

James O. Lloyd-Smith

Department of Ecology & Evolutionary Biology
University of California, Los Angeles
Los Angeles, CA 90095

<http://www.eeb.ucla.edu/Faculty/lloydsmith>
jlloydsmith@ucla.edu
310-206-8207

RESEARCH	Ecology and evolution of infectious diseases, focusing on zoonotic and emerging pathogens, effects of heterogeneity in host populations, and integrating dynamics across scales.	
APPOINTMENTS	Professor , Dept. of Ecology & Evolutionary Biology, UCLA	2016-
	Professor , Dept. of Biomathematics, UCLA	2016-
	Associate Professor , Dept. of Ecology & Evolutionary Biology, UCLA	2013-2016
	Associate Professor , Dept. of Biomathematics, UCLA	2014-2016
	Assistant Professor , Dept. of Ecology & Evolutionary Biology, UCLA	2008-2013
	De Logi Chair in Biological Sciences , UCLA	2009-2014
	Member , Immunity, Microbiology and Molecular Pathogenesis Home Area, UCLA	2013-
	Member , Interdepartmental Program in Bioinformatics, UCLA	2012-
	Member , Systems and Integrative Biology Training Program, UCLA	2011-
	Research Associate , RAPIDD, Fogarty International Center, NIH	2009-
	Research Associate , Dept. of Biology, Penn State University	2007-2009
EDUCATION	Penn State University , <i>Postdoctoral Fellow</i>	2006-2007
	University of California, Berkeley , <i>Postdoctoral Scholar</i>	2005-2006
	University of California, Berkeley , <i>PhD</i> , Biophysics	2005
	University of British Columbia , Vancouver BC, <i>MSc</i> , Physics	1999
	Queen's University , Kingston ON, <i>BSc (Honours)</i> , Physics & Chemistry	1996
GRANTS	NSF Division of Environmental Biology, "Pathogen invasion and persistence in an establishing host population: Leptospirosis in the endangered island fox", 2016-2020 (Role: PI)	\$370,822
	DOD Strategic Environmental Research and Development Program, "Leptospirosis in endangered island foxes and California sea lions: Outbreak prediction and prevention in a changing world", 2016-2021 (Role: PI)	\$2,444,737
	NSF Biol. Oce., "Leptospirosis in California sea lions: Population impacts and persistence in a long-term study of infectious disease in marine mammals", 2013-2017 (Role: PI)	\$1,399,997
	DHS Foreign Animal and Zoonotic Disease Center Grant, "Quantifying transmission of influenza in swine using joint analysis of surveillance data", 2010-2011 (Role: PI)	\$138,890
	NOAA Prescott Grant, "Using stranding data to understand the population-wide dynamics of leptospirosis in California sea lions (<i>Zalophus californianus</i>)", 2010-2012 (Role: PI)	\$99,880
	NSF Emerging Frontiers in Theoretical Biology, "Collaborative research: Evolutionary dynamics of invasion and escape in hierarchical systems", 2009-2014 (Role: PI)	\$521,740
	NIH Fogarty International Center, IPA for modeling transmission dynamics of zoonotic infections, 2009-2013 (Role: PI)	\$139,267
	NSF Ecology of Infectious Diseases, "Eco-epidemiology of leptospirosis in Latin America: dynamics of transmission within a community", 2009-2014 (Role: Co-PI)	\$1,396,324
	Gates Foundation Grand Challenges Explorations, "Therapeutic pseudovirus particles to target superspreaders", 2009-2010 (Role: Co-PI)	\$100,000

NSF Emerging Frontiers in Theoretical Biology “Quasispecies network theories for the cross-scale evolutionary dynamics of pathogens”, 2008-2010 (Role: Co-PI)	\$679,994
NIH R-01, “Novel statistical models for synthesizing social networks and epidemic dynamics”, 2007-2010 (Role: equivalent to co-PI but not eligible in 2007)	\$1,454,834
NOAA Prescott Grant, “Understanding the cyclic dynamics of leptospirosis in California sea lions (<i>Zalophus californianus</i>)”, 2007-2008 (Role: named postdoc, wrote entire proposal)	\$99,428

AWARDS & HONOURS

UCLA Distinguished Teaching Award	2016
Faculty Teaching Award, Dept of Ecology and Evolutionary Biology, UCLA	2016
Plenary speaker, Epidemics ⁵ International Conf. on Infectious Disease Dynamics	2015
Plenary speaker, International Conference on One Medicine One Science, U. Minnesota	2014
Invited session chair, 3 rd International One Health Congress, Amsterdam, Netherlands	2015
Faculty Teaching Award, Dept of Ecology and Evolutionary Biology, UCLA	2013
Invited scholar, Isaac Newton Inst, Prog. on Infectious Disease Dynamics, Cambridge, UK	2013
Hellman Fellow, UCLA, \$25,000	2011-2012
Epidemics ³ Intl. Conf. on Infectious Disease Dynamics, Best Presentation Award	2011
De Logi Chair in Biological Sciences, UCLA, \$200,000	2009-2014
Center for Infectious Disease Dynamics (CIDDD) Fellowship, Penn State U., \$100,000	2006-2008
Alan Bearden Memorial Award for outstanding dissertation research, U.C. Berkeley	2005
American Public Health Association, Student Presentation Award	2003
Wildlife Disease Association, Student Presentation Award	2001
Berkeley Fellowship (highest PhD fellowship at U.C. Berkeley), \$90,000	1999-2003
NSERC Post-graduate fellowship (PGS-B), \$40,000	1999-2001
NSERC Post-graduate fellowship (PGS-A), \$35,000	1997-1999
Prince of Wales Award, Queen’s U.	1996
Gold Medal for Physics and Chemistry, Queen’s U.	1996
Chancellor’s Scholarship (highest fellowship at Queen’s U.), \$24,000	1992-1996
Declined: MIT Chancellor’s Fellowship, Stanford Graduate Fellowship, full support for PhD at Harvard, UCSF	

PROFESSIONAL EXPERIENCE

World Health Organization <i>Working Group on ‘Designing a vaccine efficacy trial during public health emergencies’, Blueprint for R&D Preparedness</i>	2016-
World Health Organization <i>External advisor on ‘Prioritization of Pathogens’, Blueprint for R&D Preparedness</i>	2015-
NIH RAPIDD (Research and Policy for Infectious Disease Dynamics) <i>Chair, Working Group on Pathogen Invasion Dynamics</i>	2011-2015
NIH RAPIDD (Research and Policy for Infectious Disease Dynamics) <i>Chair, Working Group on Pathogen Emergence and Escape</i>	2009-2011
NIH RAPIDD (Research and Policy for Infectious Disease Dynamics) <i>Working Group on Zoonotic Infections</i>	2008-2009
World Health Organization <i>Visiting Researcher</i>	2004, 2005
Global Alliance for TB Drug Development, New York, NY <i>Researcher</i>	2004-2006

TEACHING

University of California, Los Angeles

<i>Introduction to R for Ecology and Evolutionary Biology (EEB 201)</i>	2015-
<i>Graduate seminar: Ecology and Evolution of Infectious Diseases</i>	2013-
<i>Modeling in Ecological Research (EEB C119B/C219B)</i>	2013-
<i>Evolution, Ecology and Biodiversity (LS 1)</i>	2011-
<i>Mathematical and Computational Modeling in Ecology (EEB C119A/C219A)</i>	2011-
<i>Graduate core Ecology (EEB 200B)</i>	2010-
<i>Quantitative Bootcamp for EEB graduate students</i>	2010-2014
<i>Fiat Lux seminar: The Anti-Vaccine Movement – Controversy and Consequences</i>	2011
<i>Graduate seminar: Population Dynamics of Infectious Diseases</i>	2010
<i>Guest lectures: Epidemiology 220, Principles of Infectious Diseases</i>	2010
<i>UCLA/Caltech Medical Scientist Training Program</i>	2010
<i>Computational and Systems Biology 185, Thesis Research Opportunities</i>	2013-
<i>Computational and Systems Biology 184, Introduction to CASB</i>	2015
<i>EEB 250, Professional Skills Development</i>	2015

Pennsylvania State University

<i>Lecturer, Advances in Ecology</i>	2007
<i>Guest lecturer, Ecology of Infectious Diseases</i>	2006, 2007

University of California, Berkeley

<i>Seminar leader, Ecology of Infectious Disease</i>	2004-2005
Co-created and led graduate seminar, leading to paper in <i>Trends in Ecology & Evolution</i> .	
<i>Reading group leader, Immunology</i>	2005
<i>Guest lecturer, Natural Resource Modeling</i>	2005
<i>Guest lecturer, Quantitative Methods in Environmental Science</i>	2004
<i>Graduate Student Instructor, Natural Resource Modeling</i>	2003

African Institute for Mathematical Sciences, Cape Town, South Africa

<i>Lead Instructor, NSF/DIMACS Advanced Studies Inst. on Modelling Diseases in Africa</i>	2007
Conducted two-week intensive course on epidemic modelling for post-graduate students.	
<i>Lecturer, Modelling of Infectious Disease Dynamics</i>	2003

PUBLICATIONS

Metrics

h-index: 30
>4500 citations, averaging ~500 citations per year since 2013
(data from Google Scholar, November 2016)

Articles

(**Bold-faced** = member of research group. *Italics* = member of RAPIDD working group.)

- Lipsitch, M., Barclay, W., Raman, R., Russell, C.J., Belser, J.A., Cobey, S., Kasson, P.M., **Lloyd-Smith, J.O.**, Maurer-Stroh, S., *Riley, S.*, Beauchemin, C.A.A., Bedford, T., Friedrich, T.C., Handel, A., Herfst, S., Murcia, P.R., Roche, B., Wilke, C., Russell, C.A. (2016) Viral factors in influenza pandemic risk assessment. *eLife*. In press. doi:10.7554/eLife.18491
- Schakner, Z.*, **Buhnerkempe, M.G.***, Tennis, M.J., van der Leeuw, B.K., **Lloyd-Smith, J.O.**, Blumstein, D.T. (2016) Epidemiological models to control the spread of information in marine mammals. *Proceedings of the Royal Society of London, B*. In press.

74. **Gostic, K.M., Ambrose, M.R., Worobey, M., Lloyd-Smith, J.O.** (2016) Potent protection against H5N1 and H7N9 influenza via childhood hemagglutinin imprinting. *Science*. 354: 722-726.
- Perspective written by C. Viboud and S. L. Epstein.
 - Featured on NIH Director's blog.
73. Wu, N.C.*, **Dai, L.***, Olson, C.A., **Lloyd-Smith, J.O.**, Sun, R. (2016) Adaptation in protein fitness landscapes is facilitated by indirect paths. *eLife*. 5:e16965.
72. Muthukrishnan, R., **Lloyd-Smith, J.O.**, Fong, P. (2016) Mechanisms of resilience: Empirically quantified positive feedbacks produce alternate stable states dynamics in a model of a tropical reef. *Journal of Ecology*. 104: 1662-1672.
71. A. L. *Graham*, D. H. Nussey, **J. O. Lloyd-Smith**, M. Maley, J. M. Pemberton, J. G. Pilkington, **K. C. Prager**, L. Smith, K. A. Watt, K. Wilson, T. N. McNeilly & F. Brulisauer. (2016) Exposure to viral and bacterial infections among Soay sheep of the St. Kilda archipelago. *Epidemiology and Infection*. 144: 1879-1888.
70. **Buhnerkempe, M.G.***, **Gostic, K.M.***, **Park, M.**, **Ahsan, P.**, Belser, J.A., **Lloyd-Smith, J.O.** (2015) Mapping influenza transmission in the ferret model to transmission in humans. *eLife*. 4:e07969.
69. *Biek, R.*, Pybus, O.G., **Lloyd-Smith, J.O.**, Didelot, X. (2015) Measurably evolving pathogens in the genomic era. *Trends in Ecology and Evolution*. 30: 306-313.
68. **Gostic, K.M.**, *Kucharski, A.J.*, **Lloyd-Smith, J.O.** (2015) Effectiveness of traveller screening for emerging pathogens is shaped by epidemiology and natural history of infection. *eLife* 4:e05564.
67. Heesterbeek, H., Anderson, R., Andreasen, V., Bansal, S., De Angelis, D., Dye, C., Eames, K., Edmunds, J., Frost, S., Funk, S., Hollingsworth, D., House, T., Isham, V., Klepac, P., Lessler, J., **Lloyd-Smith, J.**, Metcalf, J., Mollison, D., Pellis, L., *Pulliam, J.*, Roberts, M., Viboud, C., Isaac Newton Institute IDD Collaboration (2015) Modeling infectious disease dynamics in the complex landscape of global health. *Science* 347: aaa4339-1-10.
66. **Ke, R.**, **Loverdo, C.**, Qi, H., Sun, R., **Lloyd-Smith, J.O.** (2015) Rational design and adaptive management of combination therapies for Hepatitis C virus infection. *PLoS Computational Biology* 11: e1004040.
65. **Prager, K.C.**, Alt, D.P., **Buhnerkempe, M.G.**, Greig, D.J., Galloway, R.L., Wu, Q., Gulland, F.M.D., **Lloyd-Smith, J.O.** (2015) Antibiotic efficacy in eliminating leptospirosis in California sea lions (*Zalophus californianus*) stranding with leptospirosis: 14 cases (2010-2011). *Aquatic Mammals* 41: 203-212.
64. **Lloyd-Smith, J.O.**, Mollison, D., Metcalf, C.J.E., Klepac, P., Heesterbeek, J.A.P. (2015) Challenges in modelling infectious disease dynamics: preface. *Epidemics* 10: iii-iv.
63. **Buhnerkempe, M.G.**, Roberts, M.G., Dobson, A.P., Heesterbeek, H., *Hudson, P.J.*, **Lloyd-Smith, J.O.** (2015) Eight challenges in modelling disease ecology in multi-host, multi-agent systems. *Epidemics* 10: 26-30.
62. **Lloyd-Smith, J.O.**, Funk, S., McLean, A.R., *Riley, S.*, Wood, J.L.N. (2015) Nine challenges in modelling the emergence of novel pathogens. *Epidemics* 10: 35-39.
61. Metcalf, C.J.E., Birger, R., Funk, S., Kouyos, R.D., **Lloyd-Smith, J.O.**, Jansen, V.A.A. (2015) Five challenges in evolution and infectious diseases. *Epidemics* 10: 40-44.
60. Gog, J.R., Pellis, L., Wood, J.L.N., McLean, A.R., Arinaminpathy, N., **Lloyd-Smith, J.O.** (2015) Seven challenges in modelling pathogen dynamics within-host and across scales. *Epidemics* 10: 45-48.

59. Russell CA, Kasson PM, Donis RO, *Riley S*, Dunbar J, Rambaut A, Asher J, Burke S, Davis CT, Garten RJ, Gnanakaran S, Hay SI, Herfst S, Lewis NS, **Lloyd-Smith JO**, Macken CA, Maurer-Stroh S, Neuhaus E, Parrish CR, *Pepin KM*, Shepard S, Smith DL, Suarez DL, Trock SC, Widdowson M, *George D*, Lipsitch M, Bloom JD. (2014) Improving pandemic influenza risk assessment. *eLife*. 3:e03883.
58. Viana, M., Mancy, R., *Biek, R.*, Cleaveland, S., Cross, P.C., **Lloyd-Smith, J.O.**, Haydon, D.T. (2014) Assembling evidence for identifying disease reservoirs. *Trends in Ecology and Evolution*. 29: 270-279.
57. Wu, Q., **Prager, K.C.**, Goldstein, T., Alt, D.P., Galloway, R.L., Zuerner, R.L., **Lloyd-Smith, J.O.**, Schwacke, L. (2014) Development of a real-time PCR for the detection of pathogenic *Leptospira* spp. in California sea lions (*Zalophus californianus*). *Diseases of Aquatic Organisms*. 110: 165-172.
56. Qi, H., Olson, C.A., Wu, N.C., **Ke, R.**, **Loverdo, C.**, Remenyi, R., Chu, V., Truong, S., Chen, Z., Su, S.-Y., Al-Mawsawi, L.Q., Wu, T.-T., Chen, S.-W., Lin, C., Zhong, W., **Lloyd-Smith, J.O.**, Sun, R. (2014) A quantitative high-resolution genetic profile rapidly identifies sequence determinants of viral fitness and drug sensitivity. *PLoS Pathogens*. 10:e1004064.
55. **Blumberg, S.**, Enanoria, W.T., **Lloyd-Smith, J.O.**, Lietman, T.M., Porco, T.C. (2014) Identifying post-elimination trends for the introduction and transmissibility of measles in the United States. *American Journal of Epidemiology*. 179: 1375-1382.
54. Barclay, V.C., *Kennedy, D.*, Weaver, V.C., Sim, D., **Lloyd-Smith, J.O.**, *Read, A.F.* (2014) The effect of immunodeficiency on the evolution of virulence: an experimental test with the rodent malaria *Plasmodium chabaudi*. *American Naturalist*. 184: S47-S57.
53. **Ke, R.**, **Loverdo, C.**, Qi, H., Olson, C.A., Wu, N.C., Sun, R., **Lloyd-Smith, J.O.** (2014) Modelling clinical data shows active tissue concentration of daclatasvir is ten-fold lower than its plasma concentration. *Journal of Antimicrobial Chemotherapy*. 69: 724-727.
52. *Pepin, K.*, **Lloyd-Smith, J.O.**, Webb, C.T., Holcomb, K., Zhu, H., Guan, Y., *Riley, S.* (2013) Minimizing the threat of pandemic emergence from avian influenza in poultry systems. *BMC Infectious Diseases* 13: 592.
51. **Loverdo, C.** and **Lloyd-Smith, J.O.** (2013) Evolutionary invasion and escape in the presence of deleterious mutations. *PLoS ONE* 8: e68179.
50. **Blumberg, S.** and **Lloyd-Smith, J.O.** (2013) Comparing methods for estimating R_0 from the size distribution of subcritical transmission chains. *Epidemics*. 5: 131-145.
49. Thomassen, H.A., Fuller, T., Asefi-Najafabady, S., Shiplacoff, J., Mulembakani, P.M., **Blumberg, S.**, Johnston, S.C., Ksalu, N.K., Kinkela, T.L., Fair, J.N., Wolfe, N.D., Shongo, R.L., LeBreton, M., Meyer, H., Wright, L.L., Muyembe, J.-J., Buermann, W., Okitolonda, E., Hensley, L., **Lloyd-Smith, J.O.**, Smith, T. B., Rimoin A.W. (2013) Pathogen-host associations and predicted range shifts of human monkeypox in response to climate change in central Africa. *PLoS ONE* 8: e66071.
48. **Strelioff, C.C.**, Vijaykrishna, D., *Riley, S.*, Guan, Y., Peiris, J.S.M., **Lloyd-Smith, J.O.** Inferring patterns of influenza transmission in swine from multiple streams of surveillance data. (2013) *Proceedings of the Royal Society of London, B*. 280: 20130872.
47. **Ke, R.** and **Lloyd-Smith, J.O.** (2013) Coadaptive stability of interfering particles with HIV-1 when there is an evolutionary conflict. [letter] *Journal of Virology*. 87: 9959.
46. **Lloyd-Smith, J.O.** (2013) Vacated niches, competitive release and the community ecology of pathogen eradication. *Philosophical Transactions of the Royal Society of London, B*. 368: 20120150.

45. **Blumberg, S.** and **Lloyd-Smith, J.O.** Inference of R_0 and transmission heterogeneity from the size distribution of stuttering chains. (2013) *PLoS Computational Biology*. 9: e1002993.
44. **Ke, R.**, Aaskov, J., Holmes, E.C., **Lloyd-Smith, J.O.** (2013) Phylodynamic analysis of the emergence and epidemiological impact of transmissible defective dengue viruses. *PLoS Pathogens*. 9: e1003193.
43. **Bulterys, P.L.**, Le, T., Quang, V.M., Nelson, K.E., **Lloyd-Smith, J.O.** (2013) Environmental predictors and incubation period of AIDS-associated *Penicillium marneffe* infection in Ho Chi Minh City, Vietnam. *Clinical Infectious Diseases*. 56: 1273-1279.
42. **Prager, K.C.**, Greig, D.J., Alt, D.P., Galloway, R.L., Hornsby, R.L., Palmer, L.J., Soper, J., Zuerner, R.L., Gulland, F.M.D., **Lloyd-Smith, J.O.** (2013) Asymptomatic and chronic carriage of *Leptospira interrogans* serovar Pomona in California sea lions (*Zalophus californianus*). *Veterinary Microbiology*. 164: 177-183.
41. **Loverdo, C.** and **Lloyd-Smith, J.O.** (2013) Inter-generational phenotypic mixing in viral evolution. *Evolution*. 67: 1815-1822.
40. **Park, M.H.**, **Loverdo, C.**, Schreiber, S.J., **Lloyd-Smith, J.O.** (2013) Multiple scales of selection influence the evolutionary emergence of novel pathogens. *Philosophical Transactions of the Royal Society of London, B*. 368: 20120333.
39. Karesh, W.B., Dobson, A.P., **Lloyd-Smith, J.O.**, Lubroth, J., Dixon, M.A., Bennett, M., Aldrich, S., Harrington, T., Loh, E., Machalaba, C., Thomas, M.J., Heymann, D.L. (2012) Ecology of zoonoses: natural and unnatural histories. *The Lancet*. 380: 1936-1945.
38. **Ke, R.** and **Lloyd-Smith, J.O.** (2012) Evolutionary analysis of Human Immunodeficiency Virus type 1 therapies based on conditionally replicating vectors. *PLoS Computational Biology*. 8: e1002744.
37. **Loverdo, C.**, **Park, M.**, Schreiber, S.J., **Lloyd-Smith, J.O.** (2012) Influence of viral replication mechanisms on within-host evolutionary dynamics. *Evolution*. 66: 3462-3471.
36. Raffel, T.R., **Lloyd-Smith, J.O.**, Sessions, S.K., *Hudson, P.J.*, Rohr, J.R. (2011) Does the early frog catch the worm? Disentangling potential drivers of a parasite age-intensity relationship in tadpoles. *Oecologia*. 165: 1031-1042.
35. Metzger, V., **Lloyd-Smith, J.O.***, Weinberger, L.S.* (2011) Autonomous targeting of infectious superspreaders using engineered transmissible therapies. *PLoS Computational Biology*. 7: e1002015. *Joint corresponding authors.
34. Fuller, T., Thomassen, H.A., Mulembakani, P.M., Johnston, S.C., **Lloyd-Smith, J.O.**, Kitalu, N.K., Lutete, T.K., **Blumberg, S.**, Fair, J.N., Wolfe, N.D., Shongo, R.L., Formenty, P., Meyer, H., Wright, L.L., Muyembe, J.-J., Buermann, W., Saatchi, S.S., Okitolonda, E., Hensley, L., Smith, T. B., *Rimoin A.W.* (2011) Using remote sensing to map the risk of human monkeypox in the Congo basin. *EcoHealth*. 8: 14-25.
33. *Pepin, K.M.*, Lass, S.*, **Pulliam, J.R.C.***, *Read, A.F.*, **Lloyd-Smith, J.O.** (2010) Identifying genetic markers for surveillance of viral host jumps. *Nature Reviews Microbiology*. 8: 802-813. *Equal contributors.
32. *Rimoin A.W.*, Mulembakani, P.M., Johnston, S., **Lloyd-Smith, J.O.**, Kitalu, N.K., Lutete, T.K., **Blumberg, S.**, Thomassen, H.A., Pike, B.L., Fair, J.N., Wolfe, N.D., Shongo, R.L., Graham, B.S., Formenty, P., Okitolonda, E., Hensley, L., Meyer, H., Wright, L.L., Muyembe, J.-J. (2010) Major increase in human monkeypox incidence 30 years after smallpox vaccination campaigns cease in the Democratic Republic of Congo. *Proceedings of the National Academy of Sciences*. 107: 16262-16267.
 - Recommended twice by Faculty of 1000.

31. Volkov, I., *Pepin, K., Lloyd-Smith, J.O., Banavar, J., Grenfell, B.* (2010) Synthesizing within-host and population level selective pressures on viral populations: the impact of adaptive immunity on viral immune escape. *Journal of the Royal Society Interface* 7: 1311-1318.
30. **Lloyd-Smith, J. O.** (2010) Modeling density dependence in heterogeneous landscapes: dispersal as a case study. *Journal of Theoretical Biology* 265: 160-166.
29. Sanchez, M.S., **Lloyd-Smith, J. O.**, Getz, W.M. (2010) Monitoring linked epidemics: the case of tuberculosis and HIV. *PLoS ONE* 5: e8796.
28. **Lloyd-Smith, J. O.**, George, D.*, *Pepin, K.M.**, Pitzer, V.E.*, *Pulliam, J.**, Dobson, A.P., *Hudson, P.J.*, Grenfell, B.T. (2009) Epidemic dynamics at the human-animal interface. *Science* 326: 1362-1367. *Equal contributors.
27. Schreiber, S.J. and **Lloyd-Smith, J. O.** (2009) Invasion dynamics in spatially heterogeneous environments. *American Naturalist* 174: 490-505.
26. Polansky, L., de Valpine, P., **Lloyd-Smith, J. O.**, Getz, W.M. (2009) Likelihood ridges and multimodality in population growth rate models. *Ecology* 90: 2313-2320.
25. Hahn, J.A., Wylie, D., Dill, J., Sanchez, M., **Lloyd-Smith, J. O.**, Page-Shafer, K., Getz, W.M. (2009) Potential impact of vaccination on the hepatitis C virus epidemic in injecting drug users. *Epidemics* 1: 47-57.
24. Sanchez, M.S., **Lloyd-Smith, J.O.**, Williams, B.G., Porco, T.C., Ryan, S. J., Borgdorff, M.W, Mansoer, J., Dye, C., Getz, W.M. (2009) Incongruent HIV and tuberculosis epidemics in Kenya: Interacting epidemics monitor each other. *Epidemics* 1: 14-20.
23. Polansky, L., de Valpine, P., **Lloyd-Smith, J.O.**, Getz, W.M. (2008) Parameter estimation in a generalized discrete-time model of density dependence. *Theoretical Ecology* 1:221-229.
22. Auvert, B., Marseille, E., Korenromp, E.L., **Lloyd-Smith, J.O.**, Sitta, R., Taljaard, D., Pretorius, C., Williams, B., Kahn, J.G. (2008) Estimating the resources needed and savings anticipated from roll-out of adult male circumcision in sub-Saharan Africa. *PLoS ONE* 3: e2679.
21. **Lloyd-Smith, J.O.**, Poss, M., Grenfell, B.T. (2008) HIV-1/parasite co-infection and the emergence of new parasite strains. *Parasitology* 135: 795-806.
20. Sanchez, M.S., **Lloyd-Smith, J.O.**, Porco, T.C., Williams, B.G., Borgdorff, M.W, Mansoer, J., Salomon, J.A., Getz, W.M. (2008) Impact of HIV on novel strategies for tuberculosis control. *AIDS* 22: 963-972.
19. **Lloyd-Smith, J.O.**, Greig, D., Ghneim, G., Hietala, S., Palmer, L., St. Leger, J., Grenfell, B.T., Gulland, F.M.D. (2007) Cyclical changes in seroprevalence of leptospirosis in California sea lions: endemic and epidemic disease in one host species? *BMC Infectious Diseases* 7: 125.
18. Graham, A.L., Cattadori, I.M., **Lloyd-Smith, J.O.**, Ferrari, M.J., Bjornstad, O.N. (2007) Transmission consequences of co-infection: cytokines writ large? *Trends in Parasitology* 23: 284-291.
17. Cross, P.C., Johnson, P.L., **Lloyd-Smith, J.O.**, Getz, W.M. (2007) Utility of R_0 as a predictor of disease invasion in structured populations. *Journal of the Royal Society Interface* 4: 315-324.
16. **Lloyd-Smith, J.O.** (2007) Maximum likelihood estimation of the negative binomial dispersion parameter for highly overdispersed datasets, with applications to infectious disease data. *PLoS ONE* 2: e180.

15. Salomon, J.A., **Lloyd-Smith, J.O.**, Getz, W.M., Resch, S., Sanchez, M.S., Porco, T.C., Borgdorff, M.W. (2006) Prospects for advancing tuberculosis control efforts through novel therapies. *PLoS Medicine* 3: 1302-1309.
14. Williams, B.G., **Lloyd-Smith, J.O.**, Gouws, E., Hankins, C., Getz, W.M., Dye, C., Hargrove, J., de Zoysa, I., Auvert, B. (2006) The potential impact of male circumcision on HIV in sub-Saharan Africa. *PLoS Medicine* 3: 1032-1040.
13. Bar-David, S., **Lloyd-Smith, J.O.**, Getz, W.M. (2006) Dynamics and management of infectious disease in colonizing populations. *Ecology* 87: 1215-1224.
12. Getz, W.M. and **Lloyd-Smith, J.O.** (2006) Comment on "On the regulation of populations in mammals, birds, fish and insects" I. *Science* 311: 1100.
11. **Lloyd-Smith, J.O.**, Schreiber, S.J., Kopp, P.E., Getz, W.M. (2005) Superspreading and the effect of individual variation on disease emergence. *Nature* 438: 355-359.
 - 'News and Views' written by A.P. Galvani and R.M. May
 - Recommended twice by Faculty of 1000.
10. **Lloyd-Smith, J.O.**, Cross, P.C., Briggs, C.J., Daugherty, M., Getz, W.M., Latto, J., Sanchez, M.S., Smith, A.B., Swei, A. (2005) Should we expect population thresholds for wildlife disease? *Trends in Ecology & Evolution* 20: 511-519.
9. Cross, P.C., **Lloyd-Smith, J.O.**, Johnson, P.L., Getz, W.M. (2005) Dueling time scales of host mixing and disease recovery determine invasion of disease in structured populations. *Ecology Letters* 8: 587-595.
8. Bauch, C.T., **Lloyd-Smith, J.O.**, Coffee, M., Galvani, A.P. (2005) Dynamically modeling SARS and other newly emerging respiratory illnesses: past, present, future. *Epidemiology* 16: 791-801.
7. Cross, P.C., **Lloyd-Smith, J.O.**, Getz, W.M. (2005) Disentangling association patterns in fission-fusion societies using African buffalo as an example. *Animal Behaviour* 69: 499-506.
6. Porco, T.C., **Lloyd-Smith, J.O.**, Gross, K.L., Galvani, A.P. (2005) The effect of treatment on pathogen virulence. *Journal of Theoretical Biology* 233: 91-102.
5. **Lloyd-Smith, J.O.**, Getz, W.M., Westerhoff, H.V. (2004) Frequency-dependent incidence in sexually-transmitted disease models: portrayal of pair-based transmission and effects of illness on contact behaviour. *Proceedings of the Royal Society of London, B* 271: 625-634.
4. Cross, P.C., **Lloyd-Smith, J.O.**, Bowers, J., Hay, C.T., Hofmeyr, M., Getz, W.M. (2004) Integrating association data and disease dynamics: an illustration using African Buffalo in Kruger National Park. *Annales Zoologici Fennici* 41: 879-892.
3. **Lloyd-Smith, J.O.***, Galvani, A.P.* , Getz, W.M. (2003) Curtailing transmission of severe acute respiratory syndrome within a community and its hospital. *Proceedings of the Royal Society of London, B* 270, 1979-1989. * equal contributors
2. Crawford, M.A., Bloom, M., Broadhurst, C.L., Schmidt, W.F., Cunnane, S.C., Galli, C., Gehbremeskel, K., Linseisen, F., **Lloyd-Smith, J.**, Parkington, J. (1999) Evidence for the unique function of DHA during the evolution of the modern hominid brain. *Lipids* 34: 539-47.
1. Graham, S.J., Stanchev, P.L., **Lloyd-Smith, J.O.A.**, Bronskill, M.J., Plewes, D.B. (1995) Changes in fibroglandular volume and water content of breast tissue during the menstrual cycle observed by MR imaging at 1.5 T. *Journal of Magnetic Resonance Imaging* 5: 695-701.

Book chapters (peer-reviewed)

- B7. Shrestha, S. and **Lloyd-Smith, J.O.** (2010) Introduction to mathematical modelling of infectious disease. In *Modeling Paradigms and Analysis of Disease Transmission Models*, ed. A. Gumel, S. Lenhart. AMS/DIMACS Vol. 75: 1-46.
- B6. Sánchez, M.S., **Lloyd-Smith, J.O.**, Williams, B.G., Getz, W.M. (2010) Using mathematical models to monitor and evaluate the impact of public health interventions on epidemics: the case of the TB/HIV co-pandemic in Africa. In *Modeling Paradigms and Analysis of Disease Transmission Models*, ed. A. Gumel, S. Lenhart. AMS/DIMACS Vol. 75: 135-186.
- B5. Bar-David, S., **Lloyd-Smith, J.O.**, Getz, W.M. (2006) Infectious disease in spatially expanding populations: a model for reintroduced species. In *Conservation Biology in Asia*, ed. McNeely, J.A., McCarthy, T. M., Smith, A., Olsvig-Whittaker, L., Wikramanayake, E.D., Society for Conservation Biology (Asia Section) and Resources Himalaya, Kathmandu, Nepal, 340-362.
- B4. **Lloyd-Smith, J.O.**, Schreiber, S.J., Getz, W.M. (2006) Moving beyond averages: Individual-level variation in disease transmission. In *Mathematical studies of human disease dynamics: Emerging paradigms and challenges*, ed. Gumel, A.B., Castillo-Chavez, C., Mickens, R.E., Clemence, D.P., AMS Contemporary Mathematics Series, Vol. 410, 235-258.
- B3. Getz, W. M., and **Lloyd-Smith, J. O.** (2006) Basic methods for modeling the invasion and spread of contagious disease. In *Disease evolution: Models, concepts and data analysis*, ed. Feng, Z., Dieckmann, U., Levin, S.A. AMS/DIMACS Vol. 71: 87-109.
- B2. Getz, W.M., **Lloyd-Smith, J.O.**, Cross, P.C., Bar-David, S., Johnson, P.L., Porco, T.C., Sánchez, M.S. (2006) Modeling the invasion and spread of contagious disease in heterogeneous populations. In *Disease evolution: Models, concepts and data analysis*, ed. Feng, Z., Dieckmann, U., Levin, S.A. AMS/DIMACS Vol. 71: 113-144.
- B1. Bloom, M., Linseisen, F., **Lloyd-Smith, J.**, Crawford, M.A. (1999) Insights from NMR on the functional role of polyunsaturated lipids in the brain. In *Magnetic Resonance and Brain Function: Approaches from Physics*, ed. B. Maraviglia, Italian Physical Society.

INVITED TALKS	UCLA, Quantitative and Computational Biology Annual Symposium, Los Angeles CA	2016
	UC Santa Cruz, Ecology seminar, Santa Cruz CA	2016
	World Health Organization, Workshop on Prioritization of Pathogens, Geneva Switzerland	2015
	(<i>Plenary</i>) Epidemics ⁵ International Conf. on Infectious Disease Dynamics, Clearwater FL	2015
	UCLA, Quantitative and Computational Biology seminar, Los Angeles CA	2015
	UCLA, Dept of Ecology and Evolutionary Biology seminar, Los Angeles CA	2015
	International Leptospirosis Society Conference, Semarang, Indonesia (<i>sent lab member</i>)	2015
	NIH/NIAID Workshop on Emergence of New Epidemic Viruses, Bethesda MD	2015
	University of Southern California, Computational Biology Seminar Series, Los Angeles CA	2015
	RAPIDD Workshop on Modeling and predicting influenza phenotypes, Cambridge UK	2015
	(<i>Session chair</i>) Third International One-Health Congress, Amsterdam, Netherlands	2015
	RAPIDD Workshop on Modeling serological data, Fort Collins CO	2015
	UCLA, Program for Excellence in Education and Research in the Sciences, Los Angeles CA	2014
	(<i>Plenary</i>) International Conference on One Medicine One Science, Minneapolis MN	2014
	Jacques Monod Conference, From emerging to pandemic viruses, Roscoff, France	2014
	UC Davis, Ecology and Evolution seminar, Davis CA	2014
	Scripps Inst of Oceanography, Ecology seminar, La Jolla, CA	2014
	UCLA IoES Environmental Science Colloquium, Los Angeles, CA	2014
	RAPIDD Workshop on Outbreak potential of non-human influenza viruses, Atlanta GA	2013
	University of Cambridge, Newton Instit. on Infectious Disease Dynamics, Cambridge, UK	2013
	NOAA National Marine Mammal Stranding Network 20 th Anniversary webinar series	2013
	University of Minnesota, IGERT Symposium on Introduction of Microbes, St Paul MN	2013
	University of Colorado, Boulder, Dept of Ecology and Evolutionary Biology, Boulder CO	2013
	California State University, Long Beach, Dept of Biology, Long Beach CA	2013
	U.C. Berkeley, Dept. of Integrative Biology, Berkeley CA	2013
	UCLA, Dept of Ecology and Evolutionary Biology, Los Angeles CA	2012
	Royal Society Mtg, Next-gen molecular and evolutionary epidemiology, London England	2012
	Oregon State University, College of Veterinary Medicine, Corvallis OR	2012
	Gordon Research Conference on Biology of Spirochetes, Ventura CA	2012
	Princeton University, Workshop on serological modeling, Princeton NJ	2011
	(<i>Keynote</i>) International Leptospirosis Society Conference, Merida, Mexico	2011
	DIMACS Workshop on Genetics and Disease Control, Cape Coast, Ghana	2011
	University of Virginia, Dept of Biology, Charlottesville VA	2011
	U.C. Santa Barbara, Dept of Ecology, Evolution & Marine Biology, Santa Barbara CA	2011
	(<i>Plenary</i>) Boyd Orr Centre for Population & Ecosystem Health, U. of Glasgow, Scotland	2011
	DTRA Workshop on Anticipating the Species Jump: Bioinformatics, McLean VA	2011
	NESCent Workshop on Evolution of Infectious Diseases, Durham NC	2011
	Royal Society Symposium on Disease Invasion, London, England	2010
	NIMBios Workshop on Wildlife and Virus Zoonoses, Knoxville, TN	2010
	U.C. Irvine, Dept of Ecology and Evolutionary Biology, Irvine CA	2010
	US Dept of Homeland Security, Chem/Bio Div. Performers Conference, Washington DC	2010
	Fields Institute, Mathematics of Drug Resistance in Infectious Diseases, Toronto Canada	2010
	Harvard School of Public Health, Dept of Epidemiology, Boston MA	2010
	Collective Dynamics in Biological Systems, Irvine CA	2010
	NIH Fogarty International Center, Bethesda MD	2010
	UCLA Bioinformatics Program, Los Angeles CA	2009
	Emory University, Population Biology, Ecology & Evolution, Atlanta GA	2009
	US Dept of Homeland Security, Chemical and Biological Program Review, Washington DC	2009
	Ecology & Evolution of Infectious Diseases (EEID) conference, Athens GA	2009
	Stanford University, Seminar on Environment and Disease, Palo Alto CA	2009

UCLA School of Medicine, Dept of Biomathematics, Los Angeles CA	2009
University of California, Davis/NSF workshop on avian influenza, Davis CA	2008
Banff Int'l Research Stn, Modeling policy options during public health crises, Banff, Canada	2008
University of California, Santa Cruz, Dept of Applied Math & Stats, Santa Cruz CA	2008
NIH Fogarty International Center, Bethesda MD	2008
UCLA, Dept of Ecology and Evolutionary Biology, Los Angeles CA	2007
University of Chicago, Dept of Ecology and Evolution, Chicago IL	2007
British Society for Parasitology symposium on Parasitic Coinfections, London, England	2007
Ecological Society of America conference, San Jose CA	2007
DIMACS Workshop on Modeling Infectious Disease in Africa, Stellenbosch, South Africa	2007
Ecology & Evolution of Infectious Diseases (EEID) conference, Ithaca NY	2007
International Whaling Commission Scientific Committee, Anchorage AK	2007
Institute for Ecosystem Studies, Milbrook NY	2007
Keystone Symposium, Respiratory viruses of animals causing disease in humans, Singapore	2006
Penn State University, Ctr. for Infectious Disease Dynamics seminar, University Park PA	2006
San Francisco Dept. of Public Health, Communicable Disease Unit, San Francisco CA	2006
World Health Organization, Geneva Switzerland	2005
Modeling the dynamics of human diseases (JSRC), Snowbird UT	2005
Ecology & Evolution of Infectious Diseases (EEID) conference, Fort Collins CO	2005
U.C. Berkeley, Dept. of Environmental Sciences, Policy & Mgmt, Berkeley CA	2005
SACEMA/Wellcome workshop on modelling TB/HIV, Harare, Zimbabwe	2005
Harvard School of Public Health, Dept. of Epidemiology, Boston MA	2004
Yale School of Public Health, Dept. of Epidemiology, New Haven CT	2004
Cambridge University, Dept. of Zoology, Cambridge, UK	2004
American Institute of Mathematical Sciences, Pomona CA	2004

CONFERENCE PRESENTATIONS	8 th California Islands Symposium, Ventura CA	2012
	Epidemics ³ International Conference on Infectious Disease Dynamics, Boston MA	2011
	Epidemics ² International Conference on Infectious Disease Dynamics, Athens Greece	2009
	Ecological Society of America, Albuquerque NM	2009
	XVI International AIDS Conference, Toronto, Canada	2006
	Computational and Mathematical Pop'n Dynamics (DESTOBIO 3-MPD 7), Trento, Italy	2004
	American Public Health Association, San Francisco CA	2003
	Alcala 2 nd International Conf. on Mathematical Ecology (AICME), Alcala, Spain	2003

ADVISING

Postdoctoral Fellows	Michael Buhnerkempe (PhD in Biology, Colorado State U.), <i>RAPIDD Fellow</i> , 2013-2016.
	Lei Dai (PhD in Physics, MIT), 2015-. (jointly advised with Ren Sun), <i>Jane Coffin Childs Foundation Fellow</i> , 2015-2018.
	Benny Borremans (PhD in Biology, U of Antwerp), <i>Marie Curie Fellow</i> 2016-2019.
	Adam Kucharski (PhD in Mathematics, Cambridge University), MRC visiting fellow, 2014.
	Katherine Prager (DVM/PhD in Ecology, UC Davis), 2010-2012. In July 2012, promoted to Research Associate position in my group.
	Ruian Ke (PhD in Mathematics, Imperial College), 2010-2013. Presently employed as Assistant Professor at North Carolina State University.
	Claude Loverdo (PhD in Physics, U. of Paris), 2010-2013. Presently employed as career scientist at CNRS in Paris, with appointment at UPMC.
	Chris Strelhoff (PhD in Physics, U. of Illinois Urbana-Champaign), 2010-2012. Presently employed as postdoctoral researcher at UC Davis.
	Juliet Pulliam (MPH/PhD in Ecology & Evol. Biol., Princeton U.), <i>RAPIDD Fellow</i> , 2010-2011. Presently employed as Director of South African Center for Epidemiological Modelling and

Analysis, Stellenbosch, South Africa.
Seth Blumberg (MD/PhD in Physics, U. of Michigan), *RAPIDD Fellow*, 2009-2012.
Presently employed as Medical Resident at UCSF.

Doctoral Students
Miran Park, EEB, *NSF Graduate Research Fellow*, 2010-present (advanced to candidacy July 2012)
Monique Ambrose, EEB, *NSF Graduate Research Fellow*, 2012- present (advanced to candidacy February 2015)
Angela Guglielmino, EEB, 2012- present (advanced to candidacy May 2015)
Katelyn Gostic, EEB, 2013-present (advanced to candidacy June 2016)
Sarah Helman, EEB, 2014-present
Ana Carolina de Ribeiro Gomez, EEB, 2014- present
Cayley Bowles, UCLA-CalTech MD/PhD program, Summer 2015 rotation.
Christian Mason, Biomathematics, 2015-present.
Riley Mummah, EEB, 2016-present.
Philip Bulterys, UCLA-CalTech MD/PhD program, *Soros Fellow*, Summer 2011 rotation.

Master's Students
Brianna Tarnower, Environmental Health Sciences, 2009-2012. (Co-advised with formal faculty advisor, R. Ambrose.) Graduated May 2012. Now working for Quantum Spatial, Portland OR.

Undergraduate Students
Michelle Barton, UCLA Biology, Spring 2009.
Prianna Ahsan, UCLA Computational & Systems Biology, Winter 2013-Spring 2015.
Whitcome Summer Research Fellow, 2013
Yosra Adie, UCLA Ecology & Evolutionary Biology, Winter 2013-Summer 2014.
Suruchi Salgar, UCLA Ecology & Evolutionary Biology, Winter 2014- present.
Rita Neat, UCLA Physiology, Winter 2014- Spring 2015.
Melody Hsin-Yun Ho, UCLA Ecology & Evolutionary Biology, Winter 2014-present.
Thais Mega Correa, UCLA Nursing/MIMG, Fall 2014-present.
Samuel Wu, UCLA Computational & Systems Biology, Winter 2015-Summer 2015.
Melissa Barcelona, UCLA Ecology & Evolutionary Biology, Summer 2015.

External Students
Aurélien Puiseux, École Normale Supérieure, Biology. Summer Internship, 2011.
Anna Naranjo, UC Davis, UC LEADS Scholar, Summer 2013.
Erisa Apantaku, Princeton Ecology and Evolutionary Biology, Summer 2013- Summer 2014.
Ana Solis, Santa Monica College, SMC/UCLA Undergraduate Research Scholar, Summer 2015.

SERVICE

Professional service

Chair, NIH RAPIDD Working Group on Pathogen Invasion Dynamics, 2011-2015
Chair, NIH RAPIDD Working Group on Pathogen Emergence and Escape, 2009-2011
NIH workshop on Emergence of New Epidemic Viruses, August 2015
Invited faculty member, Faculty of 1000 Biology, 2010-present
Participant, NSF Research Coordination Network on infectious disease evolution, 2014-present
Participant, NSF Research Coordination Network on ecology of marine infections, 2012-present
NIH/NSF workshop on future directions in the ecology of infectious diseases, April 2010
DTRA Thought Leaders workshop on 'Anticipating the Species Jump', March 2011
Integrated Island Fox Recovery Team, Fox Health Group, 2011-present

Workshops and meetings organized

Co-organizer of NIH/RAPIDD workshop, "Modeling and predicting influenza phenotypes",
March 19-21, 2015, Cambridge, UK
Organizer of NIH/RAPIDD workshop, "Pathogen invasion dynamics", Sept 3, 2014, Bethesda,
MD
Co-organizer of NIH/RAPIDD workshop, "Phylogenetics of slow-evolving pathogens in the

genomic era: limits and opportunities”, September 4-6, 2013, Glasgow, UK
 Organizer of NIH/RAPIDD workshop, “Pathogen invasion dynamics: reservoirs, spillover and evolutionary dimensions”, June 12 2013, Bethesda MD
 Organizer of NIH/RAPIDD workshop, “Population dynamics of emerging pathogens”, February 1 2012, Bethesda MD
 Organizing committee, NSF/DIMACS Workshop on Genetics and Disease Control, August 8-12, 2011, University of Cape Coast, Ghana
 Co-organizer of NOAA/NMFS funded workshop, “Leptospirosis in California sea lions”, April 13-14 2011, UCLA
 Organizer of NIH/RAPIDD workshop, “Transmission dynamics of leptospirosis”, April 11-12 2011, UCLA
 Co-organizer of NIH/RAPIDD workshop, “Estimating pathogen transmission among host species”, December 13-15 2010, Bethesda MD
 Co-organizer of NIH/RAPIDD workshop, “The Transmission and Evolutionary Dynamics of Influenza in Poultry and Swine in Southern China”, April 16-20, 2010, Hong Kong Univ.
 Co-organizer of NIH/RAPIDD workshop, “Methods for the Study of Spillover and Stuttering Transmission of Stage III Zoonoses”, April 1-3 2010, UCLA
 Organizer of NIH/RAPIDD workshop, “Zoonotic dynamics, spillover and evolutionary escape”, April 28-29 2009, Penn State University
 Co-organizer of workshop, “Virus adaptation on multi-host fitness landscapes”, July 17 2008, Penn State University
 Co-organizer of NIH/RAPIDD workshop, “Zoonotic dynamics: modeling species jumps and pathogen emergence”, March 24-26 2008, Penn State University
 Co-organizer of workshop, “Estimating contact networks from data relevant to pathogen transmission”, April 18-20 2007, Penn State University
 Co-organizer, seminar series for Penn State Center for Infectious Disease Dynamics, 2007-2008

University service (at UCLA)

Division of Life Sciences, LS Core Curriculum Re-design committee, 2013-present
 Division of Life Sciences, Physics Curriculum Re-design committee, 2013-2014
 Division of Life Sciences, Mathematics Curriculum Re-design committee, 2012-2014
 Institute for Quantitative and Computational Bioscience search committee, 2014-2015
 Computational and Systems Biology IDP, Faculty Advisory committee, 2015-present
 Dept of EEB, Department Chair Search Committee, 2015-present
 Dept of EEB, Personnel Committee, 2015-present
 Dept of EEB, Curriculum committee, 2012-2016
 Dept of EEB, Departmental Written Qualifying Exam coordinator, 2013-2015
 Dept of EEB, Seminar committee, 2011-2012, 2012-2013
 Dept of EEB, Search committee for Microbial Evolutionary Ecologist, 2010-2011
 Dept of EEB, Graduate Admissions & Support Committee, 2009
 Dept of EEB, Ad hoc committee on LS1 Curriculum, 2009
 Dept of EEB, Legislative Assembly Representative, 2009-2012
 Faculty Executive Committee, Global Bio Lab, 2010-2013
 Hellman Awards Selection committee, 2014
 ‘Teaching Math to Life Science Students in the 21st Century’ Advisory committee, 2014

Review and editorial service

Editorial Board, *Epidemics*, 2012- (handle 2-4 papers/yr)
 Associate Editor, *PLOS Computational Biology*, 2015- (handle 6-10 papers/yr)
 Editorial Board, *PLOS Currents Outbreaks*, 2015- (joined in Sept 2015)
 Guest Editor, Special Issue of *Epidemics* on ‘Challenges in Infectious Disease Dynamics’, 2015
 Guest Editor, *PLOS Computational Biology*, 2013-2015 (handle 2 papers/yr)
 NSF Review Panel, Advancing Theory in Biology program, June 2010
 Ad hoc proposal reviewer for NSF (8), Wellcome Trust (3), National Geographic Society,

Marsden Fund, Royal Society of New Zealand , UK Medical Research Council, Leverhulme Trust, Research Grants Council of Hong Kong
Ad hoc reviewer for MacArthur Fellows program
Theme issue proposal reviewer for Philosophical Transactions of the Royal Society, B
Book proposal reviewer for Princeton University Press, Oxford University Press

Manuscript reviewer:

Nature, Science, PNAS, PLoS Biology, PLoS Medicine, The Lancet, American Journal of Epidemiology, American Naturalist, Biology Letters, Bioscience, BMC Infectious Diseases, Climate Research, Ecology, Ecology Letters, Epidemics, Epidemiology, Evolution, Frontiers in Ecology and Evolution, Journal of Animal Ecology, Journal of Applied Ecology, Journal of the Royal Society Interface, Journal of Theoretical Biology, Mathematical Biosciences, Molecular Ecology, Nature Communications, Oikos, Parasitology, Phil Trans of the Royal Society B, PLoS Computational Biology, PLoS Currents Outbreaks, PLoS Neglected Tropical Diseases, PLoS Pathogens, Proceedings of the Royal Society B, Scientific Reports, Theoretical Ecology, Theoretical Population Biology, Trends in Ecology and Evolution, Trends in Microbiology,

Technical reviewer for Princeton Monograph, "Consumer-Resource Dynamics" (2003).

Graduate committees and examinations

PhD Committee member (in addition to my own students)

Laurel Klein (EEB, graduated 2014)
Christopher Johnson (EEB, graduated 2013)
Marisa Tellez (EEB, graduated 2014)
Adriana Maldonado (EEB, graduated 2015)
Nicole Munoz (EEB, graduated 2015)
Gabriela Cybis (Biomathematics, graduated 2014)
Devaughn Fraser (EEB)
Nicholas Wu (Molecular Biology IDP, graduated 2015)
Nicole Hoff (Epidemiology, graduated 2014)
Doug Morier (Epidemiology, graduated 2014)
Ranjan Muthukrishnan (EEB, graduated 2013)
Claire Narraway (EEB, graduated 2015)
Margaret Simon (EEB)
Douglas Hootton (EEB, departed)
Yushen Du (Molecular & Medical Pharmacology)
Sarah Joy Bittick (EEB)
Evan McCartney-Melstad (EEB)
Mandev Gill (Biostatistics, graduated 2016)
Sarah Tolley (EEB)
Brenton Spies (EEB)
Emily Ryanair (EEB)
Tiffany Yap (Environmental Science and Engineering, graduated 2016)
Hayley Ashbaugh (Epidemiology)
Shayna Sura (EEB)

Master's Committee member

Brianna Tarnower (Environmental Health Sciences, graduated 2012)
Edward Clint (Anthropology, graduated 2014)
Madeline Tiee (EEB, graduated 2015)
Yasir Tarabichi (Master of Science in Clinical Research, graduated 2015)
Theodoros Kelesidis (Master of Science in Clinical Research, graduated 2016)

External PhD examiner

Carel Pretorius, Dept of Physics, Stellenbosch University, Stellenbosch South Africa, 2009

Student outreach

Speaker, Math and Biology Society, November 2015

Speaker and panelist, Eco-Evo Careers Lunch, May 2015

Delta Gamma Fraternity Professor Dinner, November 2014, November 2015

Dinner for 12 Strangers, March 2014

Interview subject for student film project, EEB 96 Communicating Science, January 2014

Lunch with EEB Faculty, October 2013

Public outreach

Discussion panel for screening of 'World War Z', UCLA Evolutionary Med. Fright Night, 2013

Discussion panel for screening of 'Contagion', UCLA Evolutionary Medicine Month, 2012