

# **SSEC/CIMSS Seminar**

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### **The Remote Sensing and Satellite Research Group**

With a long history in the reception, processing and analysis of remotely sensed data, this talk will present an overview of some aspects of the work in which the Remote Sensing and Satellite Research Group at Curtin University of Technology are currently involved.

- One of the world's largest cutter suction dredges, the Leonardo Da Vinci, was employed by the Geraldton Port Authority to deepen the harbour. The environmental impact assessment was one of the largest such projects undertaken in Western Australia. Remotely sensed data from Landsat were utilized to monitor the vast sediment plume associated with the dredging and to provide estimates of light attenuation through the water column.
- The Western Australian Satellite Technology and Applications Consortium (WASTAC) has been collecting and archiving satellite data since 1981. WASTAC has recently initiated a project to transfer data processing, archiving and web-based distribution to a 160 node Altix High Performance Computing (HPC) facility known as the Western Australian iVEC (Interactive Virtual Environments Centre).
- The aircraft-based sensor, Hymap, was used to conduct a Hyperspectral survey to map bathymetry and substrate classification along the Ningaloo coast in the NW of Western Australia. This is the largest shallow water hyperspectral survey of its type ever undertaken. To provide timely processing of the massive data set we have enlisted the services of the iVEC HPC.
- The RSSRG has developed a continual transect hyperspectral radiometer, the Dynamic Above water (Lt) radiance (Ed) irradiance Collector (DALEC). This instrument has been deployed in the far NE of Australia, at locations along the west coast of Australia and on a NASA Ocean Color CAL/VAL cruise in November 2007. Radiance measurements collected by the DALEC are compared to atmospherically corrected MODIS data, and can also be used to infer water depth and water column properties.
- Sediment maps along the north coast of Western Australia are being produced using MODIS data. In situ measurements of total suspended sediment (TSS) along the coast are being used to develop a simple TSS algorithm and then map the huge plumes associated with river outflow events as well as localised dredging operations.

**Thursday, 7 February 2008**

**2:30 p.m.**

**Room AOSS 351**