

**MURPA Seminar 3/2009: Thursday 26th March 2009 at 10am**

Place: Building 26, Seminar Room 135, Monash Clayton

**Title: On Basics of Using Workflows for Scientific Exploration and the Kepler System**

Abstract:

Why do we need to know about scientific workflows? Science is changing. As technology changes and data streams accelerate, we need to accommodate to the new pace of scientific exploration. At each step along the scientific investigation process, technology can help us automate some elements. Workflows help scientists to organize and automate both sequential and parallel elements of data acquisition, access, management, sharing, and analysis processes.

A scientific workflow is the process of combining data and processes into a configurable, structured set of steps that implement semi-automated computational solutions of a scientific problem. Kepler is a cross-project collaboration, whose purpose is to develop a domain-independent scientific workflow system. It provides a workflow environment in which scientists design and execute scientific workflows by specifying the desired sequence of computational actions and the appropriate data flow, including required data transformations, between these steps. Currently deployed workflows range from local analytical pipelines to distributed, high-performance and high-throughput applications, which can be both data- and compute-intensive.

This seminar will introduce useful tools for managing scientific workflows involving multiple types of investigatory tasks, from data acquisition to simulations. Kepler workflow system will be introduced as we highlight the use of some of the current features of Kepler in several scientific applications, as well as upcoming extensions and improvements geared towards making scientific process more efficient.

**Speaker Details (Bio to follow)**

Ilkay ALTINTAS Deputy Coordinator for Research, San Diego Supercomputer Center (SDSC) Lab Director, Scientific Workflow Automation Technologies (SWAT @ SDSC)

University of California, San Diego 9500 Gilman Drive, MC: 0505 La Jolla, CA 92093-0505 Phone: (858)

210-5877 Fax: (858) 534-8303 Web: <http://users.sdsc.edu/~altintas>

**Monash Contact** Rob Gray, Message Lab 03 9903 1249 or +614 110 225 41