



QUENTIN GUIGNARD, PHD

Post-doctoral fellow, Forestry and Agricultural Biotechnology Institute (FABI)



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Online profile

SKILLS

I specialize in chemical and visual ecology of insects. My expertise includes technical skills and scientific knowledge required to be autonomous from laboratory experiments to field trials in both disciplines.

I know how to use, maintain and troubleshoot:

- GC-MS/FID
- Electro-antenogram (EAG)
- Mobile EAG
- Electro-retinogram (ERG)

In addition, I am familiar with:

- SPME and Porapak sampling of VOCs
- Chromatography analyses
- Mass spectrum identification
- Behavioral tests
- Field trip design
- Insect rearing
- DNA/RNA extraction
- Primer design
- PCR
- Phylogenetic reconstruction
- Genomic comparison
- Statistical analyses with R (statistical analyses, PCA, modelling)

Languages:

- French (fluent)
- English (fluent)

EXPERIENCE

POST DOCTORAL FELLOW • FABI (PRETORIA, SOUTH AFRICA) • 2021 - ACTUAL

My Post-doctoral project aims to determine if the detection of the pheromone plume structure varies within and between species in insects using a mobile EAD.

PHD STUDENT • FABI (PRETORIA, SOUTH AFRICA) • APR 2016 - 2021

My PhD focused on the chemical and visual ecology of the pest, *Sirex noctilio*. I characterized the male pheromone composition, origin, release rate and antennal activity. I also studied the number, sequence, phylogeny, expression and absorbance of the visual opsin. I conducted field trials for three years, testing different pheromone blend, colours and other visual attractants.

MASTER STUDENT • INRA (VERSAILLE, FRANCE) • JAN - MAR 2016

Volatile profile characterization of various alfalfa developmental stage with consideration for feeding preferences of its pest, *Tychius aureolus*.

MASTER STUDENT • IRBI (TOURS, FRANCE) • JAN - JUL 2014

I extracted and analysed cuticular hydrocarbons at different larval stages and for different adult castes of the invasive Asian hornet, *Vespa Velutina*.

SELECTED PUBLICATIONS

Guignard Q, et al. (2022) Chemical and visual ecology of the Symphyta. *Agricultural and Forest Entomology (Accepted and submitted for publication)*.

Guignard Q, et al. (2022) The evolution of insect visual opsin genes with specific consideration of the influence of ocelli and life history traits. *BMC Ecology and Evolution*.

Guignard Q, et al. (2021) Evidence for UV-green dichromacy in the basal hymenopteran *Sirex noctilio* (Siricidae). *Scientific Reports*.

Guignard Q, et al. (2020) Biology of a putative male aggregation-sex pheromone in *Sirex noctilio* (Hymenoptera: Siricidae). *PlosOne*.

Darrrouzet, E, J Gévar, **Q Guignard**, and S Aron (2015) Production of Early Diploid Males by European Colonies of the Invasive Hornet *Vespa Velutina Nigrithorax*. *PlosOne*.

AWARDS AND GRANTS

FABI awards: "Post doc of the year" 2021, "Getting the message to the public" 2020, "best website" 2016

The Conversation scientific communication essay 2020 (R30 000)

Zoology and Entomology AGM Best PhD presentation 2019

ESSA young entomologist travel grant 2019 (R30 000)

EDUCATION

PhD in Entomology • 2021 • University of Pretoria

Master (with distinction) in Chemical Ecology • 2016 • University Bretagne Sud

Master (with distinction) in Biodiversity, Ecology, Environment • 2014 • University Joseph Fourier

VOLUNTEER EXPERIENCE

Deputy coordinator of the IUFRO WP 7.03.16 (chemical and behavioural ecology of forest insects)

Chemical ecology platform responsible at FABI (maintenance of the equipment, organization of consumables and tutoring to students)

Guest lecturer to 3rd years students since 2017 on "Chemical and visual ecology of insects"