Quentin Geissmann

quentin.geissmann13@imperial.ac.uk

Date of Birth: 27^{th} December 1986
Address: 38 Woodleigh gardens, SW16 2SY, London, UK
Nationality: French
Webpage: https://quentin.geissmann.net

Research Experience

2014–2018 *PhD student.* Department of Life Sciences, Imperial College London. **High-throughput Acquisition, Analysis and Alteration of Sleep in *Drosophila*** (Dr. G. Gilestro).

- Statistical analysis and modelling of large time series
- Computer-aided design, 3d printing and electronics
- Machine learning applied to behaviour analysis

2010–2013 *Research technician.* Department of Animal and Plant Sciences, Sheffield University. **Stress, Resistance and Evolution of Bacteria Facing the Insect Immune System** (Prof. J. Rolff).

- Image processing, computer vision
- Experimental microbiology and flow cytometry
- Bioinformatics

2010 (six months) *Master's placement.* Global Health Institute, EPFL (Switzerland). **Molecular and Functional Characterisation of the Peptidoglycan Recognition Protein LC (PGRP-LC) in *Drosophila* immunity** (Dr. C. Neyen, Prof. B. Lemaitre).

- Confocal microscopy
- Experimental genetics
- Molecular biology

2009 (five months) *Master's placement.* UMR 1272: Insect Physiology, Signalling and Communication, INRA Versailles. **Electrophysiological Study of Olfactory Receptor Neurones of Male *Spodoptera litoralis* in Response to a Female Pheromone** (Dr. P. Lucas, PI. S. Anton).

- Electrophysiological data analysis
- Single sensillum recording

Education

2013–2014 *MSc.* **Bioinformatics and Theoretical Systems Biology**, distinction. Imperial College, London.

2008–2010 *MSc.* **Integrative Biology and Physiology**, equivalent distinction. Specialist modules: Molecular phylogenetics" and "Mathematical modelling in biology". Université Pierre et Marie Curie, Paris.

2005–2008 *BSc.* **Biology of Organisms**, equivalent first. Specialist modules: "Behavioural biology", "Ecological interactions". Université de Bourgogne, Dijon.

Scientific Computing and Programming[1]

In addition to my primary interest in biology, I have extensive experience in computer programming and have developed several scientific applications in various languages:

`R`	*Highly competent*: base functions, statistics, algebra, data visualisation and package development.
`python`	*Highly competent*: scientific computing, package development and web applications.
`C/C++`	*Highly competent*: OpenCV (image processing & machine learning), OpenMP and standard library.
System	*Highly competent*: GNU/Linux.
Web	*Competent*: javascript and HTML/CSS.

Teaching, Supervision and Outreach

2017–2018	*Statistics in `R`* to undergraduate students, teaching assistant, 12h/year.
2017	Public engagement at Imperial College festival: interactive presentation of ethomics, 2h.
2016–2017	Lecture seminar: "High-throughput analysis of sleep behaviour" for the Applied Biosciences and Biotechnology MSc, 2h/year.
2014–2017	*`Python` programming* for the Bioinformatics and Theoretical Systems Biology MSc, teaching assistant, 12h/year.
2014–2018	Supervision of masters and undergraduate students, on average three students per year.
2013	*`Unix` tools for biologists*, at Next Generation Sequencing workshop, Sheffield University, 3h.

Publications[2]

2018	**Q. Geissmann**, L. García Rodriguez, E. J. Beckwith, G. F. Gilestro. Rethomics: an R framework to analyse high-throughput behavioural data. *bioRxiv preprint*.
2017	**Q. Geissmann**, L. García Rodriguez, E. J. Beckwith, A. S. French, A. R. Jamasb, and G. F. Gilestro. Ethoscopes: An open platform for high-throughput ethomics. *PLoS Biology*.
2017	E. J. Beckwith, **Q. Geissmann**, A. S. French, and G. F. Gilestro. Regulation of sleep homeostasis by sexual arousal. *eLife*.
2016	S. Fan*, **Q. Geissmann***, E. Lakatos*, S. Lukauskas*, A. Ale, A. C. Babtie, P. D. W. Kirk, and M. P. H. Stumpf. MEANS: python package for Moment Expansion Approximation, iNference and Simulation. *Bioinformatics*.
2014	L. Duvaux, **Q. Geissmann**, K. Gharbi, J.-J. Zhou, J. Ferrari, C. M. Smadja, and R. K. Butlin. Dynamics of Copy Number Variation in Host Races of the Pea Aphid. *Mol Biol Evol*.
2013	**Q. Geissmann**. OpenCFU, a New Free and Open-Source Software to Count Cell Colonies and Other Circular Objects. *PLoS ONE*.

Significant Posters and Presentations

2018	Invited speaker: How much sleep does a fly *really* need? *Life Sciences Departmental Seminar, Imperial College London*.
2017	Poster: **Q. Geissmann**, L. García Rodriguez, E. J. Beckwith, and G. F. Gilestro. Is sleep deprivation really lethal to flies? *European Drosophila Research Conference, London*.
2017	Invited speaker: Is sleep deprivation really lethal to flies? *Champalimaud Centre for the Unknown, Lisboa*.
2017	Poster: **Q. Geissmann**, L. García Rodriguez, E. J. Beckwith, and G. F. Gilestro. Next generation activity monitoring sheds new light on *Drosophila* sleep. *UK clock club, Oxford*.
2015	Invited speaker: High throughput quantification of sleep in fruit fly. *MRC translational innovation mixers, London*.

[1] Most of my contributions are open-source and publicly available (see http://github.com/qgeissmann)
[2] Detailed list on my webpage (https://quentin.geissmann.net#publications)
* Co-first authorship