Stefano **Allesina**

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Appointments

Chair — *University of Chicago*
Ecology & Evolution — *2021–*

External faculty — *Northwestern University*
Northwestern Institute on Complex Systems — *2016–*

Professor — *University of Chicago*
Ecology & Evolution — *2014–*

Senior Fellow — *University of Chicago*
Computation Institute — *2014–2018*

Assistant Professor — *University of Chicago*
Ecology & Evolution and Computation Institute — *2009–2014*

Postdoctoral Associate — *U. California, Santa Barbara*
NCEAS — *2007–2009*

Postdoctoral Fellow — *University of Michigan*
Mercedes Pascual Lab — *2005–2007*

Postdoctoral Fellow — *Michigan State U. and NOAA GLERL*
Scott Peacor Lab — *2004–2005*

Education

Ph.D. — *Università degli Studi di Parma, Italy*
Ecology — *2002-2005*
- Advisor: Antonio Bodini

Laurea — *Università degli Studi di Parma, Italy*
Environmental Sciences — *1995-2001*
- Advisors: Alessandro Zaccagnini and Antonio Bodini

Published articles

1 Miller, Z. R., Lechón-Alonso, P. and Allesina, S. (2022) No robust multispecies coexistence in a canonical model of plant–soil feedbacks. Ecology Letters 25, 1690–1698.

2 Castro, F. de, Adl, S. M., Allesina, S., Bardgett, R. D., Bolger, T., Dalzell, J. J., Emmerson, M., Fleming, T., Garlaschelli, D., Grilli, J., et al. (2021) Local stability properties of complex, species-rich soil food webs with functional block structure. Ecology and evolution 11, 16070–16081.

3 Miller, Z.R. and Allesina, S. (2021) Metapopulations with habitat modification. Proceedings of the National Academy of Sciences 118.

4 Serván, C.A. and Allesina, S. (2021) Tractable models of ecological assembly. Ecology Letters 24, 1029–1037.

5 Maynard, D.S., Miller, Z.R. and Allesina, S. (2020) Predicting coexistence in experimental ecological communities. Nature Ecology & Evolution 4, 91–100.

6 Costa, A., González, A. M. M., Guizien, K., Doglioli, A. M., Gómez, J. M., Petrenko, A. A. and Allesina, S. (2019) Ecological networks: Pursuing the shortest path, however narrow and crooked. Scientific reports 9, 1–13.

7 Jovic, K., Grilli, J., Sterken, M. G., Snoek, B. L., Riksen, J. A., Allesina, S. and Kammenga, J. E. (2019) Transcriptome resilience predicts thermotolerance in Caenorhabditis elegans. BMC biology 17, 102.

8 Maynard, D.S., Wootton, J. T., Serván, C.A. and Allesina, S. (2019) Reconciling empirical interactions and species coexistence. Ecology letters 22, 1028–1037.

9 Maynard, D.S., Serván, C.A., Capitán, J. A. and Allesina, S. (2019) Phenotypic variability promotes diversity and stability in competitive communities. Ecology letters 22, 1776–1786.

10 Michalska-Smith, M.J. and Allesina, S. (2019) Telling ecological networks apart by their structure: A computational challenge. PLoS computational biology 15, e1007076.

11 Chen, Y., Shen, Y., Lin, P., Tong, D., Zhao, Y., Allesina, S., Shen, X. and Wu, C.-I. (2019) Gene regulatory network stabilized by pervasive weak repressions: microRNA functions revealed by the may–wigner theory. National Science Review 6, 1176–1188.

12 Gibbs, T., Grilli, J. and Allesina, S. (2018) Effect of population abundances on the stability of large random ecosystems. Physical Review E 98.

13 Maynard, D.S., Serván, C.A. and Allesina, S. (2018) Network spandrels reflect ecological assembly. Ecology Letters 21, 324–334.

14 Michalska-Smith, M.J., Sander, E.L., Pascual, M. and Allesina, S. (2018) Understanding the role of parasites in food webs using the group model. Journal of Animal Ecology 87, 790–800.

15 Serván, C.A., Capitán, J. A., Grilli, J., Morrison, K. E. and Allesina, S. (2018) Coexistence of many species in random ecosystems. Nature Ecology & Evolution 2, 1237.

16 Barabás, G., Michalska-Smith, M.J. and Allesina, S. (2017) Self-regulation and the stability of large ecological networks. Nature Ecology & Evolution 1, 1870.

17 Grilli, J. and Allesina, S. (2017) Last name analysis of mobility, gender imbalance, and nepotism across academic systems. Proceedings of the National Academy of Sciences of the United States of America 114, 7600–7605.

18 Grilli, J., Barabás, G., Michalska-Smith, M.J. and Allesina, S. (2017) Higher-order interactions stabilize dynamics in competitive network models. Nature 548, 210–213.

19 Grilli, J., Adorisio, M., Suweis, S., Barabás, G., Banavar, J. R., Allesina, S. and Maritan, A. (2017) Feasibility and coexistence of large ecological communities. Nature Communications 8, 14389.

20 Levine, J. M., Bascompte, J., Adler, P. and Allesina, S. (2017) Beyond pairwise coexistence: Biodiversity maintenance in complex ecological communities. Nature 546, 3376–3386.

21 Jovic, K., Sterken, M. G., Grilli, J., Bevers, R. P. J., Rodriguez, M., Riksen, J. A. G., Allesina, S., Kammenga, J. E. and Snoek, L. B. (2017) Temporal dynamics of gene expression in heat-stressed caenorhabditis elegans. PLoS ONE 12.

22 Dee, L. E., Allesina, S., Bonn, A., Eklöf, A., Gaines, S. D., Hines, J., Jacob, U., McDonald-Madden, E., Possingham, H., Schröter, M., et al. (2017) Operationalizing network theory for ecosystem service assessments. Trends in Ecology & Evolution 32, 118–130.

23 Michalska-Smith, M.J. and Allesina, S. (2017) And, not Or: Quality, quantity in scientific publishing. PLoS One 12, e0178074.

24 Sander, E.L., Wootton, J. T. and Allesina, S. (2017) Ecological network inference from long-term presence-absence data. Scientific reports 7, 7154.

25 Barabás, G., Smith, M.J. and Allesina, S. (2016) The effect of intra- and interspecific competition on coexistence in multispecies communities. American Naturalist 188, E1–E12.

26 Masco, C., Allesina, S., Mennill, D. J. and Pruett-Jones, S. (2016) Song overlapping: Distinguishing between intention and chance. Bioacoustics 25, 29–40.

27 Grilli, J., Rogers, T. and Allesina, S. (2016) Modularity and stability in ecological communities. Nature Communications 7, 12031+.

28 McCoy, S. J., Pfister, C. A. and Allesina, S. (2016) Ocean acidification affects competition for space: Projections of community structure using cellular automata. Proceedings of the Royal Society B: Biological Sciences 283, 20152561.

29 Allesina, S., Grilli, J., Barabás, G., Tang, S., Aljadeff, J. and Maritan, A. (2015) Predicting the stability of large structured food webs. Nature Communications 6, 7842.

30 Allesina, S. and Tang, S. (2015) The stability-complexity relationship at age 40: A random matrix perspective. Population Ecology 57, 63–75.

31 Barabás, G. and Allesina, S. (2015) Predicting global community properties from uncertain estimates of interaction strengths. Journal of the Royal Society Interface 12, 20150218.

32 Grilli, J., Barabás, G. and Allesina, S. (2015) Metapopulation persistence in random fragmented landscapes. PLoS Computational Biology 11, e1004251.

33 Borrelli, J. J., Allesina, S., Amarasekare, P., Arditi, R., Chase, I., Damuth, J., Ginzburg, L., Holt, R. D., Logofet, D. O., Novak, M., et al. (2015) Selection on stability across ecological scales. Trends in Ecology & Evolution 30, 417–425.

34 Suweis, S., Grilli, J., Banavar, J., Allesina, S. and Maritan, A. (2015) Effect of localization on the stability of mutualistic ecological networks. Nature Communications 6, 10179+.

35 Sander, S., Wootton, J. T. and Allesina, S. (2015) What can interaction webs tell us about species roles? PLoS Computational Biology 11, e10043330.

36 Smith, M.J., Sander, S., Barabás, G. and Allesina, S. (2015) Stability and feedback levels in food web models. Ecology Letters 18, 593–595.

37 Weinberger, C.J., Evans, J. A. and Allesina, S. (2015) Ten simple (empirical) rules for writing science. PLoS Computational Biology 11, e1004205.

38 Wolkovich, E. M., Allesina, S., Cottingham, K. L., Moore, J. C., Sandin, S. A. and Mazancourt, C. de. (2014) Linking the green and brown worlds: The prevalence and effect of multi-channel feeding in food webs. Ecology 95, 3376–3386.

39 Smith, M.J., Weinberger, C., Bruna, E. and Allesina, S. (2014) The Scientific Impact of nations: Journal Placement and Citation Performance. PLoS ONE 9, e109195.

40 Staniczenko, P.P.A., Smith, M.J. and Allesina, S. (2014) Selecting food web models using normalised maximum likelihood. Methods in Ecology and Evolution 5, 551–562.

41 Tang, S. and Allesina, S. (2014) Reactivity and stability of large ecosystems. Frontiers in Ecology and Evolution 2, art no. 21.

42 Tang, S., Pawar, S. and Allesina, S. (2014) Correlation between interaction strengths drives stability in large ecological networks. Ecology Letters 17, 1094–1100.

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

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

45 Eklöf, A., Jacob, U., Kopp, J.C., Bosch, J., Castro-Urgal, R., Chacoff, N. P., Dalsgaard, B., Sassi, C. de, Galetti, M., Guimãrares Jr., P. R., et al. (2013) The dimensionality of ecological networks. Ecology Letters 16, 577–583.

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

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

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

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

50 Martin-González, A. M., Allesina, S., Rodrigo, A. and Bosch, J. (2012) Drivers of compartmentalization in a Mediterranean pollination network. Oikos 121, 2001–2013.

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

52 Allesina, S. (2012) Modeling peer review: An agent-based approach. Ideas in Ecology and Evolution 5, 27–35.

53 Allesina, S. and Tang, S. (2012) Stability criteria for complex ecosystems. Nature 483, 205–208.

54 Lortie, C. J., Aarssen, L., Parker, J. P. and Allesina, S. (2012) 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.

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

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

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

58 Allesina, S. (2011) Predicting trophic relations in ecological networks: A test of the Allometric Diet Breadth Model. Journal of Theoretical Biology 279, 161–168.

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

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

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

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

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

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

65 Allesina, S., Azzi, A., Battini, D. and Regattieri, A. (2010) Performance measurement in supply chains: New network analysis and entropic indexes. International Journal of Production Research 48, 2297–2321.

66 Melián, C. J., Alonso, D., Vázquez, D. P., Regetz, J. and Allesina, S. (2010) Frequency-dependent selection predicts patterns of radiations and biodiversity. PLoS Computational Biology 6, e1000892.

67 Parker, J. N., Lortie, C. and Allesina, S. (2010) Characterizing a scientific elite: The social characteristics of the most highly cited scientists in environmental science and ecology. Scientometrics 85, 129–143.

68 Bodini, A., Bellingeri, M., Allesina, S. and Bondavalli, C. (2009) Using food web dominator trees to catch secondary extinctions in action. Philosophical Transactions of the Royal Society B: Biological Sciences 364, 1725–1731.

69 Dobson, A., Allesina, S., Lafferty, K. and Pascual, M. (2009) The assembly, collapse and restoration of food webs. Philosophical Transactions of the Royal Society B: Biological Sciences 364, 1803–1806.

70 Allesina, S., Bodini, A. and Pascual, M. (2009) Functional links and robustness in food webs. Philosophical Transactions of the Royal Society B: Biological Sciences 364, 1701–1709.

71 Allesina, S. and Pascual, M. (2009) Googling food webs: Can an eigenvector measure species' importance for coextinctions? PLoS Computational Biology 5, e1000494.

72 Allesina, S. and Pascual, M. (2009) Food web models: A plea for groups. Ecology Letters 12, 652–662.

73 Scotti, M., Bondavalli, C., Bodini, A. and Allesina, S. (2009) Using trophic hierarchy to understand food web structure. Oikos 118, 1695–1702.

74 Allesina, S., Alonso, D. and Pascual, M. (2008) A general model for food web structure. Science 320, 658–661.

75 Allesina, S. and Pascual, M. (2008) Network structure, predator-prey modules, and stability in large food webs. Theoretical Ecology 1, 55–64.

76 Lafferty, K. D., Allesina, S., Arim, M., Briggs, C. J., De Leo, G., Dobson, A. P., Dunne, J. A., Johnson, P. T. J., Kuris, A. M., Marcogliese, D. J., et al. (2008) Parasites in food webs: The ultimate missing links. Ecology Letters 11, 533–546.

77 Battini, D., Persona, A. and Allesina, S. (2007) Towards a use of network analysis: Quantifying the complexity of supply chain networks. International Journal of Electronic Customer Relationship Management 1, 75–90.

78 Peacor, S. D., Allesina, S., Riolo, R. L. and Hunter, T. S. (2007) A new computational system, DOVE (digital organisms in a virtual ecosystem), to study phenotypic plasticity and its effects in food webs. Ecological Modelling 205, 13–28.

79 Allesina, S., Bodini, A. and Bondavalli, C. (2006) Secondary extinctions in ecological networks: Bottlenecks unveiled. Ecological Modelling 194, 150–161.

80 Bondavalli, C., Bodini, A., Rossetti, G. and Allesina, S. (2006) Detecting stress at the whole-ecosystem level: The case of a mountain lake (Lake Santo, Italy). Ecosystems 9, 768–787.

81 Scotti, M., Allesina, S., Bondavalli, C., Bodini, A. and Abarca-Arenas, L. G. (2006) Effective trophic positions in ecological acyclic networks. Ecological Modelling 198, 495–505.

82 Peacor, S. D., Allesina, S., Riolo, R. L. and Pascual, M. (2006) Phenotypic plasticity opposes species invasions by altering fitness surface. PLoS Biology 4, 2112–2120.

83 Allesina, S. and Bodini, A. (2005) Food web networks: Scaling relation revisited. Ecological Complexity 2, 323–338.

84 Allesina, S., Bodini, A. and Bondavalli, C. (2005) Ecological subsystems via graph theory: The role of strongly connected components. Oikos 110, 164–176.

85 Allesina, S., Bondavalli, C. and Scharler, U. M. (2005) The consequences of the aggregation of detritus pools in ecological networks. Ecological Modelling 189, 221–232.

86 Allesina, S. and Bodini, A. (2004) Who dominates whom in the ecosystem? Energy flow bottlenecks and cascading extinctions. Journal of Theoretical Biology 230, 351–358.

87 Allesina, S. and Bondavalli, C. (2004) WAND: An ecological network analysis user-friendly tool. Environmental Modelling and Software 19, 337–340.

88 Allesina, S. and Ulanowicz, R. E. (2004) Cycling in ecological networks: Finn's index revisited. Computational Biology and Chemistry 28, 227–233.

89 Allesina, S. and Bondavalli, C. (2003) Steady state of ecosystem flow networks: A comparison between balancing procedures. Ecological Modelling 165, 221–229.

Preprints

1 Skwara, A., Lemos-Costa, P., Miller, Z. R. and Allesina, S. (2022) Modeling ecological communities when composition is manipulated experimentally. bioRxiv, Cold Spring Harbor Laboratory.

2 Medeiros, L. P., Allesina, S., Dakos, V., Sugihara, G. and Saavedra, S. (2022) Ranking species based on sensitivity to perturbations under non-equilibrium community dynamics. bioRxiv, Cold Spring Harbor Laboratory.

3 Miller, Z. R. and Allesina, S. (2022) Habitat heterogeneity, environmental feedbacks, and species coexistence across timescales. bioRxiv, Cold Spring Harbor Laboratory.

4 Allesina, S., Miller, Z.R. and Serván, C.A. (2021) Intraspecific variation stabilizes classic predator-prey dynamics. bioRxiv, Cold Spring Harbor Laboratory.

5 Serván, C.A., Capitán, J. A., Miller, Z.R. and Allesina, S. (2020) Effects of phylogeny on coexistence in model communities. bioRxiv, Cold Spring Harbor Laboratory.

6 Allesina, S., Sander, E., Smith, M.J. and Tang, S. (2013) Superelliptical laws for complex networks. arXiv.

7 Allesina, S. (2012) Measuring nepotism through shared last names: Response to Ferlazzo and Sdoia. arXiv.

Books, book reviews & chapters

1 Allesina, S. (2020) Going big. In Unsolved problems in ecology (Dobson, A., Tilman, D., and Holt, R. D., eds.), pp 374–379, Princeton University Press.

2 Allesina, S. and Grilli, J. (2020) Models for large ecological communities—a random matrix approach. In Theoretical ecology: Concepts and applications (McCann, K. S., and Gellner, G., eds.), pp 74–92, Oxford University Press.

3 Allesina, S. and Wilmes, M. (2019) Computing skills for biologists — a toolbox, Princeton University Press, Princeton, NJ.

4 Allesina, S. (2013) Food web stability, unapologetically – Book review. Ecology 94, 2114–2115.

5 Bodini, A., Allesina, S. and Bondavalli, C. (2012) Network science in ecology: The structure of ecological communities and the biodiversity question, pp 220–236.

6 Eklöf, A. and Allesina, S. (2012) Ecological networks. In Encyclopedia of theoretical ecology (Hastings, A., and Gross, L., eds.), pp 470–478, U. California Press, Berkeley, CA.

7 Allesina, S. (2009) Learning R the practical way – Book review. Ecology 90, 2335–2336.

8 Allesina, S. (2008) Cycling and cycling indices. In Encyclopedia of ecology (Jorgensen, S. E., and Fath, B., eds.), pp 812–819, Academic Press, Oxford.

9 Allesina, S. and Bodini, A. (2008) Ascendency. In Encyclopedia of ecology (Jorgensen, S. E., and Fath, B., eds.), pp 254–263, Academic Press, Oxford.

10 Bodini, A., Bondavalli, C. and Allesina, S. (2007) L'ecosistema e le sue relazioni. Idee e strumenti per la valutazione di impatto e ambientale e di incidenza., Franco Angeli, Milan.

Support

National Science Foundation *$449,295*

Revisiting the relationship between phylogenetic diversity and productivity DEB #2022742 *10/20 – 10/23*

- PI: Allesina

Burroughs Wellcome Fund Foundation *$150,000*

Quantitative and Statistical Thinking in the Life Sciences: Quantitative Biology Fellowships *10/10 – 10/20*

- PI: Allesina, five Co-PIs

National Science Foundation *$499,259*

Reproducibility and Rigor in Quantitative Biology: A Hands-on Approach NRT #1734818 *9/17 – 8/21*

- PI: Prince, Co-PI Allesina & Palmer

Human Frontier Science Program *$750,000*

Crossing the ultimate tipping point: predicting death in C. elegans *12/14 – 12/18*

- PI: Kammenga & Allesina

FACCTS U. Chicago *$8,000*

Spectral Characterization of Ecological Networks *2/14 – 2/15*

- PI: Allesina & Thébault.

National Science Foundation *$599,244*

CAREER: Scientific Computing for a New Generation of Ecologists DEB #1148867 *9/12 – 8/18*

- PI: Allesina

James S. McDonnell Foundation *$449,817*

Bacteria test biodiversity theories *8/10 – 7/14*

- PI: Allesina Co-PI: Bergelson

National Science Foundation *$240,073*

Accelerating the pace of discovery by changing the peer review algorithm SBE EAGER #1042164 *8/10 – 7/14*

- PI: Allesina

National Science Foundation *$636,000*

The Spider and the Web: inference in ecological networks EF #0827493 *9/08 – 8/14*

- PI: Pascual Co-PI: Allesina

Mentoring

Graduate students

Si Tang (2010-2013), Elizabeth Sander (2012-2017) (with J.T. Wootton), Matthew Michalska-Smith (2013-2018), Carlos Marcelo Serván (2016-2020), Zach Miller (2017-2022), Pablo Lechon-Alonso (2021-)

Postdocs

Anna Eklöf (2010-2012), Phillip Staniczenko (2011-2013), Samraat Pawar (2012-2013), György Barabás (2014-2016), Madlen Wilmes (2015), Jacopo Grilli (2015-2017), Daniel Maynard (2017-2019), Paula Lemos-Costa (2019-), Srilena Kundu (2022-)

Undergraduate/predoctoral

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 (2012-2013), Cody Weinberger (2013-2015), Theo Gibbs (2016-2018), Kevin Trickey (2017), Abby Skwara (2019-2021)

Awards & Membership

- U. Chicago Biological Sciences Division, Distinguished Investigator Award (2018).
- NSF CAREER Award (2012).
- NCEAS postdoctoral associate (2007, 2 years of support).
- Italian Ministry of University - PhD Scholarship (2002, 3 years of support).
- International Society for Ecological Modeling young researcher bursary (2004).
- Member of the Ecological Society of America (starting 2005).
- Member of the British Ecological Society (starting 2010).

Service and leadership

University of Chicago

- Committee on Future Academic Directions in Climate and Energy, advising President Alivisatos and Provost Lee, 2022
- Chair, Ecology & Evolution, 2021-
- Director of Graduate Studies, Ecology & Evoltuion, 2014-2021
- Committee on Promotion and Tenure, 2015-2020
- Committee on Assistant Professors, 2014-2015

Editor

- PLoS Computational Biology, Guest Editor (2012-2015), Associate Editor (2015-2017), Deputy Editor (2017-2021)
- Guest Editor for PNAS (2018), eLife (2015)
- Scientific Reports, Editor (2015-2017)
- Journal of Complex Networks, Associate Editor (2012-2017)
- Faculty of 1000, Population Ecology, 2011-2016
- Oikos, Subject Editor, 2009-2017

Reviewer

American Naturalist; Basic and Applied Ecology; Behavioral Ecology; Biological Reviews; Biology Letters; BioScience; Branco Weiss Fellowship; Briefings in Bioinformatics; Chaos; Ecography; Ecological Complexity; Ecological Engineering; Ecological Indicators; Ecological Modelling; Ecological Monographs; Ecology; Ecology Letters; Environmental Modelling & Assessment; Environmental Modelling & Software; Estuarine, Coastal and Shelf Science; European Physical Journal B; European Research Council; Fisheries Research; Global Ecology and Biogeography; Journal of Animal Ecology; Journal of Mathematical Biology; Journal of Robust and Nonlinear Control; Journal of the Association for Information Science and Technology; 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 Ecology & Evolution; Nature Methods; Nature Physics; NERC; Oikos; Philosophical Transactions of the Royal Society Series B; Physical Reviews E; Physical Reviews X; Physics Letters A; PLoS Biology; PLoS Computational Biology; PLoS One; Proceedings of the National Academy of Sciences USA; Proceedings of the Royal Society Series B; Revue canadienne des sciences de l'information et de bibliotheconomie; Science; Science Advances; Scientometrics; Sinauer Publishing; The Social Science Journal; The Lancet Global Health; 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.

Panelist

National Science Foundation (EF 2010, GRFP 2016)

Organizer

- BSD Boot Camp on Quantitative Biology (S. Allesina, S. Palmer and V. Prince) 2015-2019
- A primer in ecological networks: theory & data (A. Bodini, G. DeLeo, S. Allesina & C. Bondavalli) 2008

Teaching

Graduate *2021–*
Theoretical Community Ecology *Allesina*

Undergraduate *2018–*
Fundamentals of Biological Data Analysis *Allesina & Kondrashov*

Graduate *2012–2020*
Computing Skills for Biologists *Allesina*

Undergraduate *2016–2018*
How can we understand the biosphere? *Allesina & Kronforst*

Undergraduate *2009–2015*
Evolution & Ecology *Allesina & Coyne; Allesina & Kronforst*

Graduate *2009; 2011*
Theoretical Community Ecology *Allesina & Dwyer*

School *2021*
ICTP Winter School on Quantitative Systems Biology: Quantitative Approaches in Ecosystem Ecology, Remote *Allesina, lecturer*

School *2020*
ICTP SAIFR School on Community Ecology, São Paulo, Brazil *Allesina, lecturer*

School *2019*
Mini course on Computing Skills for Biologists, Evóra, Portugal *Allesina*

Graduate *2015*
Mini course BIOS 248 Scientific Computing for Ecologists, Stanford Universtity Hopkins Marine Station *Allesina*

School *2014*
ICTP Spring College on the Physics of Complex Systems, Trieste, Italy *Allesina, lecturer*

School *2011*
São Paulo School on Ecological Networks, São Paulo, Brazil *Allesina, lecturer*

School *2011*
Biological Networks, University of Fribourg, Switzerland *Allesina, lecturer*

School *2009*
ICTP Theoretical Ecology and Global Change, Trieste, Italy *Allesina, lecturer*

School *2005–2006*
Ecosystem Networks Modeling, University of Copenhagen, Denmark *Allesina, lecturer*

Speaking

University of Chicago, Chicago, IL.
Multiscale Microbial Communities workshop *Feb 22, 2022*

Washington University St. Louis, Remote.
Department of Physics *Nov 29, 2021*

University of Chicago + CNRS, Remote.
Cross-cutting theories in biology *May 29, 2021*

British Ecological Society, Remote.
Ecology Live *Feb 18, 2021*

Pennsylvania State University, Remote.
Biomathematics Seminar *Feb 9, 2021*

Iowa State University, Remote.
Department of Ecology and Evolutionary Biology *Feb 4, 2021*

Eawag Dubendorf, Switzerland, Remote.
Eco Seminars *Dec 19, 2020*

Remote.
International Initiative for Theoretical Ecology Seminars *Nov 24, 2020*

Princeton University, Remote.
Biophysics Seminars *Oct 19, 2020*

Università di Parma, Italy
Department of Chemistry, Life Sciences and Environmental Sustainability *June 28, 2019*

Università di Padova, Padua, Italy.
Department of Physics *June 27, 2019*

Massachusetts Institute of Technology, Cambridge, MA.
Biophysics Seminar *May 22, 2019*

Harvard Medical School, Boston, MA.
Graduate Science Education Seminar *May 21, 2019*

University of Chicago, Chicago, IL.
Center for Data and Computing *May 17, 2019*

University of Florida, Gainesville, FA.
Department of Epidemiology *May 2, 2019*

Yale University, New Haven, CT.
Department of Ecology & Evolutionary Biology *Apr 3, 2019*

Naples, Italy.
Stazione Zoologica Anton Dohrn *Oct 7, 2018*

Paris, France.
NetSci 2018 (Satellite) *June 12, 2018*

Chicago, IL.
Istituto Italiano di Cultura *Feb 23, 2018*

University of Chicago, Chicago, IL.
EvMorph Seminar *Jan 25, 2018*

Georgia Institute of Technology, Atlanta, GA.
Department of Biology *Nov 16, 2017*

Massachusetts Institute of Technology, Cambridge, MA.
Biophysics Seminar *Oct 26, 2017*

Workshop on Network Science, Pittsburgh, PA. Plenary Speaker.
Society for Industrial and Applied Mathematics *Jul 13, 2017*

Bloomington, IN. Keynote Speaker
American Mathematical Society, Spring Central Sectional Meeting *Apr 1, 2017*

Liverpool UK. Keynote Speaker.
British Ecological Society Annual Meeting *Dec 14, 2016*

Michigan State University, East Lansing, MI.
Science at the Edge *Oct 27, 2016*

University of Chicago, Chicago IL.
Computation in Science *Oct 12, 2016*

Columbus, OH.
Mathematical Biosciences Institute *Apr 14, 2016*

University of Chicago, Chicago, IL.
Statistics Colloquium *Feb 29, 2016*

University of Florida, Gainesville, FL.
Wildlife Ecology and Conservation Seminars *Feb 1, 2016*

Santa Fe, NM.
Santa Fe Institute *Dec 11, 2015*

DePaul University, Chicago, IL.
Department of Mathematics *Nov 13, 2015*

Stanford University, Palo Alto, CA.
Department of Biology *Oct 8, 2015*

Venezia, Italy.
Living systems from interactions to critical behavior *Sept 18-19, 2015*

Baltimore, MD. Contributed.
Ecological Society of America Annual Meeting *Aug 14, 2015*

ETH Zürich, Zurich, Switzerland.
E3B seminar series *Mar 12, 2015*

Linköping, Sweden. Keynote Speaker
6th Swedish Meeting in Mathematics in Biology *Dec 5, 2014*

Stony Brook University, Stony Brook, NY.
Ginzburg Colloquim *Nov 5, 2014*

University of Chicago, Chicago, IL.
Computational Social Science Workshop *Oct 31, 2014*

U. Illinois at Urbana-Champaign, Urbana, IL.
Natural Resources & Environmental Sciences *Sept 19, 2014*

Google, Mountain View, CA.
Sci Foo *Aug 10, 2014*

Center Interfacultaire Bernoulli, EPFL, Lausanne, Switzerland.
Bernoulli Lecture *July 10, 2014*

Woods Hole, MA.
Marine Biological Lab *May 5, 2014*

University of California Davis, Davis, CA.
Graduate group in ecology *Dec 5, 2013*

Giessen, Germany. Keynote Speaker
Food Webs Science for Impact *Nov 13, 2013*

Sakai, Japan. Keynote Speaker
Society of Population Ecology *Oct 12, 2013*

University of Puerto Rico – Rio Piedras, San Juan, Puerto Rico.
Department of Biology *Apr 22, 2013*

Leipzig, Germany. Invited
iDiv *Mar 14, 2013*

University of Oxford, Oxford, UK.
Martin School *Nov 1, 2012*

University of Umeå, Umeå, Sweden.
Department of Biology *Sept 24, 2012*

University of Michigan, Ann Arbor, MI.
Theory group *Sept 14, 2012*

Evanston, IL. Invited
NetSci 2012 *June 23, 2012*

University of Guelph, CA. Keynote speaker
BioM&S Symposium 2012 *June 7, 2012*

University of Chicago, Chicago IL.
Department of Ecology & Evolution *May 14, 2012*

University of Amsterdam, Amsterdam, the Netherlands. Keynote speaker
Institute for Biodiversity and Ecosystem Dynamics *Apr 26, 2012*

University of Toronto, Toronto, Canada. Keynote speaker
EEB Retreat *Apr 13, 2012*

Case Western Reserve, Cleveland, OH.
Biology *Apr 6, 2012*

Chicago, IL. Invited
Chicago Humanities Festival *Oct 23, 2011*

University of Sao Paulo, Sao Paulo, Brazil. Invited
Biology *Sept 15, 2011*

University of Campinas, Brazil, Campinas, Brazil.
Biology *Sept 14, 2011*

Iowa State University, Ames, IA.
Ecology and Evolutionary Biology *Sept 1 and 2, 2011*

Austin, TX. Contributed.
Ecological Society of America Annual Meeting *Aug 8, 2011*

La Crosse, WI. Invited
International Environmetrics Society – Regional Meeting *July 18, 2011*

Riva del Garda, Italy. Contributed.
European Conference on Ecological Modeling *June 2, 2011*

Leeds, UK. Invited
British Ecological Society Annual Meeting *Sept 7, 2010*

Università di Parma, Parma, Italy. Invited
Dipartimento di Scienze Ambientali *Jul 7, 2010*

University of Chicago, Chicago, IL. Invited
1st Spark Reception Agent-based Modeling. *Apr 29, 2010*

University of Michigan, Ann Arbor, MI. Invited
CSCS *Apr 22, 2010*

University of California Santa Barbara, Santa Barbara, CA.
Bren School *Feb 16, 2010*

University of Illinois at Chicago, Chicago, IL.
Department of Biology *Feb 2, 2010*

Northwestern University, Evanston, IL.
The Northwestern Institute on Complex Systems (NICO) *Dec 9, 2009*

Santa Barbara, CA.
NCEAS Ecolunch *Oct 9, 2009*

Milwaukee, WI. Contributed.
Ecological Society of America Annual Meeting *Aug 4, 2008*

Santa Barbara, CA.
NCEAS Ecolunch *May 5, 2008*

University of Chicago, Chicago, IL. Invited
Department of Ecology & Evolution *April 16, 2008*

University of Michigan, Ann Arbor, MI. Invited
Early Career Scientists Symposium *March 15, 2008*

San Jose, CA. Invited
Ecological Society of America Annual Meeting *Aug 8, 2007*

San Jose, CA. Invited
Society for Mathematical Biology Annual Meeting *Aug 3, 2007*

Università di Parma, Parma, Italy. Invited
Dipartimento di Scienze Ambientali *Feb 20, 2007*

Copenhagen, Denmark. Invited
Niels Bohr Institute - Center for Models of Life *Feb 15, 2007*

Memphis, TN. Contributed.
Ecological Society of America Annual Meeting *Aug 9, 2006*

Copenhagen, Denmark. Invited
University of Copenhagen *Jun 7, 2006*

Università di Parma, Parma, Italy. Invited
Dipartimento di Scienze Ambientali *Jun 5, 2006*

Budapest, Hungary. Invited
Collegium Budapest, Institute for Advanced Study *May 26, 2006*

University of Maryland, Solomons, MD. Invited
Chesapeake Biological Laboratory *Nov 28, 2005*

Montreal, Canada. Contributed
Ecological Society of America Annual Meeting *Aug 9, 2005*

Bled, Slovenia. Contributed

Fourth European Conference on Ecological Modelling *Sept 29, 2004*

University of Guelph, Guelph, Canada. Contributed

Peter Yodzis Colloquium *Apr 24, 2004*