TALIA BRODSKY TAMARIN

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I will be joining MIT EAPS as an Assistant Professor in climate science in July 2023. My research interests include atmospheric temperature variability, midlatitude atmospheric dynamics, regional climate and extremes, and subseasonal-to-seasonal predictability. Applying ideas from synoptic meteorology into climate science, I currently study the role of dynamics in the non-Gaussianity of atmospheric variability, nonlinear atmospheric wave breaking events, and circulation regimes in current and future climate. My work combines theory, computational methods, and observational analysis.

EDUCATION AND EMPLOYMENT

Asst. Prof.	MIT, EAPS Department	as of July 2023
Postdoc	Tel-Aviv University, Geophysics Department (Maternity leave Feb.-Aug. 2022)	2020-current
Postdoc	University of Reading, Meteorology Department (Maternity leave Mar.-Sep. 2019)	2017-2020
Ph.D.	Weizmann Institute, Department of Earth and Planetary Sciences	2012-2017
M.Sc.	Tel-Aviv University, Physics Department	2009-2011
B.Sc.	Tel-Aviv University, Double major: Mathematics & Geophysics	2004-2008

FELLOWSHIPS AND AWARDS

Rewarding Excellence lump sum award- University of Reading, Meteorology	2020
James S. McDonnell Foundation- Postdoc fellowship in complex systems	2017-2019
Women in Science award- Prize for postdoctoral studies	2017-2018
Prof. Israel Dostrovsky Award- Prize of Excellence, Weizmann Institute	2017
The Shimon Reich Memorial Award- Excellence in research accomplishments	2016
Best Student Presentation- Atmospheric & Oceanic Fluid Dynamics conference	2015
Rieger Foundation- fellowship in Environmental Sciences	2013
Selim and Rachel Benin Scholarship Fund- For exceptional Jewish students	2012
Excellence in Teaching Award- Physics department, Tel-Aviv University	2010
Dean's list- Mathematics department, Tel-Aviv University	2007

SELECTED PUBLICATIONS

In preparation

T. Tamarin-Brdosky and N. Harnik, "The influence of weather regimes on the lifecycle of extratropical cyclones and anticyclones" (in preparation)

T. Tamarin-Brodsky and N. Harnik, "The intrinsic relationship between cyclones, anticyclones, and Rossby Wave Breakings in the North-Atlantic" (submitted)

Y. Yao, Y. Zhang, K. I. Hodges and T. Tamarin-Brodsky, "Different propagation mechanisms of deep and shallow wintertime extratropical cyclones over the North Pacific", *J. Clim.* (under revision)

Peer-reviewed

T. Tamarin-Brodsky, B. J. Hoskins, K. Hodges and T. Shepherd, "A simple model for interpreting temperature variability and its higher-order changes", *J. Clim.*, J Vol. 35 (1), 387–403 (2021)

K. kornhuber and T. Tamarin-Brdosky, "Future Changes in Northern Hemisphere Summer Weather Persistence Linked to Projected Arctic Warming", *Geophys. Res. Lett.*,Vol. 48, e2020GL091603 (2021)

T. Tamarin-Brodsky, K. Hodges, B. J. Hoskins and T. Shepherd, "Regional warming patterns shape changes in temperature variability", *Nat. Geosci.* Vol. 13, 414–421 (2020)

T. Tamarin-Brodsky, K. Hodges, B. J. Hoskins and T. Shepherd, "A Dynamical Perspective on the Atmospheric Temperature Variability and its Projected Changes", *J. Clim.*, Vol. 32, 1707-1724 (2019)

T. Tamarin-Brodsky and O. Hadas "The asymmetry of vertical velocity in current and future climate", *Geophys. Res. Lett.*, Vol. 46, 10.1029/2018GL080363 (2019)

U. Mikolajewicz, et. al, "The climate of a retrograde rotating earth", *Earth Syst. Dynam.*, Vol. 9, 1191–1215 (2018)

T. Tamarin-Brodsky and Y. Kaspi, "Enhanced poleward propagation of storms under climate change", *Nat. Geosci.*, 2017, Vol. 10, 908–913 (2017)

T. Tamarin and Y. Kaspi, "The poleward shift of storm tracks under global warming: a Lagrangian perspective", *Geophys. Res. Lett.*,Vol. 44, L073633 (2017)

T. Tamarin and Y. Kaspi, "Mechanisms controlling the downstream poleward deflection of midlatitude storm tracks", *J. Atmos. Sci.*, Vol. 74, 553-572 (2017)

T. Tamarin and Y. Kaspi, "The poleward motion of Extratropical cyclones from a potential vorticity tendency analysis", *J. Atmos. Sci*, Vol. 73, 1687-1707 (2016)

T. Tamarin, J. R. Maddison, E. Heifetz and D. P. Marshall, "A geometric interpretation of eddy Reynolds stresses in barotropic ocean jets", *J. Phys. Oceanogr.*, Vol. 46, 2285–2307 (2016)

TEACHING EXPERIENCE

Supervising a graduate Student 2017-2018
Leading a research project and mentoring a student

Teaching Assistant, Weizmann Institute, Israel 2012-2013
Atmosphere and Ocean Fluid Dynamics

Teaching Assistant, Tel-Aviv University, Israel 2007-2011
Classical Physics 1, Mathematical Introduction for Physicists,
Advanced Physics Lab A, Mathematical and Numerical Methods in Fluid Dynamics

SCIENTIFIC EXPERIENCE

Session Co-organizer, European Geosciences Union General Assembly 2019-2021
"Dynamics of the atmospheric circulation in past, present and future climates"

NCAS summer school, University of Oxford, UK 2013
"NCAS Climate modeling summer school", Physics Department

Visiting Researcher, University of Oxford, UK 2012
Advisor: Prof. David Marshall, Physics Department

FDSE summer school, University of Cambridge (DAMPT), UK 2012
"Fluid Dynamics of Sustainability and the Environment"

SELECTED TALKS

American Geophysical Union (AGU) Fall Meeting 2022
Chicago, USA (attended virtually)

American Meteorological Society (AMS) 102nd Annual Meeting (Invited Speaker) 2022
Texas, USA (attended virtually)

National Center for Atmospheric Science (NCAS) seminar 2020
Reading, UK (attended virtually)

American Geophysical Union (AGU) Fall Meeting (Invited Speaker) 2019
California, USA (attended virtually)

Climate and Wave Dynamics Workshop, Eilat, Israel 2019

Stormtracks Workshop, Stockholm, Sweden 2018
(Presented on my behalf by Prof. Ted Shepherd)

SPARC General Assembly, Kyoto, Japan 2018
(Presented on my behalf by Ted Prof. Shepherd)

American Geophysical Union (AGU) Fall Meeting (Invited Speaker) 2018
California, USA **(**declined due to pregnancy restrictions)

Atmospheric and Oceanic Fluid Dynamics (AOFD) Portland, USA 2017

4th International Conference on Earth System Modelling (4ICESM) 2017
Max Planck Institute, Germany

Model Hierarchies Workshop, Princeton University, USA 2016

SPARC DynVar workshop, Helsinki, Finland 2016

Atmospheric and Oceanic Fluid Dynamics (AOFD), Minneapolis, USA 2015

European Geophysical Union (EGU) General Assembly, Vienna, Austria 2014