

JEAN PHILIPPE GIBERT – CURRICULUM VITAE

CURRENT POSITIONS

2018-present **Assistant Professor**
Department of Biology, Duke University

EDUCATION & PROFESSIONAL EXPERIENCE

2017-2018 **Scholar in Residence**, Duke University

2016-2018 **James S. McDonnell Postdoctoral Fellow in Complex Systems**
(Through the James S. McDonnell Foundation)
Advisor: Justin Yeakel, The University of California, Merced.

2011-2016 **PhD Biological Sciences (Ecology, Evolution & Behavior)**, University of Nebraska – Lincoln
Advisor: John DeLong

2005-2009 **Licenciatura en Biología (BSc. in Biology)**, Universidad de la República, Uruguay

PEER-REVIEWED, COMING SOON (complete manuscript available upon request)

23. **Gibert, J.P.**, Direct and indirect effects of temperature determine global patterns in food web structure (IN PREP)
22. Raimundo, R., **J.P. Gibert**, M.A.M. de Aguiar, J.N. Thompson, P. Jordano & P. Guimarães Jr. Selection on trait matching in a geographic mosaic drives the diversification, structure and dynamics of mutualistic networks (IN PREP)
21. +Fey, S.B.+ , +**J.P. Gibert**+, & A.M. Siepielski. The consequences of mass mortality events for the structure and dynamics of biological communities (IN REVISION, *The American Naturalist*)
20. **Gibert, J.P.** & J.D. Yeakel. Eco-evolutionary origins of diverse abundance, biomass, and trophic structures in food webs (IN REVISION, *Frontiers in Ecology and Evolution*, invited contribution)
19. DeLong, J.P. & **J.P. Gibert**. Larger area facilitates the positive effects of niche complementarity on ecosystem function (IN REVISION, *The American Naturalist*)

PEER-REVIEWED PUBLICATIONS

18. **Gibert, J.P.** & J.D. Yeakel. *In press*. Laplacian matrices and Turing bifurcations: revisiting Levin 1974 and the consequences of spatial structure and movement for ecological dynamics. *Theoretical Ecology*, invited contribution
17. Yeakel, J.D., **J.P. Gibert**, T. Gross, P. Westley, & J. Moore. **2018**. Eco-evolutionary dynamics and collective straying: implications for salmon metapopulation robustness. *Philosophical Transactions of the Royal Society B*, 373 (1746): 20170018.
16. DeLong, J.P., G. Bachman, **J.P. Gibert**, et al. **2018**. Habitat, latitude, and body mass influence the temperature dependence of metabolic rate. *Biology Letters*, 14: 20180442.
14. DeLong, J.P., T.C. Hanley, **J.P. Gibert**, et al. **2018**. Life history traits and functional processes generate multiple pathways to ecological stability. *Ecology*, 99 (1): 5-12.
15. **Gibert, J.P.** & J.P. DeLong. Phenotypic variation explains food web structural patterns. **2017**. *Proceedings of the National Academy of Sciences* 114 (42): 11187-11192.
13. **Gibert, J.P.**, *R.L. Allen*, *R. Hruska III* & J.P. DeLong. The ecological consequences of environmentally induced phenotypic changes. **2017**. *Ecology Letters* 20 (8): 997-1003.
12. DeLong, J.P., **J.P. Gibert**, et al. **2017**. The combined effects of reactant kinetics and enzyme stability explain the temperature dependence of metabolic rates. *Ecology and Evolution* 7 (11): 3940–3950
11. **Gibert, J.P.**, M.-C. Chelini, M.F. Rosenthal, J.P. DeLong. **2016**. Crossing regimes of temperature dependence in animal movement. *Global Change Biology* 22: 1722-1736
10. **Gibert, J.P.** **2016**. The effect of phenotypic variation on metapopulation persistence. *Population Ecology*, 58 (3): 345-355

9. DeLong, J.P., V.E. Forbes, N. Galic, **J.P. Gibert**, et al. **2016**. How fast is fast? Eco-evolutionary dynamics and rates of change in populations and phenotypes. *Ecology and Evolution* 6(2): 573–581
8. DeLong, J.P. & **J.P. Gibert**. **2016**. Gillespie eco-evolutionary models (GEMs) reveal the role of heritable trait variation in eco-evolutionary dynamics. *Ecology and Evolution* 6(4): 935–945
7. Sebastián-González E., M. Moleón, **J.P. Gibert** et al. **2016**. The nested architecture of scavenging competitive networks minimizes competition. *Ecology* 97 (1): 95-105
6. **Gibert, J.P.**, A.I. Dell, J.P. DeLong & S. Pawar. **2015**. Scaling up trait variation from individuals to ecosystems *Advances in Ecological Research* 52: 1-17
5. **Gibert, J.P.** & J.P. DeLong. **2015**. Individual variation decreases interference competition among predators but increases species persistence. *Advances in Ecological Research* 52: 45-64
4. **Gibert, J.P.** & C.E. Brassil. **2014**. Individual variation reduces interaction strengths in a consumer-resource system. *Ecology and Evolution* 4 (18): 3703-3713
3. **Gibert, J.P.** & J.P. DeLong. **2014**. Temperature alters food web body-size structure. *Biology Letters* 10 (8): 20140473
2. Raimundo, R., **J.P. Gibert**, et al. **2014**. Conflicting selection in the course of adaptive diversification: the interplay between mutualism and intraspecific competition. *The American Naturalist* 183 (3): 363-375.
1. **Gibert, J.P.**, M.M. Pires, J.N. Thompson & P.R. Guimarães Jr. **2013**. The spatial structure of antagonistic species affects coevolution in predictable ways. *The American Naturalist* 183 (5): 578-591

Undergraduate student

INVITED TALKS

- 2017 Duke University, Durham NC, USA
 2017 University of Mississippi, Oxford MS, USA

GRANTS & FELLOWSHIPS

- 2016-2018 James S. McDonnell Foundation Postdoctoral Fellowship in Complex Systems (\$200,000)
 2015-2016 NSF Doctoral Dissertation Improvement Grant (~\$11,500)
 2012-2014 SBS Special Funds (\$4,500 in three year)
 2011-2014 University of Nebraska's Othmer Fellowship (\$72,000 in three years)

AWARDS & HONORS

- 2016 *Harold Winfred Manter Award* for Outstanding Graduate Research in Zoology (UNL, \$1500)
 2016 Outstanding Graduate Research Assistant Award – Honorable Mention, UNL
 2016 “The effect of phenotypic variation on metapopulation persistence”, Editor’s choice
 2009 Best undergraduate research: “The immune system interaction network: topological explanations for common diseases” at the Universidad de la República, Uruguay

IN THE NEWS

- 2016 **Gibert**, et al 2016, *Global Change Biology*, featured in *Nature Climate Change*
 2016 **Gibert**, et al 2016, *Global Change Biology*, featured in UNL TODAY
 2016 DeLong, ..., **Gibert**, et al 2016, *Ecology and Evolution*, featured in UNL TODAY

PEER REVIEW

Proceedings of the Royal Society B (2), *Oikos* (4), *Ecography* (2), *The American Naturalist* (4), *Global Change Biology* (1), *Nature Scientific Reports* (1), *Ecology Letters* (1), *Functional Ecology* (1), *Advances in Ecological Research* (1), *Ecological Modelling* (2), *Journal of Theoretical Biology* (1), *Ecological Research* (1), *Biology Letters* (1), *Animal Conservation* (1), *Ecology and Evolution* (1), *PEER J* (1), *Acta Ecologica Sinica* (1), *National Science Foundation grant* (1)

ABSTRACTS/TALKS IN MEETINGS

- 2018 Sulman, B., **J.P. Gibert**. Modeling Microbe Munchers: Higher Trophic Levels Control Temperature Response of Soil Carbon Stocks. Meeting of the American Geophysical Union, Washington DC, USA. Talk
- 2018 Fey, S.B., **J.P. Gibert**, & A.M. Siepielski. The consequences of mass mortality events for the structure and dynamics of biological communities. 103th Annual Meeting of the Ecological Society of America. New Orleans, Louisiana–USA. Talk
- 2017 **Gibert, J.P.** Phenotypic variation explains food web structure. Joint JSMF-Santa Fe Institute meeting. Santa Fe, NM, USA. Talk
- 2015 **Gibert, J.P.** & DeLong. *The effect of phenotypic variation on predator-prey interactions*. 100th Annual Meeting of the Ecological Society of America, Baltimore, Maryland–USA. Talk
- 2014 **Gibert, J.P.** & J.P. DeLong. *Temperature alters body-size food web structure*. In: Gordon Research Conference: Unifying Ecology Across Scales, Biddeford, Maine – USA. Abstract
- 2013 *Phillips, J.S.* & **J.P. Gibert**. *Increasing complexity decreases the effect of energy flux on food web stability*. In: Undergraduate Research Conference at the National for Mathematical and Biological Synthesis (NIMBioS), Tennessee – USA. Abstract
- 2013 **Gibert, J.P.** & J. P. DeLong. *Species driving food web stability have lower individual variation*. In: 98th Annual Meeting of the Ecological Society of America, Minneapolis – USA. Abstract
- 2013 *Phillips, J.S.* & **J.P. Gibert**. *Does energy flux determine stability in generalized food web motifs?* In: 98th Annual Meeting of the Ecological Society of America, Minneapolis – USA. Abstract
- 2013 *Phillips, J.S.* & **J.P. Gibert**. *Energy flux determines stability in generalized food web motifs*. In: BGSA symposium, Lincoln – USA. Abstract
- 2012 **Gibert J.P.** *Are spatially informed food web models better than non-spatial ones?* In: 97th Annual Meeting of the Ecological Society of America, Portland – USA. Abstract
- 2012 **Gibert, J.P.** *On spatially structured food webs and the complexity-stability dilemma*. In: Conference in Mathematical Ecology, University of Nebraska-Lincoln, Lincoln – USA. Abstract
- 2012 *Phillips, J.S.* & **J.P. Gibert**. *Does energy flux determine stability in generalized consumer-resource systems?* In: Conference in Mathematical Ecology, University of Nebraska-Lincoln, USA. Abstract
- 2010 Tambusso, P.S., **J.P. Gibert** et al. *Could saber-toothed cats form groups? Optimal group size based on foraging and competition for carcasses*. In: X Congreso Argentino de Paleontología y Bioestratigrafía y VII Congreso Latinoamericano de Paleontología. La Plata – Argentina. Abstract
- 2010 **Gibert, J.P.** *Reassessing Lujanian paleoecology from a food-web theoretical standpoint*. In: X Congreso Argentino de Paleontología y Bioestratigrafía y VII Congreso Latinoamericano de Paleontología. La Plata – Argentina. Abstract
- 2010 **Gibert, J.P.** & P.S. Tambusso. *Saber-teeth in carnivore lineages: a coevolutionary approach*. In: 9th International Congress of Vertebrate Morphology. Punta del Este – Uruguay. Abstract
- 2009 **Gibert, J.P.**, M. Masner, L. Monin & Á. Cabana. *Redes de Activación e Inhibición Celular en el Sistema Inmune: Estructura versus Función*. In: 6^a Jornadas de la Sociedad Uruguaya de Bioquímica y Biología Molecular. Montevideo – Uruguay. Abstract
- 2009 Monin, L., **J.P. Gibert**, Á. Cabana & M Masner. *Untangling the structure of the immune interaction network: a systemic approach*. In: 9th Latin American Congress of Immunology. Viña del Mar – Chile
- 2009 **Gibert, J.P.**, R.A Fariña & P.R. Guimarães. *Megafauna Lujanense; análisis estructural de la paleo red trófica y evidencias de cascadas de extinción*. In: XXI Congresso Brasileiro de Paleontologia. Belem – Brazil. Abstract
- 2009 **Gibert, J.P.**, S. Tambusso, N. Bruno, E. Gardella. *Evolutionary Game Theory: On saber-toothed cats and the coevolutionary processes that led to hypertrophied canines*. In: 150 years of Darwin's Evolutionary Theory: a South-American celebration. Punta del Este – Uruguay. Abstract

TEACHING EXPERIENCE

- Classes taught

- 2011-2016 UNL, *Teaching Assistant* (1 semester of Biology 101; 9 semesters of Ecology and Evolution)
- 2010-2011 Universidad ORT, Uruguay, *Lecturer* (Introductory Biology, 2 semesters)
- 2008-2010 Universidad de la República, Uruguay, *Teaching Assistant* (3 semesters of Paleontology)
- Invited lectures
- 2018 “Ecological dynamics and Alternative stable states” (Ecological Resilience, Grad level, Duke University)
- 2017 “Local stability analysis” (Ecological Dynamics, Grad level, UC Merced)
- 2017 “Food webs” (Ecology & Evolution, Undergrad level, UC Merced)
- 2016 “Food webs as complex systems” (Systems Biology, Grad level, UC Merced)
- 2016 “Food webs and trophic cascades” (Ecology & Evolution, Undergrad level, U of Nebraska)
- 2016 “Genetic drift” (Ecology & Evolution, Undergrad level, U of Nebraska)
- 2015 “Food webs as complex systems” (Complex Biological Systems, Grad level, U of Nebraska)
- 2013 “Food webs” (General Ecology, Grad level, U of Nebraska)

OUTREACH

- 2014 Volunteer at Eight-Legged Encounters – Children’s Museum, Lincoln, NE
- 2014 Volunteer at Eight-Legged Encounters – Morrill Hall, University of Nebraska - Lincoln
- 2013 Volunteer at Cub Scout’ Night at the Museum – Morrill Hall, University of Nebraska – Lincoln
- 2013 Volunteer at Eight-Legged Encounters – Children’s Museum, Lincoln, NE
- 2013 Volunteer at Eight-Legged Encounters – Butterfly Pavilion, Denver, CO
- 2012 Volunteer at Eight-Legged Encounters – Morrill Hall, University of Nebraska - Lincoln
- 2008-09 Volunteer at the Municipal Planetarium – Montevideo, Uruguay