

# Christoph Knote

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38 peer-reviewed publications, 1238 total citations, h-index: 18 (Google Scholar)

## Peer-reviewed publications

### 2018

Andreae, M. O., Afchine, A., Albrecht, R., Holanda, B. A., Artaxo, P., Barbosa, H. M. J., Borrmann, S., Cecchini, M. A., Costa, A., Dollner, M., Fütterer, D., Järvinen, E., Jurkat, T., Klimach, T., Konemann, T., **Knote, C.**, Krämer, M., Krisna, T., Machado, L. A. T., Mertes, S., Minikin, A., Pöhlker, C., Pöhlker, M. L., Pöschl, U., Rosenfeld, D., Sauer, D., Schlager, H., Schnaiter, M., Schneider, J., Schulz, C., Spanu, A., Sperling, V. B., Voigt, C., Walser, A., Wang, J., Weinzierl, B., Wendisch, M., and Ziereis, H. (2018). “Aerosol characteristics and particle production in the upper troposphere over the Amazon Basin”. In: *Atmospheric Chemistry and Physics* 18.2, pp. 921–961. DOI: 10.5194/acp-18-921-2018.

Conibear, L., Butt, E. W., **Knote, C.**, Arnold, S. R., and Spracklen, D. V. (2018a). “Stringent Emission Control Policies Can Provide Large Improvements in Air Quality and Public Health in India”. In: *GeoHealth* 2.7, pp. 196–211. DOI: 10.1029/2018GH000139.

Conibear, L., Butt, E. W., **Knote, C.**, Spracklen, D. V., and Arnold, S. R. (2018). “Current and Future Disease Burden From Ambient Ozone Exposure in India”. In: *GeoHealth* 2.11, pp. 334–355. DOI: 10.1029/2018GH000168.

Conibear, L., Butt, E. W., **Knote, C.**, Arnold, S. R., and Spracklen, D. V. (2018b). “Residential energy use emissions dominate health impacts from exposure to ambient particulate matter in India”. In: *Nature Communications* 9.1, p. 617. DOI: 10.1038/s41467-018-02986-7.

**Knote, C.**, Barré, J., and Eckl, M. (2018). “BEATBOX v1.0: Background Error Analysis Testbed with Box Models”. In: *Geoscientific Model Development* 11.2, pp. 561–573. DOI: 10.5194/gmd-11-561-2018.

Nault, B. A., Campuzano-Jost, P., Day, D. A., Schroder, J. C., Anderson, B., Beyersdorf, A. J., Blake, D. R., Brune, W. H., Choi, Y., Corr, C. A., Gouw, J. A. de, Dibb, J., DiGangi, J. P., Diskin, G. S., Fried, A., Huey, L. G., Kim, M. J., **Knote, C.**, Lamb, K. D., Lee, T., Park, T., Pusede, S. E., Scheuer, E., Thornhill, K. L., Woo, J.-H., and Jimenez, J. L. (2018). “Secondary organic aerosol production from local emissions dominates the organic aerosol budget over Seoul, South Korea, during KORUS-AQ”. In: *Atmospheric Chemistry and Physics* 18.24, pp. 17769–17800. DOI: 10.5194/acp-18-17769-2018.

Schulz, C., Schneider, J., Amorim Holanda, B., Appel, O., Costa, A., Sá, S. S. de, Dreiling, V., Fütterer, D., Jurkat-Witschas, T., Klimach, T., **Knote, C.**, Krämer, M., Martin, S. T., Mertes, S., Pöhlker, M. L., Sauer, D., Voigt, C., Walser, A., Weinzierl, B., Ziereis, H., Zöger, M., Andreae, M. O., Artaxo, P., Machado, L. A. T., Pöschl, U., Wendisch, M., and Borrmann, S. (2018). “Aircraft-based observations of isoprene-epoxydiol-derived secondary organic aerosol (IEPOX-SOA) in the tropical upper troposphere over the Amazon region”. In: *Atmospheric Chemistry and Physics* 18.20, pp. 14979–15001. DOI: 10.5194/acp-18-14979-2018.

### 2017

Zaragoza, J., Callahan, S., McDuffie, E. E., Kirkland, J., Brophy, P., Durrett, L., Farmer, D. K., Zhou, Y., Sive, B., Flocke, F., Pfister, G., **Knote, C.**, Tevlin, A., Murphy, J., and Fischer, E. V. (2017). “Observations of Acyl Peroxy Nitrates During the Front Range Air Pollution and Photochemistry

Experiment (FRAPPÉ)”. In: *Journal of Geophysical Research: Atmospheres* 122.22. DOI: 10.1002/2017JD027337.

## 2016

Gratz, L., Ambrose, J., Jaffe, D., **Knote, C.**, Jaeglé, L., Selin, N., Campos, T., Flocke, F., Reeves, M., Stechman, D., Steil, M., Weinheimer, A., Knapp, D., Montzka, D., Tyndall, G., Mauldin, R. L., Cantrell, C., Apel, E. C., Hornbrook, R. S., and Blake, N. (2016). “Airborne observations of mercury emissions from the Chicago/Gary urban/industrial area during the 2013 NOMADSS campaign”. In: *Atmospheric Environment* 145, pp. 415–423.

Li, R., Palm, B. B., Ortega, A. M., Hlywiak, J., Hu, W., Peng, Z., Day, D. A., **Knote, C.**, Brune, W. H., Gouw, J. A. de, and Jimenez, J. L. (2016). “Correction to “Modeling the Radical Chemistry in an Oxidation Flow Reactor: Radical Formation and Recycling, Sensitivities, and the OH Exposure Estimation Equation””. In: *The Journal of Physical Chemistry A* 120.16, pp. 2605–2605.

Sullivan, J. T., McGee, T. J., Langford, A. O., Alvarez, R. J., Senff, C. J., Reddy, P. J., Thompson, A. M., Twigg, L. W., Sumnicht, G. K., Lee, P., Weinheimer, A., **Knote, C.**, Long, R. W., and Hoff, R. M. (2016). “Quantifying the Contribution of Thermally-Driven Recirculation to a High Ozone Event along the Colorado Front Range using Lidar”. In: *Journal of Geophysical Research: Atmospheres*. 2016JD025229. DOI: 10.1002/2016JD025229.

Ye, C., Zhou, X., Pu, D., Stutz, J., Festa, J., Spolaor, M., Tsai, C., Cantrell, C., Mauldin, R. L., Campos, T., Weinheimer, A., Hornbrook, R. S., Apel, E. C., Guenther, A., Kaser, L., Yuan, B., Karl, T., Haggerty, J., Hall, S., Ullmann, K., Smith, J. N., Ortega, J., and **Knote, C.** (2016). “Rapid cycling of reactive nitrogen in the marine boundary layer”. In: *Nature* 532.7600, pp. 489–491. DOI: 10.1038/nature17195.

## 2015

Allen, H. M., Draper, D. C., Ayres, B. R., Ault, A., Bondy, A., Takahama, S., Modini, R. L., Baumann, K., Edgerton, E., **Knote, C.**, Laskin, A., Wang, B., and Fry, J. L. (2015). “Influence of crustal dust and sea spray supermicron particle concentrations and acidity on inorganic  $\text{NO}_3^-$  aerosol during the 2013 Southern Oxidant and Aerosol Study”. In: *Atmospheric Chemistry and Physics* 15.18, pp. 10669–10685. DOI: 10.5194/acp-15-10669-2015.

Brunner, D., Savage, N., Jorba, O., Eder, B., Giordano, L., Badia, A., Balzarini, A., Baró, R., Bianconi, R., Chemel, C., Curci, G., Forkel, R., Jiménez-Guerrero, P., Hirtl, M., Hodzic, A., Honzak, L., Im, U., **Knote, C.**, Makar, P., Manders-Groot, A., Meijgaard, E. van, Neal, L., Pérez, J. L., Pirovano, G., Jose, R. S., Schröder, W., Sokhi, R. S., Syrakov, D., Torian, A., Tuccella, P., Werhahn, J., Wolke, R., Yahya, K., Zabkar, R., Zhang, Y., Hogrefe, C., and Galmarini, S. (2015). “Comparative analysis of meteorological performance of coupled chemistry-meteorology models in the context of AQMEII phase 2”. In: *Atmospheric Environment* 115, pp. 470–498. DOI: 10.1016/j.atmosenv.2014.12.032.

Budisulistiorini, S. H., Li, X., Bairai, S. T., Renfro, J., Liu, Y., Liu, Y. J., McKinney, K. A., Martin, S. T., McNeill, V. F., Pye, H. O. T., Nenes, A., Neff, M. E., Stone, E. A., Mueller, S., **Knote, C.**, Shaw, S. L., Zhang, Z., Gold, A., and Surratt, J. D. (2015). “Examining the effects of anthropogenic emissions on isoprene-derived secondary organic aerosol formation during the 2013 Southern Oxidant and Aerosol Study (SOAS) at the Look Rock, Tennessee ground site”. In: *Atmospheric Chemistry and Physics* 15.15, pp. 8871–8888. DOI: 10.5194/acp-15-8871-2015.

Campbell, P., Zhang, Y., Yahya, K., Wang, K., Hogrefe, C., Pouliot, G., **Knote, C.**, Hodzic, A., Jose, R. S., Perez, J. L., Guerrero, P. J., Baro, R., and Makar, P. (2015). “A multi-model assessment for the 2006 and 2010 simulations under the Air Quality Model Evaluation International Initiative (AQMEII)

phase 2 over North America: Part I. Indicators of the sensitivity of O<sub>3</sub> and PM<sub>2.5</sub> formation regimes”. In: *Atmospheric Environment* 115, pp. 569–586. DOI: 10.1016/j.atmosenv.2014.12.026.

Curci, G., Hogrefe, C., Bianconi, R., Im, U., Balzarini, A., Baró, R., Brunner, D., Forkel, R., Giordano, L., Hirtl, M., Honzak, L., Jiménez-Guerrero, P., **Knote, C.**, Langer, M., Makar, P., Pirovano, G., Pérez, J., José, R. S., Syrakov, D., Tuccella, P., Werhahn, J., Wolke, R., Žabkar, R., Zhang, J., and Galmarini, S. (2015). “Uncertainties of simulated aerosol optical properties induced by assumptions on aerosol physical and chemical properties: An AQMEII-2 perspective”. In: *Atmospheric Environment* 115, pp. 541–552. DOI: 10.1016/j.atmosenv.2014.09.009.

Giordano, L., Brunner, D., Flemming, J., Hogrefe, C., Im, U., Bianconi, R., Badia, A., Balzarini, A., Baró, R., Chemel, C., Curci, G., Forkel, R., Jiménez-Guerrero, P., Hirtl, M., Hodzic, A., Honzak, L., Jorba, O., **Knote, C.**, Kuenen, J., Makar, P., Manders-Groot, A., Neal, L., Pérez, J., Pirovano, G., Pouliot, G., José, R. S., Savage, N., Schröder, W., Sokhi, R., Syrakov, D., Torian, A., Tuccella, P., Werhahn, J., Wolke, R., Yahya, K., Žabkar, R., Zhang, Y., and Galmarini, S. (2015). “Assessment of the MACC reanalysis and its influence as chemical boundary conditions for regional air quality modeling in AQMEII-2”. In: *Atmospheric Environment* 115, pp. 371–388. DOI: 10.1016/j.atmosenv.2015.02.034.

Im, U., Bianconi, R., Solazzo, E., Kioutsioukis, I., Badia, A., Balzarini, A., Baró, R., Bellasio, R., Brunner, D., Chemel, C., Curci, G., Flemming, J., Forkel, R., Giordano, L., Jiménez-Guerrero, P., Hirtl, M., Hodzic, A., Honzak, L., Jorba, O., **Knote, C.**, Kuenen, J. J., Makar, P. A., Manders-Groot, A., Neal, L., Pérez, J. L., Pirovano, G., Pouliot, G., Jose, R. S., Savage, N., Schroder, W., Sokhi, R. S., Syrakov, D., Torian, A., Tuccella, P., Werhahn, J., Wolke, R., Yahya, K., Zabkar, R., Zhang, Y., Zhang, J., Hogrefe, C., and Galmarini, S. (2015). “Evaluation of operational on-line-coupled regional air quality models over Europe and North America in the context of AQMEII phase 2. Part I: Ozone”. In: *Atmospheric Environment* 115, pp. 404–420. DOI: 10.1016/j.atmosenv.2014.09.042.

Im, U., Bianconi, R., Solazzo, E., Kioutsioukis, I., Badia, A., Balzarini, A., Baró, R., Bellasio, R., Brunner, D., Chemel, C., Curci, G., Gon, H. D. van der, Flemming, J., Forkel, R., Giordano, L., Jiménez-Guerrero, P., Hirtl, M., Hodzic, A., Honzak, L., Jorba, O., **Knote, C.**, Makar, P. A., Manders-Groot, A., Neal, L., Pérez, J. L., Pirovano, G., Pouliot, G., Jose, R. S., Savage, N., Schroder, W., Sokhi, R. S., Syrakov, D., Torian, A., Tuccella, P., Wang, K., Werhahn, J., Wolke, R., Zabkar, R., Zhang, Y., Zhang, J., Hogrefe, C., and Galmarini, S. (2015). “Evaluation of operational online-coupled regional air quality models over Europe and North America in the context of AQMEII phase 2. Part II: Particulate matter”. In: *Atmospheric Environment* 115, pp. 421–441. DOI: 10.1016/j.atmosenv.2014.08.072.

Kaser, L., Karl, T., Yuan, B., Mauldin, R. L., Cantrell, C. A., Guenther, A. B., Patton, E. G., Weinheimer, A. J., **Knote, C.**, Orlando, J., Emmons, L., Apel, E., Hornbrook, R., Shertz, S., Ullmann, K., Hall, S., Graus, M., Gouw, J. de, Zhou, X., and Ye, C. (2015). “Chemistry-turbulence interactions and mesoscale variability influence the cleansing efficiency of the atmosphere”. In: *Geophysical Research Letters* 42.24. 2015GL066641, pp. 10, 894–10, 903. DOI: 10.1002/2015GL066641.

**Knote, C.**, Hodzic, A., and Jimenez, J. L. (2015). “The effect of dry and wet deposition of condensable vapors on secondary organic aerosols concentrations over the continental US”. In: *Atmospheric Chemistry and Physics* 15.1, pp. 1–18. DOI: 10.5194/acp-15-1-2015.

**Knote, C.**, Tuccella, P., Curci, G., Emmons, L., Orlando, J. J., Madronich, S., Baró, R., Jiménez-Guerrero, P., Luecken, D., Hogrefe, C., Forkel, R., Werhahn, J., Hirtl, M., Pérez, J. L., José, R. S., Giordano, L., Brunner, D., Yahya, K., and Zhang, Y. (2015). “Influence of the choice of gas-phase mechanism on predictions of key gaseous pollutants during the AQMEII phase-2 intercomparison”. In: *Atmospheric Environment* 115, pp. 553–568. DOI: 10.1016/j.atmosenv.2014.11.066.

Li, R., Palm, B. B., Ortega, A. M., Hlywiak, J., Hu, W., Peng, Z., Day, D. A., **Knote, C.**, Brune, W. H., Gouw, J. A. de, and Jimenez, J. L. (2015). “Modeling the Radical Chemistry in an Oxidation Flow Reactor: Radical Formation and Recycling, Sensitivities, and the OH Exposure Estimation Equation”.

In: *The Journal of Physical Chemistry A* 119.19. PMID: 25789976, pp. 4418–4432. DOI: 10.1021/jp509534k.

Wang, K., Yahya, K., Zhang, Y., Hogrefe, C., Pouliot, G., **Knote, C.**, Hodzic, A., Jose, R. S., Perez, J. L., Jiménez-Guerrero, P., Baro, R., Makar, P., and Bennartz, R. (2015). “A multi-model assessment for the 2006 and 2010 simulations under the Air Quality Model Evaluation International Initiative (AQMEII) Phase 2 over North America: Part II. Evaluation of column variable predictions using satellite data”. In: *Atmospheric Environment* 115, pp. 587–603. DOI: 10.1016/j.atmosenv.2014.07.044.

Xu, L., Guo, H., Boyd, C. M., Klein, M., Bougiatioti, A., Cerully, K. M., Hite, J. R., Isaacman-VanWertz, G., Kreisberg, N. M., **Knote, C.**, Olson, K., Koss, A., Goldstein, A. H., Hering, S. V., Gouw, J. de, Baumann, K., Lee, S.-H., Nenes, A., Weber, R. J., and Ng, N. L. (2015). “Effects of anthropogenic emissions on aerosol formation from isoprene and monoterpenes in the southeastern United States”. In: *Proceedings of the National Academy of Sciences* 112.1, pp. 37–42. DOI: 10.1073/pnas.1417609112.

Zheng, Y., Unger, N., Hodzic, A., Emmons, L., **Knote, C.**, Tilmes, S., Lamarque, J.-F., and Yu, P. (2015). “Limited effect of anthropogenic nitrogen oxides on secondary organic aerosol formation”. In: *Atmospheric Chemistry and Physics* 15.23, pp. 13487–13506. DOI: 10.5194/acp-15-13487-2015.

## 2014

Hodzic, A., Aumont, B., **Knote, C.**, Lee-Taylor, J., Madronich, S., and Tyndall, G. (2014). “Volatility dependence of Henry’s law constants of condensable organics: Application to estimate depositional loss of secondary organic aerosols”. In: *Geophysical Research Letters* 41.13. 2014GL060649, pp. 4795–4804. DOI: 10.1002/2014GL060649.

**Knote, C.**, Hodzic, A., Jimenez, J. L., Volkamer, R., Orlando, J. J., Baidar, S., Brioude, J., Fast, J., Gentner, D. R., Goldstein, A. H., Hayes, P. L., Knighton, W. B., Oetjen, H., Setyan, A., Stark, H., Thalman, R., Tyndall, G., Washenfelder, R., Waxman, E., and Zhang, Q. (2014). “Simulation of semi-explicit mechanisms of SOA formation from glyoxal in aerosol in a 3-D model”. In: *Atmospheric Chemistry and Physics* 14.12, pp. 6213–6239. DOI: 10.5194/acp-14-6213-2014.

Kumar, R., Barth, M. C., Madronich, S., Naja, M., Carmichael, G. R., Pfister, G. G., **Knote, C.**, Brasseur, G. P., Ojha, N., and Sarangi, T. (2014). “Effects of dust aerosols on tropospheric chemistry during a typical pre-monsoon season dust storm in northern India”. In: *Atmospheric Chemistry and Physics* 14.13, pp. 6813–6834. DOI: 10.5194/acp-14-6813-2014.

## 2013

Athanasopoulou, E., Vogel, H., Vogel, B., Tsimpidi, A. P., Pandis, S. N., **Knote, C.**, and Fountoukis, C. (2013). “Modeling the meteorological and chemical effects of secondary organic aerosols during an EUCAARI campaign”. In: *Atmospheric Chemistry and Physics* 13.2, pp. 625–645. DOI: 10.5194/acp-13-625-2013.

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## 2012

## 2011

**Knote, C.**, Brunner, D., Vogel, H., Allan, J., Asmi, A., Äijälä, M., Carbone, S., Gon, H. D. van der, Jimenez, J. L., Kiendler-Scharr, A., Mohr, C., Poulain, L., Prévôt, A. S. H., Swietlicki, E., and Vogel,

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## 2010

**Knote, C.**, Heinemann, G., and Rockel, B. (2010). “Changes in weather extremes: Assessment of return values using high resolution climate simulations at convection-resolving scale”. In: *Meteorologische Zeitschrift* 19.1, pp. 11–23.

## 2009

**Knote, C.**, Bonafe, G., and Giuseppe, F. D. (2009). “Leaf area index specification for use in mesoscale weather prediction systems”. In: *Monthly Weather Review* 137.10, pp. 3535–3550.

## Other, non peer-reviewed publications

Brunner, D., **Knote, C.**, Giordano, L., and Hueglin, C. (2014). “Increases in Wintertime Oxidation Capacity Counteract the Success of Emission Reduction Measures in Europe with Respect to Secondary Inorganic Aerosols”. In: *Air Pollution Modeling and its Application XXIII*. Springer International Publishing, pp. 115–119.

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**Knote, C.** (2012). “Regional scale impacts of changing anthropogenic emissions on aerosols”. PhD thesis. Diss., Eidgenössische Technische Hochschule ETH Zürich, Nr. 20227.