SCGE-2011
Summer courses Computational Geo-Ecology

UvA Universiteit van Amsterdam

Summer Course Inverse Modeling

for Improving Hydrological, Environmental and Ecological Models

26 June – 1 July, 2011, University of Amsterdam

Lecturers:

Jasper A. Vrugt, *UC Irvine USA & IBED-UvA, the Netherlands*
Sander Huisman, *Forschungszentrum Jülich, Germany*
Jurriaan Spaaks, *Institute for Biodiversity and Ecosystem Dynamics, UvA, The Netherlands*
Willem Bouten, *Institute for Biodiversity and Ecosystem Dynamics, UvA, The Netherlands*

The SCGE-2011 organises a Summer Course on Inverse Modeling: a 5-day training course and workshop for young scientists at the PhD and MSc level. The basic idea of this summer course is to promote the use of inverse modeling to help analyze mismatches between model predictions and associated observations to improve the underlying theory of our models. The course will provide a balanced mix of theory (lectures), hands-on training (exercises), and a workshop. During this workshop, each participant can work with his/her own inverse problem, or design such problem from a given data set and model. Special attention will be given to the following: (1) Theory of local and global optimization, and single and multiple objective optimization (algorithms, numerical approaches and applications); (2) Defining objective functions; (3) Information content of data and traditional split sampling to evaluate model behavior; (4) Inference of parameter uncertainty (algorithms, numerical approaches and applications); (5) Parameter correlations and parameter uncertainty, and (6) Combining data assimilation and parameter optimization (algorithms, numerical approaches, and applications) to yield a fully integrated parameter and state estimation approach to environmental modeling. Target group: The course is for young scientists at the PhD or MSc level, with a background in earth sciences, environmental sciences, ecology or computational sciences. MATLAB will be used throughout the course. A 2-3 days self tuition course (in advance) will be provided for students that have experience with other programming languages but not with MATLAB.

The course is limited to a maximum of about 35 participants. In case of too many applications, candidates will be selected before May 22. Selection criteria include: a) scientific motivation and research topic(s), b) computer skills, c) time of application, d) geographic distribution.

Registration fee: 150 € for registration, a welcome diner and coffe/drinks during the course
Housing will be arranged at casa400.nl or http://www.stayokay.com/zeeburg.
Registration forms and (preliminary) course program are available at: www.science.uva.nl/ibed-cge
For more information: Willem Bouten, W.Bouten@UvA.nl

IBED

JÜLICH FORSCHUNGSZENTRUM

The University of California Irvine

SCGE-2012 course will focus on Animal Tracking & data analysis
In 2012, the Inverse modeling course will be given by the Dept. Earth & Env. Sciences of KULeuven