

DAVID ALONSO, PhD
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University of Groningen, the Netherlands

General Data and Contact Information

name:	David Alonso
place of birth:	Barcelona, Catalunya. SPAIN.
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Education

2004: PhD with honors, Polytechnic University of Catalonia (UPC), Barcelona

1998-2003: PhD graduate programs on Ecology (University of Barcelona, UB) and Applied Physics and Computer Methods in Science (UPC)

1992-1997: Biology, University of Barcelona (UB)

1990-1991: Masters in Environmental Techniques for control and prevention of Atmospheric Pollution (UB)

1984-1990: Physics, University of Barcelona (UB)

Languages: Spanish (fluent), Catalan (fluent), English (fluent), Portuguese (fluent), French (fluent), German (medium level)

Awards and Employment

- Nov 2007 - : Postdoctoral VENI award from the Netherlands Organization for Scientific Research (NWO) to the project “New stochastic sampling theory to understand the evolutionary assembly of diverse host-pathogens networks” to be developed at the University of Groningen under the supervision of Han Olf.
- Jan 2007 - Aug 2007: Postdoctoral Associate at EEB, University of Michigan, under the supervision of Annette Ostling.
- Feb 2004 - Dec 2006: Postdoctoral Associate at EEB, University of Michigan, through a James S. McDonnell Centennial Fellowship to Mercedes Pascual.
- Sep 2003 - Nov 2003: InterACT award from the European Science Foundation at Alan McKane’s group, Theory Group, Department of Theoretical Physics, University of Manchester, England.

- Jul 2003 - Aug 2003: CIRIT fellowship from the Catalan Government: “Dinâmica e controle de doenças infecciosas: uma perspectiva interdisciplinar entre a Engenharia e a Biologias (II)” Group on Modeling, Analysis and Control of Nonlinear Systems (MACSIN). Universidade Federal Minas Gerais, Belo Horizonte, Brazil.
- Aug 2002 - Set 2002. CIRIT fellowship from the Catalan Government: “Dinâmica e controle de doenças infecciosas: uma perspectiva interdisciplinar entre a Engenharia e a Biologias (I)” Group on Modeling, Analysis and Control of Nonlinear Systems (MACSIN). Universidade Federal Minas Gerais, Belo Horizonte, Brazil.
- Jan 1999 - Dec 2002: CIRIT predoctoral Fellowship from the Catalan Government (UPC).
- Sep 2001 - Feb 2002: Teaching Assistant in the course “Introduction to Complex Systems”, Polytechnic University of Catalonia (UPC).
- Aug 2001: Santa Fe Institute award to attend to the Complex Systems Summer School at the European University, Budapest, Hungary, organized by the Santa Fe Institute, NM, USA.
- Jan 1998 - Dec 1998: Caja de Madrid Fellowship to start PhD studies on Environmental Sciences (UB).
- Sep 1995 - Jun 1997: Undergraduate Student Fellowship at the Institute for Marine Sciences (ICM, CSIC, Barcelona).
- Sep 1992 - Jun 1993: Full time High School Teacher of Chemistry and Physics, Institut de Bachillerat Mercè Rodoreda, L’Hospitalet de Llobregat.
- Sep 1990 - Jun 1991: Full time High School Teacher of Physics and Mathematics, Escola Pia Balmes, Barcelona.

Scientific Visits

- May 2007: Postdoctoral visitor at the University of Groningen, the Netherlands, invited by Prof. H. Olf and R. S. Etienne.

- Aug 2006: Postdoctoral visitor at the University of Groningen, the Netherlands, invited by Prof. H. Olf and R. S. Etienne.
- Mar 2006: Postdoctoral visitor at the Fogarty International Center, National Institutes of Health, USA, invited by Dr. D. L. Smith.
- Jun 2005: Postdoctoral visitor at the University of Groningen, the Netherlands, invited by Prof. H. Olf and R. S. Etienne.
- Apr 2005: Postdoctoral visitor at the University of Alberta, Edmonton, Canada, invited by Dr. S. Lele.
- Apr 2005: Postdoctoral visitor at the University of Quebec at Montreal, Canada, invited by Dr. B. Beisner.
- Gen 2005: Postdoctoral visitor at the University of Groningen, the Netherlands, invited by Drs H. Olf and R. Etienne.
- Gen 2005: Postdoctoral visitor at Dr. Alan McKane's group, Theory Group, Department of Theoretical Physics, University of Manchester, England.
- Aug 2004: Postdoctoral visitor at Dr. Alan McKane's group, Theory Group, Department of Theoretical Physics, University of Manchester, England.
- Nov 2002: Graduate student visitor at Dr. Alan McKane's group, Theory Group, Department of Theoretical Physics, University of Manchester, England.
- Mar 2002: Graduate student visitor at Will Wilson's Lab, Department of Biology, Duke University, USA.
- Oct 2000 - Nov 2000: Graduate student visitor at Santa Fe Institute, NM, USA.

Working Groups

- Invited participation in a workshop sponsored by the National Science Foundation, USA, at the University of California, Davis to develop ideas “on scaling up from microscopic to macroscopic systems in biology.” (May 30th - June 1, 2007. Organizer: Alan Hastings).
- Invited participation in National Center for Ecological Analysis and Synthesis (NCEAS) Working Group on “Standardization and fresh approaches on species abundances distributions” (2006- 2007. Organizers: B. McGill, R.S. Etienne, John Gray, and Jessica Green).
- Invited participation in National Center for Ecological Analysis and Synthesis (NCEAS) Working Group on “Seasonality and the population dynamics of infectious diseases” (2004-2005. Organizers: Mercedes Pascual and Andy Dobson).

Publications

International journals and contributions to books. Median impact factors (IF): a) Ecology: 1.397; b) Biology: 1.179; c) Mathematical Physics: 1.102; d) Multidisciplinary Physics: 0.513; e) Multidisciplinary Sciences: 0.444.

1. **D. Alonso**, A. Ostling and R. S. Etienne (2008). The implicit assumption of symmetry and the species abundance distribution. *Ecology Letters* **11**: 93-105.
2. McGill, B. J., R. S. Etienne, J. S. Gray, **D. Alonso**, M. J. Anderson, H. K. Benecha, M. Dornelas, B. J. Enquist, J. Green, F. He, A. Hurlbert, A. E. Magurran, , P. A. Marquet, B. A. Maurer, A. Ostling, C. U. Soykan, K. Ugland and E. White (2007). Species abundance distributions: moving beyond single prediction theories to integration within an ecological framework. (2007) *Ecology Letters* **10**: 995-1015.
3. Etienne, R. S., **Alonso**, D, and A. J. Mckane (2007). The zero-sum assumption in neutral biodiversity theory. *Journal of theoretical biology*. DOI:10.1016/j.jtbi.2007.06.010

4. **Alonso**, D., R. S. Etienne, A. and J. McKane (2007). Response to Benedetti-Cecchi: Neutrality and environmental fluctuations. *Trends in Ecology and Evolution*. **22** (5), 214. IF 14.864 (a)
5. **Alonso**, D., A. J. McKane, and M. Pascual (2007). Stochastic amplification in epidemics. *J. Roy. Soc London Interface*. DOI: 10.1098/rsif.2006.0192. IF 0.727 (e)
6. **Alonso**, D. and M. Pascual (2006). A keystone mutualism drives pattern in a power function. Technical Comment. *Science*, 313:1739a-1739b. IF 30.927 (e)
7. R. S. Etienne and D. **Alonso** (2006). Neutral community theory: how stochasticity and dispersal-limitation can explain species coexistence. *Journal of Statistical Physics*. DOI: 10.1007/s10955-006-9163-2. IF 1.729 (c)
8. D. **Alonso**, R. S. Etienne, A. and J. McKane. The merits of neutral theory. (2006) *Trends in Ecology and Evolution*. **21** (8), 451-457. IF 14.864 (a)
9. J. Chave, D. **Alonso**, and R. S. Etienne (2006). Comparing models of species abundance. *Nature*, 441:E1-E2. IF 29.273 (e)
10. Etienne, R. S. and D. **Alonso**. (2006) A dispersal-limited sampling theory for species and alleles. Erratum. *Ecology Letters*, **9**, 500. IF 5.151 (a)
11. Etienne, R. S. and D. **Alonso**. (2005) A dispersal-limited sampling theory for species and alleles. *Ecology Letters* **8**, 1147-1156. IF 5.151 (a)
12. J. Memmott, D. **Alonso**, E. L. Berlow, A. Dobson, J. A. Dunne, R. V. Solé, and J. Weitz (2005) Biodiversity loss and ecological network structure. *Ecological Networks*, M. Pascual and J. Dunne (editors). Oxford U. Press, 325-344.
13. **Alonso**, D., and A. McKane (2004). Sampling Hubbell's Neutral Theory of Biodiversity. *Ecology Letters* **7**, 901-906.

14. Gamarra, J. G. P., J. M. Montoya, D. **Alonso**, and R. V. Solé (2004). Competition and Introduction Regime Shape Exotic Bird Communities in Hawaii. *Biological Invasions* **7**. 297-307.
15. R.V. Solé, D. **Alonso** and J. Saldaña (2004). Habitat fragmentation and diversity collapse under recruitment limitation. *Ecological Complexity* **1**. 65-75. IF 1.409 (a)
16. McKane, A., D. **Alonso**, and R. V. Solé (2004). An analytic solution of Hubbell's neutral model of local community dynamics. *Theoretical Population Biology* **65**, 67-73. IF 2.007 (a)
17. Solé, R. V. and D. **Alonso**. Chaos in bottle. (2003) IF 14.864 (a) *Trends in Ecology and Evolution*. **18**, 556-557 (2003)
18. **Alonso**, D. and A. McKane (2002). Extinction Dynamics in Mainland-island Metapopulations: an N -patch Stochastic Model. *Bulletin of Mathematical Biology* **64**, 913-958. IF 1.582 (b)
19. **Alonso**, D., F. Bartumeus and J. Catalan (2002). Mutual interference between predators can give rise to Turing spatial structures. *Ecology* **83**, 28-34. IF 4.506 (a)
20. Solé, R. V., D. **Alonso**, and A. McKane (2002). Self-organized Instability in Complex Ecosystems. *Phil. Trans. Roy. Soc. Lond. ser. B* **357**, 667-681. IF 4.997 (b)
21. Gamarra, J. G. P., R. V. Solé and D. **Alonso** (2001). Control, Synchrony and the Persistence of Chaotic Populations. *Chaos, Solitons and Fractals* **12**, 235-249. IF 1.938 (c)
22. Solé, R.V., D. **Alonso**, J. Bascompte, S. C. Manrubia (2001). On the fractal nature of ecological and macroevolutionary dynamics. *Fractals* **9**, 1-16. IF 0.586 (c)
23. Bartumeus, F., D. **Alonso** and J. Catalan (2001). Self-organized spatial structures in a ratio-dependent predator-prey model. *Physica A* **295**, 53-57. IF 1.332 (d)
24. McKane, A., D. **Alonso**, and R. V. Solé (2000). A Mean Field Stochastic Theory for Species-rich Assembled Communities. *Physical Review E* **62**, 8466-8484. IF 2.418 (c)

25. Solé, R. V., D. **Alonso**, and A. McKane (2000). Scaling in a network model of a multispecies ecosystem. *Physica A* **286**, 337-344. IF 1.332 (d)
26. **Alonso**, D. and R. V. Solé (2000). DivGame: a Cellular Automata model of rainforest dynamics. *Ecological Modelling* **133**, 131-141. IF 1.700 (a)a
27. Solé, R. V. and D. **Alonso** (1998). Random Walks, Fractals and the origins of Rainforest Diversity. *Advances in Complex Systems* **1**, 203-220. IF 0.615 (e)

Work in progress (submitted or in preparation).

- Allesina, S., D. **Alonso**, and M. Pascual (submitted). Exact solution of the likelihood for the niche model of food web structure.
- **Alonso**, D., A. Ostling, and R. S. Etienne (submitted). The implicit assumption of symmetry and the species abundance distribution.
- Nepomuceno, E. G., R. H. C. Takahashi, D. **Alonso**, and L. A. Aguirre (submitted). Control of Infectious Diseases: Influence of Vaccination and Isolation the Dynamics of the SIR model.
- **Alonso**, D. and M. Pascual (submitted). The TSIR model: Theoretical Foundation and Data Analysis.
- Etienne, R. S. and D. **Alonso** (in preparation). Monograph entitled *Advances in the Neutral Theory of Biodiversity. From Analytical Approaches to Data Analysis*.

Other publications.

- D. **Alonso** (2003). Globalization and Infectious Diseases. In: *Analysis of the Elcano Royal Institute*. Madrid. Spain.
- D. **Alonso** (2004). Stochastic Nature of Ecological Interactions. PhD Dissertation, Polytechnic University of Catalonia. Barcelona.

Invited Lectures

1. Feb 2007. “The species abundance distribution and the neutral theory of biodiversity”. University of Manchester, Manchester. UK.
2. Feb 2007. “The species abundance distribution and the neutral theory of biodiversity”. Estación Biológica de Doñana. Sevilla. Spain.
3. Nov 2006. “Seeing the forest, not the trees”. Grand Valley State University, Grand Rapids, MI, USA.
4. Apr 2005. “Understanding Biodiversity Dynamics. Recent theoretical advances in community ecology”. University of Quebec at Montreal, Canada.
5. Apr 2005. “Understanding Biodiversity Dynamics. Recent theoretical advances in community ecology”. Queens University, Canada.
6. Jan 2005. “A general time series SIR model for epidemic dynamics”. University of Groningen, The Netherlands.
7. Aug 2002. “Heterogeneidad espacial e interacciones biológicas”. Centro de Pesquisas e Desenvolvimento em Eng.Eletrica. Universidade Federal de Minas Gerais, Brasil.

Contributed Lectures

1. Aug 2007. **Alonso**, D, S. Allesina, and M. Pascual. Evidence for niches in food web data: A likelihood-based approach. Annual ESA meeting at San Jose, CA. USA.
2. Aug 2007. Pascual, M., D. **Alonso**, and B. Cazelles. Shifting patterns: Infectious disease dynamics in a changing world. Annual ESA meeting at San Jose, CA. USA.
3. Aug 2006. **Alonso**, D., A., M. Pascual and D. L. Smith. Simple stochastic time series models in ecology and infectious diseases. Annual ESA meeting at Memphis, USA.

4. Aug 2005. **Alonso**, D., A. J. McKane, and M. Pascual. Seasonality, instability boundaries, and stochastic amplification in epidemics. Annual ESA meeting at Montreal, Canada.

Academic Service

- Journal reviewer for: *Nature*, *Science*, *American Naturalist*, *Trends in Ecology and Evolution*, *Ecology Letters*, *Oikos*, *Ecology*, *Biological Conservation*, *Ecography*, *Journal of Theoretical Biology*, *Philosophical Transactions of the Royal Society of London Ser. B.*, *Journal of the Royal Society. Interface*, *Physica A*, *Ecological Modelling*, *Ecological Complexity*, *Journal of Theoretical Ecology*, *Bulletin of Mathematical Biology*, and *Applications and Applied Mathematics: An International Journal (AAM)*.
- Project reviewer for the Spanish Foundation of Scientific and Technological Research.
- Project reviewer for the National Science Foundation, USA.
- National Science Foundation Advisory panel for Advancing Theory in Biology, USA.
- Project reviewer for the Israeli Science Foundation.
- Book reviewer for Springer and University of Chicago Press.
- Member of the PhD dissertation committee to evaluate the thesis on “Dinâmica, Modelagem e Controle de Epidemias” by Erivelton Nepomuceno at the Universidade Federal Minas Gerais, BH, Brazil.
- Organization Committee of the Symposium “Teoria i Sintesi en Ecologia i Evolucio” (1999, University of Barcelona).

Professional Affiliations

Ecological Society of America, Societat Catalana de Biologia, Institució Catalana d’Història Natural.