

KAUSHAL GIANCHANDANI

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RESEARCH INTEREST

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

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 Uni.) and Prof. Eli Tziperman (Harvard Uni.)

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

Institute of Earth Sciences, Hebrew University of Jerusalem Oct 2020 - Jan 2021
Teaching Assistant
Course: Mathematical methods in scientific models [view notes]
Instructor: Prof. Nathan Paldor

École Normale Supérieure de Lyon May - Jul 2016
Summer Intern
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
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
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
Project Title: Motion of the Foucault pendulum [view report]
Advisors: Dr. Joydeep Bhattacharjee

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. [pdf]
 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. [pdf]
- In review:*
- Gianchandani, Kaushal**, Sagi Maor, Ori Adam, Alexander Farnsworth, Hezi Gildor, Daniel J. Lunt, and Nathan Paldor. "Both tectonic activity and CO₂ variability affect temperature gradients in the Cretaceous." [preprint]

Gianchandani, Kaushal, 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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| o Atmospheres and Oceans Seminar
Johns Hopkins University, Baltimore, MD, USA | Jan 2021 |
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CONFERENCES AND WORKSHOPS

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| o GFD Days 2022
Ben-Gurion University of the Negev, Sede Boqer, Israel | Talk | Apr 2022 |
| o Ocean Sciences Meeting 2022
Session: AI05 Role of ocean-atmosphere dynamics in global climate, Online | Talk | Feb - Mar 2022 |
| o Next Generation Challenges in Energy-Climate Modeling Workshop
University of Reading, Reading, UK, Online | Poster | Sep 2021 |
| o NASA PACE Applications Workshop
National Aeronautics and Space Administration, Online | | Sep 2021 |
| o Wave Dynamics and Climate Workshop
Inter-University Institute for Marine Sciences, Eilat, Israel | Talk | Sep 2019 |
| o Israeli Association for Aquatic Sciences' 15th Annual Meeting
Haifa, Israel | Talk | Mar 2019 |
| o EPScon 2019
Weizmann Institute of Science, Rehovot, Israel | Poster | Mar 2019 |
| o GFD Days 2019
Ben-Gurion University of the Negev, Sede Boqer, Israel | Poster | Jan 2019 |
| o Ice, Oceans and Atmospheres on Earth and Elsewhere
CNR Headquarters, Rome, Italy | | May 2018 |
| o 10th Conference on Nonlinear Systems and Dynamics
Indian Institute of Science Education and Research - Kolkata, Kolkata, India | Poster | Dec 2016 |
| o Statphys26
Lyon, France | | Jul 2016 |

SCHOOLS

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| o International Spring School: Hydrothermal Vents
European Astrobiology Network Association, Online | May 2021 |
| o Summer School on Fluid Dynamics of Sustainability and Environment
University of Cambridge, Cambridge, UK | Sep 2018 |
| o 10th Winter School on Astroparticle Physics
Bose Institute, Darjeeling, India | Dec 2015 |

SERVICES

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| o Member, The Oceanography Society Student Committee
Served on the Coding Resources Subcommittee | Sep 2021 - present |
| o Co-chair, Session AI05 in Ocean Science Meeting 2022
Participant of the inaugural OSM Session Mentoring Program | Feb - Mar 2022 |

MENTORSHIP

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| o Sagi Maor (B.Sc. student), Hebrew University of Jerusalem
– Undergraduate research project in paleo-oceanography | Nov 2021 - Oct 2022 |
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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, \LaTeX
Software : MATLAB, Mathematica
Operating systems : Ubuntu (other linux based OSs), macOS (unix), Microsoft Windows