

# NAOC SEMINAR

**Time: Thur. 2:30 PM, Apr. 14**      **Location: A601, NAOC**

## **Heavy Metal Stars: crazy composition, puzzling pulsations and chaotic kinematics**

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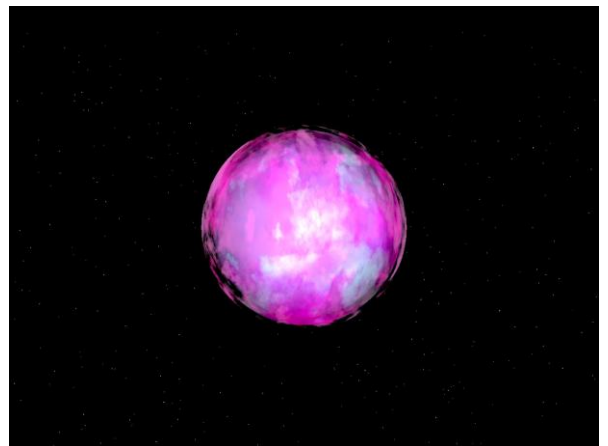


Simon Jeffery is a senior research astronomer at the Armagh Observatory, which was established in Ireland in 1789. He was educated in Edinburgh University, Imperial College London, and St Andrews University. This was followed by a postdoctoral appointment in St Andrews and a Royal Society European fellowship held in Kiel, Germany, before he moved to Armagh in 1996. In 2015 he was elected President of IAU Commission G4 on Pulsating Stars.

### **Abstract**

A new group of chemically-peculiar stars has been discovered in recent years. Being blue and less luminous than main-sequence stars of the same colour, they are members of the much larger class of hot subdwarfs. They form a tiny subgroup of a small subgroup which are moderately enriched in helium. Their spectra show lines of ions never before observed in stellar spectra, and represent an excess relative to solar of up to 4.5 dex in zirconium, strontium, yttrium, germanium and even lead. At least one of these peculiar stars pulsates, although the driving mechanism for the pulsations in LS IV-14 116 remains a mystery.

All three heavy-metal subdwarfs have unmeasurably small rotation velocities, but halo-like space velocities. We will discuss how these characteristics may possibly solve the mystery of their unknown origin and unexplained pulsations.



*All are welcome!*