

Yana Bebieva, PhD

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EDUCATION

Ph.D.	Yale University Geology & Geophysics Thesis: The Origins and Evolution of Double-diffusive Layers and Associated Heat Transport in the Arctic Ocean Advisor: Mary-Louise Timmermans Committee: John Wettlaufer, Alexey Fedorov, Ron Smith	New Haven, CT, USA	Sep 2018
M.S.	Utrecht University Physical Oceanography, Meteorology & Climate, GPA 4.0/4.0 Thesis: Modeling and observation of eddies and dipoles in the Southern Indian Ocean. Advisor: Will de Ruijter	Utrecht, The Netherlands	Jun 2013
B.S.	Moscow Institute of Physics and Technology Aerophysics and space research Summa cum laude with highest honors, GPA 4.0/4.0 Thesis: Formation of floating jet under various initial conditions. Advisor: Andrey Zatsepin	Moscow, Russia	Jun 2011

PROFESSIONAL EXPERIENCE

Postdoctoral Fellow <i>Georgia Institute of Technology (Georgia Tech)</i> Advisor: Susan Lozier	Atlanta, GA, USA	Jun 2021 - present
Dean's Postdoctoral Scholar <i>Geophysical Fluid Dynamics Institute, Florida State University</i> Advisor: Kevin Speer	Tallahassee, FL, USA	Oct 2018 – May 2021
Geophysical Fluid Dynamics Fellowship <i>Woods Hole Oceanographic Institution</i> Laboratory work on the influence of the layered stratification on plume dynamics. Advisor: Colm-cille Caulfield	Woods Hole, MA, USA	Jun – Aug 2015
Research Internship <i>Skidaway Institute of Oceanography</i> Numerical modeling of shelf-edge tide-correlated eddies. Advisors: Dana K. Savidge, Catherine Edwards	Savannah, GA, USA	Jun – Aug 2012
Marine Summer School <i>Royal Netherlands Institute for Sea Research</i> Field work on physical processes in estuaries, measurements of physical parameters. Advisor: Leo Maas	Texel, The Netherlands	May 2012
Summer Student Fellowship <i>Woods Hole Oceanographic Institution</i> Theoretical study and numerical modelling of the stirring process due to chaotic advection within a steady, three-dimensional, Ekman-driven, rotating cylinder flow. Advisor: Larry J. Pratt, Irina Rypina	Woods Hole, MA, USA	Jun – Aug 2011
Summer school: Modeling of the Arctic Climate System <i>International Arctic Research Center</i> Modelling work on polar amplification response in a simple box model: latent heat and ice-albedo feedbacks. Advisor: Vladimir Alexeev	Fairbanks, AK, USA	May 2011
Research assistant <i>P. P. Shirshov Institute of Oceanography</i> Modeling of hydrodynamic conditions and the flow pattern in the Vistula Lagoon of the Baltic Sea. Advisors: Elena Esyukova, Boris Chubarenko.	Moscow, Russia	Sep 2010 – Sep 2011

FIELD EXPERIENCE

Educational cruise, R/V Savannah (USA) CTD Rosette work	Atlantic Ocean	Jul 2012
Educational cruise, R/V Navicula (The Netherlands) Measuring tidal dynamics	North Sea	May 2012
Gas-saturated deposits, R/V Professor Shtockmann (Russia) Examination of the Gdansk Basin Water Masses, CTD Rosette work	Baltic Sea	Jun 2010

TEACHING EXPERIENCE

Instructor of Record in the Honors Program, FSU “Scientific and Social Dimensions of Climate Change”, Florida State University		Fall 2019, Fall 2020
<ul style="list-style-type: none">Developed a brand-new interdisciplinary undergraduate-level course that meets FSU’s Liberal Studies E-Series, Natural Sciences, and Scholarship in Practice requirements.		
Instructor of Record “Advanced Topics in Physical Meteorology”, Florida State University		Fall 2019
<ul style="list-style-type: none">Developed and taught a brand-new graduate-level course		
Instructor “Climate Change” 4-week course at Bigelow Center for Senior Activities, Fairfield CT		Jan – Feb 2018
<ul style="list-style-type: none">Developed and taught the course		
McDougal Graduate Teaching Fellow <i>Center for Teaching and Learning, Yale University</i>		May 2017 – May 2018
<ul style="list-style-type: none">Led programs on effective and innovative teachingDeveloped teaching resourcesProvided individual consultations for graduate student instructors at Yale		
Teaching Assistant “ <i>The Atmosphere, the Ocean and Environmental Change Climate</i> ”, Yale College		Fall 2015 Fall 2017
<ul style="list-style-type: none">Designed discussion section materialsLed discussion seminarsRan lab sections		
Teaching Assistant “ <i>Physics of Weather and Climate</i> ”, Yale College		Fall 2014 Fall 2016
<ul style="list-style-type: none">Graded exams, homework, problem setsHeld office hours and help sessions.		

OUTREACH EXPERIENCE

Volunteer Center for Ocean-Atmospheric Prediction Studies, Open house		Feb 2019
<ul style="list-style-type: none">Showed laboratory experiments on ocean ventilation and turbulent mixing to middle-school students		
7th-grade Teacher <i>Splash at Yale</i>		Nov 2017
<ul style="list-style-type: none">Taught 2 one-hour classes on deep-water formation		
Outreach fellow <i>The Open Labs, Yale University</i>		Sep 2016 – Sep 2017
<ul style="list-style-type: none">Gave TED-like talks on my Ph.D. research geared to high-school studentsDeveloped and presented demos on Ph.D. research related topics to 6-12th grade students.		
Presenter <i>Woods Hole Oceanographic Institution</i>		Sep 2016
<ul style="list-style-type: none">Demonstrated Taylor-column Experiment as a part of Outreach Initiative at the Forum for Arctic Modeling & Observational Synthesis, WHOI		

Scientific supervisor Nov 2015 – Apr 2016
Mauro-Sheridan Interdistrict Magnet School

- Coached and managed middle school students (3 students) for the New Haven Science Fair, CT.

Mentor Sep 2015 – May 2016
Women in Science At Yale

- Supervised undergraduate female student majoring in Astronomy

LEADERSHIP EXPERIENCE

Advisory Associate Mar 2021 – present
Yale Graduate School Alumni Association

- Assisted with the projects to engage Yale Graduate School Alumni
- Played an active role in events held for Graduate School alumni in the South East region

Associate Manager of Activities Mar 2017 – Oct 2017
Yale Graduate Consulting Club

- Planned, organized, promoted and publicized club events
- Coordinated logistics of the events/career panels
- Assisted with selection of participants for the highly competitive training program and communicated after-event feedback

Pro-bono Consultant Jan 2017 – Oct 2017
Yale Graduate Consulting Club

- Assisted a non-profit organization in its marketing to cultivate long-term relationships with clients
- Analyzed competition to evaluate market penetration from primary research

Student Representative May 2016 – Oct 2017
Graduate Student Assembly, Yale University

- Represented 52 students, facilitated student communication and interaction with Yale Administration.

INVITED TALKS ("TOPICS", LOCATIONS)

"Role of wind within the canopy and fuel bed on fire spread" Jul, 2021
- WHOI GFDI Summer Program, Woods Hole, MA

"The Regulation of Sea Ice Thickness by Double-Diffusive Processes in the Ross Gyre"
- Caltech, Pasadena, CA Jan 2021
- Imperial College London, UK May, 2020
- Center for Ocean-Atmospheric Prediction Studies, Florida State University, Tallahassee, FL Jun, 2019

"Double-diffusive layering in the Canada Basin: an explanation of along-layer temperature and salinity gradients" Feb, 2019
- Rosenstiel School of Marine and Atmospheric Science, COMPASS seminar series, Miami, FL
- Center for Ocean-Atmospheric Prediction Studies, Florida State University, Tallahassee, FL Feb, 2019
- Geophysical Fluid Dynamics Institute, Florida State University, Colloquium, Tallahassee, FL Nov, 2018

"The relationship between double-diffusive intrusions and staircases in the Arctic Ocean":
- Woods Hole Oceanographic Institution, GFD Summer School, Woods Hole, MA Jul, 2017
- University of Rhode Island, Physical Oceanography Seminar Series, Kingston, RI Jan, 2018

WORKSHOPS

Sources and Sinks of Ocean Mesoscale Eddy Energy Workshop, Tallahassee, FL	2019
Geophysical Fluid Dynamics Summer School (GFD, WHOI), Visitor, Woods Hole, MA	2017
International Conference on Arctic Science: Bringing Knowledge to Action, Reston, VA	2017
Community Earth System Model Tutorial, NCAR, Boulder, CO	2016
Polar Prediction Workshop, Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY	2016
Geophysical Fluid Dynamics Summer School (GFD, WHOI), Visitor, Woods Hole, MA	2014

CONFERENCES (PRESENTED)

AGU Fall Meeting 2021 (abstract accepted), New Orleans, LA	2021
European Geological Society (EGU 2020), online	2020
Ocean Sciences Meeting, San Diego, CA	2020
Polar Technology Conference, Boulder, CO	2020
Florida Collegiate Honors Council Conference, Jupiter, FL	2020
Earth Educators' Rendezvous, Nashville, TN	2019
Conference on Polar Meteorology and Oceanography, Boulder, CO	2019
Ocean Sciences Meeting, Portland, OR	2018
Forum for Arctic Modeling & Observational Synthesis, WHOI, Woods Hole, MA	2017
Forum for Arctic Modeling & Observational Synthesis, WHOI, Woods Hole, MA	2016
69th Annual Meeting of The American Physical Society – Division of Fluid Dynamics, Portland, OR	2016
Ocean Sciences Meeting, New Orleans, LA	2016
Forum for Arctic Modeling & Observational Synthesis, WHOI, Hyannis, MA	2015
Ocean Sciences Meeting, Honolulu, HI	2014
Culture and Arctic Climate Change: A Scoping Workshop to Explore Integrative Frameworks, New Haven, CT	2014
Forum for Arctic Modeling & Observational Synthesis, WHOI, Woods Hole, MA	2014
International Conference “Dynamics of the Coastal Zone of Non-tidal Seas”, Baltiysk, Russia	2009

PEER-REVIEWED PUBLICATIONS

1. **Bebieva, Yana**, and Kevin Speer. (2021). Thermohaline suppression of Upper Circumpolar Deep Water eddies in the Ross Gyre. *Geophysical Research Letters*, 48, e2021GL094476. doi.org/10.1029/2021GL094476
2. Ryan Schubert, Andrew F. Thompson, Kevin Speer, Lena Schulze Chretien, **Yana Bebieva**. (2021). The Antarctic Coastal Current in the Bellingshausen Sea. *The Cryosphere Discussions*. 1-33.
3. **Bebieva, Yana**, Speer, K., White, L., Smith, R., Mayans, G., & Quaife, B. (2021). Wind in a Natural and Artificial Wildland Fire Fuel Bed. *Fire*, 4(2), 30.
4. **Bebieva Yana**, Julia Oliveto, Bryan Quaife, Nick Skowronski, Warren E. Heilman, and Kevin Speer. (2020). Role of horizontal eddy diffusivity within the canopy on fire spread. *Atmosphere*, 11, 672. doi.org/10.3390/atmos11060672.
5. **Bebieva, Yana**, and Kevin Speer. (2019). The Regulation of Sea Ice Thickness by Double-Diffusive Processes in the Ross Gyre, *Journal of Geophysical Research: Oceans* 124 (10), 7068-7081
6. **Bebieva, Yana**, & Mary-Louise Timmermans (2019). Double-diffusive layering in the Canada Basin: An explanation of along-layer temperature and salinity gradients. *Journal of Geophysical Research: Oceans*, 124, 723–735.
7. **Bebieva, Yana**, and Mary-Louise Timmermans. (2017). The relationship between double-diffusive intrusions and staircases in the Arctic Ocean. *Journal of Physical Oceanography*, doi:10.1175/JPO-D-16-0265.1.
8. **Bebieva, Yana**, and Mary-Louise Timmermans. (2016). An examination of double-diffusive processes in a mesoscale eddy in the Arctic Ocean. *Journal of Geophysical Research: Oceans*, doi:10.1002/2015JC011105.
9. Pratt, L. J., Rypina, I. I., Ozgkmen, T. M., Wang, P., Childs, H., & **Bebieva, Y.** (2014). Chaotic advection in a steady, three-dimensional, Ekman-driven eddy. *Journal of Fluid Mechanics*, 738, 143-183.

AWARDS

Excellence in teaching prize for an outstanding contribution to the teaching process at the Department of Geology and Geophysics, Yale University

Elias Loomis Prize for excellence in studies of physics of the earth, Yale University

International Arctic Science Committee Travel Award

Charlton Dows Cooksey, Jr. Fellowship, Yale University

Howe Ernest Memorial Scholarship, Yale University

World Meteorological Organization United Nations travel grant partnered with Columbia University

Fellowship at Woods Hole Oceanographic Institution, Falmouth, MA

Huygens Scholarship by The Dutch Minister of Education, Culture and Science

Russian Presidential Scholarship from the Russian Ministry of Education and Science

Academic Scholarship by Foundation of Charitable Scholarships

The Deans' Awards for Academic Achievement, Moscow Institute of Physics and Technology

PROFESSIONAL SERVICE

Reviewed manuscripts for:

- Nature Communications
- Journal of Physical Oceanography
- Journal of Fluid Mechanics
- Journal of Geophysical Research: Oceans
- Geophysical Research Letters
- Marine Geodesy
- Journal of African Earth Sciences