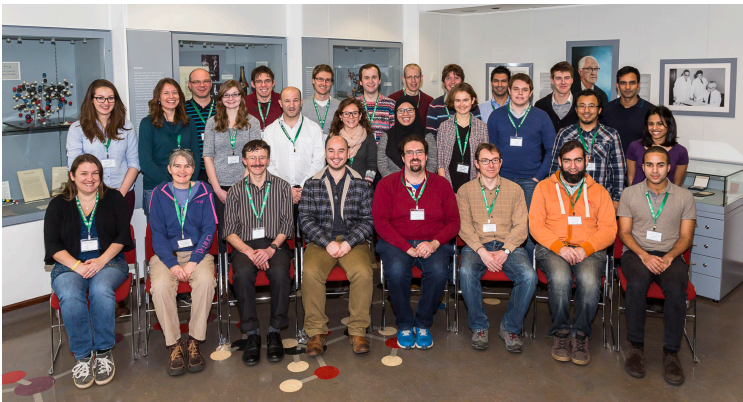# UKCA Theory and Practice
Welcome

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Welcome to the
UKCA Theory and Practice Workshop

Outline

What is UKCA and what can I do with it?

Course Information and Schedule

Practicals

Next Steps

Housekeeping

National Centre for
Atmospheric Science
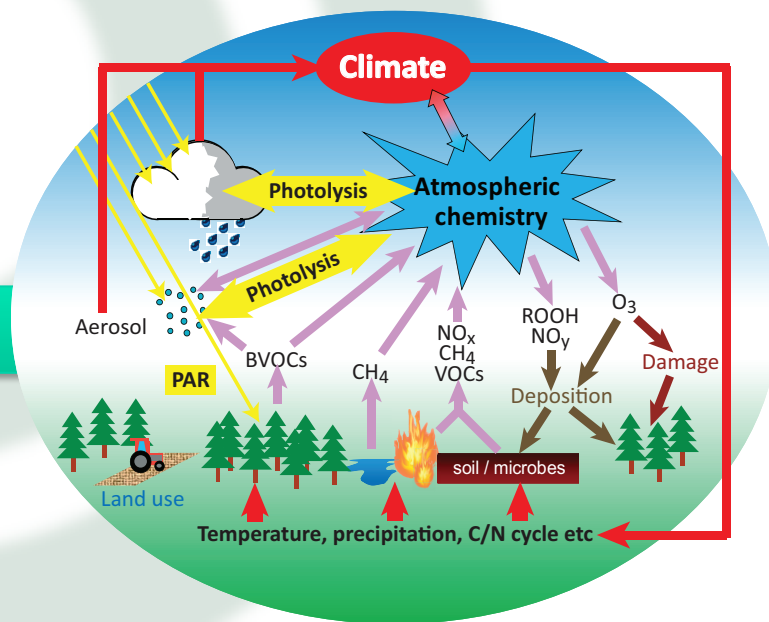NATURAL ENVIRONMENT RESEARCH COUNCIL

What is UKCA?

UKCA is a Climate-Chemistry-Aerosol model, built as a sub-model of the Met Office's Unified Model (UM).

UKCA is not a *particular* collection of chemistry and aerosol schemes, but is a **framework** for putting chemistry and aerosol schemes into the UM.

Unified Model

UKCA

What can I do with UKCA?

UKCA was originally designed to run for long integrations covering decadal to centennial timescales, but it can also be used for air-quality forecasts

A number of different chemistry schemes currently exist in the model, covering the troposphere and the stratosphere

These schemes are provided because the UKCA developers have wanted to use them for a particular purpose. If they don't suit your needs then you can add to or change them.

One aim of the UKCA Practicals is to teach new UKCA users how to do this

Course Information

All up-to-date information regarding the course can be found at

`www.ukca.ac.uk/wiki/index.php/`
`UKCA_Training_January_2017`

Lunches and tea/coffee will be in the BMS Lecture Theatre

Accommodation is in Homerton College, with evening meals in the Great Hall

Thursday evening will be the Workshop Dinner, with drinks from 6.30pm

There will be a group photo on the Friday Lunchtime (12.45), at the back of the Todd-Hamied meeting room (through the Foyer, opposite from the G30 computer room)

Schedule

Time	Monday 9th January	Tuesday 10th January	Wednesday 11th January	Thursday 12th January	Friday 13th January
9am	Registration	Tracer Transport *Nigel Wood*	Earth System Modelling *Fiona O'Connor*	Wet Scavenging *Colin Johnson*	Experimental Design *Paul Young*
9.45	Welcome *Luke Abraham*	*Break*	*Break*	*Break*	*Break*
10am	Emissions *Alex Archibald*	Chemical Solver *Oliver Wild*	Dry Deposition *Gerd Folberth*	Heterogeneous Chemistry *Paul Griffiths*	Experimental Design *Paul Young*
10.45	*Tea/Coffee*	*Tea/Coffee*	*Tea/Coffee*	*Tea/Coffee*	*Tea/Coffee*
11.15	GLOMAP-mode *Graham Mann*	Photolysis *Apostolos Voulgarakis*	RADAER *Nicolas Bellouin*	ACTIVATE *Kirsty Pringle*	Experimental Design *Paul Young*
12noon	*Lunch & Posters*	*Lunch & Posters*	*Lunch & Posters*	*Lunch & Posters*	*Lunch &* *Group Photo (12.45)*
1pm	Practicals	Practicals	Practicals	Practicals	Practicals
2pm					
3pm	*Tea/Coffee*	*Tea/Coffee*	*Tea/Coffee*	*Tea/Coffee*	*Tea/Coffee*
3.30pm	Practicals	Practicals	Practicals	Practicals	*close*
4pm					
5pm					
5.30pm	*close*	*close*	*close*	*close &* *Drinks and Dinner from 6.30pm*	

Practicals

The Practicals will take place in the G30 computer room, near the main entrance to the Department.

Tea/Coffee will be in the BMSLecture Theatre from 3pm

Note that food and drink is not allowed in G30.

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www.ncas.ac.uk

Practicals

- The Practicals this year have been re-written from the previous vn8.2 and vn8.4 versions, to make use of GA7.0 and the Rose/Cylc interface.

- There are a number of differences between these and the previous versions

Practicals

Monday:

    Getting up and running and outputting fields through STASH

Tuesday:

    Adding new tracers and making new emissions

Wednesday:

    Adding new reactions, dry and wet deposition, and chemical diagnostics

Thursday:

    Examining aerosol optical depth and changing the aerosol configuration

Friday:

    General session – complete/follow-up on tasks from the previous days

- The UM (& UKCA) is available for UK academic users on ARCHER, and for those with a collaboration with the Met Office, on MONSooN

- Recently, the Met Office have enabled running the UM in a Virtual Machine environment.

  - This means that you can develop code and test configurations on your own desktop, without requiring a supercomputer

  - UKCA will run "out of the box" in this environment from vn10.7

Virtual Machine

We hope you enjoy the UKCA Theory and Practice Workshop