Program for IPRCC Training Course, 27-29 October 2017

Friday, 27 October 2017

08.30-08.40	Opening and technical announcements	A. Kröner/S. Liu
08.45-09.45	What is the lithosphere – definition and character; types of lithosphere; relationship of lithospheric processes to development and evolution of the atmosphere, oceans and mantle.	P. Cawood
09.45-10.45	Heat flow of the Earth – Initial conditions and primordial heat, heat production, heat loss, temperature constraints, and the Archaean thermal catastrophe.	C. O'Neill
10.45-11.00	**Tea/coffe break**	
11.00-12.00	LITMOD1Di - General considerations: Introduction of concepts	A. Jones
12.00-12.15	General discussion	
12.15-13.30	**Lunch break**	
13.30-14.30	Formation of mountain belts (orogens) and relationship to lithospheric development; types and significance of orogenic belts; internal vs. external orogens and relationship to supercontinent cycle.	P. Cawood
14.30-15.30	Temperatures and tectonics through time – Geological constraints on crustal temperatures, mantle temperatures, style of volcanism, evolution of tectonic styles.	C. O'Neill
15.30-15.45	**Tea/coffee break**	
15.45-16.45	Velocity-conductivity of rocks: Presentation of sensitivity of velocity and electrical conductivity to pressure, temperature, composition of water content of the four main silicate minerals, olivine, two pyroxenes and garnet. Distribution of a code for quick determination of the velocity and conductivity of a mineral assemblage at particular conditions.	A. Jones
16.45-17.00	General discussion	

Saturday, 28 October 2017

0.30-09.30	Role of accretionary orogens in the development of the lithosphere; Case study – Phanerozoic accretionary orogen along margin of Gondwana (Terra Australis orogen).	P. Cawood
09.30-10.30	Modelling Precambrian plate tectonics – Constructing geodynamic models, fundamental fluid mechanics, essential ingredients, evolution of tectonics in geodynamic models.	C. O'Neill
10-30-10.45	**Tea/coffee break**	
10.45-11.45	Forward modelling – I: Introduction of forward modelling aspects	A. Jones
11.45-12.00	General discussion	
12.00-13.30	**Lunch break**	
13.30-14.30	Processes of generation and preservation of the continental crust and relationship to the supercontinent cycle.	P. Cawood
14.30-15.30	Crustal processes in the Precambrian – the effect of the mantle on the crust, crustal volcanic processes, vertical tectonics and crustal overturns, case study: geodynamic evolution of the Pilbara craton	C. O'Neill
15.30-15.45	**Tea/coffee break**	
15.45-16.45	Forward modelling – II: Continuation of presentation of forward modelling aspects	A. Jones
16.45-17.00	General discussion	

Sunday, 29 October 2017-09-01

08.30-09.30	Evolution of the lithosphere – stages in evolution of the lithosphere deduced from crustal archive and evolving mantle conditions: early Earth, Earth's middle age, modern Earth.	P. Cawood
09.30-10.30	Evolution of the core and magnetic field – Core fundamentals, how geodynamics affects the core, the Precambrian paleomagnetic record, magnetic field strength though time.	C. O'Neill
10-30-10.45	**Tea/coffee break**	
10.45-11.45	LITMOD inversion: Presentation of stochastic inversion approach.	A. Jones

11.45-12.00	General discussion	
12.00-13.30	Lunch break	
13.30-14.30	Volumes of continental lithosphere through time and evolving processes for their generation.	P. Cawood
14.30-15.30	Peculiar processes on the early Earth – impacting and tectonics, alternative tectonic modes: heat pipes and plutonic squishy lids.	C. O'Neill
15.30-15.45	**Tea/coffee break**	
15-45-16.45	LITMOD1Di code details: Description of the code and example run with data	A. Jones
16.45-17.00	General discussion, end of program.	