György Barabás

AFFILIATION

Institution	University of Chicago Department of Ecology and Evolution Zoology Building, room 403
Address	1101 E 57th St, Chicago, IL 60637, USA
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EMPLOYMENT

Postdoctoral Scholar — 2014-present
University of Chicago, Chicago, IL, USA

EDUCATION

PhD: Ecology and Evolutionary Biology — 2008-2013
University of Michigan, Ann Arbor, MI, USA
Thesis: "The robustness of ecological communities: theory and application"

BSc and MSc: Physics — 2003-2008
Eötvös Loránd University, Budapest, Hungary

AWARDS

Rackham Pre-Doctoral Fellowship — 2012
University of Michigan, Ann Arbor, MI, USA

Lotka–Volterra Outstanding Paper award — 2010
95th annual ESA meeting, Pittsburgh, PA, USA

SKILLS

Languages	Hungarian (native), English, German
Software	C, LaTeX, Markdown, Mathematica, Matlab, Microsoft Office, Python, R

PUBLICATIONS

[1] **G Barabás**, S Allesina (2015). Predicting global community properties from uncertain estimates of interaction strengths. *Journal of the Royal Society Interface* 12: 20150218, doi:10.1098/rsif.2015.0218

[2] S Allesina, J Grilli, **G Barabás**, S Tang, J Aljadeff, A Maritan (2015). Predicting the stability of large structured food webs. *Nature Communications* 6: 7842, doi:10.1038/ncomms8842

[3] J Grilli, **G Barabás**, S Allesina (2015). Metapopulation persistence in random fragmented landscapes. *PLoS Computational Biology* 11(5): e1004251, doi:10.1371/journal.pcbi.1004251

[4] MJ Smith, E Sander, **G Barabás**, S Allesina (2015). Stability and feedback levels in food web models. *Ecology Letters*, 18:593–595

[5] **G Barabás**, L Pásztor, G Meszéna, A Ostling (2014). Sensitivity analysis of coexistence in ecological communities: theory and application. *Ecology Letters*, 17: 1479–1494

[6] **G Barabás**, G Meszéna, A Ostling (2014). Fixed point robustness of interacting structured populations. *Theoretical Population Biology*, 92: 97–106

[7] **G Barabás**, R D'Andrea, R Rael, G Meszéna, A Ostling (2013). Emergent neutrality or hidden niches? *Oikos*, 122: 1565–1572

[8] **G Barabás**, A Ostling (2013). Community robustness in discrete-time periodic environments. *Ecological Complexity*, 15, 122–130

[9] **G Barabás**, R D'Andrea, A Ostling (2013). Species packing in nonsmooth competition models. *Theoretical Ecology*, 6: 1–19

[10] R D'Andrea, **G Barabás**[†], A Ostling (2013). Revising the tolerance-fecundity trade-off; or, on the consequences of discontinuous resource use for limiting similarity, species diversity, and trait dispersion. *American Naturalist*, 181: E91–101

[11] **G Barabás**, S Pigolotti, M Gyllenberg, U Dieckmann, G Meszéna (2012). Continuous coexistence or discrete species? A new review of an old question. *Evolutionary Ecology Research*, 14: 523–554

[12] **G Barabás**, G Meszéna, A Ostling (2012). Community robustness and limiting similarity in periodic environments. *Theoretical Ecology*, 5: 265–282

[13] **G Barabás**, G Meszéna (2009). When the exception becomes the rule: the disappearance of limiting similarity in the Lotka–Volterra model. *Journal of Theoretical Biology*, 258: 89–94

UNPUBLISHED MANUSCRIPTS

[14] **G Barabás**, R D'Andrea (in review). The effect of intraspecific variation and heritability on community pattern and robustness. *Ecology Letters*

[15] **G Barabás**, MJ Michalska-Smith, S Allesina (in revision). The effect of intra- and interspecific competition on coexistence in multispecies communities. *American Naturalist*

[†]Equal contribution with first author

[16] JT Wootton, EL Sander, AK Henry, **G Barabás** (in revision). Temporal variability predicts species importance in an ecological interaction network.

[17] R Rael, R D'Andrea, **G Barabás**, A Ostling (in revision). Emergent niche structuring leads to increased differences from neutrality in species abundance distributions. *Ecology*

[18] **G Barabás**, MJ Michalska-Smith, S Allesina (proposal accepted). Self-regulation and the stability of large ecosystems. *Biology Letters*

[19] J Grilli, M Adorioso, S Suweis, **G Barabás**, JR Banavar, S Allesina, A Maritan (in review). The geometry of coexistence in large ecosystems. *Nature Communications*; preprint at *arXiv:1507.05337 [q-bio.PE]*

TEACHING EXPERIENCE

Workshop leader (4 years) 2012-present
St Cecilia at the Tower Early Music Workshop, Ann Arbor & Saline, MI

Instructor (11 years) 2005-present
Ósükösd summer camp, at Eötvös Loránd University's Radnóti Miklós High School, Budapest Hungary

Guest lecturer 2014
Population and Community Ecology, University of Michigan

Co-teacher & course co-designer (2 semesters, with Prof. Annette Ostling) 2012-2013
Modeling for Ecology and Evolutionary Biology, University of Michigan

Teaching assistant (3 semesters) 2009-2013
Population and Community Ecology, University of Michigan

Instructor (2 years) 2012-2011
Summer sessions for WISE GISE program (Women in Science and Engineering: Girls in Science and Engineering) at University of Michigan

Teaching assistant (3 semesters) 2008-2010
Introductory Ecology, Genetics, and Evolution, University of Michigan

PROFESSIONAL SERVICE

Reviewer for: 2010-present
American Naturalist, Axios, Biological Journal of the Linnean Society, Ecological Complexity, Ecology Letters, eLife, Journal of Animal Ecology, Journal of Mathematical Biology, Journal of Theoretical Biology,

Journal of Vegetation Science, Oikos, PeerJ, PLoS One, PLoS Computational Biology, Scientific Reports, Theoretical Ecology, Theoretical Population Biology

Organizer 2015
Expanding Your Horizons Network, Chicago

Organizer 2012-2011
Summer sessions for WISE GISE program (Women in Science and Engineering: Girls in Science and Engineering) at University of Michigan

PRESENTATIONS

Contributed talk "The effect of intra- and interspecific competition on coexistence in multispecies communities" 2015
University of Chicago Natural History Seminar, Chicago, IL, USA

Contributed talk "Predicting global community properties from uncertain estimates of interaction strengths" 2015
100th ESA Conference, Baltimore, MD, USA

Invited talk "Matrix binning: how lazy should we ecologists be?" 2014
University of Michigan, MI, USA

Invited talk "Community-wide sensitivity analysis: theory and application" 2014
Kellogg Biological Station, Michigan State University, MI, USA

Contributed talk "Metapopulation structure and persistence in random fragmented landscapes" 2014
99th ESA Conference, Sacramento, CA, USA

Contributed talk "Community-wide sensitivity analysis: theory and application" 2014
Midwest Mathematical Biology Conference, La Crosse, WI, USA

Contributed talk "Applications of community-wide sensitivity calculations to ecological theory, model analysis, and assessment of extinction risk" 2013
98th ESA Conference, Minneapolis, MN, USA

Contributed talk "Applications of community-wide sensitivity calculations to ecological theory, model analysis, and assessment of extinction risk" 2013
Biodiversity in a Changing World, Montreal, Canada

Contributed talk "Robustness analysis of communities of structured populations" 2012
97th ESA Conference, Portland, OR, USA

Invited talk "The influence of nonsmooth competition on species packing" 2011
Niche Theory and Speciation, Keszthely, Hungary

Contributed talk "Coexistence by virtue of similarity versus dissimilarity: the implications of nonsmooth competition kernels" 2011
96th ESA Conference, Austin, TX, USA

Contributed talk "How should temporal niche segregation be defined?" 2010
95th ESA Conference, Pittsburgh, PA, USA

WORKSHOPS

CTW – Uncertainty, Sensitivity and Predictability in Ecology: Mathematical Challenges and Ecological Applications 2015
Columbus, Ohio

myCHOICE Scientific Teaching Workshop 2015
Chicago, IL, USA

Midwest Mathematical Biology Conference 2014
La Crosse, WI, USA

Niche Theory and Speciation 2011
Keszthely, Hungary

2nd Helsinki Summer School (Mathematical Ecology and Evolution) 2010
Turku, Finland

1st Helsinki Summer School (Mathematical Ecology and Evolution) 2008
Turku, Finland

ACADEMIC ADVISORS

Stefano Allesina, postdoctoral advisor 2014-present
University of Chicago

Annette Ostling, PhD advisor 2008-2013
University of Michigan

Géza Meszéna, MSc advisor 2007-2008
Eötvös Loránd University, Budapest, Hungary