

## Programme of the IAGOS Users' Meeting

### Tuesday 14th November

|             |   |             |   |
|-------------|---|-------------|---|
| 10:30-11:00 | Registration and Coffee   |             |   |
| 11:00-11:30 | Introduction  | 11:00-11:15 | Hannah Clark: Logistics<br>Andreas Wahner: Welcome  |
|             |   | 11:15-11:30 | Valérie Thouret: IAGOS, history, where we are now   |
|             |   | 11:30-11:45 | Simone Lolli: Atmospheric RIs in the European Landscape   |
| 11:30-13:00 | Session 1: Air Quality (fires, dust storms, heatwaves, air-quality forecasts) | 11:45-12:00 | Vincent-Henri Peuch: Session Introduction   |
|             |   | 12:00-12:15 | Demba Ndao Niang: Establishment of an air quality observatory across Senegal  |
|             |   | 12:15-12:30 | Andreas Petzold: NO <sub>x</sub> observations on CAL B18316 and their value for the validation of GOSAT-GW air quality products   |
|             |   | 12:30-12:45 | Xavier Querol: RI-URBANS: Advanced Air Quality Parameters in Urban Europe: Preliminary results from RI-URBANS   |
|             |   | 12:45-13:00 | Christoph Mahnke: IAGOS in-situ profiling of air quality indicators: Variability and vertical structure in the planetary boundary layer and troposphere above densely populated areas |
| 13:00-14:00 | Lunch   |             |   |
| 14:00-15:15 |   | 14:00-14:15 | Patryk Poczta: Change of Urban Aerosol Properties due to Long-Range Transport of Anthropogenic Pollution, Biomass Burning, and Desert Dust Particles                                  |
|             |   | 14:15-14:30 | Pawel Wolff: SOFT-IO 2.0: a new version of IAGOS modelled data product with source attribution of pollution with carbon monoxide  |
|             |   | 14:30-14:45 | Antje Inness: Use of IAGOS aircraft data for in-house validation of global CAMS model and data assimilation system  |
|             |   | 14:45-15:00 | Mark Parrington: Near-real-time tracking of the 2023 Canadian wildfires in the Copernicus Atmosphere Monitoring Service and evaluation with IAGOS measurements                        |
|             |   | 15:00-15:15 | Thibaut Lebourgeois: Statistical analysis and comparison of carbon monoxide anomalies observed by IAGOS and modelled by MOCAGE in 2013  |
| 15:15-16:00 | Session 2: Trends in Tropospheric Composition                                 | 15:15-15:30 | Owen Cooper: Tropospheric ozone trends: Current understanding, historical context and future monitoring strategies  |
|             |   | 15:30-15:45 | Michael Prather: Deconstruction of tropospheric chemical reactivity using aircraft measurements: the ATom data.   |
|             |   | 15:45-16:00 | Susanne Rohs: Long-term trends in temperature, water vapour, relative   |

|             |   |             |  |
|-------------|---|-------------|--|
|             |   |             | humidity with respect to ice and fraction of ice supersaturated regions:   |
| 16:00-16:30 | Coffee Break                                  |             |  |
| 16:30-18:00 | Session 2: Trends in Tropospheric Composition | 16:30-16:45 | Gary Lloyd: Trends in Tropospheric Cloud Measurements  |
|             |   | 16:45-17:00 | Anne Thompson: Tropical Tropospheric Ozone Trends (1990-2022): Integrating Satellite, Sonde & Aircraft Perspectives          |
|             |   | 17:00-17:15 | Ryan Stauffer: Dynamical Drivers of Free-Tropospheric Ozone Increases Over Southeast Asia                                    |
|             |   | 17:15-17:30 | Herman Smit: First Ozone Intercomparison Campaign of IAGOS (CORE & CARIBIC) versus WCCOS                                     |
|             |   | 17:30-17:45 | Daan Hubert: Harmonisation of Free Tropospheric Ozone Satellite Data Records in Support of TOAR Phase II                     |
|             |   | 17:45-18:00 | Roeland Van Malderen: Trends in tropospheric ozone derived from homogenized ground-based and in-situ datasets within TOAR-II |
| 18:00       | Welcome drink                                 |             |  |

### Wednesday 15th November

|             |                                       |             |   |
|-------------|---------------------------------------|-------------|---|
| 09:00-10:30 | Session 3: Tropopause and UTLS issues | 09:00-09:15 | Peter Hoor: The TPChange-project and the UTLS   |
|             |                                       | 09:15-09:30 | Philipp Joppe: Lower stratospheric correlation between ozone and particulate sulfate  |
|             |                                       | 09:30-09:45 | Sophie Bauchinger: Trends, the seasonality and variability of mixing ratios of the major long-lived greenhouse gases in the extra-tropical Upper Troposphere and Lowermost Stratosphere (UTLS). |
|             |                                       | 09:45-10:00 | Patrick Konjari: Methodology for comparing and adjusting water vapor climatologies from IAGOS-MOZAIC and -CORE with IAGOS-CARIBIC   |
|             |                                       | 10:00-10:15 | Ziyan Guo: Comparison of IAGOS Measurements and ERA5 Reanalysis Data for Warm Conveyor Belt Contributions to UTLS Moisture Content.   |
|             |                                       | 10:15-10:30 | Julie Patuel: SOFT-IO-LI: Update on the tool merging space and ground based lightning observations and IAGOS aircraft NOx measurements  |
| 10:30-11:00 | Coffee Break                          |             |   |
| 11:00-12:15 | Tropopause and UTLS issues            | 11:00-11:15 | Chaitri Roy: Estimation of stratospheric intrusions during Indian cyclones  |
|             |                                       | 11:15-11:30 | Harald Boenisch: The signal of biomass burning observed in the UT/LMS by IAGOS-CARIBIC  |
|             |                                       | 11:30-11:45 | Vaidehi Joshi: Transport processes regulating the lowermost stratospheric ozone reservoir   |

|             |   |             |   |
|-------------|---|-------------|---|
|             |   | 11:45-12:00 | Andreas Zahn: Spatiotemporal Distribution of Aerosol Particles around the Northern Hemispheric Extratropical Tropopause for Non-Volcanic Periods Between 2005-2015  |
|             |   | 12:00-12:15 | Debra E Kollonige: Southern Hemisphere Additional Ozonesondes (SHADOZ) 2023 Project and Data Archive Updates  |
| 12:15-13:00 | Session 4: Aviation, Climate and Applications | 12:15-12:30 | Volker Grewe: Session Introduction  |
|             |   | 12:30-12:45 | Philipp Reutter: Ice supersaturated regions and their representation in reanalysis data   |
|             |   | 12:45-13:00 | Olivier Jaron: Forecasting Ice Supersaturated Regions using Numerical Weather Prediction, evaluation against IAGOS humidity data  |
| 13:00-14:00 | Lunch   |             |   |
| 14:00-15:45 |   | 14:00-14:15 | Klaus Gierens: Forecasting ice supersaturation and persistent contrails   |
|             |   | 14:15-14:30 | Yun Li: The impact of surface warming on the occurrence of ice supersaturated regions and contrail cirrus   |
|             |   | 14:30-14:45 | Catherine Mackay: Use of IAGOS data for validation of Ice Supersaturated Regions along commercial flight paths.   |
|             |   | 14:45-15:00 | Sigrun Matthes: Evaluating uncertainty in aviation-induced atmospheric changes in the multi-scale Earth system model EMAC/MECO(1) using IAGOS observations  |
|             |   | 15:00-15:15 | Yann Cohen: A multi-model assessment of atmospheric composition in the UTLS with the IAGOS database, in the frame of the ACACIA EU project  |
|             |   | 15:15-15:30 | Nicholas Bojdo: Aircraft Engine Atmospheric Dust Ingestion Analysis using IAGOS Data  |
|             |   | 15:30-15:45 | Christoph Mahnke: Aviation induced aerosol particles within the UTLS: Properties and processing observed from the IAGOS-CARIBIC Flying Laboratory   |
| 15:45-16:15 | Coffee Break                                  |             |   |
| 16:15-17:30 | Session 5: Instrumentation and Innovation     | 16:15-16:30 | Jean Sciare: Innovation Strategies for Technology developments and Service provision  |
|             |   | 16:30-16:45 | Darrel Baumgardner: A portable system for semi-automatically calibrating and characterizing the optical performance of open-path single particle light scattering optical spectrometers like Droplet Measurement Technologies Backscatter Cloud Probe (BCP), Backscatter Cloudprobe with Polarization Detection (BCPD) and the Cloud Droplet Probe (CDP). |
|             |   | 16:45-17:00 | Darrel Baumgardner: A Proposal for Modifying the IAGOS Backscatter Cloud Probe's Sizing Algorithm for Autocalibration and Ice Detection   |
|             |   | 17:00-17:15 | David Tarasick: Quantitative consistency of tropospheric ozone from ozonesonde (WOUDC) and aircraft (IAGOS) observations: vertical distribution, ozonesonde types and station distance  |
|             |   | 17:15-17:30 | Uli Bundke: New instrument developments for use on commercial aircraft: Future Proofing IAGOS in-situ instrumentation for certification   |
| 17:30-19:00 | Photo and cocktail                            |             |   |

## Thursday 16th November

|             |   |             |   |
|-------------|---|-------------|---|
| 09:00-10:30 | Session 6: GHG Monitoring and Validation of Satellites and ESMs | 09:00-09:15 | Cyril Crevoisier: Long-term monitoring of GHG from space and airborne measurements  |
|             |   | 09:15-09:30 | Hiroshi Tanimoto: Evaluation of satellite-derived column-averaged mixing ratios of GHGs over oceans by integrating cargoship and commercial aircraft observations             |
|             |   | 09:30-09:45 | Christoph Gerbig: Current state and recent results from IAGOS greenhouse gas observations   |
|             |   | 09:45-10:00 | Danilo Custódio: Using IAGOS observations to characterize and reduce uncertainties/errors of CO2 fluxes estimated by inversion.   |
|             |   | 10:00-10:15 | Yasmine Bennouna: Validation of 12 years of IASI-CO with IAGOS  |
|             |   | 10:15-10:30 | Michel Ramonet: Total column and vertical profile measurements in low latitude sites and in the Paris area.   |
| 10:30-11:00 | Coffee Break  |             |   |
| 11:00-12:00 | Session 7: Meeting the Needs of the Scientific Community        | 11:00-11:15 | Steve Arnold: Regular trace gas and aerosol profile measurements in the Arctic troposphere: a key data gap in constraining Arctic processes and reducing model uncertainties. |
|             |   | 11:15-12:00 | Open Discussion   |