Royal Astronomical Society

The 2024 Price Medal is awarded to Professor Christopher Davies

Professor Christopher Davies is awarded the Price Medal for a series of investigations modelling the fluid dynamics and material properties of the Earth's core. This work has helped understand the thermochemical evolution of the Earth and importantly, how the Earth can sustain a geomagnetic field.

His skill at assimilating and enhancing information across the domains of paleomagnetism, mineral physics and geodynamics has led to some significant advances on the energetics and thermal evolution of the Earth's core.

Through a series of papers, Professor Davies worked on the transport properties of the Earth's core. This work redefined the electrical and thermal conductivity of the Earth's outer core, leading to profound consequences for our understanding of the thermal history of the Earth, how the liquid core convects and how the magnetic field is maintained.

Thanks to this work, we know that the Earth's solid inner core is younger than previously thought and that a basal magma ocean likely played a key role on early Earth and possibly other planets.

Professor Davies extended this work, investigating the consequences of the new energetic constraints for the density structure of the core, particularly for density stratification.

He continues his work today, developing new numerical models to investigate the consequences of stratification for convection in the core.

For these reasons Professor Christopher Davies is awarded the Price Medal.

Burlington House
Piccadilly
London W1J 0BQ
+44 (0)20 7734 4582
www.ras.ac.uk