

# Kaushal Gianchandani

Affiliation : Department of Earth, Atmospheric, and Planetary Sciences (EAPS) at Massachusetts Institute of Technology (MIT)

Email : [kaushalg@mit.edu](mailto:kaushalg@mit.edu)

Web : <https://kaushalgianchandani.github.io/>

## 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

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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

**École Normale Supérieure de Lyon** May - Jul 2016

Summer Intern Lyon, France

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

Advisor: Dr. Antoine Venaille

**Institute of Mathematical Sciences** Jun - Jul 2015

Summer Research Fellow Chennai, Tamil Nadu, India

Project Title: Binary logic using spatially patterned deaths in chemical oscillators [\[view report\]](#)

Advisor: Prof. Sitabhra Sinha

**Indian Institute of Science Education and Research - Kolkata** May - Jul 2014

Summer Intern Kolkata, West Bengal, India

Project Title: Time series analysis of the bouncing ball experiment [\[view report\]](#)

Advisors: Prof. Prasanta K. Panigrahi and Prof. A.N. Sekar Iyengar

**National Institute of Science Education and Research** May - Jun 2013

Summer Intern Bhubaneswar, Odisha, India

Project Title: Motion of the Foucault pendulum [\[view report\]](#)

Advisor: Dr. Joydeep Bhattacharjee

## PUBLICATIONS

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Published in peer-reviewed journals<sup>1</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: <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: <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: <https://doi.org/10.1016/j.renene.2019.12.041>.

In review:

- **Kaushal Gianchandani** and Nathan Paldor. "Ekman pumping on the  $\beta$ -plane"
- **Kaushal Gianchandani**, Itay Halevy, Hezi Gildor, Yosef Ashkenazy, and Eli Tziperman. "Production of neoproterozoic banded iron formations in a partially ice-covered ocean."

## SEMINARS

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

## CONFERENCE AND WORKSHOPS

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- GFD Days 2022 (Talk) Apr 2022  
Johns Hopkins University, Baltimore, MD, USA
- 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
- Israeli Association for Aquatic Sciences' 15th Annual Meeting (Talk) Mar 2019  
Haifa, Israel
- EPScon 2019 (Poster) Mar 2019  
Weizmann Institute of Science, Rehovot, Israel
- GFD Days 2019 (Poster) Jan 2019  
Ben-Gurion University of the Negev, Sede Boqer, Israel
- Ice, Oceans and Atmospheres on Earth and Elsewhere May 2018  
CNR Headquarters, Rome, Italy
- 10th Conference on Nonlinear Systems and Dynamics (Poster) Dec 2016  
Indian Institute of Science Education and Research - Kolkata, Kolkata, India

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<sup>1</sup>Please send an email to me for the pdf

- Statphys26  
Lyon, France

Jul 2016

## 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
- 10th Winter School on Astroparticle Physics Dec 2015  
Bose Institute, Darjeeling, India

## SERVICES

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- Member, Program in Atmospheres, Oceans and Climate (PAOC) Colloquium Feb - May 2024  
Committee at MIT
- Reviewer for *Nature Communications* and *Journal of Climate* 2023
- Member, The Oceanography Society Student Committee Sep 2021 - Aug 2023  
Served on the Coding Resources Subcommittee
- Co-chair, Session AI05 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
- [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 & 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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Computer Languages : Python, Fortran, Bash  
General circulation models : MITgcm, ROCKE-3D, NASA GISS ModelE