ABOUT US

METAIR is a research service provider operating small aircraft for environmental research. METAIR was founded in 1990 as a spin-off by alumni of ETH Zurich (Swiss Federal Institute of Technology).

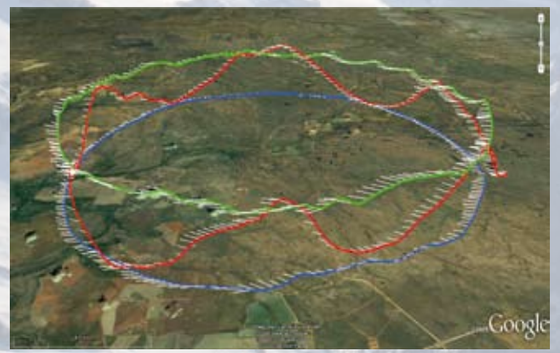
The focus is on meteorological research including atmospheric chemistry. During the first ten years, most projects dealt with urban plumes, documenting the transport and conversion of primary pollutants such as nitrogen oxides (NO_2, NO, and others), Non Methane Hydrocarbons (NMHC), and carbon monoxide (CO) into the rural environment. Keywords were photochemistry and tropospheric ozone.

Then the interaction of the surface of the earth with the atmosphere became more important.

Both the anthropogenic and biogenic emission and deposition of Green House Gases (GHG, such as CO_2 and CH_4) can be measured as turbulent vertical fluxes, and advection (horizontal transport).

In this context the first applications using remote sensing with hyper-spectral sensors, and LIDAR started.

All this could only be achieved cooperating with strong partners such as the Research Centre Jülich (FZJ, Germany), and Airborne Research Australia (ARA, Adelaide), embedded in the networks www.naers.org, and www.eufar.net.



www.presentationen.net

IN COOPERATION WITH

JÜLICH FORSCHUNGSZENTRUM

ARA

What is your link to METAIR?
Suitable to put your logo here as well?

metair
meteorological airborne observations measurements and expertise

METAIR AG
airfield LSZN
CH-8915 Hausen a. A.
Switzerland

phone
+41 41 755 38 04

mobile
+41 79 340 77 33

fax&voicebox
+41 86041 755 38 04

info@metair.ch
www.metair.ch

www.metair.ch

metair
meteorological airborne observations measurements and expertise

KNOW-HOW

Yes, we know how to fly, and how to install and operate instrumentation. However, METAIR is more than a “flying taxi for instruments”. The projects we like best are challenging scientific questions where we can interact with the users (typically a group of scientists) and are finding innovative solutions with our versatile airborne platform. This could well incorporate other systems like free or tethered balloons, towers, or even UAS (Unmanned Aerial Systems, as we are involved in a development with ZHAW – the Zurich University for Applied Sciences).

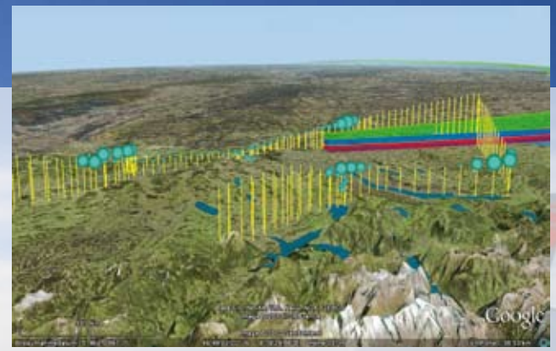
We offer

- Continuous experience and networking in airborne research since 30 years (including pre-METAIR).
- Flexible operation, either on our own, or integrating the users.
- The costs are not so much depending from flight hours, which allows cost-effective extended observations.
- Our involvement can cover everything from the research proposal until the publications, or just parts of it like flying one of your own instruments according to your instructions.
- Together with ARA and FZJ we proved that METAIR-DIMO is also a perfect platform for remote sensing (laser-scanning, and hyper-spectral).

The system has a clear architecture:
Each underwing pod is an autonomous measuring unit (with embedded PC), perfectly exposed to the ambient air, with short intakes to the instruments. The communication with the PC‘s in the cockpit is wireless (bluetooth), TCP/IP, USB, or Firewire. The operator has access to several PC‘s via one display/keyboard/trackball.

The under-wing-pods can carry up to 50 kg scientific payload each. The one with the boom in front contains all meteorological sensors plus redundant CO_2 (closed- and open-path LiCor‘s, modified by METAIR, and intake for manual flask samples in the cockpit). In the rear is a six-channel fast nitrogen oxide analyzer (NOxTOy, by METAIR/PSI).

The left-hand-pod varies with the projects. Here you see a modified Los Gatos fast CH_4 monitor in front, and fast CO (by Aerolaser) behind. A small particle counter (MetOne) is hidden. Other options are a GC for NMHC‘s, automatic flask samples, hyper-spectral or laser scanner, enhanced particle counters with optimised intakes (as during the ash crisis).



Airborne data is not only four-dimensional (time and space), but, covers a wide range of parameters, and temporal resolution. Each flight could fill a book with graphics. This 3-d-view of our famous flights on April 17, 2010 in the ash-cloud of Eyjafjallajökull over Switzerland, is showing intuitively where we crossed the highest concentrations on ascending and descending legs (flights up to 6 km altitude, cloud layer was around 3.5 km, descending with the subsiding air mass).

Please refer to our lists of measured parameters, projects, and publications to see what our typical applications are. Maybe you have a new idea?

If you do not find the parameters you are looking for in our list, you might have a suitable instrument in your repertoire, or we find one together and integrate it in our flying laboratory.

metair
meteorological airborne observations
measurements and expertise