

# HEMANT KHATRI

## CONTACT INFORMATION

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## EDUCATION

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2015-Present PhD, Department of Mathematics  
Imperial College London, UK  
Advisor: [Pavel Berloff](#)

2013-2015 MSc, Centre for Atmospheric & Oceanic Sciences  
Indian Institute of Science (IISc), Bangalore, India  
Advisor: [Jai Sukhatme](#)

2009-2013 B.E. (Hons.), Chemical Engineering  
Birla Institute of Technology & Science (BITS), Pilani, India

## RESEARCH INTERESTS

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Turbulence in the oceans and atmosphere, impacts of topography on the ocean circulation, heat and tracer transport by eddies.

## PUBLICATIONS

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1. Khatri H. & Berloff P., Tilted, drifting jets over a sloped topography: effects of vanishing eddy viscosity, in preparation.
2. Khatri H. & Berloff P., Role of eddies in the maintenance of multiple jets embedded in eastward and westward baroclinic shears, submitted.
3. Khatri H. & Berloff P., 2018: A mechanism for jet drift over topography, Journal of Fluid Mechanics.
4. Khatri, H., Sukhatme, J., Kumar, A., & Verma, M. K., 2018: Surface ocean enstrophy, kinetic energy fluxes and spectra from satellite altimetry, Journal of Geophysical Research: Oceans.

## PRESENTATIONS

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1. Khatri H. & Berloff P., Dynamics of ocean jets formed over a sloped topography, Gordon Ocean Mixing Conference, June 2018, Andover, USA.
2. Khatri H., Uchida T. & Balwada D., Ocean surface spectral fluxes of kinetic energy, enstrophy and buoyancy, Gordon Ocean Mixing Conference, June 2018, Andover, USA
3. Khatri H., Geophysical jets: formation and existence, Queen Mary University, Dec 2017, London, UK.

4. Khatri H. & Berloff P., Drifting quasi-zonal jets, Rotating Fluids Meeting, Sept 2017, University of Oxford, UK
5. Khatri H., Random to organized motions in the oceans, Annual conference, Imperial College SIAM chapter, July 2017, London, UK
6. Khatri H. & Berloff P., Effects of zonally varying topography on the dynamics of oceanic jets, 21<sup>st</sup> conference on atmospheric and oceanic fluid dynamics, June 2017, Portland, USA
7. Khatri H., Sukhatme J., Kumar A. & Verma M. K., Kinetic energy and enstrophy fluxes on the ocean surface, Meeting: Energy transfers in the atmosphere and oceans, May 2017, Hamburg, Germany

## FELLOWSHIPS AND AWARDS

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Oct 2016 Research grants – Mathematics for Planet Earth CDT, Imperial College London  
 Feb 2016 President's PhD scholarship – Imperial College London  
 Jan 2014 Jeremy Grantham fellowship – Divecha Centre for Climate Change, IISc, Bangalore  
 Aug 2013 GATE fellowship – Ministry of Human Resource Development (MHRD), India

## WORKSHOPS

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June 2018 Rossbypalooza – Understanding climate through simple models  
 University of Chicago, USA  
 Aug 2017 Fundamental aspects of turbulent flows in climate dynamics  
 School of Physics, Les Houches, France

## TEACHING EXPERIENCE

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Fall 2017 Teaching Assistant: Mathematical Methods I, Multivariable Calculus  
 Spring 2017 Teaching Assistant: Mathematical Methods II, Numerical Analysis  
 Fall 2016 Teaching Assistant: Mathematical Methods I  
 Spring 2015 Teaching Assistant: Geophysical Fluid Dynamics

## PROGRAMMING SKILLS

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C, C++, Python, MATLAB, Fortran

## MEMBERSHIP & SERVICE

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Reviewer Journal of Physical Oceanography, Ocean Modelling  
 Member Maths helpdesk and scientific computing support network, Imperial College London  
 Member Society of Industrial and Applied Mathematics