

THE ROLE OF REMOTE AND PROXIMAL SENSING OF SOIL PROPERTIES FOR BOTH NUTRIENT AND CARBON MANAGEMENT IN GRAZED PASTURE AND CROPPING SYSTEMS

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Editor's Note:

The following is a brief biography of the author and his recent achievements.

Raphael Viscarra Rossel grew up in Coroico, a small town near La Paz in Bolivia. He completed his undergraduate and postgraduate studies at the University of Sydney, before moving to CSIRO Canberra in 2008 to take up the position of Principal Research Scientist in the Soil and Landscape Science Dept.

Dr Viscarra Rossel was senior research fellow working within the Faculty of Agriculture, Food and Natural Resources at The University of Sydney. Here he worked on the development of new technologies and innovative methodologies for proximal soil sensing and the development and use of pedometrics (mathematical and statistical techniques to describe, model and understand soil). Specifically his research included development of

- techniques for proximal soil sensing
- high resolution digital soil mapping
- use of chemometric techniques to analyse soil spectra
- precision agriculture.

He is now actively involved in the International Union of Soil Sciences initiatives, which includes being Chair of the Proximal Soil Sensing Working Group; active contributor to the IUSS Digital Soil Mapping project and creator and convenor of the Global Soil Spectroscopy Group. As creator of The Global Soil Spectroscopy Group his aims are to develop a global soil spectral library and to establish a community of practice for soil spectroscopy. The Group is tackling the following topics:

- Can global soil diversity and variation be characterised using diffuse reflectance spectra?
- Can soil spectral calibrations be used to predict soil properties globally?
- Is soil spectroscopy a useful tool for digital soil mapping?

Dr Viscarra Rossel and co-authors were awarded best paper in Pedometrics in 2003 and 2007 by the International Union of Soil Sciences Commission on Pedometrics.

Editor's Note: An extended manuscript has not yet been submitted for this presentation.