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Résumé

My area of expertise is space-based remote sensing of Earth's atmosphere and its composition. As a member of the Jet Propulsion Laboratory OCO-2&3 project teams, I currently focus on the retrieval of solar-induced chlorophyll fluorescence (SIF) from near-Infrared spectra and radiometric cross-calibration of the two instruments. This includes the development, maintenance, and public release of the OCO-2&3 SIF standard data products, the recently released ECOCO3, the spatio-temporal co-location of OCO-3 and ECOSTRESS observations from the ISS, spatially resampled to a common grid, the development of a harmonized, multi-sensor SIF data set as part of the NASA MEaSUREs program, JPL-internal projects to study urban greenhouse gases and to develop AI-based, near-real-time SIF estimates, and the investigation of radiometric calibration from near-simultaneous nadir overpasses of OCO-2 and OCO-3. An additional research activity is the co-location of CO2 measurements from OCO-2 and OCO-3 with geostationary NO2 observations from TEMPO and GEMS, to facilitate studies of co-evolving greenhouse gas and air quality emissions over urban areas. All projects include extensive developments for visualization and animation, as well as data management using self-documenting storage formats. Prior to my involvement with the OCO projects, I was responsible for the end-to-end (Level 0 to Level 2) data stream of the airborne CARVE FTS instrument, for the retrieval of CO2, CH4, CO, and SIF in the Alaska and Yukon Boreal regions. Before joining JPL I held the position of staff physicist at the Harvard-Smithsonian Center for Astrophysics, developing and maintaining retrieval algorithms for minor atmospheric traces gases related to air quality (Formaldehyde, Glyoxal) and ozone depletion (Bromine Monoxide, Chlorine Dioxide) from the UV/Visible EOS/Aura Ozone Monitoring Instrument. My career in Earth Observation started at the University of Bremen, Germany where I developed methods of cloud radiative transfer and cloud detection for the ERS-2 Global Ozone Monitoring Experiment as part of my Ph.D. thesis.

Equally at home in science analysis and an operational coding environment, I thrive and enjoy working at the nexus between algorithm development/software engineering and scientific evaluation of the observations, where detailed knowledge of product generation and the use of the data in scientific studies inform each other. My extensive experience in a range of spectral regions from the UV/Visible (air quality) to the shortwave Infrared (greenhouse gases), different instrument platforms (space-based, airborne, ground-based), the wide variety of mission operation aspects I have worked on (cloud, trace gas, and SIF retrievals; spectral radiometric calibration; science studies; visualization), and the different international academic cultures I had the honor and pleasure to engage with for extended periods of time (Europe, US, Japan, Korea) provides me with a unique perspective and a unique set of qualifications I bring with me to every project.

References

Contact information of references provided upon request.

Academic Career

Degrees

01/1997	Dr. rer. Nat (Ph.D.) Physics, *magna cum laude*, University of Bremen, Germany
11/1991	Diplom Physicist, Johannes Gutenberg-University Mainz, Germany

University Education

07/1992—12/1996	Ph.D. work at the Institute of Remote Sensing, University of Bremen, Germany
10/1984—11/1991	Studies of Physics, Johannes Gutenberg-University (JGU) Mainz, Germany
09/1987—05/1998	Visiting Graduate Student, University of Washington, USA

Positions Held

05/2011—current	Research Scientist/Technologist, NASA Jet Propulsion Laboratory, Pasadena, CA
02/1998—03/2011	Physicist, Harvard-Smithsonian Center for Astrophysics (CfA), Cambridge, MA
10/1999—03/2001	Japanese Ministry for the Environment Eco Frontier Fellow, National Institute of Environmental Studies (NIES), Tsukuba, Japan
01/1997—02/1998	Research Associate, Institute of Remote Sensing, University of Bremen, Germany
11/1991—03/1992	Research Associate, Institute of Theoretical Elementary Particle Physics, JGU Mainz

Awards and Fellowships

05/2025	JPL Certificate of Recognition, *OCO-3 Calibration Team*
09/2021	JPL Certificate of Recognition, *OCO Calibration Build 10 Team*
01/2020	AMS Award, *OMI International Team*
09/2019	JPL Certificate of Recognition, *OCO-3 Science Implementation Team*
06/2018	USGS Pecora Team Award, *OMI Team*
01/2019	ESA/ELR/BELSPO Certificate of Merit, *Contributions to Envisat/SCIAMACHY Mission*
10/2016	NASA Honor Award, *CARVE Implementation Team*
10/2016	NASA Honor Award, *OCO-2 CFIS Team*
09/2014	NASA Honor Award, *CARVE Airborne Science Campaign Team*
08/2012	JPL Certificate of Recognition *CARVE Team*
09/2008	NASA Honor Award, *ARCTAS Team*
05/2008	AGU Editor's *Citation for Excellence in Refereeing, Journal of Geophysical Research*
05/2005	NASA Honor Award, *Aura Project*
08/2005	NASA Goddard Space Flight Center Award, *Aura Team*
08/2003	Smithsonian Institution, *Official Recognition of Special Achievement Reflecting a High Standard of Accomplishment*
10/1999	Eco Frontier Fellowship of the Japanese Ministry for the Environment for research at the National Institute of Environmental Studies, Tsukuba, Japan
09/1989	Scholarship of the German Academic Exchange Service (DAAD) for graduate studies at the University of Washington, Seattle, USA

Professional Activities

- Lead, OCO-2&3 Solar-Induced Chlorophyll Fluorescence data product.
- Lead, ECOSTRESS/OCO-3 Co-Location data product.
- Member of the Computation Facility Science Advisory Committee at the CfA.
- Member of the SAO Council at the CfA.
- Reviewed funding proposals for NASA and ESA.
- Served on NASA Review Panels.
- Reviewed manuscripts for various scientific journals:

  Geophysical Research Letters; Journal of Geophysical Research; Atmospheric Chemistry and Physics; Atmospheric Measurement Techniques; Journal of Applied Meteorology and Climatology; Journal of Selected Topics in Earth Observations and Remote Sensing; Physical Research Letters

Selected Research Activities

General

- Development of a spatial resampling algorithm to map instrument footprint polygons to regular and irregular grids.
- Visualization and animation tools for Earth observation data products (maps, time series, etc.).
- Creation of DAAC-compliant netCDF4 data product files for release on NASA public data servers.

Operational Data Products (Development, Maintenance, and Public Release)

- OCO-3 LtSIF (V10, V11, ongoing): Solar-Induced Chlorophyll Fluorescence (SIF) from ISS/OCO-3.
  disc.gsfc.nasa.gov/datasets/OCO3_L2_Lite_SIF_11r/summary?keywords=OCO3_L2_Lite_SIF_11r
  disc.gsfc.nasa.gov/datasets/OCO3_L2_Fwd_SIF_11/summary?keywords=OCO3_L2_Fwd_SIF_11
- OCO-2 LtSIF (V10, V11, ongoing): Solar-Induced Chlorophyll Fluorescence (SIF) from OCO-2.
  disc.gsfc.nasa.gov/datasets/OCO2_L2_Lite_SIF_11.2r/summary?keywords=OCO2_L2_Lite_SIF_11.2r
  disc.gsfc.nasa.gov/datasets/OCO2_L2_Fwd_SIF_11.2/summary?keywords=OCO2_L2_Fwd_SIF_11.2
- ECOCO3 (first release 06/2025): Co-located data products from ISS/OCO-3 (SIF, CO2) and ISS/ECOSTRESS (evapotranspiration, land surface temperature, water-use efficiency), spatially resampled to a common grid. disc.gsfc.nasa.gov/datasets/ECOCO3_1.0/summary?keywords=ECOCO3_1.0
- OMI Minor Trace-Gas Products, Footprint Vertices (V001, V002): Bromine Monoxide, Formaldehyde, Chlorine Dioxide, and Ground Pixel Footprint Vertices.
  disc.gsfc.nasa.gov/datasets/OMBRO_003/summary?keywords=OMBRO_003
  disc.gsfc.nasa.gov/datasets/OMHCHO_003/summary?keywords=OMHCHO_003
  disc.gsfc.nasa.gov/datasets/OMOCLO_003/summary?keywords=OMOCLO_003
  disc.gsfc.nasa.gov/datasets/OMPIXCOR_003/summary?keywords=OMPIXCOR_003

OCO-2, OCO-3 (Orbiting Carbon Observatory)

- Lead, Solar-Induced Chlorophyll Fluorescence data products (LtSIF, publicly released).
- Lead, ECOSTRESS/OCO-3 co-located observation data product (ECOCO3, publicly released).
- Lead, Radiometric Calibration activities based on Simultaneous Nadir Observations.
- JPL-internal projects to study urban greenhouse gas, and develop AI-based near-real-time SIF estimates.
- NASA MEaSUREs project for a homogenized, multi-sensor SIF data set.
- Design and implementation of an algorithm for OCO-3 Snapshot Area Mode and Target spatial mapping strategies.
- Development of an algorithm for OCO-2&3 special observation mode (Target, SAM) segmentation.
- Participation in ground-based vicarious calibration campaigns (Railroad Valley, NV).

GEMS/TEMPO Geostationary Sensors

- Co-location of NO2 observations with CO2 and SIF from OCO-3 and OCO-2.

CARVE-FTS (airborne Fourier Transform Spectrometer)

- Lead, retrievals of CO2, CH4, CO, H3O, and SIF during four years of Arctic observations.
- FTS instrument calibration, characterization, and definition of operation modes.
- Development and implementation of Level-0 to Level-2 data processing.

GeoTASO (UV/Visible airborne spectrometer)

- Retrieval of ozone profiles and air-quality trace species HCHO and NO2.

OMI (Ozone Monitoring Instrument)

- Development of a BrO cloud slicing approach for the detection of tropospheric BrO from satellite.
- Development and maintenance of operational trace gas retrieval algorithms for BrO, H2CO, OClO.
- Development of science algorithms for the retrieval of NO2, SO2, C2H2O2, H2O, IO, and clouds.
- Quality assurance and product support for the operational and science data products.
- Development of ground-pixel corner computation and “smoke index” (HCHO plus aerosol) algorithms.
- Science studies related to air quality measurements.
- Compilation of albedo, aerosol, and molecular profile climatologies for air mass factor calculations.
- Air mass factor /averaging kernel calculations for BrO, HCCO, and CHOCHO.

GOME (Global Ozone Monitoring Experiment)

- Development and implementation of a fully Mie-scattering cloud model for GOMETRAN (Ph.D. work).
- Development and implementation of a semi-infinite cloud-top reflection/transmission model for the radiative transfer model GOMETRAN (Ph.D. work).

- Development of a cloud retrieval algorithm for GOME using a combination of reflectance thresholds and oxygen *A* band measurements for the detection of cloud fraction, cloud-top pressure, and cloud optical thickness.
- Derivation of a global minimum-reflectance data base of GOME polarization measurements for use in cloud detection.
- Science studies related to cloud information retrieved from GOME, including their effect on trace gas retrievals.

SCIAMACHY, SAGE III
- Retrieval of NO2 and O3 vertical profiles from limb-scatter measurements.
- Retrieval of NOX/NOY from SAGE III occultation and limb-scatter measurements.

ILAS/ILAS-II (Improved Limb Atmospheric Sounder)
- Development of a polar stratospheric cloud detection algorithm.

Geo-CAPE/PanFTS Instrument Concepts
- Sensitivity studies for UV/Visible absorbing trace gases from geo-stationary instrumentation.

MEOS/PCW Instrument Concepts, Canadian Space Agency
- Sensitivity studies for UV/Vis/near-IR retrievals of atmospheric trace gases, including CO2 and CH4,

Membership in Science and Instrument Teams

- Arctic Research of the Composition of the Troposphere from Aircraft and Satellites (ARCTAS).
- Aura Science Team.
- Carbon in Arctic Reservoirs Vulnerability Experiment (CARVE).
- Geostationary Coastal and Air Pollution Events (GEO-CAPE).
- Geostationary Environmental Monitoring Spectrometer (GEMS).
- Global Ozone Monitoring Experiemnt (GOME).
- Improved Limb Atmospheric Sounder (ILAS) II.
- Miniature Earth Observing Satellite (MEOS).
- Northern Hemispheric Sentinel (NHemiS) for the Canadian PCW.
- Orbiting Carbon Observatory 2 (OCO-2).
- Orbiting Carbon Observatory 3 (OCO-3).
- Ozone Monitoring Instrument (OMI).
- Po Plain Experiment (POPLEX) Field Campaign.
- Satellite Occultation Sensors Science Team (SOSST).
- Scanning Imaging Spectrometer for Atmospheric Chartography (SCIAMACHY).
- Ultraviolet Visible and near-infrared Atmospheric Sounder (UVAS).

Skills and Experience

International Work/Life Experience
- Extended work experience in Europe/Germany (Ph.D.), Japan (fellowship), and USA (multi-decade residence at NASA/JPL and the Harvard-Smithsonian CfA); close collaboration with colleagues in the US, Japan, Korea, Italy, Spain, Germany, and Canada; familiarity with science cultures in the US, Europe, and Asia.

Spectral Fitting
- Development and maintenance of generalized non-linear least squares spectral fitting algorithms for retrieval atmospheric air quality trace gases, greenhouse cases, and solar-induced fluorescence from the OCO-2, OCO-3, OMPS, OMI, GOME, GOME-2, and SCIAMACHY satellite sensors and the CARVE-FTS and GeoTASO aircraft instruments.
- Fitting of solar reference models to observed solar and earthshine spectra for spectral calibration and instrument line shape characterization.

Radiative Transfer
- Participated in the development of finite-differencing (GOMETRAN) and discrete-ordinate (LIDORT) based radiative transfer codes
- Worked extensively with the GOMETRAN, DISORT, and LIDORT models for the computation of radiances in cloudy and non-cloudy atmospheres, for inclusion in cloud detection models and air mass factor formulations

Statistical Methods

- Linear and non-linear least squares minimization codes and singular value decomposition.
- Working knowledge of singular value decomposition and principal component analysis.

Weather Forecasting

- Created a port of an early version of the Weather Research&Forecasting (WRF) model to Microsoft Windows.

Software Development and Data Visualization

- Multi-decade experience in scientific software development, including operational data processing and the generation of public release data product files for OCO-2, OCO-3, and OMI.
- Python, IDL, MATLAB, Fortran77/90/95 for data analysis and visualization.
- HDF4/5, HDF-EOS4/5, and netCDF4 file formats for routine and operational software development.
- GitHub, SVN software version control management.
- Unix/Linux shell-scripting (bash, ksh, sh, tcsh) and the GNU Make environment, for the management of large software projects as well as the development of automated data processing and archiving systems.
- Working familiarity with C compilers (gcc, Intel/icc, PGI/pgcc, Sun/cc) and debugging software.

Hardware Platforms

- OS/X.
- Intel/AMD Linux (system administration, software development, data visualization).
- AMD Linux Rocks cluster, Sun Solaris, IBM RISC, Cray (software development).
- Microsoft Windows PC (MS Word, PowerPoint, software porting under Cygwin).

Personal Skills

Communication

- Open-minded, respectful, and flexible; patient facilitator and mediator; focused on problem resolution; excellent communicator, both verbal and written; engaging public orator; confident; experienced in multi- and cross-cultural environments; high interpersonal skills.

Organizational/Managerial

- Excellent problem solving abilities; project management of research contracts (ESA, DLR, NASA); focus on and adherence to project delivery deadlines; supervision of team members; strong ability to effectively communicate with different teams (scientists/engineers).

Language Proficiencies

- German (mother tongue)
- English (fluent)
- Japanese (basic knowledge)
- Spanish (basic knowledge)

Membership in Professional Societies

- American Geophysical Union
- Japanese Geophysical Union

Relevant Web Sites

- https://science.jpl.nasa.gov/people/Kurosu

Publications

2020—2025

You, H., Park, T., Che-Castaldo, C., Hao, D., Chatterjee, A., Li, F., Wang, Z., Ji., F., Sen, B., Lazzara, M., Liu, Y., **Kurosu, T.**, and Chen, M. (2025): Antarctic Greening and Its Drivers, Nature, in preparation.

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Doughty, R., **Kurosu, T. P.**, Parazoo, N., Köhler, P., Wang, Y., Sun, Y., and Frankenberg, C. (2022): Global GOSAT, OCO-2, and OCO-3 solar-induced chlorophyll fluorescence datasets, Earth Syst. Sci. Data, 14, 1513–1529, https://doi.org/10.5194/essd-14-1513-2022.

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2015—2019

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Suleiman, R. M., Chance, K., Liu, X., González Abad, G., **Kurosu, T. P.**, Hendrick, F., and Theys, N. (2019): OMI total bromine monoxide (OMBRO) data product: algorithm, retrieval and measurement comparisons, Atmos. Meas. Tech., 12, 2067–2084, https://doi.org/10.5194/amt-12-2067-2019.

Choi, S., *et al.* (2018). Link between Arctic tropospheric BrO explosion observed from space and sea-salt aerosols from blowing snow investigated using Ozone Monitoring Instrument BrO data and GEOS-5 data assimilation system. J. Geophys. Res.: Atmos., 123, 6954–6983, https://doi.org/10.1029/2017JD026889.

Barkley, M. P., González Abad, G., **Kurosu, T. P.**, Spurr, R., Torbatian, S., and Lerot, C. (2017): OMI air-quality monitoring over the Middle East, Atmos. Chem. Phys., 17, 4687–4709, https://doi.org/10.5194/acp-17-4687-2017.

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Hewson, W., Barkley, M. P., Gonzalez Abad, G., Bösch, H., **Kurosu, T.**, Spurr, R., and Tilstra, L. G. (2015): Development and characterisation of a state-of-the-art GOME-2 formaldehyde air-mass factor algorithm, Atmos. Meas. Tech., 8, 4055–4074, https://doi.org/10.5194/amt-8-4055-2015.

2010—2014

Marais, E. A., D. J. Jacob, K. Wecht, C. Lerot, L. Zhang, K. Yu, **T. P. Kurosu**, K. Chance, B. Sauvage (2014):, Anthropogenic emissions in Nigeria and implications for atmospheric ozone pollution: A view from space, Atmos. Env., 99, 32-40, https://doi.org/10.1016/j.atmosenv.2014.09.055.

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Chan Miller, C., Gonzalez Abad, G., Wang, H., Liu, X., **Kurosu, T.**, Jacob, D. J., and Chance, K. (2014): Glyoxal retrieval from the Ozone Monitoring Instrument, Atmos. Meas. Tech., 7, 3891–3907, https://doi.org/10.5194/amt-7-3891-2014.

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Presentations (selected, first author)

Conferences

01/2025 American Meteorological Society, New Orleans, USA: OCO-3 CO2/GEMS&TEMPO NO2
07/2024 International Space Station Research and Development Conference, Boston, USA: OCO-3 Mission
07/2024 Global Energy and Water EXchanges, Sapporo, Japan: OCO-2&3 Solar-Induced Fluorescence (SIF)
06/2024 Asia Oceania Geosciences Society, Pyeongchang, Korea (invited): OCO-2&3 CO2 and SIF
06/2024 Asia Oceania Geosciences Society, Pyeongchang, Korea: NASA Hyperwall Presentation
05/2024 20th IWGGMS, Boulder, USA: Multi-Sensor Space-Based Solar Induced Fluorescence
01/2024 American Meteorological Society, Baltimore, USA: OCO-3 CO2/GEMS NO2 Correlations
12/2023 AGU Fall Meeting, San Francisco, USA: OCO-3 CO2/GEMS NO2 Correlations
09/2023 EUMETSAT Conference, Malmö, Sweden: OCO-3 CO2/GEMS NO2 Correlations
07/2023 International Geoscience and Remote Sensing Symposium, Pasadena, USA: OCO-3 CO2/GEMS NO2
07/2023 19th IWGGMS, Paris, France: OCO-3 CO2/GEMS NO2 Correlations
03/2023 Global Space-based Inter-Calibration System Meeting, Maryland, USA: OCO-2&3 Radiance Calibration
03/2023 Global Space-based Inter-Calibration System Meeting, Maryland, USA: OCO-3 CO2/GEMS NO2
12/2022 AGU Fall Meeting, Chicago, USA: OCO-3 CO2/GEMS NO2 Correlations
07/2022 18th IWGGMS, Tsukuba, Japan: OCO-2&3 Simultaneous Nadir Overpasses Radiance Cross-Calibration
12/2021 AGU Fall Meeting, New Orleans, USA: OCO-2&3 Radiance Cross-Calibration
06/2021 17th IWGGMS, Pasadena, USA: OCO-2&3 Radiance Cross-Calibration
01/2020 American Meteorological Society, Boston, USA: OCO-3 Mission
01/2020 American Meteorological Society, Boston, USA: TROPESS O3 and CO Retrievals during FIREX-AQ
12/2019 AGU Fall Meeting, San Francisco, USA: OCO-3 Mission, Snapshot Area Map Performance
10/2019 Joint Satellite Conference, Boston, USA: OCO-3 Snapshot Area Maps
07/2019 International Space Station Research and Development Conference, Atlanta, USA: OCO-3 Mission
06/2019 16th IWGGMS, Sapporo, Japan: OCO-3 Snapshot Area Maps

05/2019 ESA Living Planet Symposium, Milan, Italy: OCO-3 Mission
04/2019 European Geophysical Union, Vienna, Austria: OCO-3 Mission
12/2018 AGU Fall Meeting, Washington D.C., USA: OCO-3 Mission
11/2018 ESA ATMOS Conference, Salzburg, Austria: OCO-3 Mission
12/2017 AGU Fall Meeting, San Francisco, USA: OMI BrO from Salt Lakes
10/2017 EUMETSAT Conference, Rome, Italy: OMI BrO from Salt Lakes and Northern High Latitudes
12/2016 AGU Fall Meeting, San Francisco, USA: Improved O3 Profile Algorithm for the Airborne GeoTASO Sensor
06/2016 12th IWGGMS, Kyoto, Japan: Four Years of Arctic CO2/CH4/CO from CARVE-FTS
12/2015 AGU Fall Meeting, San Francisco, USA: Four Years of Arctic CO2/CH4/CO from CARVE-FTS
06/2015 11th IWGGMS, Pasadena, USA: Three Years of Arctic CO2/CH4/CO from CARVE-FTS
06/2015 ESA ATMOS Conference, Heraklion, Crete: Satellite-Based Global Distribution of Tropospheric BrO
07/2014 IGARSS, Quebec, Canada: CARVE FTS Results from the 2012/13 Alaska Campaigns
05/2014 10th IWGGMS, ESTEC, The Netherlands: CARVE FTS Results from the 2012/13 Alaska Campaigns
12/2013 AGU Fall Meeting, San Francisco, USA: CARVE FTS Results from the 2012/13 Alaska Campaigns
05/2013 9th IWGGMS, Yokohama, Japan: CARVE FTS First Results and Public Data Release
12/2011 AGU Fall Meeting, San Francisco, USA: CARVE-FTS Observations of Arctic CO2, CH4, and CO
10/2010 A-Train Symposium, New Orleans, USA: OMI Minor Trace Gas Products
09/2010 EUMETSAT Conference, Córdoba, Spain: OMI/GOME-2 Volatile Organic Compounds
08/2010 Asia-Pacific Radiation Symposium, Seoul, Korea: OMI BrO and Volatile Organic Compounds
07/2010 International Global Atmospheric Chemistry, Halifax, Canada: OMI/GOME-2 Formaldehyde, Glyoxal
06/2010 ESA Living Planet Symposium, Bergen, Norway: OMI BrO and Volatile Organic Compounds
12/2009 AGU Fall Meeting, San Francisco, USA: OMI Long-Term Formaldehyde and Glyoxal Records
10/2008 Community Modeling and Analysis System Conference, Chapel Hill, USA: OMI/GOME-2 VOCs and SO2
08/2008 International Radiation Symposium, Foz do Iguaçu, Brazil: Pollution Monitoring from Geostationary Orbit
08/2008 International Radiation Symposium, Foz do Iguaçu, Brazil: OMI VOCs and Tropospheric Ozone
05/2008 AGU Joint Assembly, Fort Lauderdale, USA: OMI Air Quality Observations
12/2006 AGU Fall Meeting, San Francisco, USA: OMI Global and Seasonally Resolved VOCs
06/2006 EUMETSAT Conference, Helsinki, Finland: OMI Tropospheric BrO and Volatile Organic Compounds
05/2006 ESA ATMOS Conference, Frascati, Italy: OMI Tropospheric BrO and Volatile Organic Compounds
12/2005 AGU Fall Meeting, San Francisco, USA: OMI OClO, BrO, HCHO, and CHO-CHO
12/2004 AGU Fall Meeting, San Francisco, USA: OMI OClO, BrO, and HCHO
11/2004 SPIE, Honolulu, USA: OMI HCHO and BrO
07/2004 COSPAR, Paris, France: NO2 and O3 Vertical Profiles from Limb and Solar Occultation Sensors
12/2003 AGU Fall Meeting, San Francisco, USA: BrO, HCHO, OClO Retrievals for EOS/Aura OMI
10/2000 SPIE, Sendai, Japan: Polar Stratospheric Cloud Detection from the ILAS Instrument
05/2000 AGU Spring Meeting, Boston, USA: Polar Stratospheric Cloud Detection from the ILAS Instrument
01/1999 Europ. Symp. on Atm. Meas. from Space, ESTEC, The Netherlands: GOME Cloud Detection Algorithm
09/1998 Satellite Remote Sens. of Clouds & Atmosphere II, Barcelona, Spain: GOME Cloud Detection Algorithm

Science Meetings and Workshops

08/2024 Joint GEMS/TEMPO Workshop, Kailua-Kona, Hawai'I, USA: OCO-3 CO2/GEMS&TEMPO NO2
10/2023 OCO Science Team Meeting, Boulder, USA: OCO-3 CO2/GEMS NO2 Correlations
09/2023 Fluorescence Explorer Workshop, Frascati, Italy: OCO-2&3 Solar Induced Fluorescence
09/2023 14th GEMS Workshop, Jeju Island, Korea: OCO-3 CO2/GEMS NO2 Correlations
11/2022 13th GEMS Workshop, Seoul, Korea: OCO-3 CO2/GEMS NO2 Correlations
10/2022 OCO Science Team Meeting, Boulder, USA: OCO-3 CO2/GEMS NO2 Correlations
10/2022 OCO Science Team Meeting, Boulder, USA: OCO-2&3 Radiance Cross-Calibration
10/2021 OCO Science Team Meeting, Boulder, USA: OCO-2&3 Radiance Cross-Calibration
10/2020 TROPOMI Workshop, on-line: MUSEs O3 and CO Retrievals during 2019 FIREX-AQ
10/2020 OCO Science Team Meeting, on-line: OCO-2&3 Build 10 SIF Updates
11/2019 10th GEMS Workshop, Seoul, Korea: TROPESS/Ozone Trend Science Program
10/2019 OCO Science Team Meeting, Boulder, USA: OCO-3 Snapshot Area Maps
10/2019 CO2USA Urban Synthesis and Analysis Workshop, Boston, USA: OCO2&3 Missions
04/2019 OCO Science Team Meeting, Cocoa Beach, USA: OCO-3 Snapshot Area Map and Target Observations
10/2018 CO2USA, Salt Lake City, USA: OCO-3 Mission
10/2018 9th GEMS Workshop, Seoul, Korea: Spatial Resampling by Tessellation

10/2016 7th GEMS Workshop, Seoul, Korea: Improved O3 Profile Algorithm for the Airborne GeoTASO Sensor
10/2015 6th GEMS Workshop, Busan, Korea: GEMS-Related Retrieval and Modeling Activities at JPL
08/2015 GEO_CAPE Workshop, Triangle Park, USA: Airborne GeoTASO Retrievals at JPL
10/2014 5th GEMS Workshop, Seoul, Korea: NO2 and HCHO Observations from Suomi NPP/OMPS
09/2014 EOS/Aura Science Team Meeting, College Park, USA: OMI Tropospheric BrO
03/2014 OMI Science Team Meeting, De Bilt, The Netherlands: OMI Tropospheric BrO from Cloud Slicing
10/2012 4th GEMS Workshop, Seoul, Korea: Geostationary HCHO Retrieval Algorithm Development2
08/2010 3rd GEMS Workshop, Seoul, Korea: OMI BrO and Volatile Organic Compounds
06/2010 OMI Science Team Meeting, De Bilt, The Netherlands: OMI BrO
09/2009 GEO-CAPE Science Working Group, Columbia, USA: UV/Visible Trace Gas Measurements
09/2009 EOS/Aura Science Team Meeting, Leiden, The Netherlands: OMI BrO, HCHO, OClO
09/2009 OMI Science Team Meeting, Leiden, The Netherlands: Noise Development in OMI Products
09/2009 ACC AQ Workshop, Frascati, Italy: OMI Volatile Organic Compounds
01/2009 ARCTAS Science Team Meeting, Virginia Beach, USA: Satellite BrO Measurements for ARCTAS
10/2008 ARCTAS Workshop, nn, USA: Satellite BrO Measurements for ARCTAS
10/2008 EOS/Aura Science Team Meeting, Columbia, USA: OMI Formaldehyde and Glyoxal
06/2008 OMI Science Team Meeting, Helsinki, Finland: OMI Minor Trace Gases, Air Quality, Arctic Halogens
10/2007 EOS/Aura Science Team Meeting, Pasadena, USA: OMI BrO, HCHO, OClO Validation Status
06/2007 OMI Science Team Meeting, Baltimore, USA: OMI BrO, HCHO, and OClO
09/2006 EOS/Aura Science Team Meeting, Boulder, USA: OMI BrO, HCHO, and OClO
11/2005 EOS/Aura Science Team Meeting, Den Haag, The Netherlands: OMI OClO, BrO, HCHO, and CHO-CHO
11/2004 SPIE, Honolulu, USA: OMI HCHO and BrO
07/2004 COSPAR, Paris, France: NO2 and O3 Vertical Profiles from Limb and Solar Occultation Sensors
12/1999 ILAS Science Team Meeting, Kyoto, Japan: ILAS-II PSC and Pressure/Temperature Retrievals
03/1999 ILAS Science Team Meeting, Nara, Japan: ILAS ILS/Tangent Height, GOME Cloud Detection, O2 A Band

Invited Science Seminars

11/2022 Seoul National University, Seoul, Korea: OCO-2 and OCO-3 CO2/GEMS NO2 (Student Lecture)
07/2022 Yonsei University, Seoul, Korea: OCO-2 and OCO-3 CO2 Missions
07/2022 Seoul National University, Seoul, Korea: OCO-2 and OCO-3 Missions
04/2022 University of Montana, Missoula, USA: OCO-2 and OCO-3 Missions
11/2019 Seoul National University, Seoul, Korea: OCO-3 Mission
11/2018 Karlsruhe Institute of Technology, Karlsruhe, Germany: OCO-2 and OCO-3 CO2
10/2018 Yonsei University, Seoul, Korea: Spatial Resampling by Tessellation
07/2017 Karlsruhe Institute of Technology, Karlsruhe, Germany: Spatial Oversampling by Tessellation
10/2013 University of California Los Angeles, Los Angeles, USA: OMI Trace Gases
02/2011 Jet Propulsion Laboratory, Pasadena, USA: OMI Bromine Monoxide
04/2010 University of Boulder, Boulder, USA: OMI Formaldehyde and Glyoxal
10/2007 Jet Propulsion Laboratory, Pasadena, USA: UV/Visible Trace Gas Fitting, OMI NO2
03/2007 University of Toronto, Toronto, Canada: OMI Trace Gases
03/2007 University of Waterloo, Waterloo, Canada: OMI Trace Gases
01/2007 Nara Women's University, Nara, Japan: OMI Trace Gases
12/2006 National Institute of Information and Communication Technology, Tokyo, Japan: OMI Trace Gases
10/2006 University of Edinburgh, Edinburgh, Scotland: OMI Trace Gases
06/2006 University of Bremen, Bremen, Germany: OMI Trace Gases
08/2005 Jet Propulsion Laboratory, Pasadena, USA: OMI Trace Gases