



Royal  
Astronomical  
Society

## **The 2024 Harold Jeffreys Lectureship is awarded to Dr Jessica Irving**

Dr Jessica Irving is a world-leading expert in using seismology to understand the deep interior of the Earth and Mars, addressing broader questions of planetary formation and comparative planetology.

Dr Irving has used novel techniques to image the Earth's inner core, demonstrating previously unknown complexity of structure. She has also worked on novel seismic acquisition projects, including 'MERMAID' passive ocean-drifting seismometers to study mantle structure beneath the oceans.

Since 2018, Dr Irving has been a key part of NASA's InSight Science team that is studying the geophysics of Mars, leading efforts to study Mars' deep interior.

Dr Irving's recent study of core-transiting phases provides the first direct measurements of aggregate properties of the core of another planet and critical new evidence about the composition, and thus formation and evolution, of the martian core. This work is a singular technical achievement, and it involves coordinating a large team using a range of techniques.

Dr Irving is a generous contributor to the broader scientific community, through participation in committees of international organisations, convening conference sessions, and as an associate editor for *The Seismic Record*.

She is an accomplished speaker, having given numerous invited seminars and conference presentations, and she is proficient at communicating to an audience beyond her immediate scientific peers. She has been involved in spoken-word media, interviews in the media, and public-facing commentaries and articles.

For these reasons, Dr Jessica Irving has been awarded the Harold Jeffreys Lectureship.