

# Kaushal Gianchandani

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## RESEARCH INTEREST

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(Physical, Paleo- and Exo-) Oceanography, Climate (Dynamics and Data Analysis)

## EDUCATION

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**Hebrew University of Jerusalem** Oct 2017 - Jun 2023  
Ph.D. in Oceanography Jerusalem, Israel  
Thesis: Physical-biogeochemical dynamics of extreme paleoclimate events  
Advisors: Prof. Hezi Gildor, Prof. Yosef Ashkenazy (Ben-Gurion University) and Prof. Eli Tziperman (Harvard University)

**National Institute of Science Education and Research** Aug 2012 - May 2017  
Integrated B.Sc. - M.Sc. in Physics Bhubaneswar, Odisha, India  
Thesis: Transition to turbulence in subcritical baroclinic flows [[view thesis](#)]  
Advisor: Dr. Antoine Venaille (École Normale Supérieure de Lyon)

## WORK EXPERIENCE (Since 2019)

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**Massachusetts Institute of Technology** Sep 2023 - present  
Postdoctoral Associate Cambridge, MA, USA  
Advisor: Prof. John Marshall

**Hebrew University of Jerusalem** Oct 2020 - Jan 2021  
Teaching Assistant Jerusalem, Israel  
Course: Mathematical methods in scientific models [[view notes](#)]  
Instructor: Prof. Nathan Paldor

## PUBLICATIONS

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*Published in peer-reviewed journals<sup>†</sup>:*

- [1] **Kaushal Gianchandani**, Sagi Maor, Ori Adam, Alexander Farnsworth, Hezi Gildor, Daniel J Lunt, and Nathan Paldor. “Effects of paleogeographic changes and CO<sub>2</sub> variability on northern mid-latitude temperature gradients in the Cretaceous”. In: *Nature Communications* 14 (2023), p. 5193. DOI: [10.1038/s41467-023-40905-7](https://doi.org/10.1038/s41467-023-40905-7).
- [2] **Kaushal Gianchandani**, Hezi Gildor, and Nathan Paldor. “On the role of domain aspect ratio in the westward intensification of wind-driven surface ocean circulation”. In: *Ocean Science* 17 (2021), pp. 351–363. DOI: [10.5194/os-17-351-2021](https://doi.org/10.5194/os-17-351-2021).
- [3] Salvatore Campisi-Pinto, **Kaushal Gianchandani**, and Yosef Ashkenazy. “Statistical tests for the distribution of surface wind and current speeds across the globe”. In: *Renewable Energy* 149 (2020), pp. 861–876. DOI: [10.1016/j.renene.2019.12.041](https://doi.org/10.1016/j.renene.2019.12.041).

*In press:*

- **Kaushal Gianchandani**, Itay Halevy, Hezi Gildor, Yosef Ashkenazy, and Eli Tziperman. “Production of neoproterozoic banded iron formations in a partially ice-covered ocean.” In: *Nature Geoscience*.

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<sup>†</sup>Please send an email to me for the pdf

*In review:*

- **Kaushal Gianchandani** and Nathan Paldor. “Ekman pumping on the  $\beta$ -plane”

## SEMINARS

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- Atmospheres and Oceans Seminar Jan 2021  
Johns Hopkins University, Baltimore, MD, USA

## CONFERENCE AND WORKSHOPS (Last 5)

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- GFD Days 2022 (Talk) Apr 2022  
Ben-Gurion University of the Negev, Sede Boqer, Israel
- Ocean Sciences Meeting 2022 (Talk) Feb - Mar 2022  
Session: AI05 Role of ocean-atmosphere dynamics in global climate, Online
- Next Generation Challenges in Energy-Climate Modeling Workshop (Poster) Sep 2021  
University of Reading, Reading, UK, Online
- NASA PACE Applications Workshop Sep 2021  
National Aeronautics and Space Administration, Online
- Wave Dynamics and Climate Workshop (Talk) Sep 2019  
Inter-University Institute for Marine Sciences, Eilat, Israel

## SCHOOLS

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- International Spring School: Hydrothermal Vents May 2021  
European Astrobiology Network Association, Online
- Summer School on Fluid Dynamics of Sustainability and Environment Sep 2018  
University of Cambridge, Cambridge, UK

## SERVICES

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- Member, Colloquium Committee for the Program in Atmospheres, Nov 2023 - May 2024  
Oceans and Climate (PAOC) at MIT
- Reviewer for *Nature Communications* and *Journal of Climate* 2023
- Member, The Oceanography Society Student Committee Sep 2021 - Aug 2023
- Co-chair, Session AI05<sup>‡</sup> in Ocean Science Meeting 2022 Feb - Mar 2022  
*Participant of the inaugural OSM Session Mentoring Program*

## MENTORSHIP

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- Sagi Maor (B.Sc. student), Hebrew University of Jerusalem Nov 2021 - Oct 2022  
– Undergraduate research project in paleo-oceanography

## OUTREACH ACTIVITIES

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- TOS Panel Discussion for World Oceans Day Jun 2022  
Title: [Using Ocean and Environmental Data to Address Socio-Economic Challenges](#)  
– Organized and moderated the panel discussion with 50+ attendees (students, researchers and industry professionals) from 5 countries.

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<sup>‡</sup>The role of ocean-atmosphere dynamics in global climate

- **Young Data Scientists Quest** Jan - Apr 2022
  - Mentored 30 students of Launch High School, Cedar City, UT for a 10-week data science bootcamp.
  - Designed two data science projects to complement the bootcamp.
  - Conducted multiple training sessions on data acquisition, visualization and analysis.
  - One of the projects was awarded the *Best Data Science Application: AI award* by a panel of experts.

## AWARDS

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- **Registration Grant**, Ocean Sciences Meeting 2022 Feb - Mar 2022
- **Innovation in Science Pursuit for Inspired Research (INSPIRE) Fellowship** 2012 - 17  
 Sponsor: Department of Science and Technology, Government of India  
*Awarded to the top 1% of students in India pursuing an undergraduate degree in basic sciences.*
- **Physics Summer Research Fellowship** Jun - Jul 2015  
 Sponsor: Institute of Mathematical Sciences, Chennai  
*Awarded to 15 students selected from applicants across India to pursue an internship in Physics at the institute.*

## MEMBERSHIPS

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- The Oceanography Society Apr 2019 - present
- Israeli Association for Aquatic Sciences Mar 2019 - present
- The New York Academy of Science Oct 2020 - Oct 2021

## TECHNICAL STRENGTHS

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Programming Languages : Python, Fortran, Bash  
 General circulation models : MITgcm, ROCKE-3D, NASA GISS ModelE