

**AIRBORNE RESEARCH & SURVEY FACILITY (ARSF)  
ANNOUNCEMENT OF OPPORTUNITY - ATMOSPHERIC SCIENCE  
2011 FLYING SEASON: UNITED KINGDOM & EUROPE (DIRECT ACCESS)**



**CLOSING DATE FOR RECEIPT OF PROPOSALS: FRIDAY 5<sup>th</sup> NOVEMBER 2010**

The ARSF (<http://arsf.nerc.ac.uk>) invites direct access applications to be flown in the UK and Europe during a three-week period in **October 2011**.

The Natural Environment Research Council will provide flying time for approved projects at no cost to the applicant (*applicants will need to provide their own resourcing for fieldwork, data processing and data analysis*).

- For this atmospheric science call, proposals received from first-time applicants will be particularly welcomed.
- Although this call is open to any proposal, a potential focus of this campaign may be testing atmospheric pollution monitoring instrumentation in preparation for support of the ClearfLo (Clean Air in London) project, and may be focused at one of the ClearfLo observatories (e.g. Chilbolton). ClearfLo is a NERC funded consortium project that aims to provide integrated measurements of the meteorology, atmospheric composition and particulate loading of London's urban atmosphere (<http://www.londonair.org.uk/london/asp/news.asp?NewsId=Cleanair>).

The ARSF Dornier 228-101 research aircraft and core instruments support environmental research, training, survey and monitoring in many areas including Atmospheric Science, Terrestrial Freshwater, Earth and Marine sciences and science-based Archaeology. The ARSF has an established reputation for supporting pilot projects that help the development of new and novel sensors and to provide data to develop larger research projects. For this campaign, remote sensing instruments may be removed to allow space for atmospheric instruments. The Do228 has a 14m<sup>3</sup> cabin volume (electronics are mounted in 19" racks), an operating ceiling of 25 000ft (oxygen for pilots and 3 operators/observers), DC 28V/225A science power and AC via a 220V/50Hz (2KVA) inverter (except the PMS pods) and allows collected data to be stamped with time and GPS position. *Please note that the Do228 is not pressurised and above 10 000ft. the use of solid state media is recommended.*

Eligible persons wishing to use the Facility in the 2011 Season are invited to submit detailed proposals, including a supporting scientific case, by Friday 5<sup>th</sup> November 2010. The ARSF Steering Committee will review the applications using standard NERC criteria: successful applicants will be notified by January 2011 of their inclusion in the flying campaign. Eligibility information is available via <http://arsf.nerc.ac.uk/howtoapply/eligibility.asp>.

Applicants **MUST** contact the ARSF Operations Manager (01452 859945/ [cjos@nerc.ac.uk](mailto:cjos@nerc.ac.uk)) or Science/Operations Coordinator (01452 859945/ [gaew@nerc.ac.uk](mailto:gaew@nerc.ac.uk)) to discuss project requirements and scheduling, and to obtain the latest Application Form before and submitting their application.

**Atmospheric instrumentation:**

**AIMMS-20 probe:** measures basic atmospheric parameters (temperature, humidity, wind speed) and turbulence data at a data collection rate of 1Hz.

**GRIMM Sky optical particle counter:** measures particle concentrations in size range 0.25µm-32µm (sampled at 1 / 6 seconds).

**Isokinetic air/aerosol intake:** feeds the GRIMM OPC but also has extra available outlets to feed other instruments.

**Three underwing PMS pods** are available (a fourth is populated with the AIMMS-20), supplied with 28V DC/115V AC and data cables to allow the control of instruments from inside the aircraft.

User-provided instruments can be accommodated internally in the cabin and or on underwing wing pylons/ PMS pods and, potentially, on external fuselage hard-points. Additional instruments may be available, by special arrangement, from the Facility for Airborne Atmospheric Measurements (<http://www.faam.ac.uk/>). Instruments have in the past also been fitted on the aircraft by the Universities of York, Leeds and Manchester, and the ARSF will be pleased to consider other user-provided equipment. **However, any instruments carried on the Dornier 228 will be required to satisfy sturdiness and electrical safety requirements as evaluated by the air crew, and LBA (German civil aviation authority) certification.**

**For information on the ARSF's remote sensing instrumentation please visit <http://arsf.nerc.ac.uk/instruments/>.** Several of these instruments were used to great effect during the VAMOS Ocean-Cloud-Atmosphere-Land Study (VOCALS) campaign, 2009.

Prospective users are encouraged to contact:		For additional information, contact:
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