

# FAAM



## ANNOUNCEMENT OF OPPORTUNITY

### USE OF THE FACILITY FOR AIRBORNE ATMOSPHERIC MEASUREMENTS' BAE-146 LARGE ATMOSPHERIC RESEARCH AIRCRAFT

SUPPORTED BY THE NATIONAL CENTRE FOR ATMOSPHERIC SCIENCES

#### CALL FOR DIRECT ACCESS PROPOSALS

### Closing date for receipt of proposals: 27<sup>th</sup> March 2009

NCAS and FAAM invite direct access applications in the periods August-October 2009 and January-March 2010. The National Centre for Atmospheric Science (NCAS) will provide flying time and core data processing for approved projects, at no cost to the applicant.

NCAS is seeking to widen access to the FAAM facility and would particularly welcome applications from new users of the aircraft. FAAM and Directflight staff and members of NCAS staff familiar with airborne operations will be available to provide guidance for those wishing to use the facility for the first time. Training opportunities will also be announced on the FAAM website ([www.faam.ac.uk](http://www.faam.ac.uk)) or please contact the Operations Manager, Maureen Smith, (01234-754865; [masmi@faam.ac.uk](mailto:masmi@faam.ac.uk)) for details.

It is recognised that instrument development and in-flight testing and characterisation are key activities and proposals in this area are encouraged.

Proposals that are well aligned with the NCAS science programme (see [www.ncas.ac.uk](http://www.ncas.ac.uk)) are particularly welcome. NCAS may also be able to provide supporting funds for travel or consumables to proposals that are closely aligned with its science programme. Applicants are advised to consult with the Science Directors of NCAS Weather, Composition and Climate. There may be some scope for limited operations based away from Cranfield, though superstructure costs for these activities cannot be met through this call.

A total of about 100 flying hours, with typical flight durations of about 5 hours, are available. Applicants are advised to request use in whole numbers of flights. Collaborative use between applicants will be encouraged. Flying will normally be based at Cranfield, although proposals may include short (e.g. overnight) "landaway" stops where this is justified by the research objectives. Applications should reflect the following:

Period	Aircraft Fit (core instruments are always in use)
24 Aug – 25 Sep 2009	Aerosol, clouds and radiation configuration
2 Nov – 11 Dec 2009	Chemistry fit (aircraft may be based at Luton or East Midlands rather than Cranfield for periods)
Feb-Mar 2010	Aerosol, clouds and radiation configuration

The application deadline is 27<sup>th</sup> March 2009, applicants will then be notified in 4-6 weeks. Applications should be received by Dr. Guy Gratton, Head of FAAM, Bldg 125, Cranfield University, Cranfield, Beds, MK43 0AL – [guat@faam.ac.uk](mailto:guat@faam.ac.uk) by end of play on the applications deadline. A subset of the FAAM Operations Committee and a least one NCAS Director or Facility Head will review all applications using standard NERC criteria. Applicants should consult the NERC Grants Handbook for details of eligibility and general conditions ([http://www.nerc.ac.uk/funding/application/research\\_grants/](http://www.nerc.ac.uk/funding/application/research_grants/))

Applicants **must** contact the Operations Manager, Maureen Smith, (details above) before submission to obtain the correct version FAAM application form, discuss requirements and scheduling before submitting their application, and also consult application information available from the FAAM website.

The BAe-146-301 large Atmospheric Research Aircraft (ARA) supports atmospheric research on behalf of NERC and the Met Office. During the period of this call, the aircraft will be instrumented to support the following areas of science:

- **Dynamical Meteorology:** Applications in this area are particularly welcome. The aircraft is capable of making in-situ measurements of dynamical and thermodynamical variables; and turbulence statistics. It is able to release drop sondes and will soon have remote sensing lidar capability.
- **Aerosol and Cloud Physics:** The aircraft will be fitted a wide range of aerosol and cloud microphysical probes during this period that can measure the physical, optical and cloud activating properties of aerosols and the microphysical properties of clouds. Filter inlets are available for collection of offline samples. An extended range of instruments is available through collaboration with Met Office and NCAS scientists. LIDAR capability will soon be available.
- **Atmospheric Radiation:** Broadband radiometers are available to measure hemispheric shortwave up and downwelling radiation. Larger radiometers are also available through collaboration with the Met Office.
- **Atmospheric Composition:** The aircraft is fitted with a core suite of chemical sensors to measure CO, O<sub>3</sub> and NO<sub>x</sub> and has the facility to collect whole air samples for offline analyses through collaboration with NCAS staff. A wider suite of chemistry instrumentation is available through collaboration with NCAS Composition.