

# Curriculum vitae

## Personal Information:

*name:* Georgia Sotiropoulou  
*date of birth:* 14 November 1986  
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## Professional Experience:

*2017–2018:* research fellow in the Group of Numerical Applications in the Atmosphere, Section of Environmental Physics & Meteorology, Department of Physics, National & Kapodistrian University of Athens, Greece.

*2012–2016:* Ph.D. candidate & teaching assistant, Department of Meteorology, Stockholm University, Sweden.

## Higher Educational Degree:

*2016:* Ph.D. in Atmospheric Sciences and Oceanography. Department of Meteorology, Stockholm University, Sweden

*Thesis title:* ‘*The Arctic Atmosphere: interactions between clouds, boundary-layer turbulence & large-scale circulation*’

*2012:* M.Sc. in Environmental Physics. Department of Physics, Section of Environmental Physics & Meteorology, National & Kapodistrian University of Athens, Greece

*Thesis title:* ‘*Large-Eddy Simulation of sheared, convective & free-convective boundary layer*’

*2009:* B.A. in Physics, Department of Physics, National and Kapodistrian University of Athens, Greece.

## Research Interests:

Clouds: macro- and microphysical, radiative, thermodynamic and dynamical processes – cloud-aerosol interactions – precipitation – surface energy budget – Boundary layer

processes – Arctic Climate — remote sensing of clouds and thermodynamics – Large Eddy Simulations – cloud parameterizations in weather forecast and climate models

### **Teaching Experience:**

2017- present : co-lecturer for ‘Cloud Physics & Meso-scale Phenomena’ (M.Sc. course), Department of Physics, Section of Environmental Physics & Meteorology, National & Kapodistrian University of Athens

2013 & 2015 : teaching assistant for ‘Atmospheric Thermodynamics’ (B.A. course), Department of Meteorology, Stockholm University

### **Awards & Grants:**

- Marie Skłodowska-Curie Actions Seal of Excellence, European Commission, 2018.
- Bolin Center for Climate Research – (Research Area: clouds, aerosols, turbulence & climate) travel grant, 2016.
- Knutt & Alice Wallenberg travel grant, 2015.
- State Scholarships Foundation (IKY) award for academic excellence during undergraduate studies, 2006-2007.

### **Academic visits:**

09/2016: California Institute of Technology, invited seminar titled: ‘*The Arctic Atmosphere: interactions between clouds, boundary-layer turbulence & large-scale circulation*’, USA (1 day)

09/2016: National Center for Atmospheric Research (NCAR), USA (1 month)

12/2014: University of Leeds, UK (1 week)

### **Field work:**

8-10/ 2014: Participation in the Arctic Cloud Summer Experiment (ACSE), part of the Climate-Cryosphere-Carbon Interactions (SWERUS-C3) expedition for six weeks as the main responsible for the radiosounding system and the weather station.

### **Publications:**

#### ***Peer-reviewed articles***

**Sotiropoulou, G.**, M. Tjernström, J. Savre, A. M. L Ekman, K. Hartung, J. Sedlar  
2018a: Large Eddy simulation of an extreme warm advection episode in the summer Arctic. *Quart. J. Roy. Meteorol. Soc.*, <https://doi.org/10.1002/qj.3316>

**Sotiropoulou, G.**, M. Tjernström, J. Sedlar, P. Achtert, B. J. Brooks, I. M. Brooks, P. O. G. Persson, J. Prytherch, D. J. Salisbury, M. D. Shupe, P. E. Johnston and D. Wolfe, 2016b: Arctic Cloud Summer Experiment (ACSE): Contrasting sea-ice and open-water surfaces during the melt and freeze-up seasons. *J. Climate*, doi: 10.1175/JCLI-D-16-0211.1.

**Sotiropoulou, G.**, J. Sedlar, R. Forbes and M. Tjernström, 2016a: Summer Arctic clouds in the ECMWF forecast model: an evaluation of cloud parameterization schemes. *Quart. J. Roy. Meteorol. Soc.*, 142, 387–400, doi: 0.1002/qj.2658.

Tjernström, M., M. D. Shupe, I. M. Brooks, P. O. G. Persson, J. Prytherch, D. Salisbury, J. Sedlar, P. Achtert, B. J. Brooks, P. E. Johnston, **G. Sotiropoulou** and D. Wolfe, 2015: Warm-air advection, air mass transformation and fog causes rapid ice melt, *Geophys. Res. Lett.*, 42, 5594–5602, doi: 10.1002/2015GL064373.

**Sotiropoulou, G.**, J. Sedlar, M. Tjernström, M. D. Shupe, I. M. Brooks, P.O.G. Persson, 2014: The thermodynamic structure of summer Arctic stratocumulus and the dynamic coupling to the surface, *Atmos. Chem. Phys.*, 14, 12573-12592, doi: 10.5194/acp-14-12573-2014.

***In review:***

Sotiropoulou, G., Bossioli E. and M. Tombrou, 2018b: Modeling extreme warm-air advection in the Arctic: the influence of cloud-droplet treatment in WRF. *J. Geophys. Res.*

**Conference / workshop/ summerschool presentations:**

**Sotiropoulou, G.**, E. Bossioli, M. Tombrou-Tzella (2017): ‘Performance of WRF and WRF-CHEM in the vicinity of the Arctic ice-edge: a case study of an extreme warm advection episode’, *Workshop on Arctic air mass transformations, November 6-9, Stockholm, Sweden (oral)*

**Sotiropoulou, G.**, J. Sedlar, R. Forbes, M. Tjernström (2016): ‘Summer Arctic clouds in the ECMWF forecast model: an evaluation of the cloud parameterization schemes’, *EGU Union General Assembly, April 17-22, Vienna, Austria (oral)*

**Sotiropoulou, G.**, J. Sedlar, R. Forbes, M. Tjernström (2015): ‘Summer Arctic clouds in the ECMWF forecast model: an evaluation of the cloud parameterization schemes’, *Fall Meeting of the AGU, Dec. 14-18, San Francisco, USA. (oral)*

**Sotiropoulou, G.**, M. Tjernström, M. D. Shupe, P. O. G. Persson, I. M. Brooks, R. Forbes, 2015: Summer Arctic low-level clouds and their dynamic coupling to the surface, *Workshop on Dynamics of Atmosphere-Ice-Ocean Interactions in the High-Latitudes, March 23-27, Rosendal, Norway. (oral)*

**Sotiropoulou, G.**, J. Sedlar, M. Tjernström, M. Shupe, I. M. Brooks, P. O. G. Persson, 2014: The thermodynamic structure of summer Arctic stratocumulus and the dynamic coupling to the surface, *EGU General Assembly, 27 April – 02 May, Vienna, Austria. (poster)*

**Sotiropoulou, G.**, J. Sedlar, M. Tjernström, 2013: Cloud-surface interactions in the summer Arctic, *EUCLIPSE Summer School on Clouds and Climate, Les Houches, 25 June – 5 July, France. (poster)*

### **Peer-reviewed conference contributions:**

1. Tjernström, M., I. M. Brooks, J. Sedlar, M. Shupe, P. O. G. Person, J. Prytherch, D. J. Salisbury, P. Achtert, B. J. Brooks, **G. Sotiropoulou**, P. Johnston, D. Wolfe. 2017: Warm-air advection and clouds over melting Arctic summer sea ice, *EGU General Assembly, Apr. 23-28, Vienna, Austria.*
2. Tjernström, M, I. M. Brooks, J. Sedlar, M. D. Shupe, P. O. G. Persson, J. Prytherch, D. J. Salisbury, P. Achtert, B. J. Brooks, **G. Sotiropoulou**, 2017: Summer atmospheric boundary-layer structure downwind of the ice edge in on-ice advection. *14th AMS Conference on Polar Meteorology and Oceanography, Jan 22-26, Seattle, USA.*
3. Persson, P. O. G., B. W. Blomquist, P. S. Guest, C. W. Fairall, I. M. Brooks, J. Sedlar, J. Prytherch, D. J. Salisbury, G. Bjork, S. Stammerjohn, **G. Sotirououlou**, M. Tjernstrom, and J. Inoue, 2016: Surface Energy Fluxes During Arctic Freeze-Up, *AMS Conf. On Air-Sea Interaction, August 15-19, Madison, Wisconsin, USA.*
4. Sedlar, J. Prytherch, D. J. Salisbury, G. Bjork, S. Stammerjohn, **G. Sotirououlou**, M. Tjernstrom, and J. Inoue, 2016: Surface Energy Fluxes During Arctic Freeze-Up, *AMS Conf. On Air-Sea Interaction, August 15-19, Madison, Wisconsin, USA.*

5. Salisbury, D.J., I. M. Brooks, J. Prytherch, B. I. Moat, B. J. Brooks, J. Sedlar, **G. Sotiropoulou**, M. Tjernström, P. O. G. Persson, M. Shupe, and P. Achtert, 2016: In Situ Measurements of Surface Turbulent Exchange Over Arctic Sea Ice: Results from the ACSE Campaign. *AMS Conf. On Air-Sea Interaction, August 15-19, Madison, Wisconsin, USA.*
6. Achtert, P., E. O'Connor, I. M. Brooks, **G. Sotiropoulou**, J. Sedlar, M. Tjernström, B. J. Brooks, P. O. G. Persson, J. Prytherch, D. J. Salisbury, M. D. Shupe, P. E. Johnston, D. Wolfe, 2016: Characterisation of clouds during ACSE 2014. *International Conference on Clouds and Precipitation, 25-29 July, Manchester .*
7. **Sotiropoulou, G.**, J. Sedlar, R. Forbes, M. Tjernström, 2016: 'Summer Arctic clouds in the ECMWF forecast model: an evaluation of the cloud parameterization schemes', *EGU General Assembly, April 17-22, Vienna, Austria.*
8. Tjernström, M., **G. Sotiropoulou**, J. Sedlar, P. Achtert, B.J. Brooks, I.M. Brooks, P.O.G. Persson, J. Prytherch, D.J. Salisbury, M.D. Shupe, P. Johnston, and D. Wolfe, 2016: Contrasting sea-ice and open-water boundary layers during melt and freeze-up seasons: Some result from the Arctic Clouds in Summer Experiment, *EGU General Assembly, April 17-22, Vienna, Austria.*
9. Salisbury, D. J., I. M. Brooks, J. Prytherch, B. I. Moat, B. J. Brooks, P. Achtert, J. Sedlar, M. Tjernström, **G. Sotiropoulou**, P. O. G. Persson, M. D. Shupe, P. Johnston, D. Wolfe, 2016: In Situ Measurement of Surface Turbulent Exchange Over Arctic Sea Ice, *AGU Ocean Sciences Meeting, 21-26 February, New Orleans, Louisiana, USA.*
10. Achtert, P., **G. Sotiropoulou**, I. M. Brooks, B. J. Brooks, P. Johnston, P. O. G. Persson, J. Prytherch, D. Salisbury, J. Sedlar, M. Tjernström, D. Wolfe, M. Shupe, 2015: Observations of Arctic boundary layer cloud during ACSE 2014, *Fall Meeting of the AGU, Dec. 14-18, San Francisco, USA.*
11. Salisbury, D. J., I. M. Brooks, J. Prytherch, B. I. Moat, B. J. Brooks, P. Achtert, J. Sedlar, M. Tjernström, **G. Sotiropoulou**, P. O. G. Persson, M. D. Shupe, P. Johnston, D. Wolfe, 2015: In situ measurement of the drag coefficient over Arctic sea ice, *Fall Meeting of the AGU, Dec. 14-18, San Francisco, USA.*
12. **Sotiropoulou, G.**, J. Sedlar, R. Forbes, M. Tjernström, 2016: 'Summer Arctic clouds in the ECMWF forecast model: an evaluation of the cloud parameterization schemes', *Fall Meeting of the AGU, Dec. 14-18, San Francisco, USA.*
13. Brooks I. M., M. Tjernström, M. D. Shupe, P. O. G. Persson, B. J. Brooks, D. J. Salisbury, P. Achtert, J. Prytherch, J. Sedlar, **G. Sotiropoulou**, P. E. Johnston, D. Wolfe. 2015: The Arctic Cloud Summer Experiment (ACSE), *UK Arctic Science Conference, Sept 16-18, Sheffield, UK.*
14. Persson, P. O. G., P. Achtert, G. Björk, B. J. Brooks , I. M. Brooks, P. Johnston, J.

- Prytherch, D. J Salisbury, J. Sedlar, M. D. Shupe, **G. Sotiropoulou**, M. Tjernström, and D. Wolfe, 2015: Atmosphere-Ice-Ocean Interactions During Summer Melt and Early Autumn Freeze-up: Observations from the ACSE Field Program. *49th CMOS Congress & 13th AMS Conference on Polar Meteorology and Oceanography, May 31-June 4, Whistler, Canada.*
15. Ola G. Persson, Matthew D. Shupe, Michael Tjernström, Joseph Sedlar, Ian M. Brooks, Barbara J. Brooks, Göran Björk, John Prytherch, Dominic J Salisbury, Peggy Achtert, **Georgia Sotiropoulou**, Paul Johnston, and Daniel Wolfe, 2015: Atmosphere-Ice-Ocean Interactions During Summer Melt and Early Autumn Freeze-up: Observations from the ACSE Field Program, *Fourth International Symposium on Arctic Research (ISAR----4), April 27-30, Toyama, Japan.*
  16. Tjernström, M., B. J. Brooks, I. M. Brooks, P. Johnston, P. O. G. Persson, J. Prytherch, D. J. Salisbury, J. Sedlar, M. D. Shupe, **G. Sotiropoulou**, and D. Wolfe 2015: Atmospheric observations during the Arctic Clouds in Summer Experiment (ACSE). *EGU General Assembly, April 12-17, Vienna, Austria.*
  17. Tjernström, M., M. D. Shupe, P. Achtert, B. J. Brooks, I. M. Brooks, P. Johnston, P. O. G. Persson, J. Prytherch, D. J. Salisbury, J. Sedlar, **G. Sotiropoulou**, and D. Wolfe. 2015: The "blob of death", or how warm air advection causes rapid ice melt, *EGU General Assembly, April 12-17, Vienna, Austria.*
  18. Persson, P. O. G., B. J. Brooks, M. Tjernström, J. Sedlar, I. M. Brooks, M. D. Shupe, G. Björck, J. Prytherch, D. J. Salisbury, P. Achtert, **G. Sotiropoulou**, P. Johnston, and D. Wolfe 2015: Atmosphere-Ice-Ocean Interactions During Early Autumn Freeze-up: Boundary-Layer and Surface Observations from the ACSE Field Program , *EGU General Assembly, April 12-17, Vienna, Austria.*
  19. **Sotiropoulou**, G., M. Tjernström, M. D. Shupe, P. O. G. Persson, I. M. Brooks, R. Forbes, 2015: Summer Arctic low-level clouds and their dynamic coupling to the surface, *Workshop on Dynamics of Atmosphere-Ice-Ocean Interactions in the High-Latitudes, March 23-27, Rosendal, Norway.*
  20. Persson, P.O.G., Matthew D. Shupe, Michael Tjernström, Joseph Sedlar, Ian M. Brooks, Barbara J. Brooks, Göran Björk, John Prytherch, Dominic J Salisbury, Peggy Achtert, **Georgia Sotiropoulou**, Paul Johnston, and Daniel Wolfe. 2015: Atmosphere-Ice-Ocean Interactions During Summer Melt and Early Autumn Freeze-up: Observations from the ACSE field program. *Workshop on Dynamics of Atmosphere-Ice-Ocean Interactions in the High-Latitudes, March 23-27, Rosendal, Norway.*
  21. Brooks, Ian, M., John Prytherch, Dominic J Salisbury, Barbara J. Brooks, Peggy Achtert, Joseph Sedlar, Michael Tjernström, **Georgia Sotiropoulou**, P. Ola G. Persson,

- Matthew D. Shupe, Paul Johnston, Daniel Wolfe, Ben Moat, 2015: In situ measurements of surface exchange over the Arctic Ocean. *Workshop on Dynamics of Atmosphere-Ice-Ocean Interactions in the High-Latitudes, March 23-27, Rosendal, Norway.*
22. Brooks, Barbara, J., Peggy Achtert, Ian M. Brooks, John Prytherch, Dominic J Salisbury, Joseph Sedlar, Michael Tjernström, **Georgia Sotiropoulou**, P. Ola G. Persson, Matthew D. Shupe, Paul Johnston, Daniel Wolfe, 2015: Interactions between Arctic clouds, boundary-layer structure, and surface conditions over the Arctic Ocean. *Workshop on Dynamics of Atmosphere-Ice-Ocean Interactions in the High-Latitudes, March 23-27, Rosendal, Norway.*
23. Salisbury, Dominic J., John Prytherch, Michel C. Tsamados, Ian M. Brooks, Barbara J. Brooks, Peggy Achtert, Joseph Sedlar, Michael Tjernström, **Georgia Sotiropoulou**, P. Ola G. Persson, Matthew D. Shupe, Paul Johnston, Daniel Wolfe, 2015, Evaluating surface flux parameterizations over Arctic sea ice. *Workshop on Dynamics of Atmosphere-Ice-Ocean Interactions in the High-Latitudes, March 23-27, Rosendal, Norway.*
24. Achtert, Peggy, Dominic J. Salisbury, John Prytherch, Joseph Sedlar, **Georgia Sotiropoulou**, Michael Tjernström, Barbara J. Brooks, Ian M. Brooks, Matthew D. Shupe, P. Ola G. Persson, Paul Johnston, Daniel Wolfe, 2015: Observations of the Arctic boundary layer during ACSE 2014. *Workshop on Dynamics of Atmosphere- Ice-Ocean Interactions in the High-Latitudes, March 23-27, Rosendal, Norway.*
25. Salisbury, D., I. M. Brooks, J. Prytherch, B. J. Brooks, J. Sedlar, **G. Sotiropoulou**, M. Tjernström, P. O. G. Persson, M. D. Shupe, B. I. Moat, P. Achtert, 2015: Characterising surface conditions during the Arctic Cloud in Summer Experiment (ACSE), *AMS 19th Conference on Air-Sea Interaction, January 4-8, Phoenix, AZ, USA.*
26. Brooks, I. M., J. Prytherch, D. J. Salisbury, B. J. Brooks, J Sedlar, **G. Sotiropoulou**, M. Tjernström, P. O. G. Persson, M. D. Shupe, P. M. Crill, B. F. Thornton, B. I. Moat, P. Achtert, 2015: Surface Turbulent Exchange over the Arctic Ocean – Measurements from the SWERUS-C3 / ACSE Project, *AMS 19th Conference on Air- Sea Interaction, January 4-8, Phoenix, AZ, USA.*
27. **Sotiropoulou, G.**, J. Sedlar, M. Tjernström, M. Shupe, I. M. Brooks, P. O. G. Persson, 2014: The thermodynamic structure of summer Arctic stratocumulus and the dynamic coupling to the surface, EGU General Assembly, 27 April – 02 May, Vienna, Austria.