Curriculum Vitae: Lauren Cator

[l.cator@imperial.ac.uk](mailto:l.cator@imperial.ac.uk)

www.thecatorlab.com

ACADEMIC HISTORY

|  |  |
| --- | --- |
| **Highest Degree:** | Ph.D. in Entomology, Cornell University 2011. |
| **Other Degrees:** | B.A. in Biology and Minor in Anthropology, The Colorado College, 2006. |

**Other Professional Employment (reverse chronological order)**

|  |  |
| --- | --- |
| Oct 2018-present | Senior Lecturer (UK equivalent to Associate Professor): Department of Life Sciences, Imperial College London, UK |
| March 2013- Oct 2018 | Lecturer (UK equivalent to Assistant Professor): Department of Life Sciences,  Imperial College London, UK |
| Oct 2011- March 2013 | Postdoctoral Researcher: Centre for Infectious Disease Dynamics,  The Pennsylvania State University, USA |
| Aug 2006- May 2011 | Research Assistant: Department of Entomology,  Cornell University, USA |

FUNDING (total indicates direct and indirect costs)

**Currently Funded:**

2016-2019: **BBSRC New Investigator Award**, *Does acoustic signalling predict mating success in mosquito lines?* **Role: PI**: £481,493.

2015-2020: **USA NIH/BBSRC Ecology and Evolution of Infectious Diseases Collaborative Award**, *Vector Behavior in Transmission Ecology (VectorBiTE)* **Role: UK- PI** (USA PI- LR Johnson): £499,289 (UK Budget).

**Past Funding:**

2016-2018: **NIH R21 Exploratory Award**, *The Role of Acoustics in the Mating Behaviour of Aedes aegypti* **Role: PI**: $274,962.

2010-2011: **Dissertation Award, National Center for Zoonotic, Vector-Borne, and Enteric Diseases**, *Acoustic Signaling in the Mating Systems of Medically Important Mosquitoes* **Role: PI:** $35,000.

JOURNAL ARTICLES (trainees; \*undergraduate researchers):

1. **Cator LJ**, Johnson LR, Mordecai EA, El Moustaid F, Smallwood T, La Deau S, Johansson M, Hudson PJ, Boots M, Thomas MB, Power AG, Pawar S. *In Review*. More than a flying syringe: Using functional traits in vector borne disease research. *Biological Reviews* (bioRxiv 501320).
2. Aldersley A, Pongsiri A, Qureshi A, Harrington LC, Ponlawat A, & **Cator LJ**. *In Press*. Too “sexy” for the field? Paired measures of laboratory and semi-field performance highlight variability in the apparent mating fitness of *Aedes aegypti* transgenic strains. *Parasites and Vectors*.
3. Qureshi A, Aldersley A, & **Cator LJ**. 2019. The effect of male mating competition on competitiveness in experimental evolved lines of *Aedes aegypti*. *Proceedings of the Royal Society B*. 286 (1904):20190591.
4. Rund SSC, Braak K, **Cator LJ**, Copas K, Emrich SJ, Giraldo-Calderόn GI, Johansson MA, Heydari N, Hobern D, Kelly SA, Lawson D, Lord C, MacCallum RM, Roche DG, Ryan SJ, Schigel D, Vandergrift K, Watts M, Zaspel JM, Pawar P. 2019. MIReAD, a minimum information standard for reporting arthropod abundance data. *Scientific Data* 6 (1):40.
5. Gregory N, Ewers R, Chung AYC, & **Cator LJ**. 2019. El Niño drought and tropical forest conversion synergistically determine mosquito development rate. Environmental Research Letters. 14(3): 035003.
6. Aldersley A & **Cator LJ**. 2019. Female resistance and harmonic convergence influence male mating success in *Aedes aegypti*. *Scientific Reports* 9:2145.
7. Lang B, Igdobe S, McManus K\*, Qureshi A & **Cator LJ**. 2018. The effect of larval diet on adult survival, swarming activity, and copulation success in male *Aedes aegypti* (Diptera: Culicidae). *Journal of Medical Entomology* 55(1):29-35.
8. Lefévre T, Ohm J, Dabiré K, Cohuet A, Choisy M, Thomas M, & **Cator LJ**. 2018. Transmission traits of malaria parasites within the mosquito: relative importance of genetic variation and phenotypic plasticity with consequences for control. *Evolutionary Applications* 11(4): 456-469.
9. **Cator, LJ**. 2017. Malaria altering host attractiveness and mosquito feeding. *Trends in Parasitology* 17: S1471-4992.
10. **Cator, LJ.** 2017. Host attractiveness and malaria transmission to mosquitoes. *The Journal of Infectious Diseases* 216 (3): 289-290.
11. Murdock CC, Luckhart S, & **Cator LJ**. 2017. Puppet master in a tango: Immunity and Host Physiology, and Behaviour in Infected Vectors. *Current Opinion in Insect Science* 20:28-33.
12. **Cator LJ** & Z. Zanti. 2016. Size, sounds, and sex: interactions between body size and harmonic convergence determine mating success in *Aedes aegypti*. *Parasites and Vectors* 9 (1):622.
13. Ohm J, Nielsen W, Read AF, Thomas MB, & **Cator LJ**. 2016. The effect of feeding and immune challenge on the reproductive fitness of *Anopheles stephensi*. *Parasites and Vectors*. 9 (113):1-10.
14. **Cator LJ**, Pietri JE, Murdock CC, Ohm J, Lewis E, Read AF, & Luckhart S, Thomas MB. 2015. Immune Response and insulin signaling alter feeding in the malaria vector *Anopheles stephensi*. *Scientific Reports* 5 (11947): 1-10.
15. **Cator LJ**, Lynch PA, Thomas MB & Read AF. 2014. Alterations in mosquito behavior by malaria parasites: potential impact on force of infection. *Malaria Journal* 13: 164.
16. **Cator LJ**, George J, Blanford S, Murdock CC, Baker TC, Read AF, & Thomas MB. 2013. ‘Manipulation’ without the parasite: altered feeding behaviour of mosquitoes is not dependent on infection with malaria parasites. *Proceedings of the Royal Society B.* 280 (1763): 1-7.
17. Paaijmans KP, **Cator LJ** & Thomas MB. 2013. Temperature-dependent pre-bloodmeal period and temperature-driven asynchrony between parasite development and mosquito biting rate reduce malaria transmission intensity. *PLoS One* 8 (1): e55777.
18. **Cator LJ**, Thomas S, Paaijmans KP, Sangamithra R, Justin NAJA, Mathai MT, Read AF, Thomas MB, & Eapen A. 2013. Characterizing the thermal environment in malaria transmission settings in urban Chennai, India. *Malaria Journal* 12 (1): 84-93.
19. **Cator LJ**, PA Lynch, AF Read, & MB Thomas. 2012 Do malaria parasites manipulate mosquitoes? *Trends in Parasitology* 28 (11): 466-470.
20. Das, A, Anvikar AR, **Cator LJ**, Dihman RC, Eapen A, Mishra N, Nagpal BN, Nanda N, Raghavendra K, Read AF, Sharma SK, Singh OP, Singh V, Sinnis P, Srivastava HP, Sullivan SA, Sutton PL, Thomas MB, Carlton JM & Valecha N. 2012. Malaria in India: The Center for the Study of Complex Malaria in India. *Acta Tropica* 121 (3): 267-273.
21. **Cator LJ** & Harrington LC. 2011. Harmonic Convergence and Sexy Sons: Indirect Benefits Associated with Acoustic Signals in the Dengue Vector. *Animal Behaviour* 82 (4): 627-633.
22. **Cator LJ**, Arthur BJ, Ponlawat A, & Harrington LC, 2011. Behavioral observations and sound recordings of free-flight mating swarms of Ae. aegypti in Thailand. *Journal of Medical Entomology* 48 (4):941-9461.
23. **Cator LJ**, Ng'Habi KR, Hoy RR, & Harrington LC. 2010. Sizing up a mate: variation in production and response to acoustic signals in *Anopheles gambiae*. *Behavioral Ecology* 21 (5): 1033-1039.
24. **Cator LJ**, Arthur BJ, Harrington LC, & Hoy RR. 2009. Harmonic convergence in the love songs of the dengue vector mosquito. *Science* 323 (5917): 1077-1079.

AWARDS

|  |  |
| --- | --- |
| 2016 | Excellence in Teaching Award, Faculty of Natural Sciences, Imperial College London |
| 2011 | Finalist, Director's Early Independence Award, National Institutes of Health |
| 2010 | Young Investigator Award, American Society of Tropical Medicine and Hygiene |
| 2010 | Outstanding Graduate Teaching Award, Cornell University |
| 2009 | Travel Award, American Committee of Medical Entomology ($5,000) |
| 2009 | Young Investigator Award, American Society of Tropical Medicine and Hygiene |
| 2008 | Griswold Memorial Research Fund, Cornell University ($5,000) |
| 2008 | Rawlins Memorial Research Fund, Cornell University ($1,200) |

TEACHING EXPERIENCE

|  |  |
| --- | --- |
| Instructor | Disease Ecology and Epidemiology, Final Year Undergraduate, Imperial College London, 2019  Population and Community Ecology Final Year Undergraduate, Imperial College London, 2015  Behavioural Ecology, Masters Level, Imperial College London, 2014, 2015, 2016, 2017,2019  Graduate Seminar in Ecology of Infectious Disease, Pennsylvania State University 2013 |
| Contributor | Behavioural Ecology, 2nd Year Undergraduate, Imperial College London, 2016,2017  Integrated Pest Management, Masters Level, Imperial College London, 2016  Agroecology, Masters Level, Imperial College London, 2017, 2019 |
| Guest Lecturer | Global Health, Senior Year Course, Lafayette College, 2013 Introduction to Medical Entomology  Global Health, Senior Year Course, Lafayette College, 2012, What is a Medical Entomologist?  Medical and Veterinary Entomology, Undergraduate, Cornell University, 2011, Mosquito Behavior  Pest Management for the Practitioner, Undergraduate, Cornell University, 2010, The Control of Medically Important Insect Species  Plagues and People, Undergraduate (non-majors), Cornell University, 2009, Emerging Infectious Diseases  Pest Management for the Practitioner, UG, Cornell University, 2008, Medical Entomology  Plagues and People, UG, Cornell University, 2007, Why are vector-borne diseases increasing? |
| Teaching Assistant | Plagues and People, Cornell University, 2007, 2009  Pest Management for the Practitioner, Cornell University, 2009  to the Biological Sciences, Cornell University, 2006-2007 |
| Training | Imperial College London Learning and Development Program (Imperial College London)  Imperial College London Training in: Unconscious Bias, Bullying Prevention Training, Active Bystander Training, Mental Health Awareness.  Cornell University “Writing the in Majors” Teaching Assistant Program Graduate 2010 |

SUPERVISION

Postdoctoral Researchers Supervised:

* Andrew Aldersley (2016-2019)

Doctoral Students Directed (4):

* Nichar Gregory, Imperial College London, Science and Solutions for a Changing Planet Doctoral Training Programme, 2015-present
* Paul Huxley, Imperial College London, Science and Solutions for a Changing Planet Doctoral Training Programme, 2016-present
* Marie Russell, Imperial College London, Presidential Fellow, October 2017-present
* Claudia Wyer, Imperial College London, Science and Solutions for a Changing Planet Doctoral Training Programme, 2015-present 2019-present

Masters Student Projects Supervised (12):

* Elizabeth Psomos (2015)
* Stefano Igdobe (2015)
* Zacharo Zanti (2015)
* Bethan Lang (2016)
* Mhairi Miller (2017)
* Jacob Cohen (2017)
* Natcha Dankittipong (2017)
* Lizzie Keene (2019)
* Maisie Vollans (2019)
* Mia Williams (2019)
* Kyle Smith (2019)
* Deraj Wilson-Agarwal (2019)

Undergraduate Student Projects Supervised (9):

* Sarah Warwicker (2015)
* Douglas Rees (2016)
* Celia Lutrat (2016)
* Kirelle MacManus (2016)
* Olivia Bates (2016) (UROP placement)
* Florence Drury (2016) (UROP placement)
* Sina Lari (2017)
* Dina Binti Md Sukor (2017)
* Tara Patel (2019)

PROFESSIONAL ACTIVITIES

|  |  |
| --- | --- |
| External Examiner | Keele University 2016  Bristol University 2015  University of Glasgow. 2018  Oxford University, 2017  London School of Tropical Medicine and Hygiene 2017 |
| Presentations | Vector-borne Diseases in the UK, Invited Speaker, 2018  Oxford University, Edward Grey Field Institute, 2018  Royal Society of Entomology, Invited Speaker, 2017  London School of Tropical Medicine and Hygiene, Invited Speaker, 2017  Behavioral Ecology Methods Workshop, Invited Speaker, Pennsylvania State University, 2017  Wellcome Trust Sanger Institute, Institute Seminar 2016  Pirbright Institute, Institute Seminar, 2016  University of Georgia, Department of Infectious Diseases, 2016  International Congress of Entomology, Invited Speaker, 2016  Bristol University. Life Sciences Department, 2016  Sheffield University, Life Sciences Department, 2015  Keele University, School of Life Sciences, 2015  Edinburgh University, Center for Immunity, Infection, and Evolution, 2014  American Society of Tropical Medicine and Hygiene, Invited Speaker, 2014  Pennsylvania State University, Department of Ecology, 2013  Laussane University, Life Sciences Seminar, 2013  Imperial College London, Life Sciences Seminar, 2013  American Society of Tropical Medicine and Hygiene, 2013  Animal Behavior Society Annual Meeting, 2013  Pennsylvania State University, Centre for Infectious Disease Dynamics, 2013  Indian National Academy of Vector Borne Disease Symposium on Vectors and Vector Borne Diseases, 2011  American Society of Tropical Medicine and Hygiene, 2010  American Society of Tropical Medicine and Hygiene, 2009  International Congress of Vector Ecology, Invited Student Speaker, 2009 |
| Organization | VectorBiTE: Training and Network Meeting, Lead Organizer and Chair, Trento, Italy, 2019  VectorBiTE: Training and Network Meeting, Asilomar, USA, 2018  VectorBiTE: Training and Network Meeting, Lead Organizer and Chair, London, UK 2017  VectorBiTE: Training and Network Meeting, Tampa, USA, 2016  The ins and outs of mosquito feeding behavior and malaria transmission, Co-organized with Matt Thomas, American Society of Tropical Medicine, 2013 |
| Reviewer for | Journal of Medical Entomology, American Journal of Tropical Medicine and Hygiene, Evolution. Proceeding of the Royal Society B, Journal of Insect Behavior, Memòrias do Instituto Oswaldo Cruz, Biology Letters, Scientific Reports, Parasites and Vectors, Journal of Insect Behavior, Evolutionary Applications. |
|  |  |

DEPARTMENT SERVICE

|  |  |
| --- | --- |
| 2019 | Department of Life Sciences Faculty Recruitment, Chair for Ecology and Evolution |
| 2015- present | Department of Life Sciences Equal Opportunities Committee, Member |
| 2015-2016 | Silwood Park Campus Management Committee, Member |
| 2014-2016 | Silwood Park Campus Health and Safety Committee, Chair |

OUTREACH AND COMMUNICATION

|  |  |
| --- | --- |
| Interviews | The Parasite that Lures Mosquitoes to Humans by Sarah Zhang, The Atlantic, 2017.  Field Notes: Meddling With Mosquito Romance in the Name of Public Health by Dava Sobel Discover Magazine. 2009.  Whining and Dining: Love Mosquito Style by Michael Wall, Wired Magazine, January 2009  Live Interview with Canadian Broadcasting Company. 2009.  Mosquito love songs: How do they find mates, The Naked Scientists, 2009. |
| Contributor | Bug Bitten Blog, Biomed Central (2014-2016) |