

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: Vishweshha Guttal

Publications

- In prep **Goel N.**, Liebhold A. M., Bertelsmeier C., Korolev K. S., Hooten M. B., & Keitt T. H. A mechanistic statistical model of biological invasions via human transportation networks.
- In prep **Goel N.***, Comerford M*, Bernat A., Egan S.P., Juenger T. E., & Keitt T. H. Non-random recolonization after a hurricane yields rapid evolution by spatial sorting. * Equal contributors
- In prep **Goel N.** An axiomatic approach to build evolutionary theory of spatial sorting. *bioRxiv*
- 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., Coblenz 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

- 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 Naturalist (ASN), Ecological Society of America (ESA), Society for Mathematical Biologist (SMB)
- Reviewer Ecography (1), PNAS (1), Ecology (3) , Ecology Letters (2) , Bulletin of Mathematical Biology (1) , and Epidemics (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