat and lentil to increase rhizosphere micronutrients availability in calcareous soil <b>Shukri Rekani, Iraq</b>	Integrated fertilizer management harvests more grain zinc of wheat <b>Chunqin Zou, China</b>
17:00-17:15	Diversified land, nutrients and intensified cropping system on soil-plant relations for productivity and rural livelihoods in developing India <b>A. M. Puste, India</b>	Overexpression of OsPCS1 reduces arsenic concentration in rice grain <b>Satoru Ishikawa, Japan</b>
17:15-17:30	Growth rate, crop duration, nitrogen, phosphorus and potassium accumulation of rice when grown in fertile and low-fertile soils <b>Lalith Suriyagoda, Sri Lanka</b>	Influence of fertilization strategies on the mineral nutrient content in cereal grains <b>Karin Hammér, Sweden</b>
17:30-17:45	Effects of potassium nutrition on some physiological parameters and productivity of cotton crop under an arid environment <b>Sagheer Ahmad, Pakistan</b>	Soil amendments to reduce cadmium accumulation by leafy vegetables from cadmium-mineralized lockwood loam <b>Rufus Chaney, USA</b>
17:45-18:00	Interactive effects of bicarbonate and two types of Iranian local squash as rootstock on the nutrient uptake in cucumber plants <b>Hamid Reza Roosta, Iran</b>	Effects of Foliar application and fertigation of potassium on yield and fruit quality of apple cv Gala <b>Mehdi Ben Mimoun, Tunis</b>
Evening	Gala dinner – Langelinie Pavillion	

24 August, Thursday		
8:30-10:10	<b>Keynote presentations</b> <b>8:30-08:55</b> Impact of climate change in plant nutrition <b>Marta Vasconcelos, Portugal</b> <b>08:55-09:20</b> Achieving nutrient efficient cropping systems with higher productivity and lower emissions <b>Jørgen E. Olesen, Denmark</b> <b>09:20-09:45</b> Imaging and molecular speciation analysis of essential plant nutrients <b>Søren Husted, Denmark</b> <b>09:45-10:10</b> Synchrotron X-ray approaches for examining trace metals in plants <b>Peter Kopittke, Australia</b>	
	10:10-10:45 Coffee break and poster viewing	
	Parallel sessions	
	10:45-12:30	<b>Theme: Nutrient cycling, ecosystems and climate change</b>
	<b>Theme: New analytical methods in plant nutrition</b>	
10:45-11:00	Nitrous oxide and methane emissions from paddy soils as affected by cropping systems and nitrogen management <b>Xuejun Liu, China</b>	Live imaging of ion movement in plants by Real-Time Radioisotope Imaging System (RRIS) <b>Ryohei Sugita, Japan</b>
11:00-11:15	Post-harvest N <sub>2</sub> O emissions in bioenergy oilseed rape rotations regulated by soil residual nitrogen not by residue properties <b>Sarah Köbke, Germany</b>	Multi element bioimaging of <i>Arabidopsis thaliana</i> roots <b>Daniel Persson, Denmark</b>
11:15-11:30	Management of nitrogen fertilizer to reduce nitrous oxide (N <sub>2</sub> O) emission and ammonia (NH <sub>3</sub> ) volatilization from coffee plantation <b>Ana Paula Packer, Brazil</b>	Magnesium, but not calcium, co-localises with phosphorus in specific cell types in leaves <b>Paula Pongrac, United Kingdom</b>
11:30-11:45	Growth and distribution of upland NERICA rice roots in low-nitrogen management system in West Africa <b>Sylvester Oikeh, Kenya</b>	Revealing radial ion transport pathways in roots by combining the fluorescence activated cell sorting with inductively coupled plasma mass spectrometry <b>Paulina Flis, United Kingdom</b>



11:45-12:00	Closing the yield gap and improving soil fertility with fertilizer and HNUE hybrids in Sub-Saharan Africa <b>Heather Pasley, USA</b>	Non-destructive growth analysis identifies major differences in nitrogen response in wheat <b>Trevor Garnett, Australia</b>
12:00-12:15	Effect of predicted climate change on yield and quality of wheat under varied zinc and nitrogen fertilization <b>Muhammad Asif, Turkey</b>	Available nitrogen in upland soil can be estimated using ultraviolet light-emitting diode-induced fluorescence <b>Koji Orii, Japan</b>
12:15-12:30	Effects of split nitrogen application on grain protein concentration and composition in winter wheat at different nitrogen fertilisation rates <b>Anne Rossmann, Germany</b>	Photosynthetic iron-use efficiency provides a means for screening elite barley genotypes that adapt to iron deficiency with unknown mechanism <b>Akihiro Saito, Japan</b>
12:30-13:30	Lunch and poster viewing	
	Parallel sessions	
13:30-14:30	<b>Theme: Nutrient cycling, ecosystems and climate change</b>	<b>Theme: Novel technologies for fertilizers and fertilization</b>
13:30-13:45	Why do smallholder farmers in Papua New Guinea, Fiji, Kiribati, The Philippines and Central West Africa not spend resources on management of soil fertility? <b>Michael Webb, Australia</b>	The influence of tensides on ZnIDHA 2.0 adhesion to the leaf surface of wheat canola and corn <b>Anika Mrozek-Niećko, Poland</b>
13:45-14:00	Site specific nutrient management through nutrient expert for improving productivity and nitrogen use efficiency in maize–wheat cropping system <b>Seema Sepat, India</b>	Zinc doped layered double hydroxides: A new source for zinc fertilization <b>Sandra López-Rayó, Spain</b>
14:00-14:15	Kick-starting productivity of abandoned field soils on smallholder farms in Zimbabwe <b>Paul Mapfumo, Zimbabwe</b>	How to tailor nano hydroxyapatite as a kind of potential phosphorus fertilisers <b>Lei Xiong, Australia</b>
14:15-14:30	Fertilizer recommendation method for sustainable cassava intensification <b>Mirasol Pampolino, Philippines</b>	Zinc distribution and localization in primed maize seeds and its translocation during early seedling development <b>Imran Muhammad, Denmark</b>

14:30-15:30	Coffee break and poster viewing
15:30-17:00	<p data-bbox="352 286 555 322"><b>Closing session</b></p> <p data-bbox="352 344 1054 416"><b>15:30-16:15</b> Africa - The plant nutritionists paradise <b>Ken Giller, The Netherlands</b></p> <p data-bbox="352 439 927 474"><b>16:15-16:40</b> Presentation of poster prizes</p> <p data-bbox="352 497 999 533"><b>16:40-16:55</b> Introduction to the 19<sup>th</sup> IPNC 2021</p> <p data-bbox="352 555 667 591"><b>16:55-17:00</b> Goodbye</p>