



RSPP seminars



UNIVERSITY OF
LEICESTER

Dr James O'Donoghue NASA Goddard Space Flight Center

“Come to my seminar because it's got Saturn's Rings and Jupiter's Great Red Spot in it”

At Jupiter and Saturn, ionospheric ions and electrons peak in density several hundred kilometers above the visible cloud decks. As the ionosphere is at a transition between the turbulent atmosphere below and the active near-space environment above, it is a useful probe of the conditions of both. One of the most striking features of Giant Planet ionospheres is the occurrence of aurorae, which occur in the polar regions. These aurorae are highly complex, energetic and therefore heavily studied, while the remainder of the planet (the mid-to-low latitudes) often assumed to be rather plain and simple by comparison.

I will challenge this assumption by showing the many interactions that take place at Jupiter and Saturn's mid-to-low latitudes, using our team's ground-based telescope observations. Highlighted results include evidence that Jupiter's Great Red Spot is heating the ionosphere above by (most likely) sound waves, and our recent finding that the rings of Saturn are disappearing at a "worst case scenario" rate as they rain down onto the planet.

**Friday, January 4th at 2 pm in RSPP
Meeting Room**