Nina Wale

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Nationality: British

Education

2011-present **The Pennsylvania State University (USA)**
Ph.D, '*Resource competition & the evolution of drug resistance in malaria parasites'.*
Advisor: Andrew F Read.
Committee: Ottar N. Bjørnstad, Troy Day, Manuel Llinás, Jennifer K. Balch
Expected submission: Late Summer 2015; Expected graduation: Dec 2015

2007-2010 **University of Cambridge (UK)**
BA (Hons) Archaeology & Anthropology (Biological Anthropology)
Advisor: Leslie A. Knapp

Relevant Experience

2011-present **The Pennsylvania State University**
Graduate Researcher Exploring how within-host resources mediate competition between malaria parasites, with the aim of developing resource-based, evolutionarily robust treatments. Taking both an experimental approach, with the rodent malaria model *Plasmodium chabaudi,* and a computational approach in collaboration with Aaron King, University of Michigan.

2011 Summer **The Pennsylvania State University**
Volunteer Field Assistant Trapped and took biological samples from woodland rodents for a project investigating the impact of the helminth, *Pterygodermatities peromysci,* on the population dynamics of its host, the white-footed mouse (*Peromyscus spp.).* Project lead by Peter Hudson and postdoctoral scholar, Kurt Vandegrift.

2010-2011 **EcoHealth Alliance (formerly The Wildlife Trust)**
Research Associate Undertook literature reviews, managed databases and co-prepared papers and grants, including for federal agencies, as part of research into emerging infectious diseases. Diseases studied included White Nose Syndrome, Colony Collapse Disorder and *Ebolavirus*. Extended database of emerging infectious diseases, used to develop predictive models of disease emergence. Conducted lab work related to viral discovery with Simon Anthony, Columbia University.

2009-2010 **University of Cambridge**
Researcher As part of undergraduate dissertation work, conducted field and laboratory work to determine genetic structure of a wild vervet monkey (*Cercopithecus pygerythrus*) population in The Karoo, South Africa.

Awards, Fellowships & Grants

2015 **NSF Infectious Disease Evolution Across Scales**
To facilitate a research visit to Aaron A King, University of Michigan (~$2000)

2013 **Summer Institute in Statistics & Modeling in Infectious Diseases**
University of Washington Travel and Tuition Award ($1725)

2012 **NSF Ecology & Evolution of Infectious Diseases Workshop**
University of Michigan Travel and Tuition Award. ($1000)

2011-2012 **Paul & Harriet Campbell Distinguished Graduate Fellowship**
The Pennsylvania State University Awarded to an outstanding first year graduate student in The Eberly College of Science. One of 39 distinguished fellowships awarded at the university. ($17,500)

2011-2012 **University Graduate Fellowship**
The Pennsylvania State University One of eight fellowships awarded by The Graduate School to incoming graduates students. ($17,500)

2011-2012 **Braddock Award**
The Pennsylvania State University Graduate scholarship. ($6000)

2009 **Undergraduate Dissertation Research Fund**
Department of Biological Anthropology, University of Cambridge (£400)

2009 **Panton Trust Award**
University of Cambridge Funding for undergraduate thesis research. (£400)

2008 **Cambridge Commonwealth Trust Travel Award**
University of Cambridge (£500)

2008 **Emmanuel College Senior Exhibition Award**
Emmanuel College, University of Cambridge For achievement in first year examinations. (£250)

Publications *denotes joint first authorship.

In prep

Wale, N., Sim, D.G., Jones, M.J., Salathe, R., Day, T. & Read, A.F. Depletion of a within-host resource prevents the emergence of drug-resistant parasites.

Wale, N., Read, A.F. & King, A.A. Manipulations of within-host resource availability reveal mechanisms of the antimalarial immune response.

Wale, N., Sim, D.G, Lai, M.Q., Jones, M.J. & Read, A.F. Host nutritional status alters the probability that drug resistant parasites emerge in a rodent malaria model.

Wale, N.*, Manlove, K.*, Hudson, P. J., & Read, A.F. How low can you go? Detection thresholds, error structure and the use of quantitative PCR in the study of microorganisms.

Published

Kouyos, R.D., Metcalf, C.J.E., Birger. R., Klein, E.Y., zur Wiesch, P.A., Ankomah, P., Arinaminpathy, N., Bogich, T.L., Bonhoeffer, S., Brower, C., Chi-Johnston, G., Cohen, E., Day, T., Greenhouse, B., Huijben, S., Metlay, J., Mideo, N., Pollitt, L.C., Read, A.F., Smith, D.L., Standley, C., **Wale, N**., & Grenfell, B. (2014) The path of least resistance: aggressive or moderate treatment. *Proceedings of the Royal Society of London Series B.* 281: 20140566

Vandegrift, K.J., **Wale, N.** & Epstein, J.H. (2011) An Ecological & Conservation Perspective on Advances in the Applied Virology of Zoonoses. *Viruses*. 3: 370-397

Presentations

Talks

Feb 2014 Infectious Disease Dynamics Seminar, The Pennsylvania State University

Sep 2013 European Meeting of Ph.D. Students in Evolutionary Biology (EMPSEB), Exeter University, UK

Jun 2012 Swiss Federal Institute of Aquatic Science & Technology (ETH-EAWAG), Zurich, Switzerland (***Invited by Jukka Jokela***)

Posters

Aug 2013 Congress of the European Society for Evolutionary Biology, Lisbon, Portugal

May 2013 Ecology & Evolution of Infectious Diseases Meeting, The Pennsylvania State University, USA

May 2012 Ecology & Evolution of Infectious Diseases Meeting, University of Michigan, USA

Mar 2012 NIH/NSF Ecology & Evolution of Infectious Diseases Meeting of Principal Investigators, University of California Berkeley, USA

Teaching & Mentoring

2014 & 2015 (Spring) **Graduate Teaching Assistant**
The Pennsylvania State University Taught the laboratory component of an introductory ecology and evolutionary biology course to two sections (total of forty students), each Spring.

2013-present **Supervisor**
The Pennsylvania State University Supervise and mentor an undergraduate honors student, Michelle Lai, who entered the lab as a freshman. Provide training in molecular techniques, programming in R and reading and writing scientific literature. Successfully mentored her to win an Undergraduate Discovery Grant from the Eberly College of Science of $4000**.**

2012 (Fall) **Pedagogy Student**
The Pennsylvania State University Received training in the theory and practice of student-centered teaching, as advocated by the Vision and Change in Undergraduate Biology Education report.

2009-2010 **Volunteer Teaching Assistant**
University of Cambridge Assisted in the teaching of molecular techniques to undergraduates enrolled in a molecular ecology course and to new members of the Knapp lab.

Service & Outreach

2013 **Center for Infectious Disease Dynamics Graduate Student Association**
Board Member & Research Synopsis Editor Wrote, edited & managed the posting of synopses of CIDD research papers onto the CIDD website.

2013 **BBC Radio Cornwall**
September 6th ***Interviewee*** Selected to appear live on air following an enthusiastic performance at a public engagement workshop at The Eden Project, which was part of EMPSEB. Spoke about evolutionary biology, my work and the conference.

2013 **Penn State Biology Graduate Student Association**
Recruiting Officer

2012-present **The Read Lab Blog**
Contributor Write posts about science and academic life. Topics covered include being a woman in science (www.thereadgroup.net/today-im-not-worrying-about-my-gender) and collaboration (www.thereadgroup.net/snakes-ladders).

2012 & 2013 **The Great Insect Fair**
Volunteer Designed and presented interactive activities on vector-borne diseases and vectors at outreach event, which attracts thousands of members of the public.

2011-present	**Center for Infectious Disease Dynamics Graduate Student Association** ***Active Member*** Attend a journal club, meet weekly with CIDD seminar speakers and partake in workshops on scientific and professional development topics.
2010	**Student Conference on Conservation Science, University of Cambridge** ***Volunteer***
2007-2010	**Imponderabilia (Student Anthropology Journal)** ***Peer Reviewer***