

Programme - EO Summer School 5 – 2010

Stephen Briggs (ESA)
ESA Satellite Missions for Climate Observations
Wolfgang Wagner (TU Wien)
A short introduction to microwave remote sensing of the land surface
Microwave remote sensing of soil moisture
Soil moisture applications in Earth Sciences
Peter Rayner (UNIMELB)
Data assimilation in biogeochemistry: Adapting the paradigm of Numerical weather Prediction
Has the data outstripped the models: Recent results from carbon cycle data assimilation
Data assimilation and model validation, a lesson in Bayesian analysis
David Lary (UTD)
Chemical Data Assimilation
Bias Detection and Machine learning
Objectively Optimized and Autonomous Earth Observation
Reiner Rummel (IAPG)
Gravity - An Introduction
Gravity and its Role in Earth Sciences
Satellite Gravimetry
Pierre Gauthier (UQAM)
Introduction to quality control and bias correction of observations
Implementation of variational data assimilation: formulations and computational issues
Data assimilation with coupled ocean-atmosphere models & Adaptive Strategies for the use of observations
Iarla Kilbane-Dawe (AEAT)
Two examples of making EO data saleable - airTEXT and GO Trial
Making a project work when things go wrong
Innovation and design of technical projects - from market assessment to product introduction
Jean-Marie Beckers (GHER)
Oceanography & spatial analysis of irregularly distributed observations

Empirical orthogonal functions for ocean data with missing values
Generation of balanced model perturbations
Colin Challen (UK Parliament)
The Business of Politics
Politics and science - a marriage made in hell?
Politics and climate change
Gabriela Seiz (MeteoSwiss)
Satellite climatology & GCOS
Multi-view photogrammetric analysis from satellite (focus on clouds)
Satellite Meteorology
Niels Bormann (ECMWF)
Satellite Data Assimilation for NWP (I)
Satellite Data Assimilation for NWP (II)
New Technologies and Applications of Satellite Data Assimilation, including reanalysis
Bernard Pinty (JRC)
Representing interactions between solar radiation and Earth's surfaces in large-scale models
Mitigating the brain damages associated with the use of Vegetation Indices
Partitioning the solar radiant flux in land surface canopies
Brian Kerridge (SSTD)
Atmospheric composition sounding with solar backscattered shortwave radiation
Atmospheric composition sounding at IR wavelengths
Atmospheric composition sounding at mm wavelengths

Computer Practicals

Data Assimilation Practicals
Stefano Migliorini, Amos Lawless and Caroline Boess (DARC) Maeva Doron (MEOM)
Effect of statistical analysis parameters.
4D-Var and incremental 4D-Var
Ensemble and extended Kalman filters
Projects

Remote Sensing Tutorial
Val Byfield and David Poulter (NOC) Linda Moser and Konstantina Rizopoulou (ESA)
Synthetic Aperture Radar: Land applications tutorial
Synergistic use of data from SAR, optical and other satellite sensors in oil spill monitoring
Eddies in the Western Indian Ocean: effects of the Somali Current and Indian Ocean Monsoon
Level 4 Sea surface temperature products using the Indian Ocean Dipole as an example
Level 2-4 Ocean Colour: issues with flagging, co-registration, and merging of data from several sensors (using Benguela as an example)