

Curriculum vitae
Ottar Nordal Bjørnstad

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EDUCATION

Institution	Degree	Year	Field of study
University of Oslo, Norway	BSc	1991	Biology
University of Oslo, Norway	MSc	1993	Zoology
University of Oslo, Norway	Ph.D.	1997	Ecology
University of Oslo and University of Cambridge, UK	Postdoctoral	1997-98	Ecology
UC Santa Barbara	Postdoctoral	1998-2000	Ecology

PROFESSIONAL POSITIONS

2007-present	Professor, Departments of Entomology and Biology, The Pennsylvania State University
2007-present	Adjunct Professor, Departments of Statistics, The Pennsylvania State University
2008-present	Visiting Professor ('Professor II'), Department of Biostatistics, Institute of Basic Medical Sciences, University of Oslo, Norway.
2008-present	Senior Research Fellow, Division of International Epidemiology and Population Studies, Fogarty International Center, National Institutes of Health
2004-present	Co-director, Center for Infectious Disease Dynamics, The Pennsylvania State University
2005-2007	Associate Professor, Departments of Entomology and Biology, The Pennsylvania State University
2004-2007	Senior Research Fellow, Division of International Epidemiology and Population Studies, Fogarty International Center, National Institutes of Health
2001-2005	Assistant Professor, Departments of Entomology and Biology, The Pennsylvania State University
2001-2007	Adjunct Assistant Professor, Departments of Statistics,

The Pennsylvania State University

FELLOWSHIPS

- 1998-2000 Postdoctoral fellowship from the National Center for Ecological Analysis and Synthesis, University California Santa Barbara (a Center funded by NSF Grant #DEB-0072909, the University of California, and UC Santa Barbara)
- 1997-1998 Postdoctoral fellowship from Norwegian Science Foundation (Grant NFR 100720/410) (Oslo, Santa Barbara, Cambridge)
- 1994-1997 Doctoral fellowship from Norwegian Science Foundation (Grant NFR 119117/410)

AWARDS/HONORS

- 2009 Jessie C. Black Award for Excellence in Research in the College of Agricultural Sciences, Pennsylvania State University
- 2008 ENRI Early Career Award. Environment & Natural Resources Institute, Pennsylvania State University
- 2008 Ecological Research Award from the Ecological Society of Japan
- 2007 Penn State University's 2007 Faculty Scholar Medal for outstanding achievement in the area of Life and Health Sciences. (<http://live.psu.edu/story/23168>)
- 2008-2011 Advisory Board member to the National Center for Ecological Analysis and Synthesis, UC Santa Barbara.
- 2006 Elected chair of the *Theoretical Section* of the Ecological Society of America.
- 2005 Elected vice-chair of the *Theoretical Section* of the Ecological Society of America.

GRANTS (Lifetime total: ~ \$11M)

- 2008-2012 'Evaluate candidate vaccine technologies using computational models' Gates Foundation (PI: Bryan Grenfell; co-PI's: Ottar Bjornstad, Tim Reluga, Alan Maceachren, Reka Albert, Murali Haran and Edward Holmes). (04/01/08 – 03/31/12) \$ 2,871,465
- 2008-2010 'Intergovernmental Personnel Act (IPA) for Ottar Bjornstad' Fogarty International Center, NIH (PI). (07/01/08 – 06/30/10) \$ 92,130
- 2008-2012 'Synthesizing the Evolutionary and Ecological Dynamics of Acute RNA Viruses: Comparative analyses and method development'. PI: Bryan T. Grenfell; co-PIs: Ottar Bjornstad and Edward Holmes. NIH/GM R01-GM083983-01 (03/05/2008 – 02/29/2012). \$1,795,327
- 2008-2012 'Evolution of the Bordetellae from comensals to pathogens'. PI: Eric Harvill; co-PIs: Ottar Bjornstad, Reka Albert, Stephane Schuster and Edward Holmes. NIH/GM R01-GM083113-01 (05/01/2008 – 02/29/2012). \$ 1,760,696
- 2008-2012 'Invasive plants: Integrated approaches for a national threat'. PI: David Mortensen; co-PIs: Katriona Shea and Ottar Bjornstad. USDA National Needs Program 2008-38420-18722 (01/01/2008-12/31/2012). \$153,000
- 2007-2012 'Novel Statistical Models for Synthesizing Social Networks and Epidemic Dynamics'. PI: David R Hunter; co-PIs: Mary Poss, Ottar

	Bjornstad and Bryan Grenfell. NIH/GM R01-GM083603-01 (08/01/2007 – 07/31/2012).	\$ 1,454,834
2007-2008	'Emergence of human pathogens in the genus <i>Bordetella</i> '. PI: Eric Harvill; co-PIs: Ottar Bjornstad, Reka Albert and Stephane Schuster. NIH/NIAID R56-AI065507-01A2 (04/01/2007 – 03/31/2008).	\$362,500
2006-2010	'Synchronization of invading Gypsy moth populations' PI: Ottar Bjornstad; co-PIs: Andrew Liebhold and Patrick Tobin. USDA National Research Initiative 2006-35302-17149 (09/01/2006 – 08/31/2010)	\$385,000
2005-2010	'Parasite Induced Susceptibility and Transmission in a Seasonal Environment: Micro and Macro Interactions and the Dynamics of the Parasite Community of Mice' PI: Peter Hudson; co-PIs: Eric Harvill and Ottar Bjornstad. NSF EF-0520468 (10/01/2005 – 09/30/2010; Year 2007-2010 contingent on availability of funds)	\$1,250,000
2004-2007	'Intergovernmental Personnel Act (IPA) for Ottar Bjornstad' Fogarty International Center, NIH (PI). (04/19/2004 – 04/18/2007)	\$ 94,572
2004-2008	'Ecologically Mediated Hybrid Speciation in <i>Rhagoletis</i> ' PI: Bruce McPherson; co-PIs: Wendell Roelofs and Ottar Bjornstad. NSF DEB-0343771 (05/01/2004-04/30/2008)	\$354,000
2004-2006	'PSU Center for Infectious Disease Dynamics' Seed grant jointly funded by the Huck Institute, Penn State Institutes of the Environment, Eberly College of Science and the College of Agricultural Sciences (PI: Peter Hudson; co-PI: Ottar Bjornstad)	\$450,000
2004-2005	'The spatial pattern of gypsy moth colony persistence in the United States'. USDA Forest Service (PI). (Renewed '05)	\$20,000
2004-2005	'Dissertation Research: Exploring Metapopulation Dynamics and Life History Evolution in a Single versus Multiple Landscape' (Dissertation Improvement grant for Carrie Schwarz) PI: Ottar Bjornstad. NSF DEB-0407895 (06/01/2004 – 11/30/2006).	\$4,632
2002-2005	'Complex Spatial Dynamics in Forest Insect Populations'. PI: Ottar Bjornstad; co-PI Andrew Liebhold. USDA National Research Initiative 2002-35302-12656 (09/15/2002 – 09/14/2005)	\$160,000
2001-2006	'Methods for quantifying time-space patterns in forest insect outbreaks'. USDA Forest Service (PI). (Renewed '02-'03-'04-'05)	\$ 60,000
1999-2000	'Recruitment variability and populations dynamics' Post-doctoral fellowship. The National Center for Ecological Analysis and Synthesis, University California Santa Barbara, USA (PI)	\$111,400
1997-1999	'Statistical models for fluctuations in age- and stage-structured populations' Post-doctoral fellowship. the Norwegian Science Foundation (PI)	\$101,200
1994-1997	'An investigation on spatial aspects of the population biology of voles' Graduate fellowship. The Norwegian Science Foundation (PI)	\$114,600
1994-1996	Various grants from Norwegian foundations (PI)	\$14,200

EDITORIAL BOARDS

Associate Editor of *Journal of Animal Ecology* (2005-2008)

Editorial Board of *Proceedings of the Royal Society of London Series B* (2003-2006)

Editorial board of *Population Ecology* (2003-)

Board of Editors of *Ecology* (2001-2004)
Board of Editors of *Ecological Monographs* (2001-2004)

MENTORING

Postdoctoral fellows

Dr Akiko Satake (postdoctoral advisor)	2002-2003
Dr Bjorn Okland (postdoctoral advisor)	2002-2003
Dr Derek Johnson (postdoctoral advisor)	2003-2005
Dr Isabella Cattadori (postdoctoral co-advisor)	2003-2006
Dr Takehiko Yamanaka (postdoctoral advisor)	2005-2006
Dr Petra Klepac (postdoctoral co-advisor)	2007-
Dr Jessica Metcalf (postdoctoral co-advisor)	2008-
Dr Tomas de-Camino-Beck (postdoctoral advisor)	2008-

Graduate students

Carrie Schwarz (co-supervisor: PhD Ecology)	2001-2006
Matthew Ferrari (supervisor: PhD Ecology)	2002-2006
Laura Warlow (supervisor: PhD Biology)	2003-2008
Angie Luis (co-supervisor: PhD Ecology)	2006-
Lawrence Chien (co-supervisor: PhD Ecology)	2006-
Jenny Lavine (supervisor: PhD Biology)	2006-

TEACHING

Workshops

2005 “Application of disease models to long-term population data”. Pre-meeting graduate/post-doc workshop 3rd Annual Ecology and Evolution of Infectious Disease Conference, Colorado State University, May 16-18, 2005. (with Mike Antolin, Ben Bolker, Dave Smith and Karen Garrett)

2007 “Workshop on Environmental Drivers of Infectious Disease”. Pre-meeting graduate/post-doc workshop 5th Annual Ecology and Evolution of Infectious Disease Conference, Cornell University, May 29-30, 2007. (with Steve Ellner and Mike Antolin)

2008 “Measuring Spatial Heterogeneities”. Pre-meeting graduate/post-doc workshop 6th Annual Ecology and Evolution of Infectious Disease Conference, Colorado State University, June 1-4, 2008. (with Mike Antolin, Ben Bolker, and Aaron King)

2008 “Introduction to infectious disease modeling: concepts and applications”. Centre for Biostatistical Modelling in the Medical Sciences, Faculty of Medicine, University of Oslo, Norway. November 12-14, 2008. (with Birgitte Freiesleben de Blasio)

Courses

ENT 420 Introduction to Population Dynamics (3 cr) Principles of population regulation, demographic analysis, modeling of dynamic processes are discussed; laboratories involve the exploration of population growth models. Fall 2002, 2003, 2005, 2007.

ENT 597D Ecological models and data (3 cr) Principles of statistical inference (both frequentist and Bayesian) are discussed; laboratories involve the exploration of how to estimate parameters in ecological models. Fall 2006.

BIOL 597D Evolutionary Ecology (1 cr) Ecology seminar series on evolutionary ecology. Spring 2004.

BIO 412 Ecology of infectious diseases (3cr) The dynamics of disease, how pathogens spread through a host population, the consequences for the hosts, and the consequences for the pathogen from both an ecological and evolutionary viewpoint. Uses ecological and evolutionary insights to discuss and identify effective means of controlling pathogens and parasites of human, veterinary and wildlife diseases. Fall 2004, 2005, 2006, 2007.

PUBLICATIONS (International journals with peer-review):

99. Tobin, P.C., Robinet, C., Johnson, D.M., Whitmire, S.L., Bjørnstad, O.N. and Liebhold, A.M. 2009. The role of Allee effects in gypsy moth, *Lymantria dispar* (L.), invasions. *Population Ecology*, in press.
98. King, A.A., Shrestha, S., Harvill, E.T. and Bjørnstad, O.N. 2009 Evolution of acute infections and the invasion-persistence trade-off. *American Naturalist*, in press.
97. Bjørnstad, O.N., Liebhold, A.M. and Johnson, D.M. 2008. Transient synchronization following invasion: revisiting Moran's model and a case study. *Population Ecology* 50: 379-389. doi: 10.1007/s10144-008-0105-5
96. Yamanaka, T., Tanaka, K., Hamasaki, K., Nakatani, Y., Iwasaki, N., Sprague, D.S. and Bjørnstad, O.N. 2009. Evaluating the relative importance of patch quality and connectivity in a damselfly metapopulation from a one-season survey. *Oikos* 118:67-76.
95. Bharti, N., Xia, Y., Bjornstad, O.N. and Grenfell, B.T. 2008. Measles on the Edge: Coastal Heterogeneities and Infection Dynamics. *PLoS ONE* 3(4): e1941 doi:10.1371/journal.pone.0001941.
94. Restif, O., Wolfe, D.N., Goebel, E.M., Bjornstad, O.N., and Harvill, E.T. 2008. Of mice and men: asymmetric interactions between *Bordetella* pathogen species. *Parasitology* 135:1517-1529. doi:10.1017/S0031182008000279.
93. Bjørnstad, O.N. and Grenfell, B.T. 2008. Hazards, spatial transmission and timing of outbreaks in epidemic metapopulations. *Environmental and Ecological Statistics* 15: 265-277. doi:10.1007/s10651-007-0059-3
92. Cornell, S.J., Bjornstad, O.N., Cattadori, I.M., Boag, B. and Hudson, P.J. 2008. Seasonality, cohort-dependence and the development of immunity in a natural host-nematode system. *Proceedings of the Royal Society of London Series B* 275: 511-518.
91. Ferrari, M.J., Grais, R.F., Conlan, A.J.K., Bharti, N., Bjornstad, O.N., Wolfson, L.J., Guerin, P.J., Djibo, A. and Grenfell, B.T. 2008. Seasonality, stochasticity and the dynamics of measles in sub-Saharan Africa. *Nature* 451: 679-684. (Full length article)
90. Pomeroy, L.W., Bjornstad, O.N. and Holmes, E.C. 2008. The evolutionary and epidemiological dynamics of the Paramyxoviridae. *Journal of Molecular Evolution* 66:98-106.

89. Satake, A. and Bjørnstad, O.N. 2008. A resource budget model to explain intraspecific variation in mast reproductive dynamics. *Ecological research* 23: 3-10.
88. Grais, R.F., Conlan, A.J.K., Ferrari, M.J., Djibo, A., Le Menach, A., Bjørnstad, O.N. and Grenfell, B.T., 2008. Time is of the essence: Exploring a measles outbreak response vaccination in Niamey, Niger. *Journal of the Royal Society Interface* 5:67-74.
87. Wolfe, D.N., Goebel, E.M., Bjornstad, O.N., Restif, O. and Harvill, E.T. 2007. O-antigen enables *Bordetella parapertussis* to avoid *Bordetella pertussis*-Induced Immunity. *Infection and Immunity* 75: 4972-4979.
86. Graham, A.L., Cattadori, I.M., Lloyd-Smith, J.O, Ferrari, M.J. and Bjørnstad, O.N. 2007. Transmission consequences of coinfection: cytokines writ large? *Trends in Parasitology* 23: 284-291.
85. Yamanaka, T., Tanaka, K. Otuka, A. and Bjørnstad, O.N. 2007. Detecting spatial structures and interactions in the ragweed (*Ambrosia artemisiifolia* L.) and the ragweed beetle (*Ophraella communa* LeSage) populations. *Ecological research* 22: 185-196. 2008 Recipient of the 'Ecological Research Award' from the Ecological Society of Japan.
84. Tobin, P.C., Whitmire, S., Johnson, D.M., Bjørnstad, O.N. and Liebhold, A.M. 2007. Invasion speed is affected by geographic variation in the strength of Allee effects. *Ecology Letters* 10:36-43. doi: 10.1111/j.1461-0248.2006.00991.x
83. Viboud, C., Miller, M.A., Grenfell, B.T., Bjørnstad, O.N. and Simonsen, L. 2006. Air Travel and the Spread of Influenza: Important Caveats. *PloS Medicine* 3: 2159-2960.
82. Johnson, D.M., Liebhold, A.M., Tobin, P.C and Bjørnstad, O.N. 2006. Allee effects and pulsed invasion by the gypsy moth. *Nature* 444: 361-363. doi:10.1038/nature05242
81. Ferrari, M.J., Bansal, S., Myers, L.A. and Bjørnstad, O.N. 2006. Network frailty and the geometry of herd immunity. *Proceedings of the Royal Society of London Series B* 273:2743-2748.
80. Ferrari, M., Bjørnstad, O.N., Partain, J. and Antonovics, J. 2006. A gravity model for the spread of a pollinator-borne plant pathogen. *American Naturalist* 168: 294-303.
79. Viboud, C., Bjørnstad, O.N., Smith, D.L., Simonsen, L., Miller, M.A. and Grenfell, B.T. 2006. Synchrony, waves and spatial hierarchies in the spread of influenza. *Science* 312: 447-451.
78. Johnson, D.M., Liebhold, A.M. and Bjørnstad, O.N. 2006. Geographical variation in the periodicity of gypsy moth outbreaks. *Ecography* 29:367-374. doi:10.1111/j.2006.0906-7590.04448.x
77. Grenfell, B.T., Williams, C.S., Bjørnstad, O.N. and Banavar, J.R. 2006. Simplifying biological complexity. *Nature Physics* 2: 212-214.
76. Grais, R.F., Ferrari, M.J., Dubray, C., Bjørnstad, O.N., Grenfell, B.T., Djibo, A., Fermon, F. and Guerin, P.J. 2006. Estimating transmission intensity for a measles epidemic in Niamey, Niger: lessons for intervention. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 100: 867-873.
75. Johnson, D.M., Bjørnstad, O.N. and Liebhold, A.M. 2006. Landscape mosaic induces traveling waves of insect outbreaks. *Oecologia* 148: 51-60.

74. Liebhold, A.M, Johnson, D.M. and Bjørnstad, O.N. 2005. Geographic variation in density-dependent dynamics impacts the synchronizing effect of dispersal and regional stochasticity. *Population Ecology* 48:131-138. doi:10.1007/s10144-005-0248-6
73. Økland, B., and Bjørnstad, O.N. 2005. A resource depletion model of forest insect outbreaks. *Ecology* 87: 283-290.
72. Kirimanjeswara, G.S., Agosto, L.M., Kennett, M.J., Bjørnstad, O.N. and Harvill, E.T. 2005. Pertussis toxin inhibits neutrophil recruitment to delay antibody-mediated clearance of *Bordetella pertussis*. *Journal of Clinical Investigation* 115: 3594-3601.
71. Ferrari, M.J. Bjørnstad, O.N. and Dobson, A.P. 2005. Estimation and inference for R0 of an infectious pathogen using a removal method. *Mathematical Bioscience* 198: 14-26.
70. Bjørnstad, O.N. and Harvill, E.T. 2005. Evolution and emergence of *Bordetella* in humans. *Trends in Microbiology* 13: 355-359.
69. Tobin, P.C. and Bjørnstad, O.N. 2005. Roles of dispersal, stochasticity, and nonlinear dynamics in the spatial structuring of seasonal natural enemy-victim populations. *Population Ecology* 47: 221-227.
68. Økland, B., Liebhold, A.M, Bjørnstad, O.N., Erbilgin, N. and Krokene, P. 2005. Are bark beetle outbreaks less synchronous than forest Lepidoptera outbreaks? *Oecologia* 146: 365-372.
67. Humston, R., Mortensen, D.A. and Bjørnstad, O.N. 2005. Anthropogenic forcing on the spatial dynamics of an agricultural weed: the case of the common sunflower. *Journal of Applied Ecology* 42: 863-872.
66. Grenfell, B.T. and Bjørnstad, O.N. 2005. Sexually transmitted diseases: Epidemic cycling and immunity. *Nature* 433: 366-367.
65. Zhou, G., Sirichaisinthop, J., Sattabongkot, J., Jones, J., Bjørnstad, O. N., Yan, G. and Cui, L. 2005. Spatio-temporal distribution of falciparum and vivax malaria in Thailand. *American Journal of Tropical Medicine and Hygiene* 72: 256-262.
64. Johnson, D.M., Liebhold, A.M., Bjørnstad, O.N. and McManus, M.L. 2005. Circumpolar variation in periodicity and synchrony among gypsy moth populations. *Journal of Animal Ecology* 74: 882-892.
63. Cattadori, I.M., Boag, B., Bjørnstad, O.N., Cornell, S.J. and Hudson, P.J. 2005. Peak shift and epidemiology in a seasonal host-nematode system. *Proceedings of the Royal Society of London Series B* 272: 1163-1169.
62. Seabloom, E.W., Bjørnstad, O. N., Bolker, B.M and Reichman, O.J. 2005. The spatial signature of environmental heterogeneity, dispersal, and competition in successional grasslands. *Ecological Monographs* 75: 199-214.
61. Johnson, D.M., Bjørnstad, O.N. and Liebhold, A.M. 2004. Landscape geometry and traveling waves in the larch budmoth. *Ecology Letters* 7: 967-974. doi:10.1111/j.1461-0248.2004.00659.x
60. Bjørnstad, O. N., R. M. Nisbet, and J.-M. Fromentin. 2004. Trends and cohort resonant effects in age-structured populations. *Journal of Animal Ecology* 73: 1157–1167.
59. Xia, Y., Bjørnstad, O.N. and Grenfell, B.T. 2004. Measles metapopulation dynamics: a gravity model for pre-vaccination epidemiological coupling and dynamics. *American Naturalist* 164: 267-281.

58. Clark, J. S. and Bjørnstad, O. N. 2004. Population inference from messy data: errors, missing and hidden states, and lagged responses. *Ecology* 85: 3140–3150. doi:10.1890/03-0520
57. Liebhold, A., Koenig, W. K. and Bjørnstad, O. N. 2004 Spatial synchrony in population dynamics. *Annual Review of Ecology and Systematics* 35: 467-490. doi:10.1146/annurev.ecolsys.34.011802.132516
56. Satake, A., Bjørnstad, O.N. and Kobre, S. 2004. Masting and trophic cascades: interplay between rowan trees, apple fruit moth, and their parasitoid in southern Norway. *Oikos* 104: 540-550.
55. Satake, A. and Bjørnstad, O.N. 2004. Spatial dynamics of seed predators on synchronized and intermittent seed production of host plants. *American Naturalist* 163: 591-605.
54. Liebhold, A., Sork, V., Peltonen, M., Koenig, W., Bjørnstad, O.N., Westfall, R., Elkinton, J., & Knops, J.M.H. 2004. Within-population spatial synchrony in mast seeding of North American oaks. *Oikos* 104: 156-164. doi:10.1111/j.0030-1299.2004.12722.x
53. Hudson, P.J. and Bjørnstad, O.N. 2003. Vole stranglers and lemming cycles. *Science* 302: 797-798.
52. Økland, B. and Bjørnstad, O. N. 2003. Synchrony and geographical variation of the spruce bark beetle (*Ips typographus*) during a non-epidemic period. *Population Ecology* 45:213-219.
51. Tobin, P.C. and Bjørnstad, O.N. 2003. Spatial dynamics and cross-correlation in a transient predator-prey system. *Journal of Animal Ecology* 72: 460-467.
50. Bjørnstad, O.N., Peltonen, M., Liebhold, A.M. & Baltensweiler, W. 2002. Waves of larch budmoth outbreaks in the European alps. *Science* 298: 1020-1023.
49. Bjørnstad, O.N., Finkenstädt, B. & Grenfell, B.T. 2002. Endemic and epidemic dynamics of measles. I. estimating transmission rates and their scaling using a time series SIR model. *Ecological Monographs* 72:169-184.
48. Fromentin, J.-M., Bjørnstad, O.N., Stenseth, N.C. and Gjøsæter, J. 2002. Dynamics of the Norwegian Skagerrak cod: intuition vs inference. *Marine Ecological Progress Series* 241: 231-234.
47. Grenfell, B.T., Bjørnstad, O.N. & Finkenstädt, B. 2002. Endemic and epidemic dynamics of measles. II. Scaling noise, determinism and predictability with the time series SIR model. *Ecological Monographs* 72: 185-202.
46. Finkenstädt, B., Bjørnstad, O.N. & Grenfell, B.T. 2002 A stochastic model for extinction and recurrence of epidemics: estimation and inference for measles outbreaks. *Biostatistics* 3: 493-510.
45. Keitt, T.H., Bjørnstad, O.N., Dixon, P. & Citron-Pousty, S. 2002. Accounting for spatial pattern when modeling organism-environment interactions. *Ecography* 25: 616-625.
44. Rees, M., Kelly, D. & Bjørnstad, O.N. 2002. Snow tussocks, chaos and the evolution of mast seeding. *American Naturalist* 160: 44-59.
43. Peltonen, M., Liebhold, A.M., Bjørnstad, O.N., & Williams, D.W. 2002. Variation in spatial synchrony among forest insect species: roles of regional stochasticity and dispersal. *Ecology* 83: 3120-3129.

42. Bjørnstad, O.N. & Grenfell, B.T. 2001. Noisy clockwork: time series analysis of population fluctuations in animals. *Science* 293: 638-643. (invited review article).
41. Bjørnstad, O.N., Sait, S.M., Stenseth, N.C., Thompson, D.J. & Begon, M. 2001. Coupling and the impact of specialised enemies on the dimensionality of prey dynamics. *Nature* 401: 1001-1006. (Full length article).
40. Bjørnstad, O. N. & Bascompte, J. 2001. Synchrony and second order spatial correlation in host-parasitoid systems. *Journal of Animal Ecology* 70: 924-933.
39. Bjørnstad, O. N. and Falck, W. 2001. Nonparametric spatial covariance functions: estimation and testing. *Environmental and Ecological Statistics* 8: 53-70.
38. Bjørnstad, O.N. 2001. Chitty cycles - at last! *Trends in Ecology and Evolution* 16:72.
37. Bjørnstad, O.N. 2001. Trading space for time in population dynamics. *Trends in Ecology and Evolution* 16:124.
36. Bjørnstad, O.N. 2001. Solving seasonal puzzles. *Trends in Ecology and Evolution* 16:485-486
35. Grenfell, B.T., Bjørnstad, O.N., & Kappey, J. 2001. Travelling waves and spatial hierarchies in measles epidemics. *Nature* 414: 716-723. (Full length article)
34. Fromentin, J.-M., Myers, R. A., Bjørnstad, O. N., Stenseth, N. C., Gjøsæter, J. & Christie, H. 2001. Effects of density-dependent and stochastic processes on the regulation of cod populations. *Ecology* 82: 567-579.
33. Bjørnstad, O.N. 2000. Cycles and synchrony: two historical 'experiments' and one experience. *Journal of Animal Ecology* 69: 869-873. doi:10.1046/j.1365-2656.2000.00444.x
32. Bjørnstad, O.N. and Bolker, B. 2000. Canonical functions for dispersal-induced synchrony. *Proceedings of Royal Society London B* 267: 1787-1794.
31. Kendall, B. E., Bjørnstad, O. N., Bascompte, J., Keith, T. and Fagan, W. 2000. Ecological interactions, environmental correlation and spatial synchrony. *American Naturalist* 155: 628-636.
30. Fromentin, J.-M., Gjøsæter, J., Bjørnstad, O.N. and Stenseth, N.C. 2000. Biological processes and environmental factors regulating the temporal dynamics of the Norwegian Skagerrak cod since 1919. *ICES Journal of Marine Science*, 57: 330-338.
29. Childs, J.E. , Curns, A., Dey, M., Real, L.A. , Feinstein, L., Bjørnstad, O.N. & Krebs, J.W. 2000. Predicting the local dynamics of epizootic rabies among raccoons in the United States. *Proceedings of the National Academy of Science USA*, 97: 13666–13671.
28. Bjørnstad, O. N., Ims, R. A. and Lambin, X. 1999a. Spatial population dynamics: Causes and consequences of spatial synchrony in density fluctuations. *Trends in Ecology and Evolution* 14:427-431. doi:10.1016/S0169- 6725347(99)01677-8
27. Bjørnstad, O.N., Fromentin, J.-M., Stenseth, N.C. and Gjøsæter, J. 1999b. A new test for density-dependent survival: the case of coastal cod populations. *Ecology* 80:1278-1288.
26. Bjørnstad, O. N., Fromentin, J.-M., Stenseth, N. C. and Gjøsæter, J. 1999c. Cycles and trends in cod population. *Proceedings of the National Academy of Science USA* 96:5066-5071.

25. Bjørnstad, O.N., Stenseth, N. C. and Saitoh, T. 1999d. Synchrony and scaling in dynamics of voles and mice in northern Japan. *Ecology* 80:622-637.
24. Saitoh, T., Bjørnstad, O.N. and Stenseth, N. C. 1999. Density-dependence in voles and mice: a comparative analysis. *Ecology* 80:638-650.
23. Stenseth, N.C., Bjørnstad, O.N., Falck, W., Fromentin, J.-M., Gjøsæter, J., and Gray, J.S. 1999. Dynamics of coastal cod populations: intra- and inter-cohort density-dependence and stochastic processes. *Proceedings of Royal Society London, B*. 266:1645-1654.
22. Micheli, F., Cottingham, K. L., Bascompte, J., Bjørnstad, O. N., Eckert, G. L., Fischer, J. M., Keitt, T. H., Kendall, B. E., Klug, J. L. and Rusak, J. A. 1999. The dual nature of community variability. *Oikos* 85:161-169
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