



**RIO18**  
21st World Congress  
of Soil Science

**21 WORLD CONGRESS OF SOIL SCIENCE**  
Sunday 12 – Friday 17 August 2018  
Rio de Janeiro, Brazil

Rio de Janeiro August | 12 - 17

## DIVISIONAL SYMPOSIUM – DIVISION 3

Thursday (Aug, 16)		Room "Oceania IV e V"	
<b>C3.3.6</b>		<b>Sustainable phosphorus fertilizer use in tropical soil</b>	
		<b>Convener:</b> Paul J. A. Withers. Bangor University, Bangor, UK. E-mail: p.withers@bangor.ac.uk	
		<b>Co-Convener:</b> Vinicius de Melo Benites. Embrapa Soils. Rio de Janeiro, RJ, Brazil. E-mail: vinicius.benites@embrapa.br	
Schedule	ID	Title	Presenter
15:30 – 15:40	--	Opening	Conveners
15:40 – 15:55	320	Phosphorus Placement for Annual Crops in the Tropics	Luis Prochnow
15:55 – 16:10	597	Animal manures applied to soil as a phosphorus source: Impacts on soil legacy phosphorus to crops and for runoff losses	Maria do Carmo Horta
16:10 – 16:25	849	Poor P use efficiency and novel fertilizers - when can the latter mitigate the former?	Mike McLaughlin
16:25 – 16:40	1598	Development of activated dolomite phosphate rock fertilizers for sustainable agriculture in tropical and subtropical regions	Zhenli He
16:40 – 16:55	2389	Changes in phosphorus fractions due to the forest-pasture-sugarcane conversion in Brazil	Amin Soltangheisi
16:55 – 17:10	2447	Using current knowledge of phosphorus fertilizer reaction pathways to improve P use efficiency	Ganga M. Hettiarachchi
17:10 – 17:25	2450	Maize growth as a function of residual phosphorus of soluble phosphorus sources applied in very clayey soil	Antonio Saraiva Muniz
17:25 – 17:40	1221	Response of soil Olsen-P to P budget and its relationship with soil properties of three typical soil types in China under long-term fertilization	Shuxiang Zhang
17:40 – 17:55	2793	Organic acid loaded nanoclay polymer composite and phosphate solubilizing bacteria for solubilization of Indian rock phosphates: A step towards sustainable P management	Dipak Ranjan Biswas
17:55 – 18:10	--	Closing	Conveners



**Brazilian Soil Science Society**



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