

# Blaž Gasparini

Department of Meteorology and Geophysics, University of Vienna,  
blazgasparini@gmail.com  
<https://blazgasparini.wixsite.com/blaz-gasparini-site>

OrcID: 0000-0002-7177-0155  
ResearcherID: AAV-5206-2020

## Education

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<b>PhD in Climate Science</b> ETH Zürich Doctoral thesis: Cirrus clouds and their geoengineering potential Supervisor: Prof. Dr. Ulrike Lohmann	Sep 2013 – Nov 2016 Zürich, Switzerland
<b>MSc in Atmospheric and Climate Science</b> ETH Zürich Master thesis: Dynamical responses of stratospheric sulphur injections Supervisors: Dr. Miriam Kübbeler, Prof. Dr. Ulrike Lohmann	Sep 2011 – Apr 2013 Zürich, Switzerland
<b>BSc in Physics</b> University of Trieste Bachelor thesis: Gallium Arsenide nanowire nucleation on GaAs/Si substrates Supervisor: Dr. Silvia Rubini	Sep 2007 – Nov 2010 Trieste, Italy

## Work experience - scientific

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<b>Postdoc in Climate Science</b> University of Vienna mentors: Prof. Aiko Voigt, Prof. Dennis L. Hartmann, Dr. Philip J. Rasch Marie Curie Fellow mentor: Prof. Alko Voigt	since Jan 2021 Vienna, Austria  since Jul 2021
<b>Postdoc in Climate Science</b> University of Washington mentors: Prof. Dennis L. Hartmann, Dr. Philip J. Rasch	Mar 2018 – Dec 2020 Seattle, USA
<b>Postdoc in Climate Science</b> mentor: Prof. Ulrike Lohmann ETH Zürich	Dec 2016 – Dec 2017  Zürich, Switzerland
<b>Internship in Climate Modeling</b> Pacific Northwest National Laboratory Supervisors: Dr. Ben Kravitz, Dr. Philip J. Rasch	May 2013 – Jul 2013 Richland, USA
<b>Internship in Experimental Nanotechnology</b> TASC Laboratory for Advanced Technology and Nanoscience	Apr 2010 – Nov 2010 Trieste, Italy

## Institutional responsibilities

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University of Vienna, Institute of Meteorology and Geophysics Coordinator of the communication and outreach working group	Jun 2021 - Vienna, Austria
<ul style="list-style-type: none"><li>Set up activities to communicate weather and climate to the broader public</li></ul>	

**Member of the departmental teaching commission**  
ETH Zürich, Department of Environmental Systems Science  
Switzerland

Nov 2015 – Nov 2016  
Zürich,

- Discussed and approved changes in courses and teaching regulations

### Additional work experience / volunteering

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**Scientific collaborator in a non-governmental organization**

Nov 2017 – Feb 2018  
Ljubljana, Slovenia

Youth network No Excuse Slovenia

- Drafted a publication for youth on climate change
- Organized an air-quality related event

**Project leader in a non-governmental organization**

Apr 2008 – Nov 2014  
Slovenia

Youth Network No Excuse Slovenia

- Led a team of ~10 activists
- Drafted, coordinated, and performed peer-to-peer education for youth, which reached ~5000 high school students in Slovenia
- Fundraising

**Climate advocate**

Jan 2010 – Dec 2010

British Council Slovenia

Ljubljana, Slovenia

- Coordinated a project on decreasing the carbon footprint by carpooling

### Student supervision

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Master thesis projects (ETH Zürich):

- **Stratospheric temperature response to volcanic super-eruptions**, Anne-Sophie Scheidegger (2015)
- **Description of sedimentation in the ECHAM-HAM model**, Simon Förster (2014)

Bachelor thesis project (University of Vienna):

- **Changes in cloud ice in a warmer climate in CMIP6 models**, Romana Springer (2021)

Bachelor thesis projects (ETH Zürich):

- **Climatic responses to cirrus cloud seeding and stratospheric sulphur injections in high latitudes**, Monika Feldmann (2016)
- **Microphysical, radiative, and climatic responses to cirrus cloud thinning by increased ice crystal sedimentation velocity**, Laure Poncet (2016)
- **Cirrus cloud seeding in the ECHAM-HAM model**, Tim Schär (2015)

Summer intern project (University of Washington):

- **Evolution of idealized high clouds**, Paige Hillen (2018)

### Teaching and teaching assistance

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**Master Seminar**

Autumn 2021

University of Vienna

Tasks: coordinate, give feedback and grade MSc student presentations

**Cloud Microphysics**

Autumn 2013 and 2014

Prof. Dr. Ulrike Lohmann, ETH Zürich

Tasks: prepare and correct weekly exercises, prepare and correct exams, lead the weekly time slot dedicated to exercises and Q&A

**Cloud Dynamics: Hurricanes**

Spring 2014 and 2015

Prof. Dr. Ulrike Lohmann, ETH Zürich

Tasks: prepare and correct weekly exercises, prepare and correct exams, lead the weekly time slot dedicated to exercises and Q&A

## Bachelor Seminar

Autumn 2014 and 2015

Dr. Erich Fischer, ETH Zürich

Tasks: select scientific articles to be presented by students, help them understand the articles and prepare a presentation

## Awards, fellowships and scholarships

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### Marie Curie Postdoc Fellowship, grant 101025473

European Commission

Jul 2021 – Jun 2023

174'167 EUR

### Postdoc.Mobility, grant P400P2\_191112

Swiss National Science Foundation

Mar 2020 – Apr 2021

61'467 CHF

**College of the Environment Student travel fund** in the amount of 1000 USD (summer quarter 2019) in support of presentations at CFMIP 2019 meeting

**UW Office of Postdoctoral Affairs Travel Award** in the amount of 600 USD in support of presentations at CFMIP 2019 meeting

**Early career presentation award**, CFMIP 2018 meeting, Boulder USA, Oct 2018

### Postdoc Early.Mobility, grant P2E2P2-178485

Swiss National Science Foundation

Mar 2018 – Feb 2020

81'150 CHF

### Ad Futura scholarship for studies abroad

Slovene Human Resources and Scholarship Fund

Sep 2011 – Apr 2013

19'447 EUR

### Zois excellency scholarship

Slovene Human Resources and Scholarship Fund

Sep 2007 – Sep 2010

## Publications

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**Gasparini, B.**, Sokol, A.B., Wall, C.J., Hartmann, D.L., and Blossey, P.N. (2021): Diurnal differences in tropical anvil cloud evolution, in review for *J.Clim.*, preprint accessible at doi.org/10.1002/essoar.10506580.1

Dinh,T., **Gasparini, B**, Bellon,G. (2021): Clouds and radiatively induced circulations, in AGU Monograph Series, Cloud Physics and Dynamics: Showers and Shade from Earth's Atmosphere, *accepted for publication*

Villanueva, D., Neubauer, D., **Gasparini, B.**, Ickes, L., and Tegen, I. (2021): Constraining the impact of dust-driven droplet freezing on climate using cloud top phase observations, *Geophys. Res. Lett.*, 48, e2021GL092687, doi: 10.1029/2021GL092687

**Gasparini, B.**, Rasch, P., Hartmann, D., Wall, C., Dütsch, M. (2021): A Lagrangian perspective on tropical anvil cloud lifecycle in present and future climate, *J. Geophys. Res. Atmos.*, 126 (4), e2020JD033487.

Wall, C., Norris, J., **Gasparini, B.**, Smith Jr., W., Thieman, M., and Sourdeval, O. (2020): Observational Evidence that Radiative Heating modifies the Life Cycle of Tropical Anvil Clouds, *J.Clim.*, 33:8621-8640, doi: 10.1175/JCLI-D-20-0204.1

**Gasparini, B.**, McGraw, Z., Storelvmo, T., and Lohmann, U. (2020): To what extent can cirrus cloud seeding counteract global warming?, *Env. Res. Lett.*, 15:054002 doi: 10.1088/1748-9326/ab71a3

Cziczo, D., Wolf, M., **Gasparini, B.**, Münch, S., and Lohmann, U. (2019): Unanticipated Side Effects of Stratospheric Albedo Modification Proposals Due to Aerosol Composition and Phase, *Sci. Rep.*, 9: 18825, doi: 10.1038/s41598-019-53595-3

**Gasparini, B.**, Blossey, P., and Hartmann, D. (2019): What drives the lifecycle of tropical anvil clouds, *J. Adv. Model. Earth Sy.*, 11:2586-2605, doi:10.1029/2019MS001736

Fadnavis, S., Müller, R., Kalita, G., Rowlinson, M., Rap, A., Li, J.-L. F. **Gasparini, B.**, Laakso, A. (2019): The impact of recent changes in South Asian anthropogenic emissions of SO<sub>2</sub> on sulfate loading in the upper troposphere and lower stratosphere and the associated radiative changes, *Atmos. Chem. Phys.*, 19: 9989-10008, doi: 10.5194/acp-19-9989-2019

Hartmann, D., **Gasparini, B.**, Berry, S., and Blossey, P. (2018): The Life Cycle and Net Radiative Effect of Tropical Anvil Clouds, *J. Adv. Model. Earth Sy.*, 10 (12), 3012-3029, doi: 10.1029/2018MS001484

**Gasparini, B.**, Meyer, A., Neubauer, D., Münch, S., and Lohmann U. (2018): Cirrus cloud properties as seen by the CALIPSO satellite and ECHAM-HAM global climate model, *J. Clim.*, 31(5), 1983-2003, doi: 10.1175/JCLI-D-16-0608.1

Lohmann, U. and **Gasparini, B.** (2017): A cirrus cloud climate dial?, *Science*, 357, 248-249, doi:10.1126/science.aan3325

**Gasparini, B.**, Münch, S., Poncet, L., Feldmann, M. and Lohmann, U. (2017): Is increasing ice crystal sedimentation velocity in geoengineering simulations a good proxy for cirrus cloud seeding?, *Atmos. Chem. Phys.*, 17:4871-4885, doi: 10.5194/acp-17-4871-2017

Fadnavis, S., Kalita, G., Kumar, R.K., **Gasparini, B.** and Li, J.-L. F. (2017): Potential impact of carbonaceous aerosols on the Upper Troposphere and Lower Stratosphere (UTLS) during Asian summer monsoon in a global model simulation, *Atmos. Chem. Phys.*, 17:11637-11654, doi: 10.5194/acp-17-11637-2017

**Gasparini, B.** and Lohmann, U. (2016): Why cirrus cloud seeding cannot substantially cool the planet, *J. Geophys. Res. Atmos.*, 121, 4877-4893, doi:10.1002/2015/JD024666

### Non-peer reviewed

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**Gasparini, B.**, Dütsch, M., Gorenc, T., Jóna, V. (2021): WTF is Climate Change?!, No Excuse Slovenia, <https://sustainaware.net/climate-mitigation/>

Pelozza, J., **Gasparini, B.**, Aanes, I., Magdić, J., and Hentz, J. (2011): WTF is Sustainable Development?!, No Excuse Slovenia, <https://www.dropbox.com/s/t9vv013j5t1opgp/wtf11.pdf?dl=0>

### Presentations and other contributions to conferences and workshops

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PIRE cirrus cloud workshop, online Sep 2021  
Talk: **Evolution of ice crystal number and radius in tropical anvil clouds**

CFMIP meeting, online Sep 2021  
Poster: **A Lagrangian perspective on tropical anvil cloud lifecycle in present and future climate**

Geoengineering Modeling Research Consortium lightning talks, online Aug 2021  
Talk: **Challenges in cirrus seeding research**

EGU Meeting, online Apr 2021  
Talk: **A modeling perspective on anvil evolution differences between day and night**

University of Vienna, Austria Talk: <b>Anvil cloud evolution in present and future climate</b>	Mar 2021
AGU Fall Meeting, online Poster: <b>A Lagrangian perspective on tropical anvil cloud lifecycle in present and future climate</b>	Dec 2020
PIRE cirrus cloud workshop, online Talk: <b>Diurnal differences in tropical anvil cloud evolution</b>	Sep 2020
Pacific Northwest National Laboratory, Richland, USA Talk: <b>A Lagrangian perspective on tropical anvil cloud lifecycle in present and future climate</b>	Feb 2020
AGU Fall Meeting, San Francisco, USA Poster: <b>What is the fate of detrained ice in the Tropical Western Pacific?</b>	Dec 2019
ETH Zurich, Zurich, Switzerland Talk: <b>What drives the evolution of tropical anvil clouds?</b>	Oct 2019
CFMIP meeting, Mykonos, Greece Talk: <b>What drives the evolution of tropical anvil clouds?</b> Poster: <b>A Lagrangian perspective on tropical anvil cloud lifecycle in present and future climate</b>	Oct 2019
PIRE cirrus cloud workshop, Friday Harbor, USA Talk: <b>Anvil cloud evolution</b>	Sep 2019
EGU Meeting, Vienna, Austria Talk: <b>What drives the evolution of tropical anvil clouds?</b>	Apr 2019
CFMIP meeting, Boulder, USA Talk: <b>Effects of atmospheric cloud radiative effects on anvil lifecycle</b>	Oct 2018
AMS conference on cloud physics, Vancouver, Canada Talk: <b>Cirrus ≠ Cirrus: The origin of cirrus clouds in the ECHAM-HAM global climate model and CALIPSO/CloudSat satellite data</b> Poster: <b>Tropical clouds and their radiative effects: Why does it matter if an anvil is thick or thin?</b>	Jul 2018
University of Washington, Seattle, USA Talk: <b>Can cirrus cloud seeding counteract global warming?</b>	May 2019
EGU Meeting, Vienna, Austria Invited talk (delivered by Ulrike Lohmann): <b>Can cirrus cloud seeding help to counteract global warming?</b>	Apr 2018
EGU Meeting, Vienna, Austria Talk: <b>Liquid vs. in-situ cirrus in CALIPSO/CloudSat and ECHAM-HAM GCM</b> Poster: <b>To what extent can cirrus seeding counteract global warming?</b>	Apr 2017
Yale University, New Haven, USA Talk: <b>Can cirrus cloud seeding help us to counteract global warming?</b>	Mar 2017
Columbia University, New York, USA Talk: <b>Can cirrus cloud seeding help us to counteract global warming?</b>	Mar 2017
GEWEX Upper Tropospheric Clouds and Convection meeting, New York, USA Talk: <b>Liquid vs. in-situ cirrus in CALIPSO/CloudSat and ECHAM-HAM GCM</b>	Mar 2017

AGU Fall Meeting, San Francisco, USA Talk: <b>Cirrus cloud seeding – Does it work?</b>	Dec 2016
HAMMOZ workshop, Zurich, Switzerland Talk: <b>Why cirrus cloud seeding cannot cool the planet</b>	Mar 2016
GEWEX Upper Tropospheric Clouds and Convection meeting, Paris, France Talk: <b>Cirrus cloud formation mechanisms in the ECHAM-HAM GCM</b>	Nov 2015
Gordon conference on Radiation and Climate, Bates College, Lewiston, USA Poster: <b>Cirrus cloud seeding in the ECHAM-HAM model</b>	Jul 2015
HAMMOZ workshop, Hamburg, Germany Talk: <b>Is ECHAM6-HAM2 able to represent stratospheric aerosols reasonably well?</b>	Mar 2015
Climate Engineering Conference, Berlin, Germany Poster: <b>How sensitive are clouds to stratospheric sulfur injections in the Arctic?</b>	Aug 2014
Stratospheric Sulfur and its Role in Climate Workshop, Atlanta, USA Poster: <b>Arctic stratospheric SO<sub>2</sub> injections</b>	Oct 2014
Summer School on Climate Engineering, Heidelberg, Germany Talk: <b>Do we need to care about clouds when injecting sulfur in the stratosphere?</b>	Jul 2014
HAMMOZ workshop, Oxford, UK Talk: <b>Arctic stratospheric sulphur injections</b>	Mar 2014
HAMMOZ workshop, Zurich, Switzerland Talk: <b>Stratospheric sulphur injections and their dynamical responses</b>	Apr 2013

## Languages

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Slovenian	native
English	fluent
Italian	fluent
German	advanced (C1/1)
Serbo-Croatian	good

## References

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Prof. Ulrike Lohmann  
 Institute for Atmospheric and Climate Science, ETH Zürich  
 email: [ulrike.lohmann@env.ethz.ch](mailto:ulrike.lohmann@env.ethz.ch)

Dr. Philip J. Rasch  
 Pacific Northwest National Laboratory, Richland, USA  
 email: [Philip.Rasch@pnnl.gov](mailto:Philip.Rasch@pnnl.gov)

Prof. Dennis L. Hartmann  
 University of Washington, Seattle, USA  
 email: [dhartm@uw.edu](mailto:dhartm@uw.edu)