

# Stefano Allesina

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## Education

- 1995–2001 **Laurea**, *University of Parma*, Italy, Environmental Sciences.  
2002–2005 **Ph.D.**, *University of Parma*, Italy, Ecology.

## Academic Appointments

- 2009– **Assistant Professor**, *University of Chicago*, Chicago, IL, Dept. Ecology & Evolution, Computation Institute.  
2007–2009 **Postdoctoral Associate**, *NCEAS*, Santa Barbara, CA.  
2005–2007 **Postdoctoral Fellow**, *University of Michigan*, Ann Arbor, MI, Pascual Lab..  
2004–2005 **Postdoctoral Fellow**, *Michigan State University/NOAA*, Ann Arbor, MI, Peacor Lab..

## Publications

Member and Undergraduate Member of the Allesina Lab. † Equal contribution.

### Published papers

C.J. Lortie, **Allesina, S.**, L. Aarssen, O. Grod, and A.E. Budden. With great power comes great responsibility: the importance of rejection, power, and editors in the practice of scientific publishing. *PLoS One*, 8(12):e85382, 2013.

Eklöf, A., Tang, S., and **Allesina, S.** Secondary extinctions in food webs: a Bayesian network approach. *Methods in Ecology and Evolution*, 4(8):760–770, 2013.

Eklöf, A., U. Jacob, Kopp, J.C., J. Bosch, R. Castro-Urgal, N.P. Chacoff, B. Dalsgaard, C. de Sassi, M. Galetti, P.R. Guimarães Jr., S.B. Lomáscolo, A.M. Martin González, M.A. Pizo, R. Rader, A. Rodrigo, J.M. Tylianakis, D.P. Vázquez, and **Allesina, S.** The dimensionality of ecological networks. *Ecology Letters*, 16(5):577–583, 2013.

J.N. Parker, C. Lortie, and **Allesina, S.** Characterizing a scientific elite (b): Publication and citation patterns of the most highly cited scientists in environmental science and ecology. *Scientometrics*, 94(2):469–480, 2013.

Staniczenko, P.P.A., Kopp, J.C., and **Allesina, S.** The ghost of nestedness in ecological networks. *Nature Communications*, 4(4):1391, 2013.

D.E. Acuna, **Allesina, S.**, and K.P. Kording. Future impact: Predicting scientific success. *Nature*, 489:201–202, 2012.

*Media Coverage includes: Nature, The Chronicle of Higher Education, The Scientist, NPR.*

**Allesina, S.** Ecology: The more the merrier – News & Views. *Nature*, 487:175–176, 2012.

**Allesina<sup>†</sup>, S.** and *Tang<sup>†</sup>, S.* Stability criteria for complex ecosystems. *Nature*, 483:205–208, 2012.

*Reviewed for F1000 by L. Forney & Z. Ma.*

**Allesina, S.** Modeling peer review: an agent-based approach. *Ideas in Ecology and Evolution*, 5:27–35, 2012.

A. Bodini, C. Bondavalli, and **Allesina, S.** Cities as ecosystems: Functional similarities and the quest for sustainability. *Developments in Environmental Modelling*, 25:297–318, 2012.

A. Bodini, C. Bondavalli, and **Allesina, S.** Cities as ecosystems: Growth, development and implications for sustainability. *Ecological Modelling*, 245:185–198, 2012.

*Eklöf, A., M. Helmus, Moore, M., and Allesina, S.* Relevance of evolutionary history for food web structure. *Proceedings of the Royal Society B: Biological Sciences*, 279(1733):1588–1596, 2012.

C.J. Lortie, L. Aarssen, Parker J.P., and **Allesina, S.** Good news for the people who love bad news: an analysis of the funding of the top 1% most highly cited ecologists. *Oikos*, 121:1005–1008, 2012.

A.M. Martin-Gonzales, **Allesina, S.**, A. Rodrigo, and J. Bosch. Drivers of compartmentalization in a mediterranean pollination network. *Oikos*, 121:2001–2013, 2012.

C.J. Melian, D. Alonso, **Allesina, S.**, R.S. Condit, and R.S. Etienne. Does sex speed up evolutionary rate and increase biodiversity? *PLoS Computational Biology*, 8(3):e1002414, 2012.

**Allesina, S.** Predicting trophic relations in ecological networks: A test of the allometric diet breadth model. *Journal of Theoretical Biology*, 279(1):161–168, 2011.

**Allesina, S.** Measuring nepotism through shared last names: The case of italian academia. *PLoS ONE*, 6(8):e21160, 2011.

*Media Coverage includes: Chicago Tribune, Science, Nature, Corriere della Sera, La Stampa, Radio24, Radio Rai, Rai 1 TV, ...*

*Reviewed for F1000 by A. Di Franco & J. Claudet.*

**Allesina, S.** and J.M. Levine. Reply to Ferrarini: Strengths and weaknesses of simple competition models. *Proceedings of the National Academy of Sciences of the United States of America*, 108(31):E346, 2011.

**Allesina, S.** and J.M. Levine. A competitive network theory of species diversity. *Proceedings of the National Academy of Sciences of the United States of America*, 108(14):5638–5642, 2011.

*Media Coverage includes: NPR, Cosmos Magazine, Clever Apes, . . .*

*Reviewed for F1000 by H. Muller-Landau and by A. Gonzales.*

E.B. Baskerville, A.P. Dobson, T. Bedford, **Allesina, S.**, T.M. Anderson, and M. Pascual. Spatial guilds in the Serengeti food web revealed by a Bayesian group model. *PLoS Computational Biology*, 7(12):e1002321, 2011.

*Rojas-Echenique, J.* and **Allesina, S.** Interaction rules affect species coexistence in intransitive networks. *Ecology*, 92(5):1174–1180, 2011.

*Zook, A.E., Eklöf, A., U. Jacob,* and **Allesina, S.** Food webs: Ordering species according to body size yields high degree of intervality. *Journal of Theoretical Biology*, 271(1):106–113, 2011.

#### Unpublished work

*Tang, S., Pawar, S.,* and **Allesina, S.** Correlation between interaction strengths drives stability in large ecological networks. *Nature Communications*, (*in review*), 2013.

*Staniczenko, P.P.A., Smith, M.,* and **Allesina, S.** Modularity and Antimodularity in Food Webs. *PLoS Computational Biology*, (*in review*), 2013.

*Staniczenko, P.P.A., Smith, M.,* and **Allesina, S.** Models for food web structure: the Good, the Bad and the Ugly. *Methods in Ecology and Evolution*, (*in review*), 2013.

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## Support

9/12 – 8/17 **CAREER: Scientific Computing for a New Generation of Ecologists**, \$599,244 NSF DEB #1148867, PI: S. Allesina.

8/10 – 7/14 **Bacteria test biodiversity theories**, \$449,817 James S. McDonnell Foundation, PI: S. Allesina Co-PI: J. Bergelson.

8/10 – 7/14 **Accelerating the pace of discovery by changing the peer review algorithm**, \$240,073 NSF SMA SBE EAGER #1042164, PI: S. Allesina.

9/08 – 8/14 **The Spider and the Web: inference in ecological networks**, \$636,000 NSF EF #0827493, PI: M. Pascual Co-PI: S. Allesina.

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## Service

### Editorial Board

2009 – **Subject Editor**, *Oikos*.

- 2011 – **Population Ecology**, *Faculty of 1000*.
- 2012 – **Associate Editor**, *Journal of Complex Networks*.
- 2013 – **Editor Reviewer**, *Frontiers in Computational Physics*.
- 2012, 2013 **Guest Editor**, *PLoS Computational Biology*.

#### Reviewer

Reviewer for American Naturalist; Basic and Applied Ecology; Behavioral Ecology; Biology Letters; Briefings in Bioinformatics; Chaos; Ecography; Ecological Complexity; Ecological Indicators; Ecological Modelling; Ecological Monographs; Ecology; Ecology Letters; Environmental Modelling & Assessment; Environmental Modelling & Software; Estuarine, Coastal and Shelf Science; Fisheries Research; Journal of Animal Ecology; Journal of Robust and Nonlinear Control; Journal of Theoretical Biology; Journal of the Royal Society Interface; Marine Ecology Progress Series; Marsden Fund – Royal Society of New Zealand; Methods in Ecology & Evolution; Microsoft Research; National Science Foundation; Nature; Nature Communications; Nature Methods; NERC; Oikos; Philosophical Transactions of the Royal Society Series B; Physics Letters A; PLoS Biology; PLoS One; Proceedings of the National Academy of Sciences USA; Proceedings of the Royal Society Series B; Science; Sinauer Publishing; Theoretical Ecology; Theoretical Population Biology; The Quarterly Review of Biology; Romanian National Council for Scientific Research; Scientific Reports; Trends in Ecology & Evolution; Trends in Parasitology; U. California Press; U. Chicago Press; U. Nebraska Omaha Internal Funding.

### Honors & Awards

#### Mentoring

- Graduate Students Si Tang (2010-2013), Elizabeth Sander (2012-), Matthew Smith (2013-), Linnea Jones (2013-)
- Postdocs Anna Eklöf (2010-2012), Phillip Staniczenko (2011-2013), Samraat Pawar (2012-2013)
- Undergrad. Jose Rojas (2009-2010), Alex Zook (2009-2010), Philip Reinhold (2010-2011), M Moore (2010-2011), Jason Kopp (2011-2012), Matthew Smith (2012-2013), Michael Begun (2012-), Cody Weinberger (2013-)

#### Teaching

#### Talks & Seminars

- Dec 5, 2013 *University of California Davis, Davis, CA. Dept. Seminar*
- Nov 13, 2013 *Food Webs: Science for Impact, Giessen, Germany. Keynote Speaker*
- Oct 12, 2013 *Society of Population Ecology, Sakai, Japan. Keynote Speaker*
- Apr 22, 2013 *University of Puerto Rico – Rio Piedras, San Juan, Puerto Rico. Invited*
- Mar 14, 2013 *iDiv, Leipzig, Germany. Invited*

Nov 1, 2012 *University of Oxford, Oxford, UK. Invited*  
 Sept 24, 2012 *University of Umeå, Umeå, Sweden. Dept. Seminar*  
 Sept 14, 2012 *University of Michigan, Ann Arbor, MI. Invited*  
 June 23, 2012 *NetSci 2012, Evanston, IL. Invited*  
 June 7, 2012 *BioM&S Symposium 2012, University of Guelph, CA. Keynote speaker*  
 May 14, 2012 *University of Chicago, Chicago IL. Dept. Seminar*  
 Apr 26, 2012 *University of Amsterdam, Amsterdam, the Netherlands. Keynote speaker*  
 Apr 13, 2012 *University of Toronto - EEB Retreat, Toronto, CA. Keynote speaker*  
 Apr 6, 2012 *Case Western Reserve, Cleveland, OH. Invited*  
 Oct 23, 2011 *Chicago Humanities Festival, Chicago, IL. Invited*  
 Sept 15, 2011 *University of Sao Paulo, Sao Paulo, Brazil. Invited*  
 Sept 14, 2011 *University of Campinas, Brazil, Campinas, Brazil. Invited*  
 Sept 2, 2011 *Iowa State University, Ames, IA. Invited*  
 Sept 1, 2011 *Iowa State University, Ames, IA. Dept. Seminar*  
 Aug 8, 2011 *Ecological Society of America Annual Meeting, Austin, TX. Contributed.*  
 July 18, 2011 *International Environmetrics Society – Regional Meeting, La Crosse, WI. Invited*  
 June 2, 2011 *European Conference on Ecological Modeling, Riva del Garda, Italy. Contributed.*  
 Sept 7, 2010 *British Ecological Society Annual Meeting, Leeds, UK. Invited*  
 Jul 7, 2010 *Università di Parma, Parma, Italy. Invited*  
 Apr 29, 2010 *1st Spark Reception: Agent-based Modeling. University of Chicago, Chicago, IL. Invited*  
 Apr 22, 2010 *University of Michigan CSCS, Ann Arbor, MI. Invited*  
 Feb 16, 2010 *University of California Santa Barbara, Santa Barbara, CA. Dept. Seminar*  
 Feb 2, 2010 *University of Illinois at Chicago, Chicago, IL. Dept. Seminar*  
 Dec 9, 2009 *The Northwestern Institute on Complex Systems (NICO), Evanston, IL. Invited*

## Skills

Languages Italian (native speaker), proficient English  
 Computer C, python, R, L<sup>A</sup>T<sub>E</sub>X, Linux  
 Skills