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AREAS OF INTEREST

- Polar lows dynamics
- Mesoscale meteorology
- Atmospheric energetics
- Atmospheric boundary layers
- 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](#)

Internships

- Oct 2013 *University of Bergen*
Geophysical Institute
Bergen, Norway
Supervisor: [Thomas Spengler](#)
- Jul 2012 *A.M. Obukhov Institute of Atmospheric Physics*
Laboratory of Climate Theory
Moscow, Russia
Supervisor: [Alexey Eliseev](#)

Vocational training

- Apr 2016 WWRP/WCRP/Bolin Center Polar Prediction School
- Dec 2014 UK Met Office Unified Model Training
- Sep–Dec 2011 Global Climate Change course

ON-LINE COURSES

- MetEd Topics in Polar Low Forecasting
- MetEd Arctic Meteorology and Oceanography
- MetEd Skew-T Mastery
- MetEd Principles of Convection: Buoyancy and CAPE
- MetEd Using Scatterometer Wind and Altimeter Wave Estimates in Marine Forecasting
- MetEd Polar Satellite Products for the Operational Forecaster: Microwave Analysis of Tropical Cyclones
- MetEd How Mesoscale Models Work

MetEd Jet Streams
 MetEd Downscaling of NWP Data
 MetEd Satellite Feature Identification: Cyclogenesis
 MetEd The Balancing Act of Geostrophic Adjustment
 MetEd Introduction to Statistics in Climatology
 MetEd Monitoring the Climate System with Satellites
 Coursera High Performance Scientific Computing
 INTUIT Parallel Programming Using MPI Technologies

Fieldwork Experience

Aug 2012 **Field practice in meteorology**
Study of prevailing mesoscale processes via wind characteristic measurements and lake hydrothermodynamical modelling
 Kronotsky National Reservation, Kamchatka pen., Russia

Jan–Feb 2012 **Field practice in meteorology**
Measurements of the convective boundary layer over the polynya
 White Sea Biological Station, Karel Republic, Russia

Jun–Jul 2011 **Field practice in meteorology**
Basic field techniques in atmospheric sciences (atmosphere vertical structure, turbulence and radiative measurements)
 Khibiny mountains, Murmansk region, Russia

Jan–Feb 2011 **Field practice in meteorology**
Micrometeorological measurements, ice-breeze modelling
 White Sea Biological Station, Karel Republic, Russia

Jun–Jul 2010 **Field practice in geographical studies**
Basic training in meteorology, hydrology, geomorphology, soil science, biogeography, topography
 Kaluga region, Russia

Teaching Experience

2015–Present **Teaching assistance**
 University of East Anglia
 Courses:

- Meteorology
- Modelling Environmental Processes
- Dynamical Meteorology
- Numerical Skills for Scientists
- Physical and Chemical Processes in Earth's System

Publications

PEER-REVIEWED

1. Sergeev DE, Renfrew IA, Spengler T, and Dorling SR. 2016. Structure of a shear-line polar low. *Q.J.R. Meteorol. Soc.*, **Accepted**
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*, in press
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

Conferences and Workshops

ORAL PRESENTATIONS

- Apr 2016 Structure of the shear-line polar low south of Svalbard
13th European Polar Lows Working Group (EPLWG) Workshop
Paris, France
- May 2016 Structure of the shear-line polar low south of Svalbard
NORPAN kick-off meeting
Tokyo, Japan

POSTER PRESENTATIONS

- Jul 2015 Structure and dynamics of a shear-line polar low during a cold-air outbreak over the Norwegian Sea
Royal Meteorological Society Student Conference
Birmingham, UK
- Mar 2015 Structure and dynamics of a shear-line polar low during a cold-air outbreak over the Norwegian Sea
Dynamics of Atmosphere-Ice-Ocean Interactions in the High Latitudes workshop
Rosendal, Norway
- May 2014 Numerical modelling of polar mesocyclones dynamics diagnosed by the energy budget
European Geosciences Union (EGU) General Assembly
Vienna, Austria
- Apr 2013 Impact of subgrid-scale vegetation heterogeneity on results of climate model simulation of carbon cycle
European Geosciences Union (EGU) General Assembly
Vienna, Austria
- Apr 2013 Numerical modelling of polar mesocyclones generation mechanisms
European Geosciences Union (EGU) General Assembly
Vienna, Austria

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

Membership in Professional Associations

2014–Present Royal Meteorological Society (RMetS)

Vocational Experience

Nov 2016 Training course “Introduction to Python in Environmental Sciences”
Course leader

University of East Anglia, UK

2015–Present Python group coordinator
Managing an unofficial group of Python language users
University of East Anglia, UK

Mar 2015 **Rapporteur**
Dynamics of Atmosphere-Ice-Ocean Interactions in the High-Latitudes workshop
Rosendal, Norway

Jun–Jul 2014 **Professional translator**
Translation of documentation of meteorological equipment (En-Ru)
Retail and Consumer Merchandise “Meteomaster” (Moscow, Russia)

Aug–Sep 2013 **Weather Forecaster**
Forecast and Briefing Service
Main Aviation Meteorological Centre, Vnukovo Airport (Moscow, Russia)

Outreach

2015–Present **Contributor to SciSnack blogging platform**

- [Polar Lows: What Fuels Arctic Hurricanes?](#)
- [Disastrous Disaster Movies](#)
- [Worldwide Weird Weather Words](#)

Computer Skills

Operating systems	Linux , Unix, Windows
Computer Languages	Python , Fortran
Data analysis and visualizing	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