Claudia Mignani

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EDUCATION:

PhD	**University of Basel, Switzerland**, Environmental Sciences (with honors) Thesis: Ice formation at moderate supercooling in mixed-phase clouds and its link to precipitation	2021
MSc	**Swiss Federal Institute of Technology (ETH) Zürich, Switzerland**, Environmental Sciences, Major in Atmosphere and Climate, Minor in Biogeochemistry	2014
BSc	**ETH Zürich, Switzerland**, Environmental Sciences	2012

PROFESSIONAL EXPERIENCE:

Postdoctoral fellow, **Colorado State University**, United States	04/2022 – Present
Research Assistant, **University of Basel**, Switzerland	04/2017 – 11/2021
Scientist (60%), **Swiss Federal Laboratories for Materials Science and Technology (EMPA)**, Switzerland	06/2016 – 03/2017
Visitor Guide (40%), **Swiss Science Center Technorama**, Switzerland	05/2016 – 03/2017
Project Assistant, **MSB Climate Science Communication GmbH**, Switzerland	08/2015 – 05/2016
Natural Catastrophe Modelling Analyst, **PartnerRe**, Switzerland	02/2015 – 07/2015

PEER-REVIEWED PUBLICATIONS:

Conen, F., Einbock, A., **Mignani, C.**, and Hüglin, C.: Measurement report: Ice-nucleating particles active $\geq -15\,^{\circ}\mathrm{C}$ in free tropospheric air over western Europe, *Atmos. Chem. Phys.*, 22, 3433–3444, https://doi.org/10.5194/acp-22-3433-2022, **2022**.

Wieder, J., **Mignani, C.**, Schär, M., Roth, L., Sprenger, M., Henneberger, J., Lohmann, U., Brunner, C., and Kanji, Z. A.: Unveiling atmospheric transport and mixing mechanisms of ice-nucleating particles over the Alps, *Atmos. Chem. Phys.*, 22, 3111–3130, https://doi.org/10.5194/acp-22-3111-2022, **2022**.

Georgakaki, P., Bougiatioti, A., Wieder, J., **Mignani, C.**, Ramelli, F., Kanji, Z. A., Henneberger, J., Hervo, M., Berne, A., Lohmann, U., and Nenes, A.: On the drivers of droplet variability in Alpine mixed-phase clouds, *Atmos. Chem. Phys.*, 21, 10993–11012, https://doi.org/10.5194/acp-21-10993-2021, **2021**.

Ramelli, F., Henneberger, J., David, R. O., Bühl, J., Radenz, M., Seifert, P., Wieder, J., Lauber, A., Pasquier, J. T., Engelmann, R., **Mignani, C.**, Hervo, M., and Lohmann, U.: Microphysical investigation of the seeder and feeder region of an Alpine mixed-phase cloud, *Atmos. Chem. Phys.*, 21, 6681–6706, https://doi.org/10.5194/acp-21-6681-2021, **2021**.

Miller, A. J.*, Brennan, K. P.*, **Mignani, C.**, Wieder, J., David, R. O., and Borduas-Dedekind, N.: Development of the drop Freezing Ice Nuclei Counter (FINC) and use of soluble lignin as an atmospheric ice nucleation standard, *Atmos. Meas. Tech.*, 14, 3131–3151, https://doi.org/10.5194/amt-14-3131-2021, **2021**. (* *These authors contributed equally to this work.*)

Lauber, A., Henneberger, J., **Mignani, C.**, Ramelli, F., Pasquier, J. T., Wieder, J., Hervo, M., and Lohmann, U.: Continuous secondary ice production initiated by updrafts through the melting layer in mountainous regions, *Atmos. Chem. Phys.*, 21, 3855–3870, https://doi.org/10.5194/acp-21-3855-2021, **2021**.

Mignani, C., Wieder, J., Sprenger, M. A., Kanji, Z. A., Henneberger, J., Alewell, C., and Conen, F.: Towards parametrising atmospheric concentrations of ice nucleating particles active at moderate supercooling, *Atmos. Chem. Phys*, 21, 657–664, https://doi.org/10.5194/acp-21-657-2021, **2021**.

Creamean, J. M., **Mignani, C.**, Bukowiecki, N., and Conen, F.: Using freezing spectra characteristics to identify ice-nucleating particle populations during the winter in the Alps, *Atmos. Chem. Phys.*, 19, 8123-8140, https://doi.org/10.5194/acp-19-8123-2019, **2019**.

Mignani, C., Creamean, J. M., Zimmermann, L., Alewell, C., and Conen, F.: New type of evidence for secondary ice formation at around $-15\,^\circ$C in mixed-phase clouds, *Atmos. Chem. Phys.*, 19, 877–886, https://doi.org/10.5194/acp-19-877-2019, **2019**.

Publication metrics on Google Scholar and Publons.

MANUSCRIPTS IN REVIEW:

Mignani, C., Zimmermann, L., Kivi, R., Berne, A., and Conen, F.: Snowfall in Northern Finland derives mostly from ice clouds, *Atmos. Chem. Phys. Discuss.* [preprint], https://doi.org/10.5194/acp-2022-98, in review, **2022**.

Wieder, J., Ihn, N., **Mignani, C.**, Haarig, M., Bühl, J., Seifert, P., Engelmann, R., Ramelli, F., Kanji, Z. A., Lohmann, U., and Henneberger, J.: Retrieving ice nucleating particle concentration and ice multiplication factors using active remote sensing validated by in situ observations, *Atmos. Chem. Phys. Discuss.* [preprint], https://doi.org/10.5194/acp-2022-67, in review, **2022**.

OTHER ITEMS WITH DOCUMENTED USE:

Ramelli, F., Henneberger, J., David, R. O., Bühl, J., Radenz, M., Seifert, P., Wieder, J., Lauber, A., Pasquier, J.T., Engelmann, R., **Mignani, C.**, Hervo, M., Lohmann, U.: Scripts for the publication "Microphysical investigation of the seeder and feeder region of an Alpine mixed-phase cloud". Zenodo https://doi.org/10.5281/zenodo.4645427, **2021**.

Ramelli, F., Henneberger, J., David, R. O., Bühl, J., Radenz, M., Seifert, P., Wieder, J., Lauber, A., Pasquier, J.T., Engelmann, R., Baars, H., **Mignani, C.**, Hervo, M., Lohmann, U.: Data for the publication "Microphysical investigation of the seeder and feeder region of an Alpine mixed-phase cloud". Zenodo. https://doi.org/10.5281/zenodo.4644553, **2021**.

Lauber, A., Baars, H., Bühl, J., Engelmann, R., Henneberger, J., Hervo, M., **Mignani, C.**, Pasquier, J. T., Radenz, M., Ramelli, F., Seifert, P., Wieder, J.: Data for "Continuous secondary ice production initiated by updrafts through the melting layer in mountainous regions" [Data set]. Zenodo. http://doi.org/10.5281/zenodo.4534382, **2021**.

Miller, A. J., Brennan, K. P., **Mignani, C.**, Wieder, J., David, R. O., and Borduas-Dedekind, N.: Development of the drop Freezing Ice Nuclei Counter (FINC), intercomparison of drop freezing instruments, and use of soluble lignin as an atmospheric ice nucleation standard, Dataset in ETH Zürich Research Collection, https://doi.org/10.3929/ethz-b-000438875, **2020**.

Mignani, C., Wieder, J., Sprenger, M. A., Kanji, Z. A., Henneberger, J., Alewell, C, Conen, F.: Ice nucleating particle concentrations active at −15 °C at Weissfluhjoch, EnviDat, https://doi.org/10.16904/envidat.193, **2020**.

Bhend, J., Ripoldi, J., **Mignani, C.**, Mahlstein, I., Hiller, R., Spirig, C., Liniger, M., Weigel, A., Jimenez, J. B., De Felice, M., easyVerification: Ensemble Forecast Verification for Large Data Sets, R package, https://CRAN.R-project.org/package=easyVerification, **2017**.

CONFERENCE PRESENTATIONS:

Matching crystal habits and radiosonde profiles in Northern Finland. Oral presentation, hold virtually. *European Geosciences Union General Assembly*, **2021** (Link to the abstract and the display material).

Ice formation in precipitating Arctic clouds as indicated by crystal habits and coinciding radiosonde profiles, Oral presentation, hold virtually. *101st American Meteorological Society Annual Meeting*, **2021** (Link to the abstract and the recorded presentation).

Towards parametrising atmospheric concentrations of ice nucleating particles active at moderate supercooling, Oral presentation, hold virtually. *3rd Ice Nucleation Colloquium*, **2020** (Link to the presentation slides, and the Colloquium website).

Probing secondary ice formation at around −15 °C in mixed-phase clouds, Oral presentation. *European Geosciences Union General Assembly*, Vienna, Austria, **2019** (Link to the abstract).

Analysis of Arctic Ice-nucleating Particles by Electron Microscopy, Oral presentation. *Nano Imaging User Event 2019*, Basel, Switzerland, **2019** (Link to the newsletter with the abstract).

Probing secondary ice formation at around −15 °C in mixed phase clouds, Poster presentation. *20th Swiss Global Change Day*, Bern, Switzerland, **2019** (Link to the website).

Examining single snow crystals for ice nucleating particles, Poster presentation. *BACCHUS Final Meeting*, Zurich, Switzerland, **2018** (Link to the website).

A case study of biological ice-nucleating particles in the Arctic, Oral presentation. *6th Workshop on Microphysics of Ice Clouds*, Vienna, Austria, **2018** (Link to the book of abstracts).

A case study of biological ice-nucleating particles in the Arctic, Poster presentation. *INUIT Final Conference and 2nd Atmospheric Ice Nucleation Conference*, Grasellenbach, Germany, **2018** (Link to the website).

GRANT:

Postdoc.Mobility Fellowship, Swiss National Science Foundation, CHF 110'000. 2021

TEACHING AND MENTORING EXPERIENCE:

Co-advisor, University of Basel, Switzerland 2017 – 2021
Two MSc and three BSc students.

Guest Lecturer, University of Basel, Switzerland 11/2020
Course: Atmospheric chemistry, climate, and air pollution (58428-01), two hours, virtually.

Voluntary Lecturer, Solidaritätsnetz Zurich, Switzerland 12/2014 – 06/2015
German (A1 level) classes for women, weekly classes.

Teaching Assistant, ETH Zürich, Switzerland 09/2010 – 09/2013
Tutorial in Chemistry I and II (529-2001-02L, 529-2002-02L), weekly classes.

MEDIA COMMUNICATION:

Clouds, rain, airborne particles., *UNI NOVA Research Magazine*, by Angelika Jacobs (Download magazine, see p. 34–35). 11/2021

How snowflakes are formed, *UNI NOVA Research Magazine*, by Yvonne Vahlensieck (Link to article). 11/2017

SERVICE AND OUTREACH ACTIVITIES:

Reviewer for *Scientific Reports* and *Atmospheric Chemistry and Physics*. Complete list on Publons. Ongoing

Representative of doctoral students and postdocs, Department of Environmental Sciences, University of Basel. 2017 – 2022

Leading a workshop for seven-year-old children on the greenhouse effect in the *UniKids Camp*, University of Basel, three times half a day. 2018 – 2020

Being a scientist at the *Young Mind's Science Film Day Basel 2019*, produced a short science communication video, one day. 2019

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