



Royal  
Astronomical  
Society

**RAS Price Medal 2022**  
**Professor Hrvoje Tkalčić**

The 2022 Price Medal is awarded to Professor Hrvoje Tkalčić from the Australian National University for his groundbreaking work in understanding the origin of the Earth's correlation wavefield and using his findings to provide the first unambiguous observational evidence for the passage of seismic shear waves through the Earth's inner core. This proves once and for all that the inner core is solid, and ends an 80-year quest by the global seismology community to clearly demonstrate that the Earth's inner core supports shear wave propagation. Professor Tkalčić and his team were among the first to exploit stacked cross-correlations of seismograms generated by large earthquakes, and were able to show that a variety of seismic phases emerge from the differencing of other phases, including those that do not have a counterpart in the wavefield generated by a single earthquake. This allowed for the detection of the elusive J wave, which is a shear wave that passes through the inner core. Both the work on the Earth's correlation wavefield and the inner core has been very well received, with numerous invitations to give international lectures and publish review papers in prestigious journals.

For these reasons, Professor Hrvoje Tkalčić is awarded the Price Medal.

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