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RAS Winton Award (G)
Dr Tim Lichtenberg

Dr Tim Lichtenberg receives the RAS Winton Award for Early Achievement in Geophysics for his work on understanding the growth and long-term evolution of rocky planets. His work has forged a novel link between the star-forming environment of young planetary systems and the volatile bulk composition of the resulting planets. This work explains key characteristics of our own Solar System such as core formation chronology and the distribution of volatile elements. Not only is this work of central importance for the composition and evolution of the terrestrial planets, but it is providing vital insight into the science of rocky extra-solar planets; basing what we can surmise about exoplanetary systems on what we can understand from the Solar System is essential to ensure that exoplanetology is firmly grounded.

Dr Lichtenberg's latest research is making strides towards generalising our understanding of the magma ocean phase and the subsequent post-crystallisation climate states of rocky planets. He is an integral part of a team that provided evidence of tectonic activity on an exoplanet; this research suggests that the geodynamic regime of Super-Earths differs from any known object in the Solar System. These advances are critical for understanding the mantle and atmospheric composition of the terrestrial planets within the diverse population of exoplanets. For these reasons Dr Lichtenberg is awarded the RAS Winton Award (G).