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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

- Development of a prototype retrieval for Solar-Induced Chlorophyll Fluorescence for TEMPO
- 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, 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

2026

Pierrat, Z. A., **Kurosu, T. P.**, *et al.* (2026), OCO-3 Meets ECOSTRESS: Insights Into Ecosystem Diurnal Water-Use Efficiency From Co-Located Solar-Induced Fluorescence and Thermal Observations, Geophysical Research Letters, 53(18), DOI: 10.1029/2026GL124105.

Taylor, T. E.., *et al.* (2026), The OCO-2 and OCO-3 ACOS Version 11 XCO_2Data Products: A Benchmark Record for Space-Based Global Carbon Cycle Research, Earth and Space Science, 13 (10), DOI: 10.1029/2026EA005360.

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.

Malina, E., Bowman, K. W., Kantchev, V., Kuai, L., **Kurosu, T. P.**, Miyazaki, K., Natraj, V., Osterman, G. B., Oyafuso, F., and Thill, M. D. (2024): Joint spectral retrievals of ozone with Suomi NPP CrIS augmented by S5P/TROPOMI, Atmos. Meas. Tech., 17, 5341–5371, https://doi.org/10.5194/amt-17-5341-2024.

Taylor, T. E., *et al.* (2023): Evaluating the consistency between OCO-2 and OCO-3 XCO_2 estimates derived from the NASA ACOS version 10 retrieval algorithm, Atmos. Meas. Tech., 16, 3173–3209, https://doi.org/10.5194/amt-16-3173-2023.

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.

Wells, K. C., *et al.* (2022). Next-generation isoprene measurements from space: Detecting daily variability at high resolution. J. Geophys. Res.: Atmos., 127, e2021JD036181. https://doi.org/10.1029/2021JD036181.

Wales, P. A., *et al.* (2021). Evaluation of the stratospheric and tropospheric bromine burden over Fairbanks, Alaska based on column retrievals of bromine monoxide. J. Geophys. Res.: Atmos., 126, e2020JD032896. https://doi.org/10.1029/2020JD032896.

Taylor, T. E., *et al.* (2020): OCO-3 early mission operations and initial (vEarly) XCO2 and SIF retrievals, Rem. Sens. of Env., 251, https://doi.org/10.1016/j.rse.2020.112032.

2015—2019

Kim J., *et al.* (2020): New Era of Air Quality Monitoring from Space: Geostationary Environment Monitoring Spectrometer (GEMS), Bull. of the Am. Met. Soc., https://doi.org/10.1175/BAMS-D-18-0013.1.

Kwon, H.-A., Park, R. J., González Abad, G., Chance, K., **Kurosu, T. P.**, Kim, J., De Smedt, I., Van Roozendael, M., Peters, E., and Burrows, J. (2019): Description of a formaldehyde retrieval algorithm for the Geostationary Environment Monitoring Spectrometer (GEMS), Atmos. Meas. Tech., 12, 3551–3571, https://doi.org/10.5194/amt-12-3551-2019.

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.

Kwon, H.-A., Park, R. J., Jeong, J. I., Lee, S., González Abad, G., **Kurosu, T. P.**, Palmer, P. I., and Chance, K. (2017): Sensitivity of formaldehyde (HCHO) column measurements from a geostationary satellite to temporal variation of the air mass factor in East Asia, Atmos. Chem. Phys., 17, 4673–4686, https://doi.org/10.5194/acp-17-4673-2017.

Bloom, A. A., Worden, J., Jiang, Z., Worden, H., **Kurosu, T.**, Frankenberg, C. and Schimel, D. (2015), Remote-sensing constraints on South America fire traits by Bayesian fusion of atmospheric and surface data. Geophys. Res. Lett., 42: 1268–1274. doi: 10.1002/2014GL062584.

González Abad, G., Liu, X., Chance, K., Wang, H., **Kurosu, T. P.**, and Suleiman, R. (2015): Updated Smithsonian Astrophysical Observatory Ozone Monitoring Instrument (SAO OMI) formaldehyde retrieval, Atmos. Meas. Tech., 8, 19–32, https://doi.org/10.5194/amt-8-19-2015.

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.

Baek, K.H. , Jae H. Kim, Rokjin J. Park, Kelly Chance, **Thomas P. Kurosu** (2014): Validation of OMI HCHO data and its analysis over Asia, Sci. of The Tot. Env., 490, 93-105, https://doi.org/10.1016/j.scitotenv.2014.04.108.

Marais, E. A., Jacob, D. J., Guenther, A., Chance, K., **Kurosu, T. P.**, Murphy, J. G., Reeves, C. E., and Pye, H. O. T. (2014): Improved model of isoprene emissions in Africa using Ozone Monitoring Instrument (OMI) satellite observations of formaldehyde: implications for oxidants and particulate matter, Atmos. Chem. Phys., 14, 7693–7703, https://doi.org/10.5194/acp-14-7693-2014.

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.

Barkley, M. P., De Smedt, I., Van Roozendael, M., **Kurosu, T. P.**, *et al.* (2013): Top-down isoprene emissions over tropical South America inferred from SCIAMACHY and OMI formaldehyde columns, J. Geophys. Res. Atmos., 118, 6849–6868, doi:10.1002/jgrd.50552.

Dupont, F., François Tanguay, Manyuan Li, Gaetan Perron, Charles E. Miller, Steven J. Dinardo, and **Thomas P. Kurosu** (2012): "CARVE-FTS observations of arctic CO_2, CH_4, and CO: overview of the instrument", Proc. SPIE 8532, Remote Sensing of the Ocean, Sea Ice, Coastal Waters, and Large Water Regions 2012, https://doi.org/10.1117/12.979826.

Barkley, M. P., **T. P. Kurosu**, K. Chance, I. De Smedt, M. Van Roozendael, A. Arneth, D. Hagberg, and A. Guenther (2012), Assessing sources of uncertainty in formaldehyde air mass factors over tropical South America: Implications for top-down isoprene emission estimates, J. Geophys. Res., 117, D13304, doi:10.1029/2011JD016827.

Koo, J.-H., Wang, Y., **Kurosu, T. P.**, Chance, K., Rozanov, A., Richter, A., Oltmans, S. J., Thompson, A. M., Hair, J. W., Fenn, M. A., Weinheimer, A. J., Ryerson, T. B., Solberg, S., Huey, L. G., Liao, J., Dibb, J. E., Neuman, J. A., Nowak, J. B., Pierce, R. B., Natarajan, M., and Al-Saadi, J. (2012): Characteristics of tropospheric ozone depletion events in the Arctic spring: analysis of the ARCTAS, ARCPAC, and ARCIONS measurements and satellite BrO observations, Atmos. Chem. Phys., 12, 9909–9922, https://doi.org/10.5194/acp-12-9909-2012.

Choi, S., Wang, Y., Salawitch, R. J., Canty, T., Joiner, J., Zeng, T., **Kurosu, T. P.**, Chance, K., Richter, A., Huey, L. G., Liao, J., Neuman, J. A., Nowak, J. B., Dibb, J. E., Weinheimer, A. J., Diskin, G., Ryerson, T. B., da Silva, A., Curry, J., Kinnison, D., Tilmes, S., and Levelt, P. F. (2012): Analysis of satellite-derived Arctic tropospheric BrO columns in conjunction with aircraft measurements during ARCTAS and ARCPAC, Atmos. Chem. Phys., 12, 1255–1285, https://doi.org/10.5194/acp-12-1255-2012.

Liao, J., *et al.* (2012): Characterization of soluble bromide measurements and a case study of BrO observations during ARCTAS, Atmos. Chem. Phys., 12, 1327–1338, https://doi.org/10.5194/acp-12-1327-2012.

Marais, E. A., Jacob, D. J., **Kurosu, T. P.**, Chance, K., Murphy, J. G., Reeves, C., Mills, G., Casadio, S., Millet, D. B., Barkley, M. P., Paulot, F., and Mao, J. (2012): Isoprene emissions in Africa inferred from OMI observations of formaldehyde columns, Atmos. Chem. Phys., 12, 6219–6235, https://doi.org/10.5194/acp-12-6219-2012.

Fortems-Cheiney, A., Chevallier, F., Pison, I., Bousquet, P., Saunois, M., Szopa, S., Cressot, C., **Kurosu, T. P.**, Chance, K., and Fried, A. (2012): The formaldehyde budget as seen by a global-scale multi-constraint and multi-species inversion system, Atmos. Chem. Phys., 12, 6699–6721, https://doi.org/10.5194/acp-12-6699-2012.

Natraj, V., Xiong Liu, Susan Kulawik, Kelly Chance, Robert Chatfield, David P. Edwards, Annmarie Eldering, Gene Francis, **Thomas Kurosu**, Kenneth Pickering, Robert Spurr, Helen Worden (2011): Multi-spectral sensitivity studies for the retrieval of tropospheric and lowermost tropospheric ozone from simulated clear-sky GEO-CAPE measurements, Atmos. Env., 45 (39), 7151-7165, https://doi.org/10.1016/j.atmosenv.2011.09.014.

Pyle, J. A., *et al.* (2011): The impact of local surface changes in Borneo on atmospheric composition at wider spatial scales: coastal processes, land-use change and air quality, Phil. Trans. of the Royal Soc. B, https://doi.org/10.1098/rstb.2011.0060.
Nowlan, C. R., X. Liu, K. Chance, Z. Cai, **T. P. Kurosu**, C. Lee, and R. V. Martin (2011): Retrievals of sulfur dioxide from the Global Ozone Monitoring Experiment 2 (GOME-2) using an optimal estimation approach: Algorithm and initial validation, J. Geophys. Res., 116, D18301, doi:10.1029/2011JD015808.
Barkley, M. P., *et al.* (2011), Can a "state of the art" chemistry transport model simulate Amazonian tropospheric chemistry? J. Geophys. Res., 116, D16302, doi:10.1029/2011JD015893.
Witte, J.C., B.N. Duncan, A.R. Douglass, **T.P. Kurosu**, K. Chance, and C. Retscher (2011): The unique OMI HCHO/NO2 feature during the 2008 Beijing Olympics: Implications for ozone production sensitivity, Atmos. Env., 45 (18), https://doi.org/10.1016/j.atmosenv.2011.03.015.
Lamsal, L. N., R. V. Martin, A. Padmanabhan, A. van Donkelaar, Q. Zhang, C. E. Sioris, K. Chance, **T. P. Kurosu**, and M. J. Newchurch (2011): Application of satellite observations for timely updates to global anthropogenic NOx emission inventories, Geophys. Res. Lett., 38, L05810, doi:10.1029/2010GL046476.
Boeke, N. L., Marshall, J. D., Alvarez, S., Chance, K. V., Fried, A., **Kurosu, T. P.**, *et al.* (2011): Formaldehyde columns from the Ozone Monitoring Instrument: Urban versus background levels and evaluation using aircraft data and a global model, J. Geophys. Res., 116, D05303, doi:10.1029/2010JD014870.
Veefkind, J. P., Boersma, K. F., Wang, J., **Kurosu, T. P.**, Krotkov, N., Chance, K., and Levelt, P. F. (2011): Global satellite analysis of the relation between aerosols and short-lived trace gases, Atmos. Chem. Phys., 11, 1255–1267, https://doi.org/10.5194/acp-11-1255-2011.
Salawitch, R. J., Canty, T., **Kurosu, T.**, *et al.* (2010): A new interpretation of total column BrO during Arctic spring, Geophys. Res. Lett., 37, L21805, doi:10.1029/2010GL043798.
Liu, X., Bhartia, P. K., Chance, K., Spurr, R. J. D., and **Kurosu, T. P.** (2010): Ozone profile retrievals from the Ozone Monitoring Instrument, Atmos. Chem. Phys., 10, 2521–2537, https://doi.org/10.5194/acp-10-2521-2010.
Liu, X., Bhartia, P. K., Chance, K., Froidevaux, L., Spurr, R. J. D., and **Kurosu, T. P.** (2010): Validation of Ozone Monitoring Instrument (OMI) ozone profiles and stratospheric ozone columns with Microwave Limb Sounder (MLS) measurements, Atmos. Chem. Phys., 10, 2539–2549, https://doi.org/10.5194/acp-10-2539-2010.
Curci, G., Palmer, P. I., **Kurosu, T. P.**, Chance, K., and Visconti, G. (2010): Estimating European volatile organic compound emissions using satellite observations of formaldehyde from the Ozone Monitoring Instrument, Atmos. Chem. Phys., 10, 11501–11517, https://doi.org/10.5194/acp-10-11501-2010.

2005—2009

Barkley, M. P., P. I. Palmer, U. Kuhn, J. Kesselmeier, K. Chance, **T. P. Kurosu**, R. V. Martin, D. Helmig, and A. Guenther (2008): Net ecosystem fluxes of isoprene over tropical South America inferred from Global Ozone Monitoring Experiment (GOME) observations of HCHO columns, J. Geophys. Res., 113, D20304, doi:10.1029/2008JD009863.
Millet, D. B., D. J. Jacob, K. F. Boersma, T. M. Fu, **T. P. Kurosu**, K. Chance, C. L. Heald, and A. Guenther (2008): Spatial distribution of isoprene emissions from North America derived from formaldehyde column measurements by the OMI satellite sensor, J. Geophys. Res., 113, D02307, doi:10.1029/2007JD008950.
Palmer, P. I., Barkley, M. P., **Kurosu, T. P.**, Lewis, A. C., E Saxton, J. E., Chance, K., and Gatty, L. V. (2007): Interpreting satellite column observations of formaldehyde over tropical South America, Philosophical Transactions of the Royal Society A, https://doi.org/10.1098/rsta.2007.2042.
Saiz-Lopez, A., K. Chance, X. Liu, **T. P. Kurosu**, and S. P. Sander (2007): First observations of iodine oxide from space, Geophys. Res. Lett., 34, L12812, doi:10.1029/2007GL030111.
Liu, X., Chance, K., and **Kurosu, T. P.** (2007): Improved ozone profile retrievals from GOME data with degradation correction in reflectance, Atmos. Chem. Phys., 7, 1575–1583, https://doi.org/10.5194/acp-7-1575-2007.
Liu, X., Chance, K., Sioris, C. E., and **Kurosu, T. P.** (2007): Impact of using different ozone cross sections on ozone profile retrievals from Global Ozone Monitoring Experiment (GOME) ultraviolet measurements, Atmos. Chem. Phys., 7, 3571–3578, https://doi.org/10.5194/acp-7-3571-2007.
Liu, X., K. Chance, C. E. Sioris, **T. P. Kurosu**, and M. J. Newchurch (2006): Intercomparison of GOME, ozonesonde, and SAGE II measurements of ozone: Demonstration of the need to homogenize available ozonesonde data sets, J. Geophys. Res., 111, D14305, doi:10.1029/2005JD006718.

Sioris, C. E., *et al.* (2006): Latitudinal and vertical distribution of bromine monoxide in the lower stratosphere from Scanning Imaging Absorption Spectrometer for Atmospheric Chartography limb scattering measurements, J. Geophys. Res., 111, D14301, doi:10.1029/2005JD006479.

Palmer, P. I., Abbot, D. S., Jacob, D. J., Chance, K., **Kurosu, T. P.**, *et al.* (2006): Quantifying the seasonal and interannual variability of North American isoprene emissions using satellite observations of the formaldehyde column, J. Geophys. Res., 111, D12315, doi:10.1029/2005JD006689.

Liu, X., Chance, K., Sioris, C. E., **Kurosu, T. P.**, *et al.* (2006): Correction to "First directly retrieved global distribution of tropospheric column ozone from GOME: Comparison with the GEOS-CHEM model", J. Geophys. Res., 111, D10399, doi:10.1029/2006JD007374.

Liu, X., Kelly Chance, Christopher E. Sioris, Michael J. Newchurch, and **Thomas P. Kurosu** (2006): Tropospheric ozone profiles from a ground-based ultraviolet spectrometer: a new retrieval method, Appl. Opt. 45, 2352-2359. doi: 10.1364/AO.45.002352.

Liu, X., Chance, K., Sioris, C. E., **Kurosu, T. P.**, *et al.* (2006): First directly retrieved global distribution of tropospheric column ozone from GOME: Comparison with the GEOS-CHEM model, J. Geophys. Res., 111, D02308, doi:10.1029/2005JD006564.

Liu, X., K. Chance, C. E. Sioris, R. J. D. Spurr, **T. P. Kurosu**, R. V. Martin, and M. J. Newchurch (2005): Ozone profile and tropospheric ozone retrievals from the Global Ozone Monitoring Experiment: Algorithm description and validation, J. Geophys. Res., 110, D20307, doi:10.1029/2005JD006240.

Liu, X., Christopher E. Sioris, Kelly Chance, **Thomas P. Kurosu**, Michael J. Newchurch, Randall V. Martin, and Paul I. Palmer (2005): Mapping tropospheric ozone profiles from an airborne ultraviolet-visible spectrometer, Appl. Opt. 44, 3312-3319.

2000—2004

Kurosu, T. P., Chance, K., and Sioris, C. E. (2004): Preliminary results for HCHO and BrO from the EOS-Aura Ozone Monitoring Instrument, Proc. SPIE 5652, Passive Optical Remote Sensing of the Atmosphere and Clouds IV, https://doi.org/10.1117/12.578606.

Choi, Y., Y. Wang, T. Zeng, R. V. Martin, **T. P. Kurosu**, and K. Chance (2005): Evidence of lightning NOx and convective transport of pollutants in satellite observations over North America, Geophys. Res. Lett., 32, L02805, doi:10.1029/2004GL021436.

Martin, R. V., D. D. Parrish, T. B. Ryerson, D. K. Nicks Jr., K. Chance, **T. P. Kurosu**, D. J. Jacob, E. D. Sturges, A. Fried, and B. P. Wert (2004): Evaluation of GOME satellite measurements of tropospheric NO2 and HCHO using regional data from aircraft campaigns in the southeastern United States, J. Geophys. Res., 109, D24307, doi:10.1029/2004JD004869.

Jaeglé, L., R. V. Martin, K. Chance, L. Steinberger, **T. P. Kurosu**, D. J. Jacob, A. I. Modi, V. Yoboué, L. Sigha-Nkamdjou, and C. Galy-Lacaux (2004): Satellite mapping of rain-induced nitric oxide emissions from soils, J. Geophys. Res., 109, D21310, doi:10.1029/2004JD004787.

Sioris, C. E., **Kurosu, T. P.**, Martin, R.V, and Chance, K (2004): Stratospheric and tropospheric NO2 observed by SCIAMACHY: first results, Advances in Space Research, 34 (4), 780-785, https://doi.org/10.1016/j.asr.2003.08.066.

Martin, R. V., D. J. Jacob, K. Chance, **T. P. Kurosu**, P. I. Palmer, and M. J. Evans (2003): Global inventory of nitrogen oxide emissions constrained by space-based observations of NO2 columns, J. Geophys. Res., 108, 4537, doi:10.1029/2003JD003453, D17.

Sioris, C. E., *et al.* (2003): Stratospheric profiles of nitrogen dioxide observed by Optical Spectrograph and Infrared Imager System on the Odin satellite, J. Geophys. Res., 108, 4215, doi:10.1029/2002JD002672, D7.

Palmer, P. I., D. J. Jacob, A. M. Fiore, R. V. Martin, K. Chance, and **T. P. Kurosu** (2003): Mapping isoprene emissions over North America using formaldehyde column observations from space, J. Geophys. Res., 108, 4180, doi:10.1029/2002JD002153, D6.

Martin, R. V., Chance, K., Jacob, D. J., **Kurosu, T. P.**, *et al.* (2002): An improved retrieval of tropospheric nitrogen dioxide from GOME, J. Geophys. Res., 107(D20), 4437, doi:10.1029/2001JD001027.

Tang, K., Joseph A. Kristl, Cheryl Tibaudo, John W. Schroeder, **Thomas P. Kurosu**, Steven W. Sharpe, Timothy J. Johnson, and Robert L. Sams (2002): New directions 2002 in software products for atmospheric remote sensing, Proc. SPIE 4718, Targets and Backgrounds VIII: Characterization and Representation, https://doi.org/10.1117/12.478805.

Palmer, P. I., D. J. Jacob, K. Chance, R. V. Martin, R. J. D. Spurr, **T. P. Kurosu**, I. Bey, R. Yantosca, A. Fiore, and Q. Li (2001): Air mass factor formulation for spectroscopic measurements from satellites: Application to

formaldehyde retrievals from the Global Ozone Monitoring Experiment, J. Geophys. Res., 106(D13), 14539–14550, doi:10.1029/2000JD900772.

Spurr, R. J. D., **T. P. Kurosu**, and K. V. Chance (2001): A linearized discrete ordinate radiative transfer model for atmospheric remote-sensing retrieval, J. Quant. Spec. Rad. Trans., 68 (6), 689-735, https://doi.org/10.1016/S0022-4073(00)00055-8.

Chance, K. V., Robert J. D. Spurr, **Thomas P. Kurosu**, Paul I. Palmer, Randall V. Martin, Arlene Fiore, Q. Li, and Daniel J. Jacob (2001): Tropospheric formaldehyde measurements from the ESA GOME instrument, Proc. SPIE 4150, Optical Remote Sensing of the Atmosphere and Clouds II, https://doi.org/10.1117/12.416945.

Kurosu, T. P., Kelly Van Chance, Tatsuya Yokota, and Yasuhiro Sasano (2001): Polar stratospheric cloud detection from the ILAS instrument, Proc. SPIE 4150, Optical Remote Sensing of the Atmosphere and Clouds II, https://doi.org/10.1117/12.416946.

Chance, K., Paul I. Palmer, Robert J. D. Spurr, Randall V. Martin, **Thomas P. Kurosu**, and Daniel J. Jacob (2000): Satellite observations of formaldehyde over North America from GOME, Geophys. Res. Lett., 27 (21), https://doi.org/10.1029/2000GL011857.

1994—1999

Winterrath, T., **Thomas P. Kurosu**, Andreas Richter, and John P. Burrows (1999): Enhanced *O3* and NO2 in thunderstorm clouds: Convection or production?, Geophys. Res. Lett., 26 (9), https://doi.org/10.1029/1999GL900243.

Kurosu, T. P., Chance, K. V., and R. J. D. Spurr (1998): Cloud retrieval algorithm for the European Space Agency's Global Ozone Monitoring Experiment, Proc. SPIE 3495, Satellite Remote Sensing of Clouds and the Atmosphere III, https://doi.org/10.1117/12.332696.

Chance, K. V., Spurr, R. J. D., and **Kurosu, T. P.** (1998): Atmospheric trace gas measurements from the European Space Agency's Global Ozone Monitoring Experiment (1998): Proc. SPIE 3495, Satellite Remote Sensing of Clouds and the Atmosphere III, https://doi.org/10.1117/12.332701.

Rozanov, V.V., **Kurosu, T.**, and Burrows, J. P. (1998): Retrieval of atmospheric constituents in the uv-visible: a new quasi-analytical approach for the calculation of weighting functions, J. Quant. Spec. Rad. Trans., 60 (2), 277-299, https://doi.org/10.1016/S0022-4073(97)00150-7.

Kurosu, T., V. V. Rozanov, and J. P. Burrows (1997), Parameterization schemes for terrestrial water clouds in the radiative transfer model GOMETRAN, J. Geophys. Res., 102(D18), 21809–21823, doi:10.1029/97JD01044.

Fischer, A., **Kurosu, T.**, and Savatier, F. (1994): QED one-loop corrections to radiative muon decay, Phys. Rev. D, 49, 3426, https://doi.org/10.1103/PhysRevD.49.3426.

Books

1997

Kurosu, T. (1997): Die Modellierung des Strahlungstransports in Wolken für atmosphärische Fernerkundung im ultravioletten und sichtbaren Spektralbereich, ("Cloud Radiative Transfer Modeling for Atmospheric Remote Sensing in the Ultraviolet and Visible Spectral Region"), PhD Thesis, Mainz Verlag Aachen, ISBN 3-89653-185-9.

Presentations (selected, first author)

Conferences

06/2026 IWGGMS, Bonn, Germany: ECOCO3 ECOSTRESS/OCO-3 Joint Data Product
05/2026 JpGU/AGU, Chiba, Japan: ECOCO3 ECOSTRESS/OCO-3 Joint Data Product
12/2025 AGU, San Francisco, USA: ECOCO3 ECOSTRESS/OCO-3 Joint Data Product
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

08/2026 ECOSTRESS Science Team Meeting, Pasadena, USA: ECOCO3 ECOSTRESS/OCO-3 Joint Data Product
06/2026 TEMPO DART Meeting, Iowa City, USA: TEMPO Solar-Induced Chlorophyll Fluorescence
09/2025 OCO Science Team Meeting, Pasadena, USA: OCO-3 Multi-Mission Synergies
09/2025 OCO Science Team Meeting, Pasadena, USA: OCO-2/OCO-3 Solar-Induced Fluorescence
09/2025 OCO Science Team Meeting, Pasadena, USA: OCO-2/OCO-3 Radiometric Cross-Calibration
08/2025 TEMPO Science Team Meeting, Boston, USA: TEMPO Radiometric Calibration for SIF Retrievals
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