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   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]
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. "Effects of paleogeographic changes and CO_2 variability on northern mid-latitudinal 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."   [preprint]

Gianchandani, Kaushal, and Nathan Paldor. "Ekman pumping on the β-plane."   [preprint]

SEMINARS

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

CONFERENCES AND WORKSHOPS

○ GFD Days 2022   Talk   Apr 2022
  Ben-Guiron 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 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-Guiron 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

○ Member, The Oceanography Society Student Committee   Sep 2021 - present
  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

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

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