

Nikunj Goel

Curriculum Vitae

Dept. of Ecology and Evolutionary Biology
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Research Interest

I am interested in understanding the distribution patterns of organisms across space and time, and the ecological and evolutionary processes that generate those biogeographic patterns. Currently, I am working on understanding how spatial processes, such as dispersal, affect distribution patterns and resilience of alternative stable state ecosystems, using a combination of theoretical and empirical approaches.

Education

- PhD in Ecology and Evolutionary Biology, *University of Texas at Austin.*
- 2018 MS in Ecology and Evolutionary Biology, *Yale University.*
- 2015 BSc in Physics (major) and Environmental Sciences (minor), *Indian Institute of Science.*

Publications

- In prep. **Goel, N.**, Vleck, E. V & Staver, A. C. On the maintenance of savanna biome in Madagascar.
- In review at AmNat. **Goel, N.**, Guttal, V., Levin, S. A, & Staver, A. C. Dispersal increases the resilience of tropical savanna and forest distributions. bioRxiv 476184; doi: <https://doi.org/10.1101/476184>
- 2016 Guttal, V.*, Raghavendra, S.*, **Goel, N.***, & Hoarau, Q. 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.* All these authors contributed equally to the work. This article was covered by *Nature India*, *Deccan Herald* and *Serving Science*.

Awards and Honors

- 2019 Oral presentation award
Annual Graduate Student Symposium at EEB, Yale University
- 2016 Volterra Award
Theory Section, Ecological Society of America
- 2016 Ton Damman Award
Vegetation Section, Ecological Society of America
- 2016 & 2017 Poster presentation award
Annual Graduate Student Symposium at EEB, Yale University
- 2013 Awarded 1st prize in *Mathematics of Planet Earth* (MPE) competition, aimed at promoting mathematical research on various natural processes.
TIFR Centre For Applicable Mathematics, Bangalore
- 2011-2015 Kishore Vaigyanik Protsahan Yojana (KVPY) Fellowship
National Science Fellowship, Department of Science and Technology, Government of India

Professional Training

- 2018 Four week summer school on complex systems at Santa Fe Institute

Grants and Funding

- 2018 Dissertation improvement grant (\$5000)
Yale Institute for Biospheric Studies, Yale University
- 2017 RMSC Travel fund (\$300)
Department of Mathematics and Statistics, University of North Carolina at Greensboro
- 2016 AISC Travel fund (\$300)
Department of Mathematics and Statistics, University of North Carolina at Greensboro
- 2016 Department Chair's Fund (\$1,000)
Department of Ecology and Evolutionary Biology, Yale University

Technical skills

- Mathematics Ordinary/Partial Differential Equations | Linear Algebra | Calculus | Fourier Analysis | Numerical Methods
- Programming R | Shiny | Matlab | C

Teaching Experience

- Spring 2018 TA for Plant Ecology (EEB 305), EEB, Yale University
- Spring 2017 TA for Introduction to Statistics: Life Sciences (EEB 210), EEB, Yale University
- Spring 2016 TA for Ecology and Evolutionary Biology (BIOL 104), EEB, Yale University
- Fall 2014 Informal tutorials on Calculus for graduate students at Center for Ecological Sciences, IISc

Presentations

(International Conferences †, Symposium ‡)

- ‡May 2019 **Cornell, Rutgers, Princeton, Penn, Yale (CRPPY)** symposium at Princeton University
- ‡April 2019 Ecology and Evolutionary Biology, Annual Graduate Student Symposium, Yale. **Second Place**
- ‡May 2018 **Cornell, Rutgers, Princeton, Penn, Yale (CRPPY)** symposium 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. **First Place**
- ‡Jan 2017 Center for Ecological Sciences, In-House Symposium, Indian Institute of Science.
- †Sept 2016 International Conference on Advances in Interdisciplinary Statistics and Combinatorics, UNCG.
- †Aug 2016 Ecological Society of America Annual Meeting, Florida. **Volterra and Ton Damman Award**
- ‡May 2016 Ecology and Evolutionary Biology, Annual Graduate Student Symposium, Yale. **Second Place**