

# KAUSHAL GIANCHANDANI

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## RESEARCH INTEREST

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

## EDUCATION

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**Hebrew University of Jerusalem, Israel** Oct 2017 - present  
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

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**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

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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 CO<sub>2</sub> 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<br>Johns Hopkins University, Baltimore, MD, USA | Jan 2021 |
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## CONFERENCES AND WORKSHOPS

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

## SCHOOLS

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

## SERVICES

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| o Member, The Oceanography Society Student Committee<br>Served on the Coding Resources Subcommittee                  | Sep 2021 - present |
| o Co-chair, Session AI05 in Ocean Science Meeting 2022<br>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<br>– Undergraduate research project in paleo-oceanography | Nov 2021 - Oct 2022 |
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## 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 (source: Google Trends), data visualization and statistical analysis

## AWARDS

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- **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

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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, C++, HTML  
Packages : MITgcm, (py)ferret,  $\LaTeX$   
Software : MATLAB, Mathematica  
Operating systems : Ubuntu (other linux based OSs), macOS (unix), Microsoft Windows