

DR. MISKA OLIN

Aerosol physicist and chemist with 12 years experience on aerosol dynamics, CFD, and CTM modelling, model development, planning, running, and data handling of aerosol, gas, and cluster measurements, including mass spectrometers and several particle measurement instruments, both in laboratory and field environments.



CONTACT

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SKILLS

Programming

Matlab ●●●●●●
C ●●●●●●
LaTeX ●●●●●●
Fortran ●●●●●●
Bash ●●●●●●
Python ●●●●●●
Github ●●●●●●
HTML & PHP ●●●●●●

Software

ANSYS Fluent (CFD) ●●●●●●
Matlab ●●●●●●
MS Office ●●●●●●
PMCAMx-UF (CTM) ●●●●●●

Data analysis

Mass spectrometric data ●●●●●●
Particle size distributions ●●●●●●
Particle concentrations ●●●●●●
PMF ●●●●●●
Gas data ●●●●●●

Modelling

CFD ●●●●●●
3-D aerosol dynamics ●●●●●●
0-D aerosol dynamics ●●●●●●
Particle size distributions ●●●●●●
Inverse modelling ●●●●●●
CTM with aerosol ●●●●●●

Measurement experience

Field experiments ●●●●●●
Laboratory experiments ●●●●●●
Mobile experiments ●●●●●●
Aerosol measurements ●●●●●●
(e.g., PSM, CPC, SMPS, ELPI)
Chemical measurements ●●●●●●
(e.g., CI-API-TOF, FIGAERO, PTR-TOF, AMS)

Languages

Finnish ●●●●●●
English ●●●●●●
German ●●●●●●
Swedish ●●●●●●

PERSONAL INFORMATION

Nationality: Finnish
Date of birth: 26 June 1985
Gender: male

WORK EXPERIENCE

📅 01/2021 - Current
📍 Aerosol Physics Laboratory, Tampere University
Postdoctoral Research Fellow

📅 01/2014 - Current
📍 Physics Student Laboratory, Tampere University
Hourly-Paid Teacher

📅 01/2014 - 12/2020
📍 Aerosol Physics Laboratory, Tampere University
Doctoral Student

📅 05/2010 - 12/2013
📍 Aerosol Physics Laboratory, Tampere University of Technology
Research Assistant

EDUCATION

📅 01/2014 - 10/2021
📍 Tampere University
Major: Physics. Thesis: *On Sulfuric Acid and Nanocluster Formation in Vehicle Exhaust*
Doctor of Science (Technology)

📅 06/2012 - 12/2013
📍 Tampere University of Technology
GPA: 4.19/5 (with distinction). Major: Advanced Engineering Physics.
Thesis: *Dieselpakokaasun hiukkaspäästöjen muodostumisprosessin simulointi*
Master of Science (Technology)

📅 09/2009 - 06/2012
📍 Tampere University of Technology
GPA: 4.31/5 (with distinction). Major: Advanced Engineering Physics.
Thesis: *Dieselpakokaasun laimenemisprosessin numeerinen simulointi*
Bachelor of Science (Technology)

PUBLICATION STATISTICS

Total peer-reviewed publications: 16
First author peer-reviewed publications: 8
Total citations: 265
h-index: 7

OTHER RESEARCH OUTPUT

🔧 Developer of Modal aerosol dynamics model for computational fluid dynamics (CFD-TUTMAM)

🔧 Developer of Combined power law and log-normal particle size distribution (PL+LN) method

MISKA OLIN - PUBLICATION LIST

1. PEER-REVIEWED PUBLICATIONS AS THE FIRST AUTHOR

- Jun 2022* [Measurement report: Atmospheric new particle formation in a coastal agricultural site explained with binPMF analysis of nitrate CI-APi-TOF spectra](#)
- Peer-reviewed article* Atmospheric Chemistry and Physics, 22, 8097–8115, 2022
Authors: **Miska Olin**, Magdalena Okuljar, Matti P. Rissanen, Joni Kalliokoski, Jiali Shen, Lubna Dada, Markus Lampimäki, Yusheng Wu, Annalea Lohila, Jonathan Duplissy, Mikko Sipilä, Tuukka Petäjä, Markku Kulmala, Miikka Dal Maso
- Jan 2022* [Contribution of traffic-originated nanoparticle emissions to regional and local aerosol levels](#)
- Peer-reviewed article* Atmospheric Chemistry and Physics, 22, 1131-1148, 2022
Authors: **Miska Olin**, David Patoulias, Heino Kuuluvainen, Jarkko V. Niemi, Topi Rönkkö, Spyros N. Pandis, Ilona Riipinen, Miikka Dal Maso
- Dec 2020* [CFD modeling the diffusional losses of nanocluster-sized particles and condensing vapors in 90° bends of circular tubes](#)
- Peer-reviewed article* Journal of Aerosol Science, 150, 105618, 2020
Authors: **Miska Olin**, Miikka Dal Maso
- August 2020* [On Sulfuric Acid and Nanocluster Formation in Vehicle Exhaust](#)
- D.Sc. Thesis* Tampere University
Author: **Miska Olin**
- Jan 2020* [Traffic-originated nanocluster emission exceeds H₂SO₄-driven photochemical new particle formation in an urban area](#)
- Peer-reviewed article* Atmospheric Chemistry and Physics, 20, 1-13, 2020
Authors: **Miska Olin**, Heino Kuuluvainen, Minna Aurela, Joni Kalliokoski, Niina Kuittinen, Mia Isotalo, Hilikka J. Timonen, Jarkko V. Niemi, Topi Rönkkö, Miikka Dal Maso
- May 2019* [Inversely modeling homogeneous H₂SO₄-H₂O nucleation rate in exhaust-related conditions](#)
- Peer-reviewed article* Atmospheric Chemistry and Physics, 19, 6367-6388, 2019
Authors: **Miska Olin**, Jenni Alanen, Marja R. T. Palmroth, Topi Rönkkö, Miikka Dal Maso
- Jun 2016* [Using a combined power law and log-normal distribution model to simulate particle formation and growth in a mobile aerosol chamber](#)
- Peer-reviewed article* Atmospheric Chemistry and Physics, 16, 7067-7090, 2016
Authors: **Miska Olin**, Tatu Anttila, Miikka Dal Maso

May 2015 [CFD modeling of a vehicle exhaust laboratory sampling system: sulfur-driven nucleation and growth in diluting diesel exhaust](#)

Peer-reviewed
article

Atmospheric Chemistry and Physics, 15, 5305-5323, 2015
Authors: **Miska Olin**, Topi Rönkkö, Miikka Dal Maso

2. PEER-REVIEWED PUBLICATIONS AS A CO-AUTHOR

Sep 2022 [Particle number, mass, and black carbon emissions from fuel-operated auxiliary heaters in real vehicle use](#)

Peer-reviewed
article

Atmospheric Environment: X, 16, 100189, 2022
Authors: Henri Oikarinen, **Miska Olin**, Sampsa Martikainen, Ville Leinonen, Santtu Mikkonen, Panu Karjalainen

Dec 2021 [Chemical and physical characterization of oil shale combustion emissions in Estonia](#)

Peer-reviewed
article

Atmospheric Environment: X, 12, 100139, 2021
Authors: Minna Aurela, Fanni Mylläri, Alar Konist, Sanna Saarikoski, **Miska Olin**, Pauli Simonen, Matthew Bloss, Dmitri Nešumajev, Laura Salo, Marek Maasikmets, Mikko Sipilä, Miikka Dal Maso, Jorma Keskinen, Hilikka Timonen, Topi Rönkkö

Aug 2021 [Fuel-Operated Auxiliary Heaters Are a Major Additional Source of Vehicular Particulate Emissions in Cold Regions](#)

Peer-reviewed
article

Atmosphere, 12, 1105, 2021
Authors: Panu Karjalainen, Markus Nikka, **Miska Olin**, Sampsa Martikainen, Antti Rostedt, Anssi Arffman, Santtu Mikkonen

Jul 2021 [Measurement report: The influence of traffic and new particle formation on the size distribution of 1–800 nm particles in Helsinki – a street canyon and an urban background station comparison](#)

Peer-reviewed
article

Atmospheric Chemistry and Physics, 21, 9931-9953, 2021
Authors: Magdalena Okuljar, Heino Kuuluvainen, Jenni Kontkanen, Olga Garmash, **Miska Olin**, Jarkko V. Niemi, Hilikka Timonen, Juha Kangasluoma, Yee Jun Tham, Rima Baalbaki, Mikko Sipilä, Laura Salo, Henna Lintusaari, Harri Portin, Kimmo Teinilä, Minna Aurela, Miikka Dal Maso, Topi Rönkkö, Tuukka Petäjä, Pauli Paasonen

Jan 2021 [Direct field evidence of autocatalytic iodine release from atmospheric aerosol](#)

Peer-reviewed
article

Proceedings of the National Academy of Sciences of the USA, 118, e2009951118, 2021
Authors: Yee Jun Tham, Xu-Cheng He, Qinyi Li, Carlos A. Cuevas, Jiali Shen, Joni Kalliokoski, Chao Yan, Siddharth Iyer, Tuuli Lehmusjärvi, Sehyun Jang, Roseline C. Thakur, Lisa Beck, Deniz Kemppainen, **Miska Olin**, Nina Sarnela, Jyri Mikkilä, Jani Hakala, Marjan Marbouti, Lei Yao, Haiyan Li, Wei Huang, Yonghong Wang, Daniela Wimmer, Qiaozhi Zha, Juhani Virkanen, T. Gerard Spain, Simon O'Doherty, Tuija Jokinen, Federico Bianchi, Tuukka Petäjä, Douglas R. Worsnop, Roy L. Mauldin, Jurgita Ovadnevaite, Darius Ceburnis, Norbert M. Maier, Markku Kulmala, Colin O'Dowd, Miikka Dal Maso, Alfonso Saiz-Lopez, Mikko Sipilä

- Peer-reviewed article* Jul 2020 [Nonvolatile ultrafine particles observed to form trimodal size distributions in non-road diesel engine exhaust](#)
Aerosol Science and Technology, 54, 1345-1358, 2020
Authors: Heino Kuuluvainen, Panu Karjalainen, Erkka Saukko, Teemu Ovaska, Katriina Sirviö, Mari Honkanen, **Miska Olin**, Seppo Niemi, Jorma Keskinen, Topi Rönkkö
- Peer-reviewed article* Feb 2020 [Detection of gaseous species during KCl-induced high-temperature corrosion by the means of CPFAAS and CI-APi-TOF](#)
Materials and Corrosion, 71, 222-231, 2020
Authors: Juho Lehmusto, **Miska Olin**, Jan Viljanen, Joni Kalliokoski, Fanni Mylläri, Juha Toivonen, Miikka Dal Maso, Leena Hupa
- Peer-reviewed article* Jul 2017 [Traffic is a major source of atmospheric nanocluster aerosol](#)
Proceedings of the National Academy of Sciences of the USA, 114, 7549-7554, 2017
Authors: Topi Rönkkö, Heino Kuuluvainen, Panu Karjalainen, Jorma Keskinen, Risto Hillamo, Jarkko V. Niemi, Liisa Pirjola, Hilikka J. Timonen, Sanna Saarikoski, Erkka Saukko, Anssi Järvinen, Henna Silvennoinen, Antti Rostedt, **Miska Olin**, Jaakko Yli-Ojanperä, Pekka Nousiainen, Anu Kousa, Miikka Dal Maso

3. NON PEER-REVIEWED PUBLICATIONS AS THE FIRST AUTHOR

- Conference abstract* Aug 2020 [Distinguishing the effects of traffic and photochemistry on urban sulfuric acid and nanocluster formation](#)
Presentation in EAC 2020, August 31st – September 4th, 2020, online
Authors: **Miska Olin**, Heino Kuuluvainen, Minna Aurela, Joni Kalliokoski, Niina Kuittinen, Mia Isotalo, Hilikka Timonen, Jarkko Niemi, Topi Rönkkö, Miikka Dal Maso
- Conference abstract* Sep 2018 [Sulfuric Acid and Nanocluster Aerosol Measured in an Urban Street Canyon of Helsinki, Finland](#)
Presentation in IAC 2018, September 2–7th, 2018, St. Louis, MO, USA
Authors: **Miska Olin**, Riina Hietikko, Minna Aurela, Heino Kuuluvainen, Niina Kuittinen, Mia Isotalo, Hilikka Timonen, Jarkko Niemi, Topi Rönkkö, Miikka Dal Maso
- Conference abstract* Sep 2015 [Modelling new particle formation and growth using combined power law and log-normal distribution model](#)
Poster in EAC 2015, September 6–11th, 2015, Milan, Italy
Authors: **Miska Olin**, Miikka Dal Maso
- Conference abstract* Mar 2015 [Modelling particle distribution using combined power-law and log-normal distribution model](#)
Poster in NOSA-FAAR Symposium 2015, March 12–13th, 2015, Kuopio, Finland
Authors: **Miska Olin**, Miikka Dal Maso
- Conference abstract* June 2014 [Sulfur Driven Nucleation in Diesel Exhaust: Simulations of a Laboratory Sampling System](#)
Poster in 18th ETH-Conference on Combustion Generated Nanoparticles, June 22–25th, 2014, Zürich, Switzerland
Authors: **Miska Olin**, Miikka Dal Maso, Topi Rönkkö

March 2014 Simulation of the Formation Process of Diesel
Exhaust Particle Emissions

*Conference
abstract*

Poster in Physics Days 2014, March 11–13th, 2014, Tampere, Finland
Authors: **Miska Olin**, Anssi Arffman, Miikka Dal Maso, Jorma Keskinen,
Topi Rönkkö

*December
2013* Dieselpakokaasun hiukkaspäästöjen
muodostumisprosessin simulointi

M.Sc. Thesis

Tampere University of Technology
Author: **Miska Olin**

January 2012 Dieselpakokaasun laimenemisprosessin
numeerinen simulointi

B.Sc. Thesis

Tampere University of Technology
Author: **Miska Olin**

October 30, 2022