

HEMANT KHATRI

CONTACT INFORMATION

ADDRESS: 613, Huxley Building, Imperial College London, South Kensington,
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EDUCATION

2016-Present PhD, Department of Mathematics
Imperial College London, UK

2013-2015 MSc (Engg.), Centre for Atmospheric & Oceanic Sciences
Indian Institute of Science (IISc), Bangalore, India

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

RESEARCH INTERESTS

Geophysical fluid dynamics
Large-scale turbulence in the oceans and atmosphere
Role of moist processes in large-scale atmospheric dynamics

RESEARCH EXPERIENCE

2016-Present	PhD Dissertation, Imperial College London Advisor: Dr Pavel Berloff Studying the impacts of zonally varying bottom topography on the dynamics and stability of alternating jets in the oceans.
2013-2015	Masters Dissertation, IISc, Bangalore Advisor: Dr Jai Sukhatme Studied the behaviour of upper ocean turbulence by computing spectral fluxes of kinetic energy and enstrophy using gridded satellite altimetry data and high resolution model data.
Jan-June 2013	Research Assistant, TIFR Centre for Interdisciplinary Sciences, Hyderabad Advisor: Prof Rama Govindarajan Modelled the behaviour of growth rate and temperature of droplets in clouds as a function of droplet size, size of aerosols (condensation nuclei), and environmental super-saturation.

PUBLICATIONS

Khatri H. & Berloff P.: Energetics of Tilted, Drifting Jets over Sloping Topography (in preparation).

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 (in press).

Khatri H. & Berloff P., 2018: A Mechanism for Jet Drift over Topography, Journal of Fluid Mechanics.

TALKS AND POSTERS

- 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”
21st Conference on Atmospheric and Oceanic Fluid Dynamics, Portland, USA
- May 2017 Talk – “Kinetic 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 21st 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

AFFILIATIONS & SERVICE

Reviewer: Journal of Physical Oceanography
Reviewer: Ocean Modelling
Member: Society of Industrial and Applied Mathematics (SIAM)