

# Georgy E Manucharyan

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- EDUCATION**
- Ph.D.*, Atmosphere Ocean and Climate Dynamics, 2014  
Department of Geology & Geophysics, Yale University, USA
  - B.S. with Honors* in Applied Physics and Mathematics, 2007  
Department of Aerophysics and Space Research,  
Moscow Institute of Physics and Technology, Russia.
- RESEARCH EXPERIENCE**
- Graduate Research Fellow, Yale University 2008-2014  
PhD thesis: “*The role of upper-ocean mixing in large-scale ocean and climate dynamics*”.  
M. Phil thesis: “*Ocean’s Response to Tropical Cyclones*”.  
Advisor: Alexey V Fedorov, Yale University
  - CLIVAR Carbon and Hydrographic Oceanography Cruise 2013  
R/V Melville, Section PO2, Pacific Ocean.  
Research topics: “*Reconstruction of Oceanic Quasi-Geostrophic Currents*” and  
“*Oceanic Mixed Layer Turbulence from ADCP Measurements*”.  
Collaborators: Sabine Mecking and Gunnar Voet, University of Washington.
  - Yale School of Engineering and Applied Science, Yale University 2012  
Research Topic: “*Markov Chain Representation of Chaotic Dynamical Systems*”.  
Advisor: Mohamed Ali Belabbas, University of Illinois at Urbana-Champaign.
  - Geophysical Fluid Dynamics Independent Research Group 2010 - 2014  
Depts of Applied Mathematics and Geology & Geophysics, Yale University.  
Research topic: “*Steady rotating density currents on a slope*”.
  - Geophysical Fluid Dynamics Summer School at WHOI – Fellow 2010  
Research topic: “*Dynamics of the Mixed Layers in Stratified Sheared Flows*”.  
Advisor: Colm-cille Caulfield, University of Cambridge.
  - Shirshov Institute of Oceanology, Moscow, Russia - Research Assistant 2005-2007  
Research topic: “*Ocean Data Assimilation Techniques*”.  
Advisor: Mikhail Koshlyakov, Shirshov Institute of Oceanology.
- PUBLICATIONS**
- Manucharyan G.E. & A.V. Fedorov (2014), Robust ENSO across a wide range of climates, *Journal of Climate* (accepted)
  - Manucharyan G.E., W. Moon, F. Sévellec, A.J. Wells, J.-Q. Zhong, & J.S. Wettlaufer (2014), Steady turbulent density currents on a slope in a rotating fluid, *Journal of Fluid Mechanics*, Vol 746, pp 405–436.
  - Manucharyan G.E. & M.-L. Timmermans (2013), Generation and separation of mesoscale eddies from surface ocean fronts, *Journal of Physical Oceanography*, 43, 2545–2562.
  - Manucharyan G.E., C.M. Brierley, & A.V. Fedorov (2011), Climate impacts of intermittent upper ocean mixing induced by tropical cyclones, *Journal of Geophysical Research*, 116, C11038, doi:10.1029/2011JC007295.
  - Manucharyan G.E. (2010), Dynamics of the Mixed Layers in Stratified Shear Flows, WHOI GFD Summer School, Ann. Proc. Vol. 2010, pp 240–259.

*In preparation (drafts available upon request)*

- Manucharyan G.E. & A.V. Fedorov, Impacts of tropical cyclones' vorticity forcing on large-scale oceanic circulation, in prep. for *Journal of Physical Oceanography*
- Manucharyan G.E. & A.V. Fedorov, Walker circulation response to changing east-west SST gradient, in prep. for *Journal of Climate*
- Manucharyan G.E. & C.P. Caulfield, Entrainment and mixing dynamics of surface-stress-driven linearly stratified flow in a cylinder, in preparation for *Journal of Fluid Mechanics*.

**TEACHING  
EXPERIENCE**

*Yale University*

- Introduction to Concepts in Geology & Geophysics – Guest Lecturer 2013
- Asymptotic Methods – Guest Lecturer 2012
- Physics of Weather and Climate – Teaching Assistant. 2012
- Physical Oceanography – Teaching Assistant, Guest Lecturer 2010,11,13,14
- Atmosphere, Ocean, and Environmental Change – Laboratory Instructor. 2009

*Physics & Technology Evening High School, Dolgoprudny, Russia*

- Advanced Mathematics – Instructor. 2007-2008
- Physics, Mathematics – Teaching Assistant. 2004-2005

**FELLOWSHIPS  
& AWARDS**

- Weston Howland Jr. Postdoctoral Scholar, Woods Hole Oceanographic Institution 2014
- Philip M. Orville Prize “*For recognition of outstanding research and scholarship in the Earth Sciences*”, Yale University 2014
- Elias Loomis Prize for “*Excellence in Studies of Physics of the Earth*”, Department of Geology and Geophysics, Yale University. 2011
- Charlton Dows Cooksey Jr. Memorial Fellowship, Yale University. 2010-2012
- Geophysical Fluid Dynamics Fellowship, WHOI Summer 2010
- Bateman Fellowship, Yale University. 2008
- Diploma with Honors in Applied Physics and Mathematics, Moscow Institute of Physics and Technology, Dolgoprudny, Russia 2007
- Full Undergraduate Scholarship 2003-2007  
Moscow Institute of Physics and Technology, Dolgoprudny, Russia

**CONFERENCES  
& WORKSHOPS**

- Conference on Atmospheric and Oceanic Fluid Dynamics, Newport, RI 2013  
Title: “*Generation and Separation of Mesoscale Eddies from Surface Ocean Fronts*“.
- 65<sup>th</sup> annual meeting of APS, Division of Fluid Dynamics, San Diego, CA 2012  
Titles: “*Entrainment and Mixing Dynamics of Surface-Stress-Driven Linearly Stratified Flow in a Cylinder*”; “*Steady Rotating Density Currents on a Slope*“.
- American Geophysical Union Fall Meeting, San Francisco, CA 2011  
Title: “*Global Impacts of Intermittent Mixing Induced by Tropical Cyclones*“.
- Geophysical Fluid Dynamics Summer School, WHOI, Woods Hole, MA. 2009-2012
- Fundamental Problems in Climate Dynamics, Princeton Center for Theoretical Science, Princeton, NJ. 2009

**COLLABORATORS**

Alexey Fedorov (Yale), Mary-Louise Timmermans (Yale), Andrew Wells (Oxford), John Wettlaufer (Yale, Oxford), Colm-cille Caulfield (Cambridge), Jin-Qiang Zhong (Tongji U.), Woosok Moon (Cambridge), Gunnar Voet (U. Washington), Florian Sévellec (U. Southampton), Chris Brierley (U. College London), Sabine Mecking (U. Washington).