Violaine Llaurens, Directrice de recherche CNRS

Violaine Llaurens is an evolutionary biologist, currently directing a research team focused on the diversification of trait and species in natural communities. Her research projects combine mathematical modelling, behavioural ecology and molecular biology to investigate the genetic and ecological factors involved in diversification in the wild. She extensively worked on balancing selection regimes, explaining the emergence and persistence of polymorphism within populations, in various organisms, from plants to humans. She developed several research projects on the evolution of wing color patterns in butterflies, specifically investigating the interplay between the selective pressures and the genetic architecture underlying trait variations. She is currently tackling new research questions on the feedbacks between trait divergence and speciation in sympatric species.

ACADEMIC POSITIONS

Since 2023 **Head of the team *Ecology & evolution of trait and species diversification*** at the Center for Interdisciplinary Research in Biology, Paris (France).

2020 **DR2 CNRS (Senior Researcher),** Institute of Systematics, Evolution and Biodiversity, National Museum of Natural History, Paris (France).

2015-2023 **Head of the team *Evolution and Development of phenotypic variations***, at Institute of Systematics, Evolution and Biodiversity, National Museum of Natural History, Paris (France).

2011 **CR CNRS (Junior Researcher),** Institute of Systematics, Evolution and Biodiversity, National Museum of Natural History, Paris (France).

2010 **Marie Curie research fellow,** *Sheltered genetic load associated to the MHC in guppies*, with C. van Oosterhout, University of Hull (UK).

2008 - 2009 **Postdoctoral fellow,** *Evolution of handedness in humans***,** with M. Raymond, Institute of Evolutionary sciences, University of Montpellier 2 (France).

EDUCATION

2016 **HDR,** Dissertation on *Origin & persistence of adaptive polymorphism: from population genetics to macroevolution through evodevo*, Paris-Saclay University (France)

2007 **PhD thesis,** *Evolutionary forces involved in the polymorphism at the self-incompatibility locus in Arabidospis halleri*, supervised by X Vekemans, University of Lille (France)

2004 **Master** *Evolution & functioning of ecosystems*, Sorbonne University/Paris-saclay/AgroParisTech, Paris (France)

Agronomy Engineer, AgroParisTech, Paris (France)

FUNDINGS

2023-2028 **ERC Consolidator OUTOFTHEBLUE,** *Evolutionary feedback between traits and species diversification: convergence and divergence in sympatric butterflies of the Amazonian rainforest* **– PI**

2022-2023 **ANR Tremplin ERC – PI**

2018 - 2022 **ANR SUPERGENE,** *The consequences of supergene evolution* (PI: M Joron) https://anr.fr/Project-ANR-18-CE02-0019 **– Scientific partner**

2016 - 2021 **Emergence Program from Paris City Council,** *Evolution & Development of mimetic wing colour patterns* **– PI**

2013 - 2017 **ANR JCJC DOMEVOL,** *Mechanisms and evolution of dominance* https://anr.fr/Project-ANR-13-JSV7-0003 **– PI**

2010 **Marie Curie fellowship** https://cordis.europa.eu/project/id/254065/fr

SUPERVISION

PHD THESES

2023-2026 **Titouan Bouinier** (co-supervised with C Smadi), *Evolution of temporal niches in Morpho butterflies*

2023-2026 **Chloé Mian** (co-supervised with S Billiard & C Smadi)*Mathematical analyses of Lokta-Volterra models applied to the evolution of mutualism*

2023-2026 **Raphaël Dupilliers** (co-supervised with V Debat & F Muijeres), *Biomechanics & evolution of flapping flight in Morpho butterflies*

2022-2025 **Joséphine Ledamoisel** (co-supervised with V Debat), *Co-evolution between coloration and vision in Morpho butterflies.*

2021-2024 **Agathe Puissant,** *Evolution of wing color patterns in Papilionidae butterflies*

2019-2022 **Ariane Chotard** (co-supervised with V Debat)**,** *Evolution of wing tails in Papilionidae: macro-evolutionary and experimental approaches*

2019-2022 **Ludovic Maisonneuve** (co-supervised with C Smadi), *On the conflict between sexual selection and adaptation: a mathematical approach*

2017-2020 **Camille Le Roy** (co-supervised with V Debat) *Evolution of flight and diversification in sympatry: Morpho butterflies as a case-study*

2016-2019 **Ombeline Sculfort** (co-supervised with B Nay), *Evolution of chemical defences in communities of mimetic Amazonian butterflies*

2012-2015 **Monica Arias** (co-supervised with M théry), *The adaptive landscape associated with wing color patterns in the mimetic butterfly Heliconius numata*

POSTDOCS

2024-2027 **Riccardo Poloni**

2024 **Erika Paez**

2016-2018 **Héloïse Bastide**

2014-2016 **Suzanne Saenko**

EDITORIAL AND REVIEWING WORK

Associate Editor for the Journal *Evolution*

Recommender for PCI Evolutionary Biology

Reviewer for the journals Science, E-life, Evolution, J of Evolutionary Biology, J Exp Biology…

SCIENTIFIC POPULARIZATION

https://www.youtube.com/watch?v=z4XRh2dgLc0

https://www.youtube.com/watch?v=geFCVSM2PFE

www.radiofrance.fr/franceculture/podcasts/la-methode-scientifique/lumiere-sur-les-papillons-3880548

https://www.radiofrance.fr/franceinter/podcasts/la-terre-au-carre/la-terre-au-carre-du-mardi-21-decembre-2021-3814739

SCIENTIFIC PUBLICATIONS

https://scholar.google.com/citations?user=HG30MOQAAAAJ&hl=fr&oi=ao

https://orcid.org/0000-0003-1962-7391