Nicole Nova, Ph.D. Candidate

Department of Biology, Stanford University
371 Serra Mall, Stanford, CA 94305
nicole.nova@stanford.edu | nicolenova.com

Interests: Ecology, evolution, statistics, data science, mathematical biology, infectious disease, population genetics, comparative genomics, public health, and conservation.

Education

Ph.D.	Biology, Stanford University	2016–2021 (*expected*)
M.S.	Statistics, Stanford University	2019–2020 (*expected*)
B.Sc., M.Sc.	Dental Surgery, Karolinska Institutet	2007–2012
Minor	Electrical Engineering, KTH Royal Institute of Technology	

Positions

2019–2021 Stanford Data Science Scholar (2019 cohort)
2018–2021 Ph.D. Candidate, Department of Biology, Stanford University
Advisors: Erin Mordecai and Dmitri Petrov
2016–2017 Director, Research Science Institute, Center for Excellence in Education and Massachusetts Institute of Technology (MIT)
2015–2016 Research Associate, Department of Biology, Duke University (PI: Katia Koelle)
2014–2015 Research Trainee, Department of Biostatistics and Computational Biology, Dana-Farber/Harvard Cancer Center (PI: Franziska Michor)
2011–2013 Mentorship Director, Research Academy for Young Scientists
2011 Exchange Student, St. Bartholomew's and the Royal London School of Medicine and Dentistry, Queen Mary University of London
2010 Surgical Assistant, Department of Cranio-, Maxillofacial and Oral Surgery, Medical University of Vienna
2010–2012 Research Assistant, Department of Physiology and Pharmacology, Karolinska Institutet (PI: Camilla Svensson)
2008 Student, National Youth Science Forum, Australian National University (international summer science camp)
2007–2009 Co-organizer, National Science Fair, Swedish Federation of Young Scientists
2007 Research Intern, Department of Brain and Cognitive Sciences, Harvard Medical School, Brigham and Women's Hospital (PI: Jeremy Wolfe) via Research Science Institute (summer research program hosted by MIT)
2006 Research Intern, Department of Biosciences and Nutrition, Karolinska Institutet

Awards

2017 Excellence in Teaching Award, Department of Biology, Stanford University
2007 Best Student of the Year Award (Valedictorian), Internationella Engelska Gymnasiet
2007 First prize, National Science Fair, Swedish Federation of Young Scientists

Funding

2019 Stanford Data Science Scholarship (50% salary & tuition for two years)
2019 Stanford Disease Ecology, Health, and the Environment Travel Grant ($500)
2019 Stanford Biology EcoEvo Conference Travel Grant ($700)
2018 Environmental Venture Project Grant,
Stanford Woods Institute for the Environment ($50,000)
2018 The Bing Fellowship in Honor of Paul Ehrlich (salary & tuition for one year)
2017 Stanford Biology EcoEvo Conference Travel Grant ($500)
2013 Google Women in Tech Conference and Travel Grant (1,000 €)
2011 European Union Erasmus Mundus Scholarship (1,000 €)
2010 Karolinska Institutet Summer Research Scholarship in Medical Sciences (9,000 SEK)
2008 Swedish Federation of Young Scientists Fellowship (all expenses paid)
to attend National Youth Science Forum at Australian National University
2007 Knut and Alice Wallenberg Fellowship (all expenses paid)
to attend Research Science Institute at Massachusetts Institute of Technology
2006 Karolinska Institutet Summer Research Scholarship in Biomedical Sciences (5,000 SEK)

Publications

Peer-Reviewed Articles

7. **Nova N**, Deyle ER, Shocket MS, MacDonald AJ, Childs ML, Rypdal M, Sugihara G, Mordecai EA. Empirical dynamic modeling reveals ecological drivers of dengue dynamics. *Submitted*.

6. Sokolow SH, Jones IJ, Wood CL, Lafferty KD, Garchitorena A, Hopkins SR, Lund AJ, MacDonald AJ, **Nova N**, Le Boa C, Peel AJ, Mordecai EA, Chamberlin A, Howard ME, Buck JC, Lopez-Carr D, Barry M, Bonds M, De Leo GA. More than one third of global human infectious disease burden is environmentally mediated, with disproportionate effects in rural poor areas. *The Lancet Planetary Health* (in review).

5. Hopkins SR, Sokolow SH, De Leo GA, Buck JC, Jones I, Kwong L, LeBoa C, Lund A, MacDonald A, **Nova N**, Olson SH, Peel AJ, Wood CL, Lafferty KD. Identifying win–wins for human health and conservation. *Nature Sustainability* (in review).

4. Leempoel K, Meyer J, Hebert T, **Nova N**, Hadly EA. Return of an apex predator to a suburban preserve triggers a rapid trophic cascade. *PLOS ONE* (in review). `bioRxiv preprint`

3. Smith JR, Hendershot JN, **Nova N**, Daily GC. The biogeography of ecoregions: Descriptive power across regions and taxa. *Journal of Biogeography* (in review).

2. Sokolow SH, **Nova N**, Pepin K, Peel AJ, Manlove K, Cross P, Becker D, Plowright R, Pulliam J, McCallum H, De Leo GA. 2019. Ecological levers to prevent and manage zoonotic pathogen spillover. *Philosophical Transactions of the Royal Society B.* 374(1782):20180342. `doi:10.1098/rstb.2018.0342`

1. Childs ML, **Nova N**, Colvin J, Mordecai EA. 2019. Mosquito and primate ecology predict human risk of yellow fever virus spillover in Brazil. *Philosophical Transactions of the Royal Society B.* 374(1782):20180335. doi:10.1098/rstb.2018.0335

Abstract

Van Wert M, **Nova N**, Horowitz T, Wolfe J. 2008. What does performance on one visual search task tell you about performance on another? *Journal of Vision.* 8(6):312. doi:10.1167/8.6.312

Book Chapter

Shocket MS, Anderson CB, Caldwell JM, Childs ML, MacDonald AJ, Howard ME, **Nova N**, Han S, Harris M, Mordecai EA. Environmental drivers of vector-borne diseases. *Population Biology of Vector-borne Diseases* (in review).

Thesis

Nova N, Alstergren P, Svensson C. 2012. Chronic inflammation and pain: Assessment of c-Fos and ATF-3 as markers of spinal neuronal activity in a pain model of rheumatoid arthritis. *M.Sc. Thesis, Karolinska Institutet.*

Invited Talks

2019 *Predictors of pathogen sharing across taxa reveal ecological levers to prevent pathogen spillover from wildlife to humans*,
Ecological Society of America (ESA) Annual Meeting, Louisville, KY

2018 *Ecological and evolutionary drivers of infectious diseases*
Centre for Mathematical Biology,
University of South Bohemia, Ceske Budejovice, Czech Republic

2015 *Mathematical Modeling in the Biosciences*,
30th Jubilee Symposium of Research Program in Biomedicine,
Karolinska Institutet, Stockholm, Sweden

2015 *Mathematical Modeling of Cancer and Infectious Diseases*,
Research Experiences for Undergraduates in Mathematical Biology (guest speaker),
National Science Foundation, University of North Carolina at Greensboro, NC

Posters

2018 Ecology and Evolution of Infectious Diseases, University of Glasgow, Glasgow, UK
2018 Stanford Global Health Research Convening, Stanford University, Stanford, CA
2017 Ecology and Evolution of Infectious Diseases, University of California,
Santa Barbara, CA
2015 Triangle Center for Evolutionary Medicine Symposium,
The Solution Center in Research Triangle Park, Durham, NC

2012 Electrical Engineering Symposium, KTH Royal Institute of Technology, Sweden
2010 Medical Sciences Symposium, Karolinska Institutet, Stockholm, Sweden
2006 Biomedical Sciences Symposium, Karolinska Institutet, Stockholm, Sweden

Teaching

2019 Teaching Assistant, Stanford University
Ecology and Evolution of Infectious Disease in a Changing World (BIO 2N)
2017 Teaching Assistant, Stanford University
Fundamentals of Molecular Evolution (BIO 113/244)
2017 Teaching Assistant, Stanford University
Introduction to Research in Ecology and Evolutionary Biology (BIO 47)

Services

2019 Co-Organizer, Organized Oral Session, *Ecological Levers to Improve Human Health*, Ecological Society of America (ESA) Annual Meeting, Louisville, KY
2016–2017 Chair, Biology Department Seminar Series Speaker Selection Student Committee, Stanford University, Stanford, CA

Workshops & Certificates

June 2018 Genomics of Wildlife Diseases, Colorado State University, Fort Collins, CO
March 2018 Wilderness First Aid Certificate, Wilderness Medicine Training Center
April 2015 Evolutionary Game Theory Workshop, Mathematical Biosciences Institute, Ohio State University, Columbus, OH
Sep. 2013 EuroBSDcon 2013, St. Julian's, Malta

Computer Skills

Advanced R, Python, Matlab, C, C++, LaTeX
Intermediate Mathematica, HTML/CSS/JS
Basic Java, Django, Node.JS