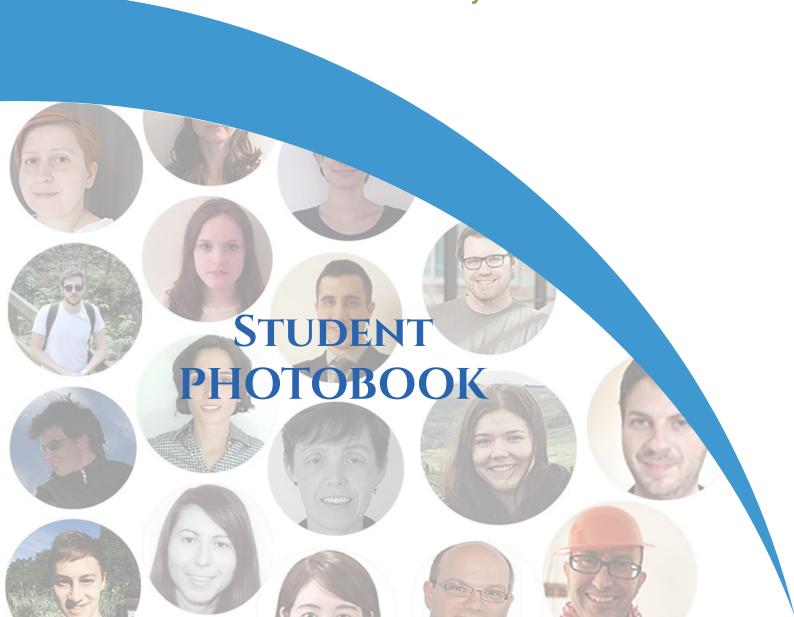# EUFAR TRAINING COURSE

STANCO

**School and Training on Aircraft New techniques
for Atmospheric Composition Observation**

**Cambridge, UK
From 26 June to 6 July 2017**

STUDENT PHOTOBOOK

Magdalena Ardelean

ARDELEAN.MAGDALENA@INCAS.RO

NATIONALITY: Romanian
INSTITUTE, CITY/TOWN, COUNTRY: National Institute for Aerospace Research «Elie Carafoli», INCAS, Bucharest, Romania
EDUCATION: PhD – Chemical Engineering

RESEARCH EXPERIENCE:
> atmospheric chemistry
> atmospheric airborne measurements
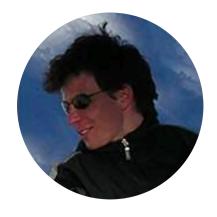> data processing

Kirsti Ashworth

K.S.ASHWORTH1@LANCASTER.AC.UK

NATIONALITY: British
INSTITUTE, CITY/TOWN, COUNTRY: Lancaster University
EDUCATION:
> BA (Hons) Chemical Engineering
> MEng Chemical Engineering
> PhD Atmospheric Sciences (2012)

RESEARCH EXPERIENCE:
"My work centres on the development and application of computer-based numerical models of biosphere-atmosphere interactions and atmospheric chemistry at a range of complexities, temporal and spatial scales. I have performed simulations with a global chemistry model and a fully coupled Earth system model to investigate the effect of changes in the emissions of reactive trace gases from vegetation on atmospheric composition and air quality, and extended this work to include statistical dose-response analyses in order to assess the impact of these changes on human and ecosystem health. I have also developed and applied a detailed canopy model to study the fundamental processes involved in the forest-atmosphere exchange of trace gases and particles and their role in governing atmospheric composition and hence downwind air quality. I have evaluated all of these models against observational data at a range of spatial and temporal scales and drawn from varied platforms, including ground-based, flux tower and aircraft data, using the comparison to gain further insight into the atmospheric processes involved and to identify gaps in our understanding that could be tested using new measurements.
 My current research focuses on the contribution of the exchange of reactive trace gases and aerosols between the land surface and atmosphere to air quality in peri-urban and rural environments. I am developing an AQ model that specifically includes state-of-the-art representations of all biogenic sources and sinks of reactive compounds, the chemical transformations of these species as well as feedbacks from atmospheric composition and air quality on vegetation. I will apply the model in case studies based on urbanisation and peri-urban reforestation schemes in contrasting world regions and use the outcomes of these model scenarios to assess the impacts of these projected changes of land use on urban air quality, and to identify potential strategies to mitigate detrimental effects on air quality, health and ecosystem functioning"

ÁRPÁD BORDÁS
ABORDAS@CAESAR.ELTE.HU

NATIONALITY: Hungary
INSTITUTE, CITY/TOWN, COUNTRY: Department of Meteorology, Eötvös Loránd University, Budapest, Hungary
EDUCATION:
> Higher diploma in physics - Department of Physics, Faculty of Sciences, University of Novi Sad (Serbia)
> Specialization in environmental modelling – University Centre for Meteorology and Environmental Modelling, University of Novi Sad (Serbia)
> PhD in environmental physics – Doctoral School for Environmental Sciences, Eotvos Lorand University (Hungary)

RESEARCH EXPERIENCE:
Several years experience in micrometeorological measurements, airborne data analysis, UAV construction and PBL modeling

SILVIA BUCCI
SBUCCI@LMD.ENS.FR

NATIONALITY: Italian
INSTITUTE, CITY/TOWN, COUNTRY: Laboratoire de Météorologie Dynamique (LMD), Paris, France
EDUCATION: Physics of the atmosphere

RESEARCH EXPERIENCE: Air pollution measurements and modeling

GEORGE CANN
GEORGE.CANN.15@UCL.AC.UK

NATIONALITY: British
INSTITUTE, CITY/TOWN, COUNTRY: University College London (Mullard Space Science Laboratory), London, United Kingdom
EDUCATION:
> PhD Space and Climate Physics, University College London (In Progress, 2017-2021)
> MSc Space Science and Engineering, University College London (2016)
> BSc (Hons) Mathematics and Physics, University of Warwick (2015)

Luca Cappellin

LUCA.CAPPELLIN@FMACH.IT

NATIONALITY: Italian
INSTITUTE, CITY/TOWN, COUNTRY: Fondazione Edmund Mach, San Michele all'Adige, Italy
EDUCATION:
> 2012: PhD in Physics at Innsbruck University
> 2009: MSc and BSc in Physics at Università di Padova

RESEARCH EXPERIENCE:
"My research focuses on atmosphere-biosphere interactions. I mostly concentrate on exchange of volatile organic compounds (VOCs). I have a wide experience using spectrometric techniques for the real time analysis of gases, such as Proton Transfer Reaction – Mass Spectrometry (PTR-MS). For a list of my publications, see http://www.researcherid.com/rid/C-1955-2012"

Pamela Dominutti

P.DOMINUTTI@OPGC.UNIV-BPCLERMONT.FR

NATIONALITY: Argentine
INSTITUTE, CITY/TOWN, COUNTRY: Laboratoire de Météorologie Physique, LaMP- CNRS/UCA CNRS/SAFIRE, Clermont-Ferrand, France
EDUCATION: PhD in Meteorology (USP – Brazil)

RESEARCH EXPERIENCE:
"My research experience is related to experimental set up for ground-base and aircraft measurements of VOCs (CG-FID-MS, PTR-MS, on/offline sampling) and gas-phase compounds (CO, O3, NOx, etc). Punctually the development of strategies to address the contribution of anthropogenic and biogenic sources in the atmospheric composition, from urban to background sites. During my doctorate formation in the University of São Paulo-Brazil, I developed several VOCs field campaigns. Additionally, as part of a doctorate exchange, I participated in DACCIWA field campaign in West Africa as an aircraft operator and, also, in the analysis of VOCs obtained from surface measurements. Nowadays, I am working on ChemCalInt Initiative (French component of TGOE) with the evaluation and revision of calibration and traceability protocols for airborne instrumentation of SAFIRE. Furthermore, the intercomparison of data obtained during field campaign (DACCIWA) on-board vs. ground-base measurements is being performed"

Peter Gallimore

PJG48@CAM.AC.UK

NATIONALITY: British
INSTITUTE, CITY/TOWN, COUNTRY: Department of Chemistry, University of Cambridge, UK
EDUCATION:
> PhD in Atmospheric Chemistry
> MSci in Natural Sciences (Chemistry)

RESEARCH EXPERIENCE:
Measurement and modelling studies of organic aerosols:
> Laboratory experiments using smog chambers to understand formation of aerosols from biogenic (e.g. isoprene, alpha-pinene) and anthropogenic (e.g. aromatics, alkanes) hydrocarbons
> Health-relevant oxidising capacity of aerosols in the laboratory and the field
> Development of aerosol chemistry "box" model to interpret measurements and make predictions of particle composition and size changes
> Mass spectrometer design and development for online aerosol analysis
> Spectroscopic analysis of aerosol particles (Raman spectroscopy, Mie scattering, fluorescence spectroscopy)

Adéla Holubová Šmejkalová
ADELA.HOLUBOVA@CHMI.CZ

NATIONALITY: Czech
INSTITUTE, CITY/TOWN, COUNTRY: Czech Hydrometeorological Institute, Prague, Czech Republic
EDUCATION: Master's degree

RESEARCH EXPERIENCE: junior scientist

Marcus Koehler
M.KOEHLER@UEA.AC.UK

NATIONALITY: British and German
INSTITUTE, CITY/TOWN, COUNTRY: School of Environmental Sciences, University of East Anglia, Norwich, United Kingdom
EDUCATION: PhD in Atmospheric Chemistry, University of Cambridge, U.K

RESEARCH EXPERIENCE:
"In my research I investigate the role of reactive nitrogen compounds on the oxidizing capacity of the troposphere and, more general, in the context of chemistry-climate interactions. I am particularly interested in the role of emissions from the global aviation sector. I have worked as a post-doctoral researcher for over a decade and I have five years of teaching experience as a University Lecturer. I am currently a Senior Research Associate at the University of East Anglia"

Junghwa Lee
LEE@MUK.UNI-HANOOVER.DE

NATIONALITY: Republic of Korea
INSTITUTE, CITY/TOWN, COUNTRY: Leibniz Universität Hannover, Hannover, Germany
EDUCATION:
> Yonsei University / M. Sc., Atmospheric Sciences
> Yonsei University / B. Sc., Atmospheric Sciences

RESEARCH EXPERIENCE:
Reynolds-averaged Navier–Stokes equations (RANS) models, Large-eddy Simulation (LES) models, Analysis of Airborne measurement data, Compressible flow

Georgia Methymaki
GMETHYMAKI@PHYS.UOA.GR

NATIONALITY: Greek
INSTITUTE, CITY/TOWN, COUNTRY: National and Kapodistrian University of Athens, Athens, Greece
EDUCATION: Ph.D student

RESEARCH EXPERIENCE:
Ph.D student in the Group of Numerical Applications in the Atmosphere University of Athens, Department of Physics

Oliver Lauer
OLIVER.LAUER@MPIC.DE

NATIONALITY: German
INSTITUTE, CITY/TOWN, COUNTRY: Max Planck Institute for Chemistry, Mainz, Germany
EDUCATION: Diploma in Chemical Engineering, Karlsruhe Institute for Technology

RESEARCH EXPERIENCE:
Water treatment, membrane technology, atmospheric aerosol measurements, cloud building processes

Bethany Nelson
BSN502@YORK.AC.UK

NATIONALITY: British
INSTITUTE, CITY/TOWN, COUNTRY: University of York, United Kingdom
EDUCATION: MChem, University of York

RESEARCH EXPERIENCE:
"Measurement of NOx in Remote and Polluted Environments" involving photolytic chemiluminescence detection of NO2 at the CVAO and use of the mass balance approach to calculate NOx emission fluxes from Accra, Cotonou and Lomé in West Africa

Federica Pardini
FEDERICA.PARDINI@MANCHESTER.AC.UK

NATIONALITY: Italian
INSTITUTE, CITY/TOWN, COUNTRY: The University of Manchester, School of Earth and Environmental Science. Manchester, UK
EDUCATION: Master and Bachelor degree in Aerospace Engineering - University of Pisa, Italy

RESEARCH EXPERIENCE:
"I'm a second year PhD student within The University of Manchester. My current project is on studying volcanic Sulfur Dioxide using space retrievals and numerical models"

Lucretia-Alexandra Picui
LUCRETIA.PICUI@YAHOO.COM

NATIONALITY: Romanian
INSTITUTE, CITY/TOWN, COUNTRY: University of Bucharest, Faculty of Physics Magurele, Romania
EDUCATION: PhD Student

RESEARCH EXPERIENCE: Collecting meteorological data in flight with the use of sailplanes

Alberto Sanchez Marroquin
Py15asm@leeds.ac.uk

Nationality: Spanish
Institute, City/Town, Country: School of Earth and Environment, University of Leeds, Leeds

Education:
Degree in Physics, University of Valencia:
  > Project in magnetism in condensed matter
  > Erasmus at the University of Leeds
PhD at the University of Leeds:
  > Measuring and identifying Ice Nucleating Particles in the atmosphere

Research experience:
Project in magnetism in condensed matter during my degree, 10 month of atmospheric research during the PhD

Marina Schimpf
marina.schimpf@outlook.com

Nationality: German
Institute, City/Town, Country: Facility for Airborne Atmospheric Measurements (FAAM), Cranfield, UK

Education:
MChem: Master of Chemistry, Resources and the Environment (with a year in industry), University of York, England

Research experience:
"As part of my 4-year integrated master's degree at the University of York, I am able to spend my final year at FAAM as an instrument scientist, where I am a trained operator for the 'core chemistry' instruments. As well as having participated in numerous campaigns/detachments, both in the UK and abroad, I have also been involved in the integration process of new instruments into aircraft 'racks'. My master's project focused on the background drift observed in a modified pulsed fluorescence SO2 analyser, operated aboard the FAAM aircraft. After my time at FAAM, I will pursue a PhD in atmospheric sciences in Germany, starting this autumn"

Paul Smith
pdsmith@iqfr.csic.es

Nationality: British
Institute, City/Town, Country: IQFR-CSIC, Madrid, Spain

Education:
> PhD Atmospheric Science – Leeds 2005-2009
> BSc Meteorology and Atmospheric Science – Leeds 2002-2005

Research experience:
> Post-doctoral Researcher – IQFR, CSIC, Atmospheric Chemistry and Climate, Spain,
   Sept 2016 – Dec 2017
> Research Associate – Department of Chemistry, University of Cambridge, UK,
   Sept 2014 – July 2016
> Research Engineer – ICOS, SLU Field station, Vindeln, Sweden,
   May 2012 – Aug 2013
> Research Technician – ClearfLo, Geography Dept. King's College London, UK,
   Dec 2010 – April 2012
> Research Fellow in Atmospheric Measurements, University College Cork, Ireland,
   Jan 2010 – Nov 2010