

## **Citation for the 2019 RAS Fowler Award (G): Dr Ingo Waldmann**

**The 2019 Fowler Award in Geophysics is awarded to Dr Ingo Waldmann, for his role in the vanguard of developing the statistical theory of exoplanet observations and their interpretation.**

Exoplanet science is one of the most exciting and competitive fields in modern astro/geo-physics. Dr Waldmann is an exemplary young scientist, whose worth to the community has already been recognised by the award of a European Research Council Starter Grant, against enormous competition, just four years after receiving his PhD.

Analysing spectral data from exoplanets is enormously challenging, and unintended, subjective biases can adversely affect the reliability of identifying atmospheric species. Dr Waldmann has developed fully-blind machine learning techniques to extract the maximum reliable information about these planets.

More recently, Dr Waldmann has taken exoplanet analysis to a new level with the production of the RobERt (Robotic Exoplanet Recognition) artificial intelligence system that replicates the experience of human spectroscopists in intuitively recognising molecular features. His work has answered many debates on how to parameterise both spacecraft and ground-based instruments. As a result, planning the development of new exoplanet instrumentation will be dramatically simplified. As well as exoplanets, our own Solar System has been shown to be amenable to the techniques Dr Waldmann has created.

For these reasons, Dr Ingo Waldmann is awarded the Royal Astronomical Society's Fowler Award.