

KAUSHAL GIANCHANDANI

Affiliation : Earth, Atmospheric, & Planetary Sciences, Massachusetts Institute of Technology
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RESEARCH INTEREST

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

EDUCATION

Hebrew University of Jerusalem, Israel Oct 2017 - Jun 2023

Ph.D. in Oceanography

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, India

Aug 2012 - May 2017

Integrated B.Sc. - M.Sc. in Physics

[view thesis]

Thesis: Transition to turbulence in subcritical baroclinic flows

Advisor: Dr. Antoine Venaille (École Normale Supérieure de Lyon)

WORK EXPERIENCE

Massachusetts Institute of Technology

Sep 2023 - present
Cambridge, MA, USA

Postdoctoral Associate

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 (continued as master's thesis)

Advisor: Dr. Antoine Venaille

Institute of Mathematical Sciences

Jun - Jul 2015

Summer Research Fellow

Chennai, 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, 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, India

Project Title: Motion of the Foucault pendulum

[view report]

Advisor: Dr. Joydeep Bhattacharjee

PUBLICATIONS

- [1] **Kaushal Gianchandani**, Sagi Maor, Ori Adam, Alexander Farnsworth, Hezi Gildor, Daniel J Lunt, and Nathan Paldor. "Effects of paleogeographic changes and CO₂ variability on northern mid-latitude temperature gradients in the Cretaceous". In: *Nature Communications* 14 (2023), p. 5193.

- [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.
- [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.

SEMINARS

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

CONFERENCES AND WORKSHOPS

- 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
- 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
- Statphys26 Jul 2016
Lyon, France

SCHOOLS

- 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

- Reviewer for *Nature Geosciences*, *Journal of Climate*
- Member, The Oceanography Society Student Committee
Served on the Coding Resources Subcommittee Sep 2021 - present
- Co-chair, Session AI05 in Ocean Science Meeting 2022
Participant of the inaugural OSM Session Mentoring Program Feb - Mar 2022

MENTORSHIP

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

OUTREACH ACTIVITIES

- 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 (source: Google Trends), data visualization and statistical analysis

AWARDS

- **Registration Grant**, Ocean Sciences Meeting 2022 Feb - Mar 2022
- **Innovation in Science Pursuit for Inspired Research (INSPIRE) Fellowship** 2012 - 2017
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

- 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

Computer Languages : Python, Fortran, Bash, C++, HTML
 Packages : MITgcm, (py)ferret, L^AT_EX
 Software : MATLAB, Mathematica
 Operating systems : Ubuntu (other linux based OSs), macOS (unix), Microsoft Windows