

Oren Rabinowitz
Curriculum Vitae
August 2021

-Personal Information and Contact-

Email: oren.rabinowitz7878@gmail.com

Permanent Address: 11 Fairmount Avenue, Morristown, N.J. 07960

-Research Interests-

Biodiversity • Ethnobotany • Pharmacology

-Education-

- TBD* **Postdoc**, Technion-Israel Institute of Technology, Haifa, Israel
Natural Products and Clinical Biotechnology
Faculty of Biology
Advisor: Prof. Dedi Mieri
- 2018 - 2022* **Ph.D.**, Rutgers University, New Brunswick, N.J., USA
Plant Biology: Natural Products Chemistry (*GPA: 3.8*)
School of Environmental & Biological Sciences
Advisor: Prof. Ilya Raskin
- 2016 - 2018* **M.Sc.**, Tel Aviv University, Tel Aviv, Israel
Molecular Biology and Ecology of Plants
George S. Wise Faculty of Life Sciences
Advisors: Prof. Lilach Hadany & Prof. Nir Ohad

2009 - 2014

B.A., University of Colorado at Boulder, C.O., USA

Ecology and Evolutionary Biology

Department of Ecology and Evolutionary Biology

Thesis Advisor: Prof. Erin A. Tripp

Minor: Oceanic and Atmospheric Sciences

-Academic Positions-

Teaching Assistant Student Evaluations (Rutgers University, 2018-2021)

Averaged (n= 73) TA Evaluation Scores: SIRS-CTAAR Standard Form

Scores: 0 (strongly disagree) to 5 (strongly agree)

<u>Oren Rabinowitz</u>	<u>Dept. Life Sciences</u>
Teaching effectiveness- 4.31	<i>Department average-</i> 4.22
Organized & prepared- 4.54	<i>Department average-</i> 4.46
Generated interest- 4.58	<i>Department average-</i> 4.26
Positive attitude- 4.48	<i>Department average-</i> 4.45
Encouraged learning- 4.30	<i>Department average-</i> 4.17

2021 - 2022

• Teaching Assistant: Medicinal Plants/Intro to Ethnobotany (205/312)

Assisted instruction of two 1.5 hour weekly lectures on the history, classification, extraction, and uses of phytochemicals. Topics covered include botany of medicinal plants and field identification, chemistry of terpenes, phenylpropanoids, alkaloids, polyphenols, cannabinoids, history and relevance of systems of traditional and folk medicine, and the politics of bioprospecting, legalization, biodiversity, and genetic/cultural conservation. Curated, revised, and updated lecture materials, slides, and resources to reflect current trends in the discipline, maintained online course content, graded research papers, participated in group discussions, mentored students, and held office hours.

Rutgers University, New Brunswick, N.J., US

2021

- Teaching Assistant: Principles of Biology (103)

Instructed two weekly 3-hour introductory biology laboratories for undergraduate students. Responsible for prep, pre-lab lecture, exam proctoring, field trips, office hours, and grading. Contributed to curriculum design, lab manual editing, and pedagogical methods. Subjects covered included introductory evolution, ecology, cell biology, genetics, biodiversity, anatomy, and microbiology.

Rutgers University, New Brunswick, N.J., USA

2020

- Graduate Student Coordinator: Departmental Seminar Series (625)

Guest lecturer contact, coordination, and organization for the School of Environmental and Biological Sciences Natural Products and Human Health Biennial Spring Seminar Series.

Rutgers University, New Brunswick, N.J., USA

2018 - 2020

- Teaching Assistant: Biological Research Laboratory (117)

Instructed two weekly 4-hour research technique-focused laboratories for undergraduate life science majors. Responsible for prep, pre-lab lecture, exam proctoring, safety, mentorship, office hours, and grading. Subjects covered included the scientific method, environmental sampling, PCR, gel electrophoresis, microbial culture, serial dilutions, protein quantification, DNA sequence analysis, statistics, and bioinformatic tools. Advised group research projects, led conference-style presentations at the end of each semester, and delivered online instruction.

Rutgers University, New Brunswick, N.J., USA

2015

- Teaching Assistant: Intro to Ecology (101)

Instructed an introductory course in desert ecology for international undergraduate students.. Responsible for classroom prep, lecture, herbarium curation, mentorship, field trips, group discussions, and grading individual and group presentations, papers, and exams.

Arava Institute for Environmental Studies, Ben Gurion University of the Negev, Ktara, Israel

-Work Experience-

2017- present

- HerbMedPro Database Compiler; American Botanical Council

-Remote maintenance and development of a searchable proprietary online database of indexed summaries of key findings from scientific articles and clinical trials on the pharmacology of herbs and respective bioactive constituents for consumer, academic, and industrial clients.

American Botanical Council, Austin, T.X., USA.

2017

- Intern; Brooklyn Botanical Garden

Maintenance and propagation of garden accessions. Updated signage, managed weeding projects, and identified pests and diseases. Completed professional development coursework in botany, pathology, and public garden management.

Brooklyn, New York City, NY, USA

2016

- Hourly Researcher; Hadany Lab

Greenhouse maintenance and growth of *Oenothera drummondii*, extraction and analysis of nectar polysaccharides.

Tel Aviv University, Tel Aviv, Israel

2015

- Research Intern; AIES Center for Desert Ecology

Population dynamics and spatial ecology of *Vachellia tortilis*: backcountry navigation, sample collection, standardized field measurements of desert tree species, NDVI photography, data analysis and presentation.

Arava Institute for Environmental Studies, Ktura, Israel

2014

- Curatorial Assistant; Jerusalem Botanical Gardens

Updated garden signage to feature current taxonomic classification and engaging facts about garden accessions. Developed botanical and ecological curricula for visiting school groups and senior citizens.

Jerusalem Botanical Gardens, Jerusalem, Israel

2014

• Laboratory Intern; Winters Lab

Antimicrobial activity of *Vachellia tortilis* crude extract: sample collection, crude extract prep, partitioning, MTT cell viability assay, data analysis.

Arava and Dead Sea Science Center, Hatzevah, Israel

2013

• Hourly Researcher; Seastedt Lab

Effect of nitrogen deposition and reduced rainfall on high alpine meadow plant composition: field plant identification, backcountry navigation, herbarium voucher specimen creation, biomass weighing, statistics.

Institute for Arctic and Alpine Research, Boulder, C.O., USA

2013

• Intern; Musconetcong Watershed Association

Taught grade-school level ecology and plant biology to inner city youth in the New Jersey countryside, assessed water quality index (WQI) on river and well water.

Musconetcong Watershed Association, Asbury, N.J., USA

-Skill and Method Proficiency-

In vivo: Animal care and handling (mouse + rat), ovalbumin-induced rhinitis, TPS-induced dermatitis, laceration-induced wounding, necropsy, dissection, & tissue prep

Ex vivo: Whole and citrated blood component separation and experimental analysis

In vitro: Cell culture, passaging, assays, and cryopreservation; human neonatal dermal fibroblasts, human keratinocytes, HeLa human cervical cancer cells, RAW 264.7 murine macrophages, plant tissue culture, bacteria, fungi, & virus propagation, infection, and culture, live/fixed cell antibody/fluorophore conjugate staining

In silico: Docking, structural prediction, and modeling of proteins and ligands using Autodock

Tools, Autodock *Vina*, PyMol, DiscoveryStudio, CADD

In the field: Woody and herbaceous plant and seed identification, dichotomous keys, herbarium voucher sample prep, environmental sampling, backcountry navigation, all terrain-driving

In the lab: DNA/RNA/protein extraction/purification/isolation, gel electrophoresis, qRT-PCR, GC & LC-MS, affinity/thin layer/ion exchange/column chromatography, organic solvent-based small molecule extraction/purification/isolation, serial dilution, standard curve, epifluorescence microscopy, confocal microscopy, SEM prep, protocol development, ect.

Administration: Web content development (instructional videos on molecular biology techniques, photography for laboratory websites, lectures, quizzes, and exams, ect.) bioinformatics workshop training coordinator for lab members, ordering, reimbursement forms, vendor communications.

-Awards and Scholarships-

- 2021 • Momental Foundation Mistletoe Research Grant (**10,000 USD**)
- 2020 • Rutgers University Department of Plant Biology Graduate Student Scholarship (**5,000 USD**)
- 2019 • Robert T. Rosen Graduate Student Scholarship for Natural Products Chemistry (**2,000 USD**)
- 2015 • British Friends of the Jerusalem Botanic Gardens Curatorial Scholarship (**3,526 USD**)
- 2014 • Arava Institute for Environmental Studies Masa Scholarship (**2,550 USD**)
- 2013 • University of Colorado at Boulder Undergraduate Research

Opportunities Program (*UROP*) (750 USD)

- Academic Engagement-

2021 - 2022

- *Fellow* (nominated, awarded)

Mistletoe Research Fellowship; a nine-month accelerator program partnering doctoral students at R1 universities with established venture-capital funded companies with matching interests designed to expose students to the world of startups and to lend their expertise to small companies seeking expertise on the subject of the student's field. Consulted with innovative and social impact startups on current research and development goals.

Rutgers University, New Brunswick, N.J., USA

2020 - 2021

- *Fellow* (nominated, awarded)

Predocctoral Leadership Development Academy Fellowship; a year-long professional development seminar in higher-education administrative leadership with invited university presidents, deans, and management. Participated in formal and informal meetings and presentations with university administrators on a range of subjects including governance, policy, academics, board meetings, shareholders, diversity, public relations, and crisis management.

Rutgers University, New Brunswick, N.J., USA

2019- 2020

- *Founder and President* (self-appointed)

Natural Products and Biodiversity Graduate Student Organization (NPBGO); a graduate student organization focused on biochemical and phytochemical diversity research. Hosted weekly discussions of potential applications and valorization/development pathways.

Rutgers University, New Brunswick, N.J., USA

2016- 2018

- *Tour Guide* (applied, awarded)

Tel Aviv University Botanical and Zoological Gardens; led guided tours

through the university public garden space for interested groups.
Tel Aviv University, Tel Aviv, Israel

-Research Mentorship-

Antonia K., Class of 2024, M.A., Rutgers University, USA
Nicole A., Class of 2022, B.Sc., Rutgers University, USA
Sukaina I., Class of 2019, B.A., Tel Aviv University, Israel

- Conference Presentations-

- 2021
- Plants for Human Health International Workshop, Rutgers University, New Brunswick, N.J., USA
Presentation title: Applications of *Moringa oleifera* seed albumins in dermal health and skincare.
- 2018
- 8th Annual Israel Plant Ecology Conference, Tel Aviv University, Tel Aviv, Israel
Presentation title: Hygroscopic integumental sclereids facilitate dispersal in *Lamium amplexicaule*
- 2016
- 3rd NAAAN Regional Conference, Harvard University, Boston, M.A., USA
Presentation title: *Acacia* species of the Negev Desert.

-In the News-

- 2016
- ‘Mystery of the Aspen Powder: Undergraduate Highlights’
<http://www.colorado.edu/ebio/2015/10/20/mystery-aspen-powder>

2015 'Director's Blog from the Arava Institute of Environmental Studies'
<http://arava.org/2015/02/directors-blog-january-2015-2/>

2013 '*Muscognetcong Watershed hosts Meet the River Program*'
http://photos.lehighvalleylive.com/express-times/2013/08/musconetcong_riverzip_1.html

-Research Publications-

3. **Rabinowitz O.**, M. Binder, E. Zinger, L. Hadany, N. Ohad. Hygroscopic surface structures involved in the development of the water gap in *Lamium amplexicaule* seeds. (*Unpublished; manuscript available*)

2. Groner, E., A. Rapport, N. Negev, G. Ragolski, R. Nelvitsky, K. Alexander, **O. Rabinowitz**, M. Grundeld, B. Shalmon, A. Tsoar, S. Isaacson, I. Moshe, G. Winters. (2017). A standardized protocol to monitor Acacia trees in the Arava. Negev, Dead Sea and Arava Studies, 9(1). (*Hebrew*)

1. **Rabinowitz O.**, & E. A. Tripp. (2015). A Note on the Observable Bark Coloration of *Populus tremuloides*. Western North American Naturalist, 75(3).
