Nikunj Goel

Curriculum Vitae

Department of Statistics and Data Sciences
The University of Texas at Austin
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Professional Positions

2023-present **Postdoctoral Researcher** at Department of Statistics and Data Sciences, The University of Texas at Austin
PI: Mevin B. Hooten

Education

2019-23 **PhD** in Ecology, Evolution, and Behaviour, The University of Texas at Austin
Advisor: Timothy H. Keitt

2015-18 **MS** in Ecology and Evolutionary Biology, Yale University
Advisor: Stephen C. Stearns

2011-15 **BSc** in Physics (major) and Environmental Sciences (minor), Indian Institute of Science
Advisor: Vishwesha Guttal

Publications

In prep **Goel N.**, Bossu C. M., Zavaleta E., Ruegg K. C., & Hooten M. B. Identifying genomic adaptation in structured populations using low-coverage whole genome sequencing.

In review **Goel N.**, Bossu C. M., Van Ee J. J., Zavaleta E., Ruegg K. C., & Hooten M. B. Identifying genomic adaptation to local climate using a mechanistic evolutionary model. *bioRxiv*

In review **Goel N.***, Comerford M*., Bernat A., Egan S.P., Juenger T. E., & Keitt T. H. Measuring the strength of spatial sorting. *bioRxiv*. ∗ Equal contributors

7) **Goel N.**, Liebhold A. M., Bertelsmeier C., Korolev K. S., Hooten M. B., & Keitt T. H. A mechanistic statistical approach to infer invasion characteristics of human-dispersed species with complex life cycle. *Ecological Monographs*, 95.1 (2025): e70003.

6) **Goel N.** & Keitt T. H. (2022) The mismatch between range and niche limits due to source-sink dynamics can be greater than species mean dispersal distance. *The American Naturalist*, 200(3), 448-455.

5) Grainger T.N., Senthilnathan A., Ke P., Barbour M.A., Jones N.T., DeLong J.P., Otto S.P., O'Connor M.I., Coblentz K.E., **Goel N.**, Sakarchi J., Szojka M.C., Levine J.M. & Germain R.M. (2022) An empiricist's guide to using ecological theory. *The American Naturalist*, 199(1), 1-20.

4) Liebhold A., Keitt T. H., **Goel N.**, & Bertelsmeier C. (2020) Scale Invariance in the Spatial-Dynamics of Biological Invasions. *NeoBiota* 62:269-277

3) **Goel N.**, Vleck E. S. V., Aleman J. C. & Staver A. C. (2020) Dispersal limitation and fire feedbacks maintain mesic savannas in Madagascar. *Ecology* 101(12):e03177

2) **Goel N.**, Guttal V., Levin S. A., & Staver A. C. (2020). Dispersal increases the resilience of tropical savanna and forest distributions. *The American Naturalist*, 195(5), 833-850.

1) Guttal V.*, Raghavendra S.*, **Goel N.***, & Hoarau Q. (2016). Lack of critical slowing down suggests that financial meltdowns are not critical transitions, yet rising variability could signal systemic risk. *PloS one, 11(1), e0144198*. ∗ Equal contributors

Awards

2023 W.D. Hamilton Award finalist, Society for the Study of Evolution
2023 Trailblazing Ecology Publication Award by Student Section, Ecological Society of America
2021 Outstanding Paper award by Theory Section, Ecological Society of America
2021 Robert P. McIntosh award for best paper by Vegetation Section, Ecological Society of America
2019 Edward S. Deevey award for best talk by Paleoecology Section, Ecological Society of America
2016 Volterra award for best talk by Theory Section, Ecological Society of America
2016 Ton Damman award for best talk by Vegetation Section, Ecological Society of America
2013 Mathematics of Planet Earth (MPE) award by TIFR CAM, Bangalore

Grants and Fellowships

2023 Student Travel Award by the Southeast Chapter of the Ecological Society of America ($500)
2022 C.P. "Pete" Oliver fellowship, University of Texas at Austin ($1.1k)
2022-23 University Graduate Continuing Fellowship, University of Texas at Austin ($34k)
2021-23 Research award by the Dept. of Integrative Biology, University of Texas at Austin ($6k)
2021-22 Stengl-Wyer Graduate Fellowship by University of Texas at Austin ($34k+$2k)
2020 & 2021 College of Natural Sciences Summer Fellowship by University of Texas at Austin ($15k)
2019 Policy Travel award by Policy Section, Ecological Society of America ($700)
2018-19 Charles A. and June R. P. Ross Fellowship by Yale University ($32k)
2018 Dissertation improvement grant by Yale Institute for Biospheric Studies ($5k)
2017-18 Bunker Fellowship by Yale University ($32k)
2017 RMSC Travel award by Department of Mathematics and Statistics, UNCG ($300)
2016 AISC Travel award by Department of Mathematics and Statistics, UNCG ($300)
2016 Department Chair's Fund by EEB, Yale University ($1k)
2011-2015 Kishore Vaigyanik Protsahan Yojana (KVPY) Fellowship by DST, Gov. of India (₹344k)

Teaching Experience

Fall 2020 Teaching Assistant, Evolution, University of Texas at Austin
Spring 2020 Teaching Assistant, Biostatistics, University of Texas at Austin
Fall 2019 Teaching Assistant, Scientific Inquiry Across the Disciplines, University of Texas at Austin
Spring 2018 Teaching Assistant, Plant Ecology, Yale University
Spring 2017 Teaching Assistant, Introduction to Statistics: Life Sciences, Yale University
Spring 2016 Teaching Assistant, Ecology and Evolutionary Biology, Yale University
Fall 2014 Calculus tutorials for graduate students at Center for Ecological Sciences, IISc

Presentations and Posters

Sept 2024 American Ornithology Society meeting, Colorado.
June 2024 Western North American Region of the International Biometric Society meeting, Colorado.
April 2024 Ecological Integration Symposium, Texas A&M University.
August 2023 Ecological Society of America Annual Meeting, Portland
June 2023 Evolution, Albuquerque, New Mexico
May 2023 Species on The Move, Bonita Springs, Florida
March 2023 Ecological Integration Symposium, Texas A&M University.
Jan 2023 The American Society of Naturalist Biennial Meeting, Asilomar.

July 2021	Departmental Seminar, Center for Ecological Sciences, Indian Institute of Science.
Oct 2021	EcoLunch, University of Texas at Austin
Apr 2021	EcoLunch, University of Texas at Austin
Jan 2021	The American Society of Naturalist Biennial Meeting (virtual).
Aug 2020	Society for Mathematical Biology Annual Meeting (virtual).
Aug 2020	Ecological Society of America Annual Meeting (virtual).
Sep 2019	EcoLunch, University of Texas at Austin
Aug 2019	Ecological Society of America Annual Meeting, Kentucky.
May 2019	Cornell, Rutgers, Princeton, Penn, Yale (CRPPY) symposium at Princeton University
April 2019	Ecology and Evolutionary Biology, Annual Graduate Student Symposium, Yale.
May 2018	Cornell, Rutgers, Princeton, Penn, Yale (CRPPY) symposium at at Rutgers University
May 2018	Ecology and Evolutionary Biology, Annual Graduate Student Symposium, Yale.
Nov 2018	Biophysics group at Department of Physics, Boston University.
Nov 2017	Annual Regional Mathematics and Statistics Conference, UNCG.
May 2017	Ecology and Evolutionary Biology, Annual Graduate Student Symposium, Yale (Poster).
Jan 2017	Center for Ecological Sciences, In-House Symposium, Indian Institute of Science.
Sept 2016	Conference on Advances in Interdisciplinary Statistics and Combinatorics, UNCG.
Aug 2016	Ecological Society of America Annual Meeting, Florida.
May 2016	Ecology and Evolutionary Biology, Annual Graduate Student Symposium, Yale (Poster).

Outreach

2021-24	Graduate student representative at The American Society of Naturalist Graduate Council.
2020-21	Mentored *Mia Salinas* for a year long High School Research Internship Program.

Professional Training

2019	A semester-long workshop on Teaching Assistant Fundamentals
2018	Four-week summer school on complex systems at Santa Fe Institute

Services & Activities

Member	The American Society of Naturalists (ASN), Ecological Society of America (ESA), Society for Mathematical Biologists (SMB)
Reviewer	Ecography (1), PNAS (1), Ecology (3), Ecology Letters (2), Bulletin of Mathematical Biology (1), Epidemics (1), The American Naturalists (1), Methods in Ecology and Evolution (1), Malagasy Nature (1), Theoretical Population Biology (1)

Technical skills

Mathematics	Ordinary/Partial Differential Equations | Linear Algebra | Fourier Analysis | Numerical Methods | Stochastic Processes
Programming	R | Stan (Bayesian Statistics) | Shiny | Matlab | Mathematica | C | Julia