



Alun Lloyd



Professor, Director of Center for Quantitative Sciences, Biomathematics Graduate Program and Research Training Group in Mathematical Biology

Certificate of Advanced Mathematical Study (Mathematical Tripos Part III - Trinity College 1988-1992
PhD – University of Oxford, 10992-1996
Post-Doctorate – St. Hilda's College, 1996-1999

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Biomathematics

Research emphasis:

Dr. Lloyd's research uses mathematical models and statistical analyses to address questions which arise in many areas of biology. The main interest is in the study of infectious diseases, including the epidemiology of childhood diseases (such as measles) and mosquito-borne infections (such as dengue). More widely, his interested in biological oscillations, such as circadian and ultradian rhythms, and the properties of biological networks (in a variety of contexts, including metabolic networks, epidemiological or social networks and neuronal networks).

Application:

- 1
- 2
- 3
- 4

Collaboration potential:

- 1
- 2
- 3
- 4

Selected publications:

Legros M, Otero M, Aznar VR, Solari H, Gould F, Lloyd AL. Comparison of two detailed models of *Aedes aegypti* population dynamics. *Ecosphere*. 7(10):e051515. doi:10.1002/ecs2.1515.

Monaghan AJ, Morin CW, Steinhoff DF, Wilhelmi O, Hayden M, Quattrochi DA, Reiskind M, Lloyd AL, Smith K, Schmidt CA, Scalf PE, Ernst K. On the Seasonal Occurrence and Abundance of the Zika Virus Vector Mosquito *Aedes Aegypti* in the Contiguous United States. *PLOS Currents Outbreaks*. 2016 Mar 16. doi:10.1371/ currents.outbreaks.50dfc7f46798675fc63E7d7DA563DA76 .

Okamoto KW, Gould F, Lloyd AL. Integarting Transgenic Vector Manipulation with Clinical Interventions to Manage Vector-Borne Diseases. *PLOS Comput Biol* 12(3):e1004695. doi:10.1371/journal.pcbi.1004695.

Breen M, Villeneuve DL, Akley GT, Bencic D, Breen MS, Watanabe KH, Lloyd AL, Conolly RB. Computational Modle of the Fathead Minnow Hypothalamic-Pituitary-Gonadal Axis: Incorporating Protein Synthesis in Improving Predictability of Responses to Endocrine Active Chemicals. *Comparat Biochem Physiol C* 183-184:36-45. doi:10.1016/j.cbpc.2016.02.002