



TARGET SEMINAR

The Gaia Satellite and Data Processing

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Gaia is ESA's ambitious space astrometry mission the main objective of which is to astrometrically and spectrophotometrically map 1000 Million celestial objects (mostly in our galaxy) with unprecedented accuracy. The satellite will downlink close to 100 TB of raw telemetry data over 5 years. To achieve its required accuracy of a few 10s of Microarcsecond astrometry, a highly involved processing of this data is required. The data processing is a pan-European effort undertaken by the Gaia Data processing and Analysis consortium.

In this talk the satellite and science are introduced. The current state of the overall processing architecture involving six data processing centres and a large iterative data processing chain is described. Some of the challenges in the processing and some of the solutions which are being adopted are discussed. The fact that all software is written in Java shall be mentioned!

William O'Mullane began his career in space science in 1993 when he joined ESA working on the SCOSII system. In 1996 he moved to ESTEC to assist with the production of the Hipparcos catalogue. During this period he was also involved with the Planck and Integral science ground segments as well as contemplating the Gaia data processing problem. From 2000-2005 Wil worked on developing the US National Virtual Observatory (NVO) and on the Sloan Digital Sky Survey (SDSS) in Baltimore, USA. In August 2005 he rejoined ESA as Gaia Science Operations Development Manager to lead the ESAC development effort for the Gaia Data Processing and Analysis Consortium.

