

PUBLICATIONS AND PATENTS

JIA CHEN

Underline denotes advisee; Star * denotes that I am a corresponding author.

h-index: 27, i10-index: 68 (Google Scholar, 01/2024)

MOST IMPORTANT PUBLICATIONS (LAST 10 YEARS)

1. **J. Chen***, C. Viatte, J. K. Hedelius, T. Jones, J. E. Franklin, H. Parker, E. W. Gottlieb, P. O. Wennberg, M. K. Dubey, S. C. Wofsy, “[Differential column measurements using compact solar-tracking spectrometers](#)”, Atmospheric Chemistry and Physics, 16, 8479–8498, doi: 10.5194/acp-16-8479-2016, 2016.
Description: Novel measurement concept that creates a foundation for monitoring urban greenhouse gases.
2. **J. Chen***, F. Dietrich, H. Maazallahi, A. Forstmaier, D. Winkler, M. E. G. Hofmann, H. Denier van der Gon, T. Röckmann: “[Methane emissions from the Munich Oktoberfest](#)”, Atmospheric Chemistry and Physics, 20, 3683–3696, highlight article, doi: 10.5194/acp-20-3683-2020, 2020.
Research highlight in **Nature** (Nature, 580(7802), 169, doi: 10.1038/d41586-020-00987-5) and featured in **Science** (doi: 10.1126/science.aaz9918)
Description: Worldwide first study that quantifies the methane emission of a large festival. It provides a basis for developing reduction policies for such events and new pathways to mitigate fossil fuel methane emissions.
3. F. Dietrich, **J. Chen***, B. Voggenreiter, P. Aigner, N. Nachtigall, B. Reger, “[MUCCnet: Munich Urban Carbon Column network](#)”, Atmospheric Measurement Techniques, 14, 1111–1126, doi: 10.5194/amt-14-1111-2021, 2021.
Featured in **Physics Today** (doi: 10.1063/PT.6.1.20210311a)
Description: World’s first urban sensor network that has been permanently measuring greenhouse gases based on the principle of differential column measurements; Website and open-data platform: atmosphere.ei.tum.de.
4. A. Shekhar, **J. Chen***, J. C. Paetzold, F. Dietrich, X. Zhao, S. Bhattacharjee, V. Ruisinger, S. C. Wofsy, “[Anthropogenic CO₂ emissions assessment of Nile Delta using XCO₂ and SIF data from OCO-2 satellite](#)”, Environmental Research Letters, 15, 095010, doi: 10.1088/1748-9326/ab9cfe, 2020.
Description: Using novel satellite data, we reveal that CO₂ emissions from the Nile Delta account for 1% of global anthropogenic emissions, which is significantly more than estimated hitherto.
5. F. Toja-Silva, **J. Chen**, S. Hachinger, F. Hase, “[CFD simulation of CO₂ dispersion from urban thermal power plant: Analysis of turbulent Schmidt number and comparison with Gaussian plume model and measurements](#)”, Journal of Wind Engineering and Industrial Aerodynamics, 169, 177–193, doi: 10.1016/j.jweia.2017.07.015, 2017.
Description: Emission assessment using CFD simulation of CO₂ dispersion from an urban power plant: mapping column concentrations with unprecedented high spatial resolution.
6. Zanger, B., **Chen, J.***, Sun, M., and Dietrich, F.: [Recovery of sparse urban greenhouse gas emissions](#), Geoscientific Model Development, 15, 7533–7556, doi: <https://doi.org/10.5194/gmd-15-7533-2022>, 2022.
7. Gensheimer, J., Turner, A. J., Köhler, P., Frankenberg, C., and **Chen, J.***: “[A convolutional neural network for spatial downscaling of satellite-based solar-induced chlorophyll fluorescence \(SIFnet\)](#)”, Biogeosciences, 19, 1777–1793, doi: 10.5194/bg-19-1777-2022, 2022.
8. M. Reißmann, **J. Chen***, G. Osterman, F. Dietrich, M. Makowski, X. Zhao, F. Hase, M. Kiel, [Validation of OCO-2 target observations using MUCCnet - Is it possible to capture urban XCO₂ gradients from space?](#), Atmospheric Measurement Techniques, 15, 6605–6623, doi: 10.5194/amt-15-6605-2022, 2022
9. V. Balamurugan, **J. Chen***, X. Bi, Z. Qu, J. Gensheimer, A. Shekhar, S. Bhattacharjee, F. Keutsch, “[Tropospheric NO₂ and O₃ response to COVID-19 lockdown restrictions at the national and urban scales in Germany](#)”, Journal of Geophysical Research: Atmospheres, 126, e2021JD035440, doi: 10.1029/2021JD035440, 2021

10. [S. Bhattacharjee](#) and [J. Chen*](#), “[Prediction of satellite-based column CO₂ concentration by combining emission inventory and LULC information](#)”, IEEE Transactions on Geoscience and Remote Sensing, 58, 8285–8300, doi: 10.1109/TGRS.2020.2985047, 2020.

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- 2016 [Jia Chen](#), Jenna Samra, Steven Wofsy, John Budney. [Diffuser-Based Solar-Tracking with Camera for Atmospheric Measurements](#) (WO2016187502A1)
- 2016 [Jia Chen](#), Ludwig Heinle, Andreas Meichelböck, Gerold Wunsch. [Automatisches, kompaktes Wetterschutzgehäuse für atmosphärische Messgeräte](#) (DE102016005465A1)
- 2012 [Jia Chen](#), Maximilian Fleischer, Andreas Hangauer, Rainer Strzoda. [Measuring Arrangement for Optical Absorption Spectroscopy in Hot Environments](#) (WO2012069510A1, EP2619531B1)
- 2011 [Jia Chen](#), Andreas Hangauer, Rainer Strzoda. [Arrangement for Measuring the Concentration of Oxygen in the Exhaust Gas Region of a Furnace](#) (WO2011092274A1)
- 2011 [Jia Chen](#), Andreas Hangauer, Rainer Strzoda. [Measuring Method and Measuring Device for Optical Gas Measurement](#) (WO2011026924A1, EP2473836A1, US2013162979A1, CN102483377A)
- 2010 [Jia Chen](#), Andreas Hangauer, Rainer Strzoda. [Non-Linear Wavelength Modulation in Laser Spectroscopy](#) (WO2010106064A1)
- 2009 [Jia Chen](#), Andreas Hangauer, Rainer Strzoda. [Anordnung zur Durchführung spektroskopischer Verfahren sowie Verwendung bei spektroskopischen Verfahren](#) (WO2010092108A1, DE102009008624B4)
- 2009 [Jia Chen](#), Andreas Hangauer, Hans Link, Rainer Strzoda. [Method and Device for Controlling or Monitoring Firing Systems and for Monitoring Building Having Gas Burners](#) (WO2010003890A3, EP2304320A2, DE102009009314A1, CN102077028A)
- 2008 [Jia Chen](#), Andreas Hangauer, Rainer Strzoda. [Method for Detection of Gases by Laser Spectroscopy](#) (WO2010003857A1, EP2307876B1, US8830469B2, CN102105779B)
- 2007 [Jia Chen](#), Andreas Hangauer, Rainer Strzoda. [Laser Light Source with at Least Two Individual Lasers](#) (WO2009024504A1, DE102007038943A1)
- 2006 [Jia Chen](#), Oliver Hennig, Rainer Strzoda. [Gas analysis with laser spectroscopy](#) (EP1873513B1)
- 2005 [Jia Chen](#), Klaus Dostert, Thorsten Huck, Juergen Schirmer. [Verfahren und Vorrichtung zum Generieren stochastischer Zufallsvariablen](#) (DE102005063273B4)

BOOKS, BOOK CHAPTERS AND GUIDELINES

1. [Shrutilipi Bhattacharjee](#), [Johannes Madl](#), [Jia Chen](#), [Varad Kshirsagar](#), [Spatiotemporal Analysis](#). In: Encyclopedia of Mathematical Geosciences. Encyclopedia of Earth Sciences Series. Springer, Cham. doi: 10.1007/978-3-030-26050-7_305-1, ISBN: 978-3-030-26050-7, 2022
2. [Shrutilipi Bhattacharjee](#), [Johannes Madl](#), [Jia Chen](#), [Varad Kshirsagar](#), [Spatiotemporal Modeling](#). In: Encyclopedia of Mathematical Geosciences. Encyclopedia of Earth Sciences Series. Springer, Cham. doi: 10.1007/978-3-030-26050-7_418-1, ISBN: 978-3-030-26050-7, 2022
3. [Shrutilipi Bhattacharjee](#), Soumya K. Ghosh, [Jia Chen](#), [Semantic Kriging for Spatio-temporal Prediction](#), Studies in Computational Intelligence book series, Springer Nature, doi: 10.1007/978-981-13-8664-0, ISBN: 978-981-13-8663-3, 2019
4. [Jia Chen](#), [Compact Laser-Spectroscopic Gas Sensors using Vertical-Cavity Surface-Emitting Lasers](#), Dissertation, Selected topics of semiconductor physics and technology, Walter Schottky Institut, 150 pages, ISBN: 978-3-941650-30-5, 2011

5. Jocelyn C. Turnbull, Phil DeCola, Kim Mueller, Felix Vogel, **Jia Chen** et al. [IG3IS Urban Greenhouse Gas Emission Observation and Monitoring Best Research Practices](#), World Meteorological Organization (WMO) GAW IG3IS Report 2021

JOURNAL PUBLICATIONS (IN REVIEW)

1. Abu-Hani, A., **Chen, J.***, Balamurugan, V., Wenzel, A., and Bigi, A.: Transferability of ML-based Global Calibration Models for NO₂ and NO Low-Cost Sensors, *Atmos. Meas. Tech. Discuss.* [preprint], <https://doi.org/10.5194/amt-2023-261>, in review, 2024.
2. Vigneshkumar Balamurugan, **Jia Chen***, Fossil fuel CO₂ emission signatures over India captured by OCO-2 satellite measurements, *ESS Open Archive*, 2024.
3. Humpage, N., Boesch, H., Okello, W., **Chen, J.**, Dietrich, F., Lunt, M. F., Feng, L., Palmer, P. I., and Hase, F.: Greenhouse gas column observations from a portable spectrometer in Uganda, *Atmos. Meas. Tech. Discuss.*, <https://doi.org/10.5194/amt-2023-234>, in review, 2023.
4. Sebastian Lober, Florian Dietrich, **Jia Chen***, "[Computational Fluid Dynamics Model to Simulate Methane Dispersion at Oktoberfest](#)", *Journal of Geophysical Research: Atmospheres*, doi: 10.1002/essoar.10506185.1, 2021.

PEER REVIEWED JOURNAL PUBLICATIONS

1. F. Vogel, S. Ars, D. Wunch, J. Lavoie, L. Gillespie, H. Maazallahi, T. Röckmann, J. Nęcki, J. Bartyzel, P. Jagoda, D. Lowry, J. France, J. Fernandez, S. Bakkaloglu, R. Fisher, M. Lanoiselle, H. Chen, M. Oudshoorn, C. Yver-Kwok, S. Defratyka, J. A. Morgui, C. Estruch, R. Curcoll, C. Grossi, **J. Chen**, F. Dietrich, A. Forstmaier, H. A. C. Denier van der Gon, S. N. C. Dellaert, J. Salo, M. Corbu, S. S. Iancu, A. S. Tudor, A. I. Scarlat, and A. Calcan, [Ground-Based Mobile Measurements to Track Urban Methane Emissions from Natural Gas in 12 Cities across Eight Countries](#), *Environ. Sci. Technol.*, <https://doi.org/10.1021/acs.est.3c03160>, 2024
2. Zhao, X., **Chen, J.***, Marschall, J., Gałkowski, M., Hachinger, S., Dietrich, F., Shekhar, A., Gensheimer, L., Wenzel, A., and Gerbige, C.: [Understanding greenhouse gas \(GHG\) column concentrations in Munich using the Weather Research and Forecasting \(WRF\) model](#): *Atmos. Chem. Phys.*, 23, 14325–14347, <https://doi.org/10.5194/acp-23-14325-2023>, 2023.
3. Balamurugan, V., **Chen, J.***, Wenzel, A., and Keutsch, F. N.: [Spatiotemporal modeling of air pollutant concentrations in Germany using machine learning](#), *Atmos. Chem. Phys.*, 23, 10267–10285, doi: 10.5194/acp-23-10267-2023, 2023.
4. Forstmaier, A., **Chen, J.***, Dietrich, F., Bettinelli, J., Maazallahi, H., Schneider, C., Winkler, D., Zhao, X., Jones, T., van der Veen, C., Wildmann, N., Makowski, M., Uzun, A., Klappenbach, F., Denier van der Gon, H., Schwietzke, S., and Röckmann, T.: [Quantification of methane emissions in Hamburg using a network of FTIR spectrometers and an inverse modeling approach](#), *Atmos. Chem. Phys.*, 23, 6897–6922, <https://doi.org/10.5194/acp-23-6897-2023>, 2023.
5. Patrick Aigner, Moritz Makowski, Andreas Luther, Florian Dietrich, and **Jia Chen***: [Pyra: Automated EM27/SUN Greenhouse Gas Measurement Software](#), *Journal of Open Source Software*, 8, 5131, doi: 10.21105/joss.05131, 2023
6. Florian Dietrich, **Jia Chen***, Ankit Shekhar, Sebastian Lober, Konstantin Krämer, Graham Leggett, Carina van der Veen, Ilona Velzeboer, Hugo Denier van der Gon, Thomas Roeckmann, "[Climate impact comparison of electric and gas-powered end-user appliances](#)", doi: 10.1002/essoar.10509970.1, *Earth's Future*, 11, e2022EF002877, doi: <https://doi.org/10.1029/2022EF002877>
7. M. Reißmann, **J. Chen***, G. Osterman, F. Dietrich, M. Makowski, X. Zhao, F. Hase, M. Kiel, [Validation of OCO-2 target observations using MUCCnet - Is it possible to capture urban XCO₂ gradients from space?](#), *Atmospheric Measurement Techniques*, 15, 6605–6623, doi: 10.5194/amt-15-6605-2022, 2022

8. Zanger, B., **Chen, J.***, Sun, M., and Dietrich, F.: [Recovery of sparse urban greenhouse gas emissions](#), Geoscientific Model Development, 15, 7533–7556, doi: <https://doi.org/10.5194/gmd-15-7533-2022>, 2022.
9. Balamurugan, V., **Chen, J.***, Qu, Z., **Bi, X.**, and Keutsch, F. N.: [Secondary PM decreases significantly less than NO₂ emission reductions during COVID lockdown in Germany](#), Atmos. Chem. Phys., 22, 7105–7129, doi: 10.5194/acp-22-7105-2022, 2022.
10. Wenwen Zhang, Hongtao Xiang, Yuanxi Wang, Xiao Bi, Yanzhe Zhang, Pengju Zhang, **Jia Chen**, Lei Wang, Yuanjin Zheng, [A Signal Response Visualization Gas Recognition Algorithm Based on a Wavelet Transform Coefficient Map-Capsule Network for Artificial Olfaction](#), IEEE sensors journal, doi: 10.1109/JSEN.2022.3184963, 2022.
11. Alberti, C., Hase, F., Frey, M., Dubravica, D., Blumenstock, T., Dehn, A., Castracane, P., Surawicz, G., Harig, R., Baier, B. C., Bès, C., Bi, J., Boesch, H., Butz, A., Cai, Z., **Chen, J.**, Crowell, S. M., Deutscher, N. M., Ene, D., Franklin, J. E., García, O., Griffith, D., Grouiez, B., Grutter, M., Hamdouni, A., Houweling, S., Humpage, N., Jacobs, N., Jeong, S., Joly, L., Jones, N. B., Jouglet, D., Kivi, R., Kleinschek, R., Lopez, M., Medeiros, D. J., Morino, I., Mostafavipak, N., Müller, A., Ohyama, H., Palmer, P. I., Pathakoti, M., Pollard, D. F., Raffalski, U., Ramonet, M., Ramsay, R., Sha, M. K., Shiomi, K., Simpson, W., Stremme, W., Sun, Y., Tanimoto, H., Té, Y., Tsidu, G. M., Velazco, V. A., Vogel, F., Watanabe, M., Wei, C., Wunch, D., Yamasoe, M., Zhang, L., and Orphal, J.: [Improved calibration procedures for the EM27/SUN spectrometers of the Collaborative Carbon Column Observing Network \(COCCON\)](#), Atmos. Meas. Tech., 15, 2433–2463, doi: 10.5194/amt-15-2433-2022, 2022.
12. Luther, A., Kostinek, J., Kleinschek, R., Defratyka, S., Stanisavljevic, M., Forstmaier, A., Dandocsi, A., Scheidweiler, L., Dubravica, D., Wildmann, N., Hase, F., Frey, M. M., **Chen, J.**, Dietrich, F., Necki, J., Swolkien, J., Knote, C., Vardag, S. N., Roiger, A., and Butz, A.: [Observational constraints on methane emissions from Polish coal mines using a ground-based remote sensing network](#), 22, 5859–5876, doi: 10.5194/acp-22-5859-2022, 2022.
13. Gensheimer, J., Turner, A. J., Köhler, P., Frankenberg, C., and **Chen, J.***: [A Convolutional Neural Network for Spatial Downscaling of Satellite-Based Solar-Induced Chlorophyll Fluorescence \(SIFnet\)](#), Biogeosciences, 19, 1777–1793, doi: 10.5194/bg-19-1777-2022, 2022.
14. V. Balamurugan, V. Balamurugan, and **J. Chen***, [“Importance of ozone precursors information in modelling urban surface ozone variability using machine learning model”](#), Scientific reports, 12, 5646, doi: 10.1038/s41598-022-09619-6, 2022
15. Xiangwei Cheng, Wenwen Zhang, Adrian Wenzel, **Jia Chen***, [“Stacked ResNet-LSTM and CORAL model for multi-site air quality prediction”](#), Neural Computing and Applications, doi: 10.1007/s00521-022-07175-8, 2022.
16. Kuhlmann, G., Chan, K. L., Donner, S., Zhu, Y., Schwaerzel, M., Dörner, S., **Chen, J.**, Hueni, A., Nguyen, D. H., Damm, A., Schütt, A., Dietrich, F., Brunner, D., Liu, C., Buchmann, B., Wagner, T., and Wenig, M.: [Mapping the spatial distribution of NO₂ with in situ and remote sensing instruments during the Munich NO₂ imaging campaign](#), Atmos. Meas. Tech., doi: 10.5194/10.5194/amt-15-1609-2022, 2021.
17. V. Balamurugan, **J. Chen***, X. Bi, Z. Qu, J. Gensheimer, A. Shekhar, S. Bhattacharjee, F. Keutsch, [“Tropospheric NO₂ and O₃ response to COVID-19 lockdown restrictions at the national and urban scales in Germany”](#), Journal of Geophysical Research: Atmospheres, 126, e2021JD035440, doi: 10.1029/2021JD035440, 2021
18. Taylor S. Jones, Jonathan E. Franklin, **Jia Chen**, Florian Dietrich, Kristian D. Hajny, Johannes C. Paetzold, Adrian Wenzel, Conor Gately, Elaine Gottlieb, Harrison Parker, Manvendra Dubey, Frank Hase, Paul B. Shepson, Levi H. Mielke, and Steven C. Wofsy, [“Assessing Urban Methane Emissions using Column Observing Portable FTIR Spectrometers and a Novel Bayesian Inversion Framework”](#), Atmos. Chem. Phys., 21, 13131–13147, doi: 10.5194/acp-21-13131-2021, 2021

19. [Jose Vargas Rivero](#), Thiemo Gerbich, Boris Buschardt, **Jia Chen***, "[Data Augmentation of Automotive LIDAR Point Clouds under Adverse Weather Situations](#)", *Sensors*, doi: 10.3390/s21134503, 2021
20. [Wenwen Zhang](#), Lei Wang, **Jia Chen***, [Xiao Bi](#), Chenshen Chen, [Jun Zhang](#), Volker Hans, "[A Novel Gas Recognition and Concentration Estimation Model for an Artificial Olfactory System with a Gas Sensor Array](#)", *IEEE Sensors Journal*, doi: 10.1109/JSEN.2021.3091582, 2021
21. [Johannes Gensheimer](#), Alex Turner, [Ankit Shekhar](#), [Adrian Wenzel](#), Frank N. Keutsch, **Jia Chen***, "[What are different measures of mobility changes telling us about emission reductions during the COVID-19 pandemic?](#)", *Journal of Geophysical Research: Atmospheres*, doi: 10.1029/2021JD034664, 2021
22. [Wenwen Zhang](#), Wenxin Xiao, **Jia Chen***, Lei Wang, [Xiao Bi](#), "[A Novel Gas Recognition and Concentration Detection Algorithm for Artificial Olfaction](#)", *IEEE Transactions on Instrumentation & Measurement*, doi: 10.1109/TIM.2021.3071313, 2021
23. [Jose Vargas Rivero](#), Thiemo Gerbich, Boris Buschardt, **Jia Chen***, "[The Effect of Spray Water on an Automotive LIDAR Sensor: A Real-Time Simulation Study](#)", *IEEE Transactions on Intelligent Vehicles*, doi: 10.1109/TIV.2021.3067892, 2021
24. [Florian Dietrich](#), **Jia Chen***, [Benno Voggenreiter](#), [Patrick Aigner](#), [Nico Nachtigall](#), [Björn Reger](#), "[MUCCnet: Munich Urban Carbon Column network](#)", *Atmospheric Measurement Techniques*, 14, 1111–1126, doi: 10.5194/amt-14-1111-2021, 2021
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25. [A. Shekhar](#), **J. Chen***, [S. Bhattacharjee](#), A. Buras, [A. O. Castro](#), C. Zang, A. Rammig, "[Capturing the impact of the 2018 European drought and heat across different vegetation types using OCO-2 solar-induced fluorescence](#)", *Remote Sensing*, 12(19), 3249, doi: 10.3390/rs12193249, 2020.
26. Q. Tu, F. Hase, T. Blumenstock, R. Kivi, P. Heikkinen, M. K. Sha, U. Raffalski, J. Landgraf, A. Lorente, T. Borsdorff, H. Chen, [F. Dietrich](#), **J. Chen**: "[Intercomparison of atmospheric CO₂ and CH₄ abundances on regional scales in boreal areas using Copernicus Atmosphere Monitoring Service \(CAMS\) analysis, Collaborative Carbon Column Observing Network \(COCCON\) spectrometers, and Sentinel-5 Precursor satellite observations](#)", *Atmospheric Measurement Techniques*, 13, 4751–4771, doi: 10.5194/amt-13-4751-2020, 2020.
27. [A. Forstmaier](#), [A. Shekhar](#), **J. Chen***, "[Mapping of Eucalyptus in Natura 2000 areas using Sentinel 2 imagery and artificial neural networks](#)", *Remote Sensing*, 12(14), 2176, doi: 10.3390/rs12142176, 2020.
28. [A. O. Castro](#), **J. Chen**, C. S. Zang, [A. Shekhar](#), J. C. Jimenez, [S. Bhattacharjee](#), M. Kindu, V. H. Morales, A. Rammig, "[OCO-2 solar-induced chlorophyll fluorescence variability across ecoregions of the Amazon basin and the extreme drought effects of El Niño \(2015–2016\)](#)", *Remote Sensing*, 12(7), 1202, doi: 10.3390/rs12071202, 2020.
29. [L. Lan](#), [H. Ghasemifard](#), Y. Yuan, S. Hachinger, [X. Zhao](#), [S. Bhattacharjee](#), [X. Bi](#), [Y. Bai](#), A. Menzel, **J. Chen***, "[Assessment of urban CO₂ measurement and source attribution in Munich based on TDLAS-WMS and trajectory analysis](#)", *Atmosphere*, 11(1), 58, doi: 10.3390/atmos11010058, 2020.
30. [Jose Roberto Vargas Rivero](#), Thiemo Gerbich, Valentina Teiluf, Boris Buschardt, **Jia Chen***, "[Weather classification using an automotive LIDAR sensor based on detections on asphalt and atmosphere](#)", *Sensors*, 20(15), 4306, doi: 10.3390/s20154306, 2020
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35. [Shrutilipi Bhattacharjee](#), [Jia Chen*](#) and Soumya K. Ghosh, “[Spatio-temporal Prediction of Land Surface Temperature using Semantic Kriging](#)”, Transactions in GIS, 24 (1), 189–212, doi: 10.1111/tgis.12596, 2020
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150. A. Hangauer, **J. Chen**, R. Strzoda, M.-C. Amann, "Accurate measurement of the wavelength modulation phase shift of tunable vertical cavity surface-emitting lasers (VCSELs)", Programme and Abstracts, Conference on Semiconductor and Integrated Optoelectronics 2008, Cardiff, GB, Abstract 38, Apr. 2008
151. A. Hangauer, **J. Chen**, R. Strzoda, M.-C. Amann, "Reconstruction of the Transmission from n-th harmonic Spectra", International Conference on Field Laser Applications in Industry and Research 2007, Florence, Italy, post-deadline paper, Sept. 2007
152. A. Hangauer, **J. Chen**, M.-C. Amann, "Straightforward modeling of the nth harmonic signals used in wavelength modulation spectroscopy and their mathematical properties", Book of Abstracts, 6th International Conference on Tunable Diode Laser Spectroscopy 2007, Reims, France, Abstract D-15, Jul. 2007
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spectroscopy for measurement and characterization of the current to wavelength tuning frequency response of VCSELs”, Book of Abstracts, 6th International Conference on Tunable Diode Laser Spectroscopy 2007, Reims, France, Abstract C-15, Jul. 2007

DATASET PUBLICATION

1. Dietrich, Florian; **Chen, Jia**; Forstmaier, Andreas; Bi, Xiao; Reger, Björn; Luther, Andreas; Matzke, Jared; Ramezani, Mohammad; Hase, Frank; Butz, André (2023): [Column-averaged dry-air mole fractions of CO₂, CH₄ and CO recorded during an urban measurement campaign in Munich in August 2018 with five solar-tracking Fourier transform spectrometers \(EM27/SUN\)](#). PANGAEA, doi: 10.1594/PANGAEA.962966, 2023

SELECTED INVITED AND KEYNOTE TALKS

- 04/2023 [Novel Sensor Networks and Methods for Urban Greenhouse Gas Monitoring](#), EGU General Assembly 2023, Vienna, Austria (session highlight)
- 06/2022 [Novel approaches to identify and quantify urban sources and sinks of greenhouse gases](#), 25 year anniversary symposium, **Max Planck Institute** for Biogeochemistry, Jena, Germany
- 05/2022 [Sensing and Modeling of Greenhouse Gases and Air Pollutants in Urban Environments](#), International Conference Society and Sustainability, Bucharest, Romania.
- 04/2022 [Novel methods for quantifying greenhouse gases and air pollutants in cities](#), **Leibniz Institute** for Agricultural Engineering and Bioeconomy
- 03/2022 [Greenhouse Gases and Air Pollutants in the Urban Environment: Uncovering the Unknown](#), Department of Earth and Planetary Sciences Colloquium, **Harvard University**
- 07/2021 [FTS Open Path Measurements Around Munich](#), **OSA Optical Sensors and Sensing Congress**
- 12/2020 [Stories about the Munich Urban greenhouse gas Column network \(MUCnet\) and the Oktoberfest](#), Atmospheric & Environmental Chemistry Seminar, **Harvard University**
- 06/2020 “Ground-based Remote Sensing”, **World Meteorological Organization (WMO)** IG3IS workshop [“Towards an International standard for Urban GHG Monitoring and assessment”](#)
- 08/2018 “Differential Column Network for Monitoring Urban Greenhouse Gas and Pollutant Emissions”, Leibniz-Institut für Troposphärenforschung (**TROPOS**), Leipzig, Germany
- 06/2018 “Here comes the sun: A new carbon detective story”, Symposium Celebration of Science and Times for Steven C. Wofsy, **Harvard University**, Cambridge, USA
- 11/2016 “Atmospheric Measurements for Urban Emission Estimates of Greenhouse Gases”, **UC Berkeley**, California, USA
- 02/2015 “Compact Ground-based Solar-tracking Spectrometers for Column Gradient Measurements”, [Atomic and Molecular Physics Division \(AMP\) seminar](#), **Harvard-Smithsonian Center** for Astrophysics, Cambridge, USA
- 06/2014 “Boston Column Network: Solar-Tracking Spectrometers for Urban Air Quality”, [IEEE International Conference on Universal Village](#), Massachusetts Institute of Technology (**MIT**), Cambridge, USA
- 04/2014 “Boston Column Network: Compact Solar-Tracking Spectrometer and Eulerian Modeling”, [Colloquia](#), **Max-Planck-Institute** for Biogeochemistry, Jena, Germany
- 10/2013 “[Mobilität der Zukunft – ein internationaler Diskurs](#)”, **VDE MINT** Symposium Mobilität der Zukunft, Munich, Germany
- 11/2012 “Compact Gas Sensors for Household, Industrial and Environmental Applications”, **Universität Potsdam**, Potsdam, Germany

05/2008 “Overview on Siemens CT Research Activities in Laser Based Gas Sensing”, **Princeton University**, Princeton, USA