HEMANT KHATRI

Contact Information

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Education

2016-Present	PhD, Department of Mathematics Imperial College London, UK Advisor: Dr Pavel Berloff
2013-2015	MSc (Engg.), Centre for Atmospheric & Oceanic Sciences Indian Institute of Science (IISc), Bangalore, India Advisor: Dr Jai Sukhatme
2009-2013	B.E. (Hons.), Chemical Engineering Birla Institute of Technology & Science (BITS), Pilani, India

Research Interests

- Turbulence in the oceans and atmosphere
- Impacts of topography on the ocean circulation
- Role of fast motions in geostrophic dynamics

Publications

1. Khatri H. & Berloff P., Role of eddy fluxes in the maintenance of multiple jets in a baroclinic quasi-geostrophic model forced with an eastward vs westward shear. (in preparation)
2. Khatri H. & Berloff P., Tilted, drifting jets over sloped topography: effects of vanishing eddy viscosity. (in preparation)
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

June 2018	Poster – "Dynamics of ocean jets formed over a sloped topography" Gordon Ocean Mixing Conference, New Hampshire, USA
June 2018	Poster – "Ocean surface spectral fluxes of kinetic energy, enstrophy and buoyancy" Gordon Ocean Mixing Conference, New Hampshire, USA
Dec 2017	Invited Talk – "Geophysical jets: formation and existence" Queen Mary University, London, UK
Sept 2017	Talk – "Drifting quasi-zonal jets" Rotating Fluids Meeting, University of Oxford, UK
July 2017	Talk – "Random to Organised Motions in the Oceans" Annual conference, Imperial College SIAM chapter, London, UK
June 2017	Poster – "Effects of zonally varying topography on the dynamics of oceanic jets" 21^{st} conference on atmospheric and oceanic fluid dynamics, Portland, USA
May 2017	Talk – "Kintetic energy and enstrophy fluxes on the ocean surface" Meeting: Energy transfers in the atmosphere and oceans, Hamburg, Germany

Fellowships and Awards

June 2017	Travel grants for the 21^{st} conference on atmospheric and oceanic fluid dynamics – American Meteorological Society
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

Summer Schools

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

Fall 2017	Teaching Assistant: Mathematical Methods I
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

C, C^{++}, Python, MATLAB, Fortran

Affiliations & Service

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