

## **cGENIE WORKSHOP:**

A Hitchhikers Guide to the Black Arts of Earth system modelling  
(‘or why you should not want know what is in a sausage’)

**13<sup>th</sup> –14<sup>th</sup> June 2013; University of Bristol**

Day 1 (Thursday 13<sup>th</sup> June) – Earth system modelling for ‘newbies’\*

*START (ca. 11 am)*

- **COFFEE**  
**Presentation – Brief introduction to Earth system modelling and the ‘cGENIE’ model**
- **Session I – Getting started**  
Accessing the computing cluster; installing and compiling cGENIE; directory structure (‘where everything is’).  
Model output; Panoply and MATLAB visualization.  
Setting up experiments: configuration files and setting parameter values.  
Concept of a ‘restart’; experiment started from ‘cold’ vs. from end of previous run.  
Command-line operation; how to submit jobs to a cluster queue.
- **LUNCH** (ca. 1-2 pm)
- **Session II – A ‘real’(!) experiment**  
Setting up experiments: configuration files and setting parameter values.  
Exploring the behaviour of the Earth system: Snowball Earth.

*END (ca. 5 pm) (+ pub)*

Day 2 (Wednesday 14<sup>th</sup> June) – Getting your hands dirty

*START (ca. 9:30 am)*

- **Session III – ‘Poking the climate beast’**  
Geochemical ‘forcings’ of cGENIE and tracing ocean circulation.  
Exploring the stability of the Atlantic meridional overturning circulation (AMOC).
- **COFFEE** (ca. 11 am)
- **Session IV – Poking the carbon cycle (and ocean acidification)**  
CO<sub>2</sub> emissions, future ocean acidification, and carbon-climate feedbacks.
- **LUNCH** (ca. 1-2 pm)
- **Engineering the carbon cycle**  
Sensitivity of atmospheric  $p\text{CO}_2$  and ocean acidification to changes in the ocean’s biological pump and ‘weathering’.

*END (ca. 4 pm)*

\* [Google it]