EUFAR: Education and Training opportunities
Call for Transnational Access proposals
(Ils Reusen - VITO, ils.reusen@vito.be; J.-L. Brenguier - Météo-France; P. Brown - Metoffice; M. Wendish - Johannes Gutenberg-University Mainz)

EUFAR N5ET and TA
BEO day – 28/04/2009, Maaseik
EUFAR - EUropean Facility for Airborne Research

EUFAR - Integrating Activity of the EC FP7

Budget 8 M€  Duration 4 years (2008-2012)  33 Partners

7 instruments and 19 aircraft open to Trans-national Access

www.eufar.net
**EUFAR Consortium**

**EUFAR**
- **Objectives**
- Aircraft open to TA
- **Activities**
  - HSI sensors open to TA

**EUFAR N5ET**
- **Objectives**
- Training opportunities
  - ET-TC
  - ET-EC
  - ET-TA

**EUFAR TA**

**EUFAR EWG**

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15 aircraft or instruments operators
18 experts in airborne measurements
Of which 12 hyperspectral instrument providers
and/or hyperspectral remote sensing experts

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- DLR (DE)
- NLR (NL)
- Enviscope (DE)
- CNRS (FR)
- NERC (UK)
- INTA (ES)
- GTK (FI)
- FUB (DE)
- FZK (DE)
- AWI (DE)
- CNR-IBIMET (IT)
- UNIMAN (UK)
- VITO (BE)

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## Instrumented aircraft open to TA

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<tr>
<th>OPERATORS</th>
<th>CATEGORIES</th>
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<td></td>
<td>1. Stratospheric aircraft</td>
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<tr>
<td></td>
<td>2. High level jets</td>
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<tr>
<td></td>
<td>3. Large aircraft</td>
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<tr>
<td></td>
<td>4. Medium aircraft</td>
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<td></td>
<td>5. Small tropospheric aircraft</td>
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<td>Twin-Otter</td>
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<td>FUB</td>
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<td>Polar 5</td>
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<td>ISAFoM</td>
<td>ERA Sky-Arrow</td>
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<td>UNIMAN</td>
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### AIRCRAFT: 19

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<td>3</td>
<td>5</td>
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### k€ / Flight hour

- none
- 7 to 28
- 4 to 13
- 4 to 5
- 0.9 to 4
HyperSpectral Imaging sensors open to TA

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<th>Operator</th>
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<tr>
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<td>DLR</td>
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<td>NERC</td>
<td>Eagle/Hawk</td>
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<td>INTA</td>
<td>AHS</td>
</tr>
<tr>
<td>FUB</td>
<td>CASI</td>
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</tbody>
</table>

*available 2009

** available 2010
Long Term Objectives

To lay the groundwork of a European distributed infrastructure for airborne research in environmental and geo-sciences ...

... for each European scientist to get access at "equal terms" to the airborne facility the most suited to his scientific objectives, irrespective of his origin and of where the facility is operated.
EUFAR Activities

• **Networking Activities – 2 M€**
  
  **N1.** Scientific Advisory Committee (N1SAC-CNRM)
  **N2.** TA coordination (N2TAC-MetOffice)
  **N3.** Future of the Fleet (N3FF-Jülich)
  **N4.** Expert Working Groups (N4EWG-JOGU)
  **N5.** Education and Training (N5ET-VITO)
  **N6.** Standards and Protocols (N6SP-DLR)
  **N7.** Airborne Data Base (N7DB-STFC)
  **N8.** E-Communication (N8EC-CNRM)
  **N9.** Sustainable structure (N9SST-CNRM)

• **Transnational Activities (TA) – 3 M€**

• **Joint Research Activities (JRA) – 2,4 E€**
  
  **JRA1.** Development and evaluation of new and improved hygrometers for airborne research (DENCHAR-Jülich)
  **JRA2.** Quality layers for airborne hyperspectral imagery and data products (HYQUAPRO-VITO)
  **JRA3.** Airborne Laser Interferometric Drop Sizer (ALIDS-IRSN)
N5ET - Education and Training

Objectives

- To attract new early-stage researchers to airborne research
- To educate and train (theoretically and practically) new early-stage researchers in airborne atmospheric research and airborne hyperspectral remote sensing
- To train trainers (e.g. university lecturers) in airborne atmospheric research and airborne hyperspectral remote sensing

www.eufar.net
EUFAR offers three **training opportunities**:

- Training Courses on airborne research (ET-TC).
- Invited access to Existing Campaigns (ET-EC).
- Participation in the design of a new field campaign, in the frame of Transnational Access (TA). Tutoring by experienced scientists (ET-TA).

EUFAR provides **100% support** for:

- Training
- Flight costs of research aircraft and instruments (through TA)
- Travel and Subsistence (T&S) expenses (reimbursement rules available at the website)
EUFAR offers 4 **training courses (ET-TC)**
- 1 training course/year
- Number of attendees to the training courses (60 students and 20 teachers)
- 3 training courses for **early-stage researchers**
- 1 training course for **teachers** = NEW in FP7 (cfr. UNESCO HyperTeach training course)
- During 1 week to 10 days
- Equal emphasis on **theory** and **practical training/demonstration + flight experiment** (i.e. demo, hands-on exercises, design an experiment, definition of sampling strategy, flight plan, flight, ...)
- Top-class scientists cover **complete chain** from acquisition to interpretation of airborne data
  - Upstream topics (e.g. sensor development)
  - Downstream topics (e.g. corrections, analysis, interpretation)
  - With special attention to « common definitions and standard approach » (N6-SP)
- Hand-outs (or ev. syllabi) + airborne data provided
- Evaluation
- Scientific reports from the students
Training Courses

Proposed time table, but depends on the selected applications to host a Training Course incl. TA flight campaign

- Summer/autumn 2009 or spring/summer 2010: airborne atmospheric research
- Summer 2010: airborne hyperspectral remote sensing
- Summer 2011: airborne atmospheric research
- Summer 2012: airborne hyperspectral remote sensing
ET-EC Join an existing field campaign

- The list of research campaigns open to students is available in the **planning of the EUFAR fleet** at the EUFAR website

- **On-line application at the EUFAR website**
ET-TA Participate in the design of a new field campaign

In the frame of Transnational Access (TA), EUFAR offers the opportunity to join a host research group to design a field campaign (flight experiment) including:

- scientific content
- organisation of the campaign
- data analysis

Selected applicants will be able to actively participate in the

- research flights
- data analysis
- publications

On-line application at the EUFAR website
EUFAR Activities

**EUFAR**
- Consortium
- Aircraft open to TA
- HSI sensors open to TA
- Objectives
- Activities

**EUFAR N5ET**
- Objectives
- Training opportunities
- ET-TC
- ET-EC
- ET-TA

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Transnational Access (TA)

7 instruments and 22 aircraft open to TA
Support planned for 64 projects:
201 users and 538 flight hours

EUFAR FP6 Achievements:
- 74 proposals received
- Support allocated to 46 projects: 230 users and 412 flight hours
EUFAR

Consortium
Aircraft open to TA
HSI sensors open to TA
Objectives
Activities

EUFAR N5ET

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Transnational Access (TA) call is now open!

- EUFAR Transnational Access call to **get 100% funded flight hours** for your experiments is now open!
- **Call deadline: June 1st 2009!**
- Pre-review (March-May 2009) and evaluation (June-September 2009) process
- Flight campaigns starting from October 2009
- Eligibility criteria available at www.eufar.net

Transnational Access (TA) call is now open!

Three types of TA proposals can be submitted

- **Science projects**
  Proposals for *scientific projects* (primary acceptance criterion is the quality and impact of the science)

- **Instrument development**
  Proposals that involve the *testing or development of novel instrumentation* in any area of airborne atmospheric or geo-science research

- **Training courses**
  Proposals to *host* a 1 week to 10 days *training course including flight experiment* can be submitted on any topic for which the measurement capabilities of the EUFAR fleet+instruments are relevant. (primary acceptance criterion is the quality of the teaching)

On-line application at the EUFAR website
Transnational Access (TA)

TA Eligibility criteria

- The applicants (leader and the majority of the group) must work in an institution established in a European Member State or Associated State;
- The applicants (leader and the majority of the group) must work in a country other than the country(ies) where the legal entity(ies) operating the selected aircraft and/or instrument is(are) established;
- Only groups that are entitled to disseminate the foreground that they have generated under the project are eligible to benefit from access.
EUFAR Activities

**Objectives**

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EUFAR N5ET

Objectives

- Training opportunities
  - ET-TC
  - ET-EC
  - ET-TA

**EUFAR TA**

**EUFAR EWG**

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N4EWG – Expert Working Groups

Objectives:

- To compile the knowledge in a high-level handbook on “Airborne Physical Measurements – Methods and Instruments” (state-of-the-art in airborne physical measurement principles and techniques)

- To improve the expertise among the specialized scientists in 18 fields of airborne research by organizing experts workshops

- To facilitate the transfer of expert knowledge to users, operators, and funding agencies

EUFAR FP6 Achievements:

- 12 Expert Working Groups
- 13 Expert Workshops organized
N4EWG – Expert Working Groups

List of Expert Working Groups:

- **Support to airborne measurements:**
  - Certification/Operation
  - Instrument Integration
  - Data Processing (Leader: Daniel Schlaepfer)
  - Imaging sensors (Leader: Koen Meuleman)
  - Cal/Val (Leader: Tim Malthus)
  - Unmanned Aerial Systems

- **Specific measurement fields:**
  - In-Situ Aerosols
  - Gas Phase Chemistry
  - Cloud Microphysics
  - Radiation
  - Solid-Earth Geophysics
  - Thermodynamics
  - Turbulence
  - Stratospheric Research
  - Polar Research
  - Active Remote Sensing
  - Hyperspectral Applications for Soil (Leader: Eyal Ben-Dor)
  - Hyperspectral Applications for Vegetation (Leader: Michael Schaepman)
  - Hyperspectral Applications for Water (Leader: Steve Groom)

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Interested in joining an Expert Working Group, click here to ask the EWG leader.
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Contact person

For more info on
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Contact person

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Phil Brown
phil.brown@metoffice.gov.uk

www.eufar.net
Contact person

For more info on EUFAR Expert Working Groups

Contact

Manfred Wendish
wendisch@uni-mainz.de

www.eufar.net
Thank you for your attention!

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Looking forward to meeting you at one of the EUFAR activities!

To apply: www.eufar.net