

KAUSHAL GIANCHANDANI

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Graduate student focused on i) simulating extreme 'snowball' climate on Earth, and
ii) determining the viability of ocean currents as a source of alternative energy.

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Jerusalem, Israel 

EDUCATION

Ph.D. in Oceanography [GPA: 89/100] Oct 2017 – present
Hebrew University of Jerusalem, Israel (HUJI)

Integrated B.Sc. - M.Sc. in Physics [GPA: 7.4/10] Aug 2012 – May 2017
National Institute of Science Education and Research (NISER), Bhubaneswar, India

SKILLS

Analytical: Climate modeling, Renewable Energy, Oceanography, Bio-geo-chemistry, Fluid Mechanics,
Nonlinear Dynamics, Time Series Analysis, Statistics, Data Science, Machine Learning
Computational: Python, R, C++, Bash, Fortran, MITgcm, Parallel programming, LaTeX, MATLAB, Unix, MS Office

SELECT WORK EXPERIENCE

Graduate Research Assistant Oct 2017 – present
Hebrew University of Jerusalem, Israel (HUJI)

Project title: Statistical analysis of global data on winds and ocean currents

- Developed statistical tests to **analyze time-series of global surface winds and ocean currents (>10 billion data points)** provided by European Centre for Medium-Range Weather Forecasts (ECMWF).
- Recommended an alternative distribution, which yields **>99.5% (>96%) accurate estimates of electric energy** available for extraction using wind (ocean) turbines.

Project title: Modeling wind-driven ocean currents

- Determined how the **dimensions of an ocean basin affect the volume of water transported** by strong ocean currents like the Gulf Stream.

Project title: Examining physical and bio-geo-chemical properties of oceans in extremely cold climate

- Programmed state-of-the-art climate model (MITgcm) to **simulate extremely cold 'snowball' Earth climate**.
- Investigated the **physical and bio-geo-chemical properties of the ocean** during extreme climate conditions.

Summer Intern May – Jul 2016

École Normale Supérieure de Lyon (ENS de Lyon)

Project Title: Transition to turbulence in subcritical baroclinic flows (cont. as Master's thesis)

- Investigated how coupled effect of **rotation and friction leads to reorganization of Jet Stream-like** turbulent flows.

PUBLICATIONS

[2] Gianchandani, Kaushal, Hezi Gildor, and Nathan Paldor. "[On the role of domain aspect ratio in the westward intensification of wind-driven surface ocean circulation](#)." *Ocean Science* 17, no. 1 (2021): 351-363.

[1] Campisi-Pinto, Salvatore, Kaushal Gianchandani, and Yosef Ashkenazy. "[Statistical tests for the distribution of surface wind and current speeds across the globe](#)." *Renewable Energy* 149 (2020): 861-876.

FELLOWSHIPS and AWARDS

- Innovation in Science Pursuit for Inspired Research (INSPIRE) Fellowship** Aug 2012 – May 2017
Sponsor: Department of Science & Technology (DST), Govt. of India
- Physics Summer Research Fellowship** Jun – Jul 2015
Sponsor: Institute of Mathematical Sciences (IMSc), Chennai
- Best Student award**, St. Gregorios Senior Secondary School, Udaipur 2012

SELECT PRESENTATIONS

- Atmospheres and Oceans seminar** Invited Talk Jan 2021
Johns Hopkins University, Baltimore, MD, USA
- Summer School on Fluid Dynamics of Sustainability & the Environment (FDSE)** Poster Sep 2018
University of Cambridge, Cambridge, UK presentation