

ANNOUNCEMENT OF OPPORTUNITY

2014 FLYING SEASON: UNITED KINGDOM & EUROPE (DIRECT ACCESS)

CLOSING DATE FOR RECEIPT OF PROPOSALS: **FRIDAY 4 OCTOBER 2013**

The Airborne Research & Survey Facility (ARSF) invites direct access applications for UK and European flying in the 2014 (February –November) flying season (subject to aircraft availability).

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

Eligible persons wishing to use the facility in the 2014 Season are invited to submit detailed proposals, including a supporting scientific case, by Friday 4 October 2013. Only the latest application form and guidance notes should be used and the science case and pathway to impact must be included on the application form (section 20 and 21, respectively). The ARSF Steering Committee will review the applications using standard NERC criteria: successful applicants will be notified by January 2014 of their inclusion in the flying campaign.

Eligibility information is available via <http://arsf.nerc.ac.uk/howtoapply/eligibility.asp>.

Applicants **MUST** contact the Head of the ARSF (01452 859945/ [cjios@nerc.ac.uk](mailto:cjos@nerc.ac.uk)) or Science/Operations Coordinator (01452 859945/ gaew@nerc.ac.uk) to discuss requirements and scheduling and issue of an Application Form before and submitting their application.

The ARSF will assist as much as possible with advice prior to submission (an informal pre-submission may also be considered). Additionally, an opportunity (~ 1 week) for applicants to respond to reviewer's comments prior to the moderation of grades by the steering committee (November/December 2013) will be offered.

The research aircraft (either a Twin-Otter or a Dornier 228-101) carries core instruments to support environmental research, training, survey and monitoring in many areas:

- **Terrestrial, Freshwater, Earth, Marine and Polar sciences and science-based Archaeology**, through provision of multispectral high-resolution digital and analogue imagery and by the use of the aircraft for geophysical surveys; marine applications are possible over coastal and oceanic waters due to a ~5 hour endurance/~1000 nautical miles range; and
- **Atmospheric science**, through the provision of a platform for atmospheric measurements over urban and regional areas thus complementing the capabilities of larger atmospheric science platforms, and by means of support for development of new and novel instruments.

Opportunistic Applications: Although normal project applications for flying year 2014 must be submitted by the 4th October 2013, the ARSF is able to consider applications based on occurrences outside the applicant's control, e.g. floods, landslips etc. An absolute minimum of 48 hours notice is required for such opportunistic flights and such notice must be supported by a short scientific justification and provision of flight parameters and maps.

Instrumentation (further information at <http://arsf.nerc.ac.uk/instruments/>)

The core remote sensing instrument suite includes the following:

Specim Fenix Hyperspectral Imaging System - full data cube with ~500 spectral bands over wavelengths 400-2400nm, a spectral resolution of 3.5nm in VNIR, 10nm in SWIR and a FOV of 32.3 degrees. A dedicated processing line provides radiometrically and geometrically corrected digital hyperspectral data.

Specim Owl Thermal Imaging System – contiguous spectral range from 7.6 to 12.5 µm in 100 channels.

Leica ALS50-II LiDAR system (1064nm; hit rate > 1/m²; ~15cm in Z) available simultaneously with the hyperspectral system.

RCD105 39Mpx medium format digital frame camera, integrated with the lidar navigation system.

NOTE: simultaneous acquisition of data from all the instruments may not be possible.

In addition, the following remote sensing instruments may be made available for special applications:

Large-format RC-10 aerial survey camera with images being supplied in scanned digital form.

Atmospheric instrumentation:

The airborne platforms offer a versatile platform for user-provided instruments that can be accommodated internally in the cabin and potentially via the under-wing wing pylons/ pods and external fuselage hard-points (subject to crew or certification acceptance). A **GRIMM optical particle counter**, a **Cloud Aerosol Particulate Sensor (CAPS)**, a **Thermo 49i** and an **AIMMS-20 probe** measuring basic atmospheric parameters (temperature, humidity, wind speed) and turbulence data are available. PMS equipment can be made available by arrangement with the Facility for Airborne Atmospheric Measurements and deployed in the underwing pods.

Potential users are encouraged to contact:

Capt Carl Joseph
Head of the ARSF and Chief Pilot

ARSF-Firfax Building
Meteor Business Park
Cheltenham Rd East
Gloucester UK
GL2 9QL

Tel +44 (0)1452 859945

Email: [cjios@nerc.ac.uk](mailto:cjos@nerc.ac.uk)

Dr Gary Llewellyn
Science/Operations Coordinator

ARSF-Firfax Building
Meteor Business Park
Cheltenham Rd East
Gloucester UK
GL2 9QL

Tel +44 (0)1452 859945 / Mob +44 (0) 7919 697851

Email: gaew@nerc.ac.uk

