



## **A lithosphere-scale relationship between electrical conductivity and seismic velocity in the Slave Craton ?**

**M. Moorkamp** (1), A.G. Jones (1) and D.W. Eaton (2)

(1) Dublin Institute for Advanced Studies, 5 Merrion Square, Dublin 2, Ireland (2) University of Western Ontario, London, ON N6A 5B7, Canada, (mm@cp.dias.ie)

Seismic velocity and electrical conductivity are two physical parameters that are routinely used to infer the geological structure of the earth's subsurface. Generally one cannot expect that techniques using these two parameters image the same structures due to very different sensitivities. A comparison of models for the Slave Craton however shows very similar features in both electrical and seismic structures. We perform joint inversion of magnetotelluric and seismic receiver function data to more formally investigate the differences and similarities of those datasets. First results indicate that there might even be a functional relationship between electrical conductivity and seismic velocity for the whole lithosphere. We will discuss this surprising result, assess its robustness and give some ideas how to interpret it in terms of the physical properties and geochemistry of the Slave Craton.