

# Denis Sergeev

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## AREAS OF INTEREST

- Polar low dynamics
- Mesoscale meteorology
- Atmospheric energetics
- Atmospheric boundary layer
- Extraterrestrial meteorology

## Education

- 2014–Present PhD in Meteorology  
 Thesis title: **Dynamics and Predictability of Polar Lows**  
*School of Environmental Sciences*  
*University of East Anglia*  
 Supervisor: [Ian A. Renfrew](#)
- 2009–2014 Specialist Diploma in Meteorology  
 With Honours  
 Thesis title: **Idealised numerical modelling of polar mesocyclone dynamics**  
*Faculty of Geography*  
*Lomonosov Moscow State University*  
 Supervisor: [Victor Stepanenko](#)

## Publications

### PEER-REVIEWED

1. Sergeev DE, Renfrew IA, Spengler T, and Dorling SR. 2017. Structure of a shear-line polar low. *Q.J.R. Meteorol. Soc.*, **143**(702): 12–26
2. Spengler T, Renfrew IA, Terpstra A, Tjernström M, Screen J, Brooks I, Carleton A, Chechin D, Chen L, Doyle J, Esau I, Hezel P, Jung T, Kohyama T, Lüpkes C, McCusker K, Nygård T, Sergeev DE, Shupe M, Sodemann H, and Vihma T. 2016. High Latitude Dynamics of Atmosphere-Ice-Ocean Interactions. *Bulletin of American Meteorological Society*, **97**(9): ES179–ES182
3. Eliseev AV, Sergeev DE. 2014. Impact of Subgrid Scale Vegetation Heterogeneity on the Simulation of Carbon Cycle Characteristics. *Izvestiya, Atmospheric and Oceanic Physics*, **50**(3): 259–270

### PROCEEDINGS

1. Sergeev DE, Stepanenko VM. 2013. Numerical modelling of polar mesocyclones generation mechanisms. *International Conference “Turbulence, atmosphere and climate dynamics” dedicated to A.M. Obukhov, Selected papers* 168–170
2. Sergeev DE, Zamyatina MY, Stepanenko VM. 2013. Thermal regime features of Kronotsky lake (in Russian). *Kronotsky State Natural Biosphere Reserve Proceedings*, 329–41
3. Sergeev DE, Stepanenko VM. 2012. Parameterization of mesoscale sensible heat and methane fluxes in the region of Western Siberia. *International Conference and Early Career Scientists School on Environmental Observations, modelling and Information Systems (ENVIROMIS-2012), Selected papers* 67–69

## Awards and Scholarships

- 2015 **Travel Award**  
Dynamics of Atmosphere-Ice-Ocean Interactions in the High Latitudes workshop
- 2014–2018 **Lord Zuckerman scholarship**  
School of Environmental Sciences, University of East Anglia
- 2014 **Young Scientist's Travel Award (YSTA)**  
European Geosciences Union (EGU) General Assembly
- 2014 **Russian Academy of Sciences Young Scientist Medal**  
In the area of oceanology, atmospheric physics and geography
- 2009 **3rd place in the All-Russian Geography Olympiad**
- 2009 **1st place in the Lomonosov Geography Olympiad**

## Grants

- 2014–2016 **Characteristics of the mesoscale atmospheric circulations in the Arctic and their influence on the atmosphere-ocean energy exchange**  
Russian Foundation for Basic Research (RFBR) Grant
- 2013–2015 **Multiscale modelling of turbulent atmospheric flow above sea surface with inhomogeneous ice cover**  
Russian Foundation for Basic Research (RFBR) Grant
- 2013–2015 **Developing and verification of the mesoscale sensible heat and tracers fluxes over hydrologically inhomogeneous surface**  
Grant of the President of Russian Federation

## Computer Skills

Operating systems	Linux, Unix, Windows
Computer Languages	Python, Fortran
Data visualisation	Python, MATLAB, NCL, Paraview
Parallel programming	MPI, OpenMP
Version control systems	Git, Subversion
Document preparation	LaTeX, Markdown
Web development	HTML, CSS

## Languages

Russian	Native speaker
English	Fluent
French	Basic