Bibliography & References Cited

- 1. Aston, S. J., A. Ho, H. Jary, J. Huwa, T. Mitchell, S. Ibitoye, S. Greenwood, E. Joekes, A. Daire, J. Mallewa, D. Everett, M. Nyirenda, B. Faragher, H. C. Mwandumba, R. S. Heyderman, and S. B. Gordon, Etiology and Risk Factors for Mortality in an Adult Community-acquired Pneumonia Cohort in Malawi. Am J Respir Crit Care Med, 2019. 200(3): p. 359-369.
- 2. Chen, I., S. E. Clarke, R. Gosling, B. Hamainza, G. Killeen, A. Magill, W. O'Meara, R. N. Price, and E. M. Riley, "Asymptomatic" Malaria: A Chronic and Debilitating Infection That Should Be Treated. PLoS Med, 2016. 13(1): p. e1001942.
- 3. Wursthorn, K., M. P. Manns, and H. Wedemeyer, Natural history: the importance of viral load, liver damage and HCC. Best Pract Res Clin Gastroenterol, 2008. 22(6): p. 1063-79.
- 4. Pearson, M. S., L. Tribolet, C. Cantacessi, M. V. Periago, M. A. Valero, A. R. Jariwala, P. Hotez, D. Diemert, A. Loukas, and J. Bethony, Molecular mechanisms of hookworm disease: stealth, virulence, and vaccines. J Allergy Clin Immunol, 2012. 130(1): p. 13-21.
- 5. Jones-Lopez, E. C., C. Acuna-Villaorduna, M. Ssebidandi, M. Gaeddert, R. W. Kubiak, I. Ayakaka, L. F. White, M. Joloba, A. Okwera, and K. P. Fennelly, Cough Aerosols of Mycobacterium tuberculosis in the Prediction of Incident Tuberculosis Disease in Household Contacts. Clin Infect Dis, 2016. 63(1): p. 10-20.
- 6. Marineli, F., G. Tsoucalas, M. Karamanou, and G. Androutsos, Mary Mallon (1869-1938) and the history of typhoid fever. Ann Gastroenterol, 2013. 26(2): p. 132-134.
- 7. Prasad, N., A. P. Jenkins, L. Naucukidi, V. Rosa, A. Sahu-Khan, M. Kama, K. M. Jenkins, A. W. J. Jenney, S. J. Jack, D. Saha, P. Horwitz, S. D. Jupiter, R. A. Strugnell, E. K. Mulholland, and J. A. Crump, Epidemiology and risk factors for typhoid fever in Central Division, Fiji, 2014-2017: A case-control study. PLoS Negl Trop Dis, 2018. 12(6): p. e0006571.
- 8. Vallejo, A. F., J. Garcia, A. B. Amado-Garavito, M. Arevalo-Herrera, and S. Herrera, Plasmodium vivax gametocyte infectivity in sub-microscopic infections. Malar J, 2016. 15: p. 48.
- 9. Anderson, R.M. and R.M. May, Population biology of infectious diseases: Part I. Nature, 1979. 280(2 August): p. 361-367.
- 10. Anderson, R. M. and R. M. May, Infectious Diseases of Humans: Dynamics and Control. 1991, Oxford: Oxford University Press. 757.
- 11. May, R.M. and R.M. Anderson, Population biology of infectious diseases: Part II. Nature, 1979. 280(9 August): p. 455-461.
- 12. Milbrath, M. O., I. H. Spicknall, J. L. Zelner, C. L. Moe, and J. N. Eisenberg, Heterogeneity in norovirus shedding duration affects community risk. Epidemiol Infect, 2013. 141(8): p. 1572-84.
- 13. Robinson, K., T. Cohen, and C. Colijn, The dynamics of sexual contact networks: effects on disease spread and control. Theor Popul Biol, 2012. 81(2): p. 89-96.
- 14. Childs, L. M. and C. O. Buckee, Dissecting the determinants of malaria chronicity: why within-host models struggle to reproduce infection dynamics. J R Soc Interface, 2015. 12(104): p. 20141379.
- 15. Grencis, R. K., Immunity to helminths: resistance, regulation, and susceptibility to gastrointestinal nematodes. Annu Rev Immunol, 2015. 33: p. 201-25.
- 16. D'Elia, R., J. M. Behnke, J. E. Bradley, and K. J. Else, Regulatory T cells: a role in the control of helminth-driven intestinal pathology and worm survival. J Immunol, 2009. 182(4): p. 2340-8.
- 17. Sondberg, E. and L. Jelsbak, Salmonella Typhimurium undergoes distinct genetic adaption during chronic infections of mice. BMC Microbiol, 2016. 16: p. 30.
- 18. Wahid, F. N., M. Robinson, and J. M. Behnke, Immunological relationships during primary infection with Heligmosomoides polygyrus (Nematospiroides dubius): expulsion of adult worms from fast responder syngeneic and hybrid strains of mice. Parasitology, 1989. 98 Pt 3: p. 459-69.
- 19. Venkatesan, P., R. G. Finch, and D. Wakelin, MHC haplotype influences primary Giardia muris infections in H-2 congenic strains of mice. Int J Parasitol, 1993. 23(5): p. 661-4.
- 20. Pullinger, G. D., T. J. Coffey, M. C. Maiden, and J. A. Leigh, Multilocus-sequence typing analysis reveals similar populations of Streptococcus uberis are responsible for bovine intramammary infections of short and long duration. Vet Microbiol, 2007. 119(2-4): p. 194-204.
- 21. Brown, J. R., D. Shah, and J. Breuer, Viral gastrointestinal infections and norovirus genotypes in a paediatric UK hospital, 2014-2015. J Clin Virol, 2016. 84: p. 1-6.

- 22. Tong, S., Impact of viral genotypes and naturally occurring mutations on biological properties of hepatitis B virus. Hepatol Res, 2007. 37(s1): p. S3-8.
- 23. Trottier, H., S. Mahmud, J. C. Prado, J. S. Sobrinho, M. C. Costa, T. E. Rohan, L. L. Villa, and E. L. Franco, Type-specific duration of human papillomavirus infection: implications for human papillomavirus screening and vaccination. J Infect Dis, 2008. 197(10): p. 1436-47.
- 24. Pichette-Jolette, S., G. Millette, E. Demontier, D. Bran-Barrera, M. Cyrenne, C. Ster, D. Haine, G. Keefe, F. Malouin, and J. P. Roy, Partial prediction of the duration and the clinical status of Staphylococcus aureus bovine intramammary infections based on the phenotypic and genotypic analysis of isolates. Vet Microbiol, 2019. 228: p. 188-195.
- 25. Andrade, S. G., Influence of Trypanosoma cruzi strain on the pathogenesis of chronic myocardiopathy in mice. Mem Inst Oswaldo Cruz, 1990. 85(1): p. 17-27.
- 26. Prentice, H. A., M. A. Price, T. R. Porter, E. Cormier, M. J. Mugavero, A. Kamali, E. Karita, S. Lakhi, E. J. Sanders, O. Anzala, P. N. Amornkul, S. Allen, E. Hunter, R. A. Kaslow, J. Gilmour, J. Tang, and lavi Africa HIV Prevention Partnership, Dynamics of viremia in primary HIV-1 infection in Africans: insights from analyses of host and viral correlates. Virology, 2014. 449: p. 254-62.
- 27. Ebert, D., C. D. Zschokke-Rohringer, and H. J. Carius, Dose effects and density-dependent regulation of two microparasites of Daphnia magna. Oecologia, 2000. 122(2): p. 200-209.
- 28. Paterson, S., C. Wilkes, C. Bleay, and M. E. Viney, Immunological responses elicited by different infection regimes with Strongyloides ratti. PLoS One, 2008. 3(6): p. e2509.
- 29. Bancroft, A. J., K. J. Else, and R. K. Grencis, Low-level infection with Trichuris muris significantly affects the polarization of the CD4 response. Eur J Immunol, 1994. 24(12): p. 3113-8.
- 30. Bancroft, A. J., K. J. Else, N. E. Humphreys, and R. K. Grencis, The effect of challenge and trickle Trichuris muris infections on the polarisation of the immune response. Int J Parasitol, 2001. 31(14): p. 1627-37.
- 31. Else, K. J., F. D. Finkelman, C. R. Maliszewski, and R. K. Grencis, Cytokine-mediated regulation of chronic intestinal helminth infection. J Exp Med, 1994. 179(1): p. 347-51.
- 32. Robinson, M., F. Wahid, J. M. Behnke, and F. S. Gilbert, Immunological relationships during primary infection with Heligmosomoides polygyrus (Nematospiroides dubius): dose-dependent expulsion of adult worms. Parasitology, 1989. 98 (Pt 1): p. 115-24.
- 33. Wahid, F. N. and J. M. Behnke, Immunological relationships during primary infection with Heligmosomoides polygyrus. Regulation of fast response phenotype by H-2 and non-H-2 genes. Parasitology, 1993. 107 (Pt 3): p. 343-50.
- 34. Fenton, A., T. J. Lamb, and A. L. Graham, Optimality analysis of Th1-Th2 immune responses during microparasite-macroparasite co-infection, with epidemiological feedbacks. Parasitology, 2008(135): p. 841-53.
- 35. Gingles, N. A., J. E. Alexander, A. Kadioglu, P. W. Andrew, A. Kerr, T. J. Mitchell, E. Hopes, P. Denny, S. Brown, H. B. Jones, S. Little, G. C. Booth, and W. L. McPheat, Role of genetic resistance in invasive pneumococcal infection: identification and study of susceptibility and resistance in inbred mouse strains. Infect Immun, 2001. 69(1): p. 426-34.
- 36. Saccareau, M., G. Salle, C. Robert-Granie, T. Duchemin, P. Jacquiet, A. Blanchard, J. Cabaret, and C. R. Moreno, Meta-analysis of the parasitic phase traits of Haemonchus contortus infection in sheep. Parasit Vectors, 2017. 10(1): p. 201.
- 37. Kendall, Bruce E., Cheryl J. Briggs, William W. Murdoch, Peter Turchin, Stephen P. Ellner, Edward McCauley, Roger M. Nisbet, and Simon N. Wood, Why Do Populations Cycle? A Synthesis of Statistical and Mechanistic Modeling Approaches. Ecology, 1999. 80(6): p. 1789-1805.
- 38. King, A. A., E. L. Ionides, M. Pascual, and M. J. Bouma, Inapparent infections and cholera dynamics. Nature, 2008. 454(7206): p. 877-80.
- 39. Marino, J. A., S. D. Peacor, D. B. Bunnell, H. A. Vanderploeg, S. A. Pothoven, A. K. Elgin, J. R. Bence, J. Jiao, and E. L. Ionides, Evaluating consumptive and nonconsumptive predator effects on prey density using field time-series data. Ecology, 2019. 100(3): p. e02583.
- 40. Restif, Olivier, David T. S. Hayman, Juliet R. C. Pulliam, Raina K. Plowright, Dylan B. George, Angela D. Luis, Andrew A. Cunningham, Richard A. Bowen, Anthony R. Fooks, Thomas J. O'Shea, James L. N. Wood, and Colleen T. Webb, Model-guided fieldwork: practical guidelines for

- multidisciplinary research on wildlife ecological and epidemiological dynamics. Ecology Letters, 2012. 15(10): p. 1083-1094.
- 41. Leung, J. M., S. A. Budischak, H. Chung The, C. Hansen, R. Bowcutt, R. Neill, M. Shellman, P. Loke, and A. L. Graham, Rapid environmental effects on gut nematode susceptibility in rewilded mice. PLoS Biol, 2018. 16(3): p. e2004108.
- 42. Scott, M. E., Heligmosomoides polygyrus (Nematoda): susceptible and resistant strains of mice are indistinguishable following natural infection. Parasitology, 1991. 103 Pt 3: p. 429-38.
- 43. Scott, M. E., High transmission rates restore expression of genetically determined susceptibility of mice to nematode infections. Parasitology, 2006. 132(Pt 5): p. 669-79.
- 44. Chan, M. S., G. F. Medley, D. Jamison, and D. A. Bundy, The evaluation of potential global morbidity attributable to intestinal nematode infections. Parasitology, 1994. 109 (Pt 3): p. 373-87.
- 45. Nelson, William A. and Mark A. Lewis, Connecting host physiology to host resistance in the conifer-bark beetle system. Theoretical Ecology, 2008. 1(3): p. 163-177.
- 46. Tobin, Patrick C., Luděk Berec, and Andrew M. Liebhold, Exploiting Allee effects for managing biological invasions. Ecology Letters, 2011. 14(6): p. 615-624.
- 47. Abolins, S., E. C. King, L. Lazarou, L. Weldon, L. Hughes, P. Drescher, J. G. Raynes, J. C. R. Hafalla, M. E. Viney, and E. M. Riley, The comparative immunology of wild and laboratory mice, Mus musculus domesticus. Nat Commun, 2017. 8: p. 14811.
- 48. Abolins, S., L. Lazarou, L. Weldon, L. Hughes, E. C. King, P. Drescher, M. J. O. Pocock, J. C. R. Hafalla, E. M. Riley, and M. Viney, The ecology of immune state in a wild mammal, Mus musculus domesticus. PLoS Biol, 2018. 16(4): p. e2003538.
- 49. Beura, L. K., S. E. Hamilton, K. Bi, J. M. Schenkel, O. A. Odumade, K. A. Casey, E. A. Thompson, K. A. Fraser, P. C. Rosato, A. Filali-Mouhim, R. P. Sekaly, M. K. Jenkins, V. Vezys, W. N. Haining, S. C. Jameson, and D. Masopust, Normalizing the environment recapitulates adult human immune traits in laboratory mice. Nature, 2016. 532(7600): p. 512-6.
- 50. Reese, T. A., K. Bi, A. Kambal, A. Filali-Mouhim, L. K. Beura, M. C. Burger, B. Pulendran, R. P. Sekaly, S. C. Jameson, D. Masopust, W. N. Haining, and H. W. Virgin, Sequential Infection with Common Pathogens Promotes Human-like Immune Gene Expression and Altered Vaccine Response. Cell Host Microbe, 2016. 19(5): p. 713-9.
- 51. Rosshart, Stephan P., Jasmin Herz, Brian G. Vassallo, Ashli Hunter, Morgan K. Wall, Jonathan H. Badger, John A. McCulloch, Dimitrios G. Anastasakis, Aishe A. Sarshad, Irina Leonardi, Nicholas Collins, Joshua A. Blatter, Seong-Ji Han, Samira Tamoutounour, Svetlana Potapova, Mark B. Foster St Claire, Wuxing Yuan, Shurjo K. Sen, Matthew S. Dreier, Benedikt Hild, Markus Hafner, David Wang, Iliyan D. Iliev, Yasmine Belkaid, Giorgio Trinchieri, and Barbara Rehermann, Laboratory mice born to wild mice have natural microbiota and model human immune responses. Science, 2019. 365(6452).
- 52. Rosshart, S. P., B. G. Vassallo, D. Angeletti, D. S. Hutchinson, A. P. Morgan, K. Takeda, H. D. Hickman, J. A. McCulloch, J. H. Badger, N. J. Ajami, G. Trinchieri, F. Pardo-Manuel de Villena, J. W. Yewdell, and B. Rehermann, Wild Mouse Gut Microbiota Promotes Host Fitness and Improves Disease Resistance. Cell, 2017. 171(5): p. 1015-1028 e13.
- 53. Duneau, D., J. B. Ferdy, J. Revah, H. Kondolf, G. A. Ortiz, B. P. Lazzaro, and N. Buchon, Stochastic variation in the initial phase of bacterial infection predicts the probability of survival in D. melanogaster. Elife, 2017. 6.
- 54. Tate, A. T., P. Andolfatto, J. P. Demuth, and A. L. Graham, The within-host dynamics of infection in trans-generationally primed flour beetles. Mol Ecol, 2017. 26(14): p. 3794-3807.
- 55. van Leeuwen, A., S. A. Budischak, A. L. Graham, and C. E. Cressler, Parasite resource manipulation drives bimodal variation in infection duration. Proc Biol Sci, 2019. 286(1902): p. 20190456.
- 56. Alizon, Samuel and Minus van Baalen, Acute or Chronic? Within Host Models with Immune Dynamics, Infection Outcome, and Parasite Evolution. The American Naturalist, 2008. 172(6): p. E244-E256.
- 57. Fenton, A., J. Lello, and M. B. Bonsall, Pathogen responses to host immunity: the impact of time delays and memory on the evolution of virulence. Proc Biol Sci. 2006. 273(1597): p. 2083-90.
- 58. Yates, A., C. Bergmann, J. L. Van Hemmen, J. Stark, and R. Callard, Cytokine-modulated regulation of helper T cell populations. J Theor Biol, 2000. 206(4): p. 539-60.

- 59. Yates, A., R. Callard, and J. Stark, Combining cytokine signalling with T-bet and GATA-3 regulation in Th1 and Th2 differentiation: a model for cellular decision-making. J Theor Biol, 2004. 231(2): p. 181-96.
- 60. Harnett, William, Secretory products of helminth parasites as immunomodulators. Molecular and Biochemical Parasitology, 2014. 195(2): p. 130-136.
- 61. Bancroft, A. J., C. W. Levy, T. A. Jowitt, K. S. Hayes, S. Thompson, E. A. McKenzie, M. D. Ball, E. Dubaissi, A. P. France, B. Bellina, C. Sharpe, A. Mironov, S. L. Brown, P. C. Cook, S. MacDonald A.
- D. J. Thornton, and R. K. Grencis, The major secreted protein of the whipworm parasite tethers to matrix and inhibits interleukin-13 function. Nat Commun, 2019. 10(1): p. 2344.
- 62. Strogatz, Steven H., Nonlinear Dynamics And Chaos: With Applications To Physics, Biology, Chemistry, And Engineering. 1 edition ed. 2000, Cambridge, Mass: CRC Press. 512.
- 63. Angeli, David, James E. Ferrell, and Eduardo D. Sontag, Detection of multistability, bifurcations, and hysteresis in a large class of biological positive-feedback systems. Proceedings of the National Academy of Sciences, 2004. 101(7): p. 1822-1827.
- 64. Else, K. and D. Wakelin, The effects of H-2 and non-H-2 genes on the expulsion of the nematode Trichuris muris from inbred and congenic mice. Parasitology, 1988. 96 (Pt 3): p. 543-50.
- 65. Hurst, R. J. and K. J. Else, Trichuris muris research revisited: a journey through time. Parasitology, 2013. 140(11): p. 1325-39.
- 66. Klementowicz, J. E., M. A. Travis, and R. K. Grencis, Trichuris muris: a model of gastrointestinal parasite infection. Semin Immunopathol, 2012. 34(6): p. 815-28.
- 67. Hansen, T. V., P. Nejsum, A. Olsen, and S. M. Thamsborg, Genetic variation in codons 167, 198 and 200 of the beta-tubulin gene in whipworms (Trichuris spp.) from a range of domestic animals and wildlife. Vet Parasitol, 2013. 193(1-3): p. 141-9.
- 68. Tshikuka, J. G., K. Gray-Donald, M. Scott, and K. N. Olela, Relationship of childhood proteinenergy malnutrition and parasite infections in an urban African setting. Trop Med Int Health, 1997. 2(4): p. 374-82.
- 69. van den Ham, Henk-Jan and Rob J. de Boer, From the two-dimensional Th1 and Th2 phenotypes to high-dimensional models for gene regulation. International Immunology, 2008. 20(10): p. 1269-1277.
- 70. Schrom, Edward C and Andrea L Graham, Instructed subsets or agile swarms: how T-helper cells may adaptively counter uncertainty with variability and plasticity. Current Opinion in Genetics & Development, 2017. 47: p. 75-82.
- 71. Eichenberger, R. M., M. H. Talukder, M. A. Field, P. Wangchuk, P. Giacomin, A. Loukas, and J. Sotillo, Characterization of Trichuris muris secreted proteins and extracellular vesicles provides new insights into host-parasite communication. J Extracell Vesicles. 2018, 7(1): p. 1428004.
- 72. Cliffe, L. J., N. E. Humphreys, T. E. Lane, C. S. Potten, C. Booth, and R. K. Grencis, Accelerated intestinal epithelial cell turnover: a new mechanism of parasite expulsion. Science, 2005. 308(5727): p. 1463-5.
- 73. Michael, E. and D. A. Bundy, Density dependence in establishment, growth and worm fecundity in intestinal helminthiasis: the population biology of Trichuris muris (Nematoda) infection in CBA/Ca mice. Parasitology, 1989. 98 Pt 3: p. 451-8.
- 74. Cressler, C. E., Leod Dv Mc, C. Rozins, Van Den Hoogen J, and T. Day, The adaptive evolution of virulence: a review of theoretical predictions and empirical tests. Parasitology, 2016. 143(7): p. 915-30.
- 75. Cressler, C. E., W. A. Nelson, T. Day, and E. McCauley, Disentangling the interaction among host resources, the immune system and pathogens. Ecol Lett, 2014. 17(3): p. 284-93.
- 76. Cressler, C. E., W. A. Nelson, T. Day, and E. McCauley, Starvation reveals the cause of infection-induced castration and gigantism. Proc Biol Sci, 2014. 281(1792).
- 77. Budischak, S. A. and C. E. Cressler, Fueling Defense: Effects of Resources on the Ecology and Evolution of Tolerance to Parasite Infection. Front Immunol, 2018. 9: p. 2453.
- 78. Hite, J. L. and C. E. Cressler, Parasite-Mediated Anorexia and Nutrition Modulate Virulence Evolution. Integr Comp Biol, 2019. 59(5): p. 1264-1274.
- 79. Hayward, A. D., D. H. Nussey, A. J. Wilson, C. Berenos, J. G. Pilkington, K. A. Watt, J.M. Pemberton, and A. L. Graham, Natural selection on individual variation in tolerance of gastrointestinal nematodes. PLoS Biol, 2014. 12: p. e1001917.

- 80. Budischak, S. A., A. E. Wiria, F. Hamid, L. J. Wammes, M. M. M. Kaisar, L. van Lieshout, E. Sartono, T. Supali, M. Yazdanbakhsh, and A. L. Graham, Competing for blood: the ecology of parasite resource competition in human malaria-helminth co-infections. Ecol Lett, 2018. 21(4): p. 536-545.
- 81. Cressler, C. E., A. L. Graham, and T. Day, Evolution of hosts paying manifold costs of defence. Proc Biol Sci, 2015. 282(1804): p. 20150065.
- 82. Budischak, S. A., C. B. Hansen, Q. Caudron, R. Garnier, T. R. Kartzinel, I. Pelczer, C. E. Cressler, A. van Leeuwen, and A. L. Graham, Feeding Immunity: Physiological and Behavioral Responses to Infection and Resource Limitation. Front Immunol, 2018. 8: p. 1914.
- 83. Sahputra, R., D. Ruckerl, K. N. Couper, W. Muller, and K. J. Else, The Essential Role Played by B Cells in Supporting Protective Immunity Against Trichuris muris Infection Is by Controlling the Th1/Th2 Balance in the Mesenteric Lymph Nodes and Depends on Host Genetic Background. Front Immunol, 2019. 10: p. 2842.
- 84. Bellaby, T., K. Robinson, and D. Wakelin, Induction of differential T-helper-cell responses in mice infected with variants of the parasitic nematode Trichuris muris. Infect Immun, 1996. 64(3): p. 791-5.
- 85. Bellaby, T., K. Robinson, D. Wakelin, and J. M. Behnke, Isolates of Trichuris muris vary in their ability to elicit protective immune responses to infection in mice. Parasitology, 1995. 111 (Pt 3): p. 353-7.
- 86. Koyama, K. and Y. Ito, Comparative studies on immune responses to infection in susceptible B10.BR mice infected with different strains of the murine nematode parasite Trichuris muris. Parasite Immunol, 1996. 18(5): p. 257-63.
- 87. Fairlie-Clarke, K. J., T. J. Lamb, J. Langhorne, A. L. Graham, and J. E. Allen, Antibody isotype analysis of malaria-nematode co-infection: problems and solutions associated with cross-reactivity. BMC Immunol, 2010. 11: p. 6.
- 88. Graham, A. L., M. D. Taylor, L. Le Goff, T. J. Lamb, M. Magennis, and J. E. Allen, Quantitative appraisal of murine filariasis confirms host strain differences but reveals that BALB/c females are more susceptible than males to Litomosoides sigmodontis. Microbes Infect, 2005. 7: p. 612-618.
- 89. Hasnain, S. Z., M. A. McGuckin, R. K. Grencis, and D. J. Thornton, Serine protease(s) secreted by the nematode Trichuris muris degrade the mucus barrier. PLoS Negl Trop Dis, 2012. 6(10): p. e1856.
- 90. Rothschild, M. A., M. Oratz, J. Mongelli, L. Fishman, and S. S. Schreiber, Amino acid regulation of albumin synthesis. J Nutr, 1969. 98(4): p. 395-403.
- 91. Hasnain, S. Z., H. Wang, J. E. Ghia, N. Haq, Y. Deng, A. Velcich, R. K. Grencis, D. J. Thornton, and W. I. Khan, Mucin gene deficiency in mice impairs host resistance to an enteric parasitic infection. Gastroenterology, 2010. 138(5): p. 1763-71.
- 92. Konikoff, M. R. and L. A. Denson, Role of fecal calprotectin as a biomarker of intestinal inflammation in inflammatory bowel disease. Inflamm Bowel Dis. 2006, 12(6): p. 524-34.
- 93. Hayes, K. S., R. Hager, and R. K. Grencis, Sex-dependent genetic effects on immune responses to a parasitic nematode. BMC Genomics, 2014. 15: p. 193.
- 94. Le Goff, L., T. J. Lamb, A. L. Graham, Y. Harcus, and J. E. Allen, IL-4 is required to prevent filarial nematode development in resistant but not susceptible strains of mice. International Journal for Parasitology, 2002. 32: p. 1277-1284.
- 95. Ionides, E. L., C. Breto, and A. A. King, Inference for nonlinear dynamical systems. Proc Natl Acad Sci U S A, 2006. 103(49): p. 18438-43.
- 96. Breto, C., Modeling and inference for infectious disease dynamics: a likelihood-based approach. Stat Sci, 2018. 33(1): p. 57-69.
- 97. He, D., E. L. Ionides, and A. A. King, Plug-and-play inference for disease dynamics: measles in large and small populations as a case study. J R Soc Interface, 2010. 7(43): p. 271-83.
- 98. King, A. A., D. Nguyen, and E. L. Ionides, Statistical Inference for Partially Observed Markov Processes via the R Package pomp. Journal of Statistical Software, 2016. 69(12): p. 1-43.
- 99. Fairlie-Clarke, K. J., C. Hansen, J. E. Allen, and A. L. Graham, Increased exposure to Plasmodium chabaudi antigens sustains cross-reactivity and avidity of antibodies binding Nippostrongylus brasiliensis: dissecting cross-phylum cross-reactivity in a rodent model. Parasitology, 2015. 142(14): p. 1703-14.
- 100. Metcalf, C. J., A. L. Graham, S. Huijben, V. C. Barclay, G. H. Long, B. T. Grenfell, A. F. Read, and O. N. Bjornstad, Partitioning regulatory mechanisms of within-host malaria dynamics using the effective propagation number. Science, 2011. 333(6045): p. 984-8.

- 101. Fenton, A. and S. E. Perkins, Applying predator-prey theory to modelling immune-mediated, within-host interspecific parasite interactions. Parasitology, 2010. 137(6): p. 1027-38.
- 102. Day, T., S. Alizon, and N. Mideo, Bridging scales in the evolution of infectious disease life histories: theory. Evolution, 2011. 65(12): p. 3448-61.
- 103. Mideo, N., W. A. Nelson, S. E. Reece, A. S. Bell, A. F. Read, and T. Day, Bridging Scales in the Evolution of Infectious Disease Life Histories: Application. Evolution, 2011. 65(11): p. 3298-3310.
- 104. Handel, Andreas and Pejman Rohani, Crossing the scale from within-host infection dynamics to between-host transmission fitness: a discussion of current assumptions and knowledge. Philosophical Transactions of the Royal Society B: Biological Sciences, 2015. 370(1675): p. 20140302.
- 105. Borden, John H., Semiochemicals and bark beetle populations: Exploitation of natural phenomena by pest management strategists. Ecography, 1989. 12(4): p. 501-510.
- 106. Schirmer, L., P. Atallah, C. Werner, and U. Freudenberg, StarPEG-Heparin Hydrogels to Protect and Sustainably Deliver IL-4. Adv Healthc Mater, 2016. 5(24): p. 3157-3164.
- 107. Berry, L. M., R. Adams, M. Airey, M. G. Bracher, T. Bourne, B. Carrington, A. S. Cross, G. C. Davies, H. M. Finney, R. Foulkes, N. Gozzard, R. A. Griffin, H. Hailu, S. D. Lamour, A. D. Lawson, D. J. Lightwood, A. J. McKnight, V. L. O'Dowd, A. K. Oxbrow, A. G. Popplewell, S. Shaw, P. E. Stephens, B. Sweeney, K. L. Tomlinson, C. Uhe, and R. T. Palframan, In vitro and in vivo characterisation of antimurine IL-13 antibodies recognising distinct functional epitopes. Int Immunopharmacol, 2009. 9(2): p. 201-6.
- 108. Bergmann, Claudia, J. Leo van Hemmen, and Lee A. Segel, Th1 or Th2: How an Appropriate T Helper Response can be Made. Bulletin of Mathematical Biology, 2001. 63(3): p. 405-430.
- 109. De Boer, Rob J. and A. S. Perelson, Towards a general function describing t cell proliferation. Journal of Theoretical Biology, 1995. 175(4): p. 567-576.
- 110. Fishman, Michael A. and Alan S. Perelson, Modeling T Cell-Antigen Presenting Cell Interactions. Journal of Theoretical Biology, 1993. 160(3): p. 311-342.
- 111. Höfer, Thomas, Holger Nathansen, Max Löhning, Andreas Radbruch, and Reinhart Heinrich, GATA-3 transcriptional imprinting in Th2 lymphocytes: A mathematical model. Proceedings of the National Academy of Sciences, 2002. 99(14): p. 9364-9368.
- 112. Gadhamsetty, Saikrishna, Athanasius F. M. Marée, Joost B. Beltman, and Rob J. de Boer, A General Functional Response of Cytotoxic T Lymphocyte-Mediated Killing of Target Cells. Biophysical Journal, 2014. 106(8): p. 1780-1791.
- 113. Thakar, Juilee, Ashutosh K. Pathak, Lisa Murphy, Réka Albert, and Isabella M. Cattadori, Network Model of Immune Responses Reveals Key Effectors to Single and Co-infection Dynamics by a Respiratory Bacterium and a Gastrointestinal Helminth. PLoS Computational Biology, 2012, 8(1).
- 114. Thakar, Juilee, Mylisa Pilione, Girish Kirimanjeswara, Eric T Harvill, and Réka Albert, Modeling Systems-Level Regulation of Host Immune Responses. PLoS Computational Biology, 2007. 3(6).
- 115. Pękalski, Jakub, Pawel J. Zuk, Marek Kochańczyk, Michael Junkin, Ryan Kellogg, Savaş Tay, and Tomasz Lipniacki, Spontaneous NF-κB Activation by Autocrine TNFα Signaling: A Computational Analysis. PLoS ONE, 2013. 8(11).
- 116. Dunster, J. L., H. M. Byrne, and J. R. King, The Resolution of Inflammation: A Mathematical Model of Neutrophil and Macrophage Interactions. Bulletin of Mathematical Biology, 2014. 76(8): p. 1953-1980.
- 117. Long, G. H. and A. L. Graham, Consequences of immunopathology for pathogen virulence evolution and public health: Malaria as a case study. Evol Appl, 2011. 4: p. 278-91.
- 118. Wodarz, Dominik and Martin A. Nowak, Mathematical models of HIV pathogenesis and treatment. BioEssays, 2002. 24(12): p. 1178-1187.
- 119. Wale, Nina, Matthew J. Jones, Derek G. Sim, Andrew F. Read, and Aaron A. King, The contribution of host cell-directed vs. parasite-directed immunity to the disease and dynamics of malaria infections. Proceedings of the National Academy of Sciences, 2019. 116(44): p. 22386-22392.
- 120. Ben-Shachar, Rotem and Katia Koelle, Minimal within-host dengue models highlight the specific roles of the immune response in primary and secondary dengue infections. Journal of The Royal Society Interface, 2015. 12(103): p. 20140886.
- 121. Marino, Simeone and Denise E. Kirschner, The human immune response to Mycobacterium tuberculosis in lung and lymph node. Journal of Theoretical Biology, 2004. 227(4): p. 463-486.

- 122. Garnier, R., B. T. Grenfell, A. J. Nisbet, J. B. Matthews, and A. L. Graham, Integrating immune mechanisms to model nematode worm burden: an example in sheep. Parasitology, 2016. 143(7): p. 894-904.
- 123. Assmann, Sarah M. and Réka Albert, Discrete Dynamic Modeling with Asynchronous Update, or How to Model Complex Systems in the Absence of Quantitative Information, in Plant Systems Biology, D.A. Belostotsky, Editor. 2009, Humana Press: Totowa, NJ. p. 207-225.
- 124. Thakar, Juilee and Reka Albert, Boolean models of within-host immune interactions. Current Opinion in Microbiology, 2010. 13(3): p. 377-381.
- 125. Hayes, K. S., A. J. Bancroft, M. Goldrick, C. Portsmouth, I. S. Roberts, and R. K. Grencis, Exploitation of the intestinal microflora by the parasitic nematode Trichuris muris. Science, 2010. 328(5984): p. 1391-4.
- 126. White, E. C., A. Houlden, A. J. Bancroft, K. S. Hayes, M. Goldrick, R. K. Grencis, and I. S. Roberts, Manipulation of host and parasite microbiotas: Survival strategies during chronic nematode infection. Sci Adv, 2018. 4(3): p. eaap7399.
- 127. Thakar, Juilee, Mary Poss, Réka Albert, Gráinne H. Long, and Ranran Zhang, Dynamic models of immune responses: what is the ideal level of detail? Theoretical Biology and Medical Modelling, 2010. 7(1): p. 35.