

CNRS Research Director  
TED Fellow

IBENS • Ecole Normale Supérieure • UMR 8197 CNRS

E-mail: [helene.morlon@bio.ens.psl.eu](mailto:helene.morlon@bio.ens.psl.eu)

[Website](#)

## EDUCATION AND PROFESSIONAL EXPERIENCE

### Research Director, CNRS (DR2)

Institut de Biologie de l'Ecole Normale Supérieure, Jan 2014-present

**HDR** from the Ecole Normale Supérieure, December 2014

**Research Scientist, CNRS**, Centre de Mathématiques Appliquées, Ecole Polytechnique, Oct 2010-Jan 2014

**Associate member**, Center for Interdisciplinary Research in Biology, Collège de France, June 2011 – present

### Postdoctoral Researcher, Ecology, 2005-2010

University of California, Berkeley (Potts Lab) 2009-2010

University of Pennsylvania, Philadelphia (Plotkin Lab), 2008 - 2009

University of Oregon, Eugene (Green Lab and Bohannan Lab), 2007-2008

University of California, Merced (Green Lab), 2005-2007

### Ph.D., Environmental Sciences, 2001-2005

University of Bordeaux I, France

Dissertation Committee: Alain Boudou, Jacqueline Garnier-Laplace, Claude Fortin

Dissertation Title: “Uptake of selenite –Se(IV)- in the unicellular green algae *Chlamydomonas reinhardtii*. Bioaccumulation and effect induced on growth and ultrastructure.”

### M.S., Ecology, June 2001

University of Paris VI – ENS Ulm, France

Dissertation Title: “A Model of sexual selection using adaptative dynamics:

Reversibility of the Fisher’s runaway”

### B.S., Mathematics, June 2000

Ecole Normale Supérieure, Cachan, France

Agrégation in mathematics (nationwide competition for teaching positions at the university)

## DISTINCTIONS

2021 Ambassador’s Chair, KU Leuven

2021 CNRS silver medal

2021 Nominated « Chevalier de l’ordre national du mérite »

2017 Irène Joliot Curie Price « Young Scientific Woman » from the National Academy of Sciences

2016 Nominated to join the AcademiaNet network of Outstanding Female Academics  
2016 TED Fellow  
2015 CNRS bronze medal

## FUNDING

**2022-2025 ANR – PI Morlon (€ 350,000)**  
**2022-2024 Labex Memolife (PI Morlon € 165,000, € 60,000 for Morlon)**  
2021-2023 IMPT, co-PI with H el ene Leman (€ 107,200)  
2021-2022 GENCI computing hours  
**2021-2023 Marie-Curie IF (Morlon scientist in charge of grant to J. Barido-Sottani)**  
2021-2023 Alliance, co-PI with Jonathan Drury and Julien Clavel  
**2020-2023 Marie-Curie IF (Morlon scientist in charge of grant to O. Robles, co-PI C. Moritz)**  
**2020-2022 Marie-Curie IF (Morlon scientist in charge of grant to I. Quintero)**  
**2018-2021 Twinning grant (PI Anna Papadopoulou, € 999,320, € 225,093 for Morlon)**  
**2018-2021 PSL program IRIS (PI Morlon, € 100,000)**  
2017-2018 Labex Memolife (PI Amaury Lambert, € 140,000)  
2016-2020 ANR (PI Rodolphe Rougerie, € 495,097)  
2015-2018 CESAB - PI Rodolphe Rougerie  
2015-2016 PROCOPE, co-PI with Florian Hartig  
**2014-2020 ERC, Consolidator Grant – PI Morlon (€ 1,857,856)**  
**2014-2016 Marie-Curie IEF (Morlon scientist in charge of grant to O. Missa)**  
2013-2016 ANR Blanc (PI Christopher Baralotto, € 600,000)  
2013-2015 CEBA PI J er me Chave & Alain Franc (€ 300,000)  
**2013-2015 Marie-Curie IOF (Morlon scientist in charge of grant to P.H. Fabre, co-PI J. Losos)**  
2013-2016 ANR JCJC (PI Herv e Sauquet, € 250,000)  
2012 France-Berkeley Fund (PI Morlon, co-PI Charles Marshall, € 10,000)  
2012 Chaire Francaise dans l'Etat de Sao Paulo (Br sil) - PI Morlon (co-PI Tiago Quental)  
**2011-2015 ANR, Chaire d'Excellence - PI Morlon (€ 283,000)**  
2011-2015 CESAB - PI Christophe Th baud  
2008-2011 CNRS - PI J er me Chave (€ 167,000)  
2007 MESR, Initiative post-doc (€ 5,000)  
2002-2005 MESR PhD fellowship (declined)  
2001 MESR Master fellowship

## SUPERVISION

2021- Joelle Barido-Sottani (PhD, ETH Zurich, Switzerland), Marie-Curie post-doctoral fellow  
2020- Octavio Jimenez Robles (PhD, Madrid), Marie-Curie post-doctoral fellow  
2020- Ignacio Quintero (PhD, Yale University), Marie-Curie post-doctoral fellow  
2014-2016 Olivier Missa (PhD, Free University of Brussels), Marie-Curie post-doctoral fellow  
2013- 2014 Pierre Henri Fabre (PhD, Universit  de Montpellier), Marie-Curie post-doctoral fellow  
  
2019- Isaac Overcast (PhD, City College of New York), post-doctoral researcher  
2019-2020 Ignacio Quintero (PhD, Yale University), post-doctoral researcher  
2018-2020 Ana Catarina Silva (PhD, Lisbon University), post-doctoral researcher  
2017-2020 Leandro Aristide (PhD, University of La Plata), post-doctoral researcher  
2017-2020 Guilhem Sommeria (PhD, Universit  de Toulouse), post-doctoral researcher  
2018-2020 Odile Maliet (PhD, Ecole Normale Sup rieure), post-doctoral researcher  
2018-2020 Carmelo Fruciano (PhD, University of Catania), post-doctoral researcher

2016-2018 Olivier Missa (PhD, Free University of Brussels), post-doctoral researcher  
2014-2018 Julien Clavel (PhD, Université de Lyon), post-doctoral researcher  
2014-2018 Eric Lewitus (PhD, University College London), post-doctoral researcher  
2016-2017 Renske Gudde (PhD, University of Reading), post-doctoral researcher  
2014-2016 Jonathan Drury (PhD, UCLA), post-doctoral researcher  
2012-2014 Daniel Moen (PhD, Stony Brook University), post-doctoral researcher  
2012-2014 Fabien Condamine (PhD, Université de Montpellier), post-doctoral researcher

2020- Jakub Voznica, graduate student in biology at Pasteur (co-director Olivier Gascuel)  
2018- Sophia Lambert, graduate student in biology at the ENS  
2018- Benoit Perez, graduate student in biology at the ENS (co-director MA Sélosse)  
2015-2018 Odile Maliet, graduate student in biology at the ENS (co-director Nicolas Loeuille)  
2014-2018 Marc Manceau, graduate student in biology at the ENS (co-director Amaury Lambert)  
2013-2017 Guilhem Sommeria, graduate student (co-director Jérôme Chave)  
2014-2015 Brian Maitner, graduate student at the University of Arizona  
2013-2016 Luna Sanchez Reyes, graduate student at the University of Mexico  
2013-2015 Jana Smrckova, graduate student at the University of South Bohemia  
2012-2016 Hannah Salim, Chateaubriand fellow (graduate student at Berkeley)  
2011-2014 Jonathan Rolland, graduate student in biology

2021 Jérémy Andréoletti, master student in Biology, Ecole Normale Supérieure  
2021 Thomas Merrien, master student in Biology, AgroParisTech  
2020 Benoit Pichon, master student in Biology, AgroParisTech  
2020 Nathan Gil, master student in Biology, U Montpellier  
2019 Clio Dalmaz, master student in Biology, Center for Interdisciplinary Research  
2018 Margaux Bieuville, master student in Biology, Erasmus Mundus  
2018 Sophia Lambert, master student in Biology, Center for Interdisciplinary Research  
2017 Benoit Perez, master student in Biology, Ecole Normale Supérieure  
2016 Cesar Martinez, master student in Biology, AgroParisTech  
2016 Linh-Phuong Nguyen, master student in Biology, Ecole Normale Supérieure  
2015 Olivier Billaud, master student in Biology, AgroParisTech  
2013 Mircea Sofonea, master student in Biology, Ecole Normale Supérieure  
2013 Victoria Culshaw, master student in Statistics & Biology, University of St-Andrews  
2012 Elizabeth Reyes, master student in Biology, Université Paris-Sud  
2012 Prince Peprah, master student in Mathematics, Ecole Polytechnique  
2012 Yacine Ben Chehida, master student in Biology, Université Pierre et Marie Curie  
2011 Marc Manceau, master student in Biology, Ecole Normale Supérieure

2020 Loréna Duret, L3 student in Biology, Ecole Normale Supérieure  
2020 Philippine Dubertrand, L3 student in Biology & Informatics, Université de Versailles  
2019 Rémy Le Goff, L3 student in Biology, Ecole Normale Supérieure  
2019 Nina Vittorelli, L3 student in Cognitive Sciences, Ecole Normale Supérieure  
2017 Samuel Delbecq, L3 student in Biology, Ecole Normale Supérieure  
2016 Camille Saade, L3 student in Biology, Ecole Normale Supérieure

## TEACHING

2021 Transmitting Science RPANDA course  
2021 Q-life Winter School “TARA”  
2021 TED-Ed Lesson

2020-2020 Biology of Ecological Systems, Master 1, Ecole Normale Supérieure  
 Autumn School “Ecological Models and Beyond”, Université Grenoble Alpes  
 2016-2019-2014-2019-2020 Seminars for the Mathematics for Life Sciences Master 2 Program  
 Computational Biology, Master 1, Ecole Normale Supérieure  
 Tutoring of ENS students, Ecology & Evolutionary Biology  
 Introductory Seminar, start of school year, ENS students  
 2015-2019 Project in Computational Biology, Ecole Normale Supérieure  
 2013-2017 Biology of Ecological Systems, Master 1, Ecole Normale Supérieure  
 2017 Mini-course in Mathematics in Biology, 9<sup>th</sup> Swedish Meeting, Vasteras  
 2016 Seminars for the Life Science program at the Ecole des Ponts  
 2014-2017 International PhD course, University of Copenhagen  
 2013-2015 Mathematics for Life Sciences, Master 2, Université Paris-Sud, Ecole Polytechnique,  
 Ecole Normale Supérieure de Cachan  
 2012-2014 Advanced Teaching (EAs), Ecole Polytechnique  
 2012 Ecole thématique du CNRS – Do Son, Vietnam  
 2010 Ecole thématique du CNRS – Kourou, Guyane Française  
 2006-2012 Invited lectures at the University of Oregon, the University of California Berkeley, the  
 Ecole Normale Supérieure, the Ecole Polytechnique, and the Museum of Natural History  
 2002-2005 Statistics for Biology, Master 1-2, Université de Bordeaux  
 2000-2001 Vacations, Université Panthéon-Sorbonne, Financial Mathematics, License, 2000-2001

## **EDITORIAL ACTIVITY**

2020 Proceedings of the National Academy of Sciences (Guest Editor)  
 2014- PloS Biology (Associate Editor)  
 2012- Ecology Letters (Associate Editor)  
 2011-2013 Systematic Biology (Editorial Board)

## **REVIEWER**

Nature, Science, Proceedings of the National Academy of Sciences, Nature Ecology and Evolution, PloS Biology, Science Advances, Molecular Biology and Evolution, Ecology Letters, Systematic Biology, New Phytologist, Nature Communications, Communications Biology, American Naturalist, Proceedings of the Royal Society B, Philosophical Transactions B, Ecology, Evolution, Methods in Ecology and Evolution, Journal of Theoretical Biology, Journal of Evolutionary Biology, Oikos, Theoretical Ecology, Journal of Biogeography, Global Ecology and Biogeography, Microbial Ecology, PLOS One, Population Ecology, Journal of Vegetation Science.

The European Research Council (Starting & Consolidator grants), The National Science Foundation, the Agence Nationale de la Recherche, the Natural Environment Research Council, the Moore Foundation, the Wallenberg Academy Fellows program

Scientific expert for the *For Women in Science* program, L’Oreal-Unesco

Scientific expert for the AERES/ HCERES (French Evaluation Agency for Research and Higher Education) (2014, 2019)

Reviewer for the evaluation of the Heidelberg Institute for Theoretical Studies (2020)  
 Promotion review for the University of Michigan (2017, 2021)

## SCIENTIFIC COMMITTEE & RESPONSABILITIES

### *Ongoing*

2021- Executive Board Member of the TARA Oceans Consortium  
2020- Member of Research Federation FR2022 Tara Oceans GOSEE  
2021- JOBIM program committee  
2020- QBio Project  
2020- Qlife Winter School  
2020- Labex Memolife  
2019- Neptune Database (NSB)  
2019- Center for Synthesis and Analysis of Biodiversity (CESAB)  
2016- Biodiversity Research Agency of the Reunion Island  
2016- CNRS section committee 29 “Biodiversity, evolution and biological adaptation”  
2016- Chief International Partnerships Officer of OneZoom

### *Past*

2016-2018 CNRS GDR “Biodiversity Theory and Modeling”  
2015 Mathematical Models in Ecology & Evolution  
2014-2017 Chaire Modélisation Mathématiques et Biodiversité  
2013-2016 CNRS interdisciplinary section committee (CID 51)  
2013- IBS National Representative for France  
2013- CNRS GDR “Statistical Ecology”  
2012- Statistical Methods for Post Genomic Data (SMPGD)

## SOFTWARE DEVELOPMENT

R developer, RPANDA package (Phylogenetic ANALyses of Diversification).

R developer, PICANTE package (Phylocom Integration, Community Analyses, Null models, Traits and Evolution in R). Collaboration with Steve Kembel.

## PUBLICATIONS

**Sommeria-Klein, G.**, Watteaux, R., Ibarbalz, F.M., Pierella Karlusich, J.J.; Iudicone, D.; Bowler, C., **Morlon, H.** (in press) Global drivers of eukaryotic plankton biogeography in the sunlit ocean *Science*

Creedy, T., Andujar, C., Meramveliotakis, E., Nogueras, V., **Overcast, I.**, Papadopoulou, A., **Morlon, H.**, Vogler, A., Emerson, B., Arribas, P. (in press) Coming of age for COI metabarcoding of whole organism community DNA: towards bioinformatic harmonization *Molecular Ecology Resources*

**Maliet, O., Morlon, H.** (2021). Fast and accurate estimation of species-specific diversification rates using data augmentation. *Systematic Biology* syab055

**Drury, J., Clavel, J.**, Tobias, J. A., Rolland, J., Sheard, C., **Morlon, H.** (2021). Tempo and mode of morphological evolution are decoupled from latitude in birds. *PloS Biology* 19(8): e3001270

Arribas, P., Andújar, C., Bidartondo, M. I., Bohmann, K., Coissac, E., Creer, S., deWaard, J.R., Elbrecht, V., Francesco G., Marta Goberna, F., Kennedy, S., Krehenwinkel, H., Leese, F., Novotny, V., Fredrik Ronquist, F., Yu, D.W., Zinger, L., Creedy, T.J., Meramveliotakis, E., Nogueras, V., **Overcast, I., Morlon, H.**, Vogler, A.P., Papadopoulou, A., Emerson, B.C. (2021) Connecting high-throughput

biodiversity inventories – opportunities for a site-based genomic framework for global integration and synthesis *Molecular Ecology* 30:1120–1135

Dorrell, R.G., Villain, A., **Perez-Lamarque, B.**, . . . ., **Morlon, H.**, Bowler, C., Blanc, G. (2021) Phylogenomic fingerprinting of tempo and functions of horizontal gene transfer within ochrophytes *Proceedings of the National Academy of Sciences* 118: e2009974118

**Morlon, H.** (2020) Diversity hotspots: Coldspots of speciation? *Science (Perspective)* 370: 1268-1269

**Manceau, M.**, Marin, J., **Morlon, H.**, Lambert, A. (2020) Model-based inference of punctuated molecular evolution *Molecular Biology and Evolution* 37: 3308–3323

**Maliet, O.**, Loeuille, N., **Morlon, H.** (2020) An individual-based model for the eco-evolutionary emergence of bipartite interaction networks *Ecology Letters* 11: 1623-1634

**Clavel, J.**, **Morlon, H.** (2020) Reliable phylogenetic regressions for multivariate comparative data: illustration with the MANOVA and application to the effect of diet on mandible morphology in phyllostomid bats *Systematic Biology* 69: 927–943

**Morlon, H.**, **Rolland, J.**, **Condamine, F.** (2020) Response to Technical Comment ‘A cautionary note for users of linear diversification dependencies’ *Ecology Letters* 7:1172-1174

**Perez-Lamarque, B.**, Selosse, M. A., Öpik, M., **Morlon, H.**, & Martos, F. (2020). Cheating in arbuscular mycorrhizal mutualism: a network and phylogenetic analysis of mycoheterotrophy *New Phytologist* 226: 1822-1835

**Lewitus, E.**, **Aristide, L.**, **Morlon, H.** (2019) Characterizing and Comparing Phylogenetic Trait Data from Their Normalized Laplacian Spectrum *Systematic Biology* 69: 234–248

**Billaud, O.**, **Moen, D. S.**, Parsons, T. L., **Morlon, H.** (2019) Estimating Diversity Through Time using Molecular Phylogenies: Old and Species-Poor Frog Families are the Remnants of a Diverse Past *Systematic Biology* 69: 363–383

**Aristide, L.**, **Morlon, H.** (2019) Understanding the effect of competition during evolutionary radiations: an integrated model of phenotypic and species diversification *Ecology Letters* 22: 2006-2017

**Condamine, F.L.**, **Rolland, J.**, **Morlon, H.** (2019) Assessing the causes of diversification slowdowns: temperature-dependent and diversity-dependent models receive equivalent support *Ecology Letters* 22: 1900-1912

**Perez-Lamarque, B.**, **Morlon, H.** (2019) Characterizing symbiont inheritance during host-microbiota evolution: application to the great apes gut microbiota *Molecular Ecology Resources* 19: 1659-1671

**Maliet, O.**, Hartig, F., **Morlon, H.** (2019) A model with many small shifts for estimating species-specific diversification rates *Nature Ecology and Evolution* 3: 1086-1092

Onstein, R. E., Kissling W.D., Chatrou, L.W., Couvreur, T.L.P., **Morlon, H.**, Sauquet, H. (2019) Which frugivory-related traits facilitated historical long-distance dispersal in the custard-apple family (Annonaceae)? *Journal of Biogeography* 46: 874-1888

**Clavel, J., Aristide, L., Morlon, H.** (2018) A penalized likelihood framework for high-dimensional phylogenetic comparative methods and an application to new-world monkeys brain evolution *Systematic Biology* 68: 93-116

**Lewitus, E.,** Bittner, L., Malviya, S., Bowler, C., **Morlon, H.** (2018) Clade-specific diversification dynamics in marine diatoms since the Jurassic *Nature Ecology and Evolution* 2: 1715-1723

Nogues-Bravo, D., Rodriguez-Sanchez, F., Orisini, L., de Boer, E., Jansson, R., **Morlon, H.,** Fordham, D., Jackson, S.T. (2018) Cracking the code of past biodiversity response to climate change *Trends in Ecology and Evolution* 30: 765-776

**Drury, J.P.,** Tobias, J.A., Burns, K.J., Mason, N.A., Shultz, A.J., **Morlon, H.** (2018) Contrasting impacts of competition on ecological and social trait evolution in songbirds *PloS Biology* 16(1): e2003563

**Lewitus, E., Morlon, H.** (2018) Detecting environment-dependent diversification from phylogenies: a simulation study and some empirical illustrations *Systematic Biology* 67:576-593

Bravo, G.A., Antonelli, A., Bacon, C.D., Bartoszek, K., Blom, M.P.K., Huynh, S., Jones, G., Knowles, L. L., Lamichhaney, S., Marcussen, T., **Morlon, H.,** Nakhleh, L.K., Oxelman, B., Pfeil, B., Schliep, A., Wahlberg, N., Werneck, F.P., Wiedenhoeft, J., Willows-Munro, S., Edwards, S.V. (2018) Embracing heterogeneity: Building the Tree of Life and the future of phylogenomics *PeerJ* 6 e26449v2

**Drury, J.P.,** Grether, G., Garland, T., **Morlon, H.** (2017) An assessment of phylogenetic tools for analyzing the interplay between interspecific interactions and phenotypic evolution *Systematic Biology* 67:413-427

**Clavel, J., Morlon, H.** (2017) Accelerated body-size evolution during cold climatic periods in the Cenozoic *Proceedings of the National Academy of Sciences* 114: 4183-4188

**Manceau, M.,** Lambert, A., **Morlon, H.** (2017) A unifying comparative phylogenetic framework including traits coevolving across interacting lineages *Systematic Biology* 66: 551-568

**Sanchez-Reyes, L., Morlon, H.,** Magallon, S. (2017) Uncovering higher-taxon diversification dynamics from clade age and species-richness data *Systematic Biology* 66: 367-378

Chazot, N., Willmott, K.R., **Condamine, F.L.,** de-Silva, D.L., Freitas, V.L., Lamas, G., **Morlon, H.,** Giraldo, C.E., Jiggins, C.D., Joron, M., Mallet, J., Uribe, S., Elias, M. (2016) Into the Andes: multiple independent colonizations drive montane diversity in the Neotropical clearwing butterflies Godyridina *Molecular Ecology* 25: 5765–5784

**Lewitus, E., Morlon, H.** Natural constraints to species diversification (2016) *PloS Biology* 14(8): e1002532

**Drury, J., Clavel, J., Manceau, M., Morlon, H.** Estimating the effect of competition on trait evolution using maximum likelihood inference (2016) *Systematic Biology* 65: 700-710

**Lewitus, E., Morlon, H.** Characterizing and comparing phylogenies from their Laplacian spectrum (2016) *Systematic Biology* 65: 495-507

- Missa, O.,** Dytham, C., **Morlon, H.** Understanding how biodiversity unfolds through time under neutral theory (2016) *Philosophical Transactions of the Royal Society B* 371: 20150226
- Morlon, H., Lewitus, E., Condamine, F.L., Manceau, M., Clavel, J., Drury, J.** RPANDA: an R package for macroevolutionary analyses on phylogenetic trees (2016) *Methods in Ecology & Evolution* 7: 589–597
- Moen, D.S., Morlon, H.,** Wiens, J.J. Testing convergence versus history: convergence dominates phenotypic evolution for over 150 million years in frogs (2016) *Systematic Biology* 65: 146-160
- Rolland, J., Condamine, F.L.,** Champak, R.B., Jiguet, F., **Morlon, H.** Dispersal is a major driver of the latitudinal diversity gradient of Carnivora (2015) *Global Ecology and Biogeography* 24: 1059-1071
- Mouquet, N., Lagadeuc, Y., Devictor, V., Doyen, L., Duputié, A., Eveillard, D., Faure, D., Garnier, E., Gimenez, O., Huneman, H., Jabot, F., Jarne, P., Joly, D., Julliard, J., Kéfi, S., Kergoat, G.J., Lavorel S., Le Gall, L., **Morlon, H.,** Pinay, G., Pradel, R., Schurr, F.M., Thuiller, W., Loreau, M. (2015) Predictive ecology in a changing world *Journal of Applied Ecology* 5: 1293-1310
- Morlon, H.,** O'Connor, T., Bryant, J.A., Charkoudian, L.K., Docherty, K.M., Jones, E., Kembel, S., Green, J.L., Bohannan, B.J.M. (2015) The biogeography of putative microbial antibiotic production *PloS One* 10(6): e0130659
- Manceau, M.,** Lambert, A., **Morlon, H.** (2015) Phylogenies support out-of-equilibrium models of biodiversity *Ecology Letters* 18: 347-356
- Condamine, F.,** Nagalingum, N.S., Marshall, C.R., **Morlon, H.** (2015) Origin and diversification of living cycads: a cautionary tale on the impact of the branching process prior in Bayesian molecular dating *BMC Evolutionary Biology* 15:65
- Warren, B.H., Simberloff, D., Ricklefs, R.E., Aguilée, R., **Condamine, F.L.,** Gravel, D., **Morlon, H.,** Mouquet, N., Rosindell, J., Casquet, J., Conti, E., Cornuault, J., Fernández-Palacios, J.M., Hengl, T., Norder, S.J., Rijdsdijk, K.F., Sanmartín, I., Strasberg, D., Triantis, K., Valente, L.M., Whittaker, R.J., Gillespie, R.G., Emerson, B.C., Thébaud, C. (2015) Islands as model systems in ecology and evolution: prospects fifty years after MacArthur-Wilson *Ecology Letters* 8: 200–216
- Lambert, A., **Morlon, H.,** Etienne, R.S. (2015) The reconstructed tree in the lineage-based model of protracted speciation *Journal of Mathematical Biology* 70: 367-397
- Reyes, E., Morlon, H.,** Sauquet, H. (2014) Presence in Mediterranean hotspots and floral symmetry affect speciation and extinction rates in Proteaceae *New Phytologist* 207:401-410
- Morlon, H.,** Kefi, S., Martinez, N. (2014) Effects of trophic similarity on community composition *Ecology Letters* 17: 1495-1506
- Etienne, R.S., **Morlon, H.,** Lambert, A. (2014) Estimating the duration of speciation from phylogenies *Evolution* 68(8): 2430-2440
- Moen, D., Morlon, H.** (2014) From dinosaurs to modern bird diversity – Extending the time-scale of adaptive radiation *PloS Biology* 12(5): e1001854



\* **Rolland, J.**, Jiguet, F., Jønsson, K.A., **Condamine, F.L.**, **Morlon, H.** (2014) Settling down of seasonal migrants promotes bird diversification *Proceedings of the Royal Society B* 281: 20140473

\* Evaluated as being “of special significance in its field” by Ellen Ketterson on Faculty of 1000

**Morlon, H.** (2014) Phylogenetic approaches for studying diversification *Ecology Letters* 17: 508-525

**Moen, D.S.**, **Morlon, H.** (2014) Why does diversification slow down? *Trends in Ecology and Evolution* 29: 190-197

\* **Rolland, J.**, **Condamine, F.L.**, Jiguet, F., **Morlon, H.** (2014) Faster speciation and reduced extinction in the tropics explain the mammalian latitudinal diversity gradient *PloS Biology* 12(1): e1001775

\* Jonathan receives the young researcher prize from the Fondation Bettencourt Schueller and the young researcher award from the SFE for this paper from his PhD

**Condamine, F.L.**, **Rolland, J.**, **Morlon, H.** (2013) Macroevolutionary perspectives to environmental change *Ecology Letters* 16: 72-85

Jaunatre, R., Buisson, E., Muller, I., **Morlon, H.**, Mesléard, F., Dutoit, T. (2013) New synthetic indicators to assess community resilience and restoration success *Ecological Indicators* 29:468-477

**Morlon, H.** (2012) Microbial cooperative warfare *Science (Perspective)* 334: 1184-1185

Dornelas, M., Buckland, S., Chazdon, R., Chao, A., Colwell, R., Curtis, T., Gotelli, N., Kosnik, M., McGill, B., Magurran, A., **Morlon, H.**, Mumby, P., Øvreås, L., Studeny, A., Vellend, M. (2012) Quantifying temporal change in biodiversity: challenges and opportunities *Proceedings of the Royal Society B* 280, 20121931

**Morlon, H.**, Kemps, B., Plotkin, J.B., Brisson, D. (2012) Explosive radiation of a bacterial species group *Evolution* 66: 2577–2586

**Rolland, J.**, Cadotte, M., Davies, J., Devictor, V., Lavergne, S., Mouquet, N., Pavoine, S., Rodrigues, A., Thuiller, W., Turcati, L., Winter, M., Zupan, L., Jabot F., **Morlon, H.** (2011) Using phylogenies in conservation: new perspectives *Biology Letters* 8: 692-694

**Morlon, H.**, Parsons, T.L., Plotkin, J.B. (2011) Reconciling molecular phylogenies with the fossil record *Proceedings of the National Academy of Sciences* 108: 16327-16332

McInnes, L., Baker, W.J., Barraclough, T.G., Dasmahapata, K.K., Goswami, A., Harmon, L.J., **Morlon, H.**, Purvis, A., Rosindell, J., Thomas, G.H., Turvey, S.T., Phillimore, A.B. (2011) Integrating ecology into macroevolutionary research *Biology Letters* 7: 644-646

\* **Morlon, H.**, Schwilk, D., Bryant, J., Marquet, P., Rebelo, T., Tauss, C., Bohannan, B., Green, J. (2011) Spatial patterns of phylogenetic diversity *Ecology Letters* 14: 141-149

\* Recommended by Jordi Bascompte on Faculty of 1000

\***Morlon, H.**, Potts, M., Plotkin, J.B. (2010) Inferring the dynamics of diversification : a coalescent approach. *PloS Biology* 8(9) : e1000493

\* Evaluated as “Must Read” by Katia Koelle on Faculty of 1000

Kembel, S.W., Cowan, P., Helmus, M. R., Cornwell, W., **Morlon, H.**, Ackerly, D., Blomberg, S. P., Webb, C. O. (2010) Picante: R tools for integrating phylogenies and ecology. *Bioinformatics* 26 : 1463-1464

**Morlon, H.**, White, E. P., Etienne, R. S., Green, J. L., Ostling, A., Alonso, D., Enquist, B. J., He, F., Hurlbert, A., Magurran, A. E., Maurer, B. A., McGill, B. J., Olf, H., Storch, D., Zillio, T. (2009) Taking species abundance distributions beyond individuals. *Ecology Letters* 12 : 488-501

Bryant, J., Lamanna, C., **Morlon, H.**, Enquist, B., Green, J. (2008). Microbes on mountainsides: Contrasting elevational patterns of bacterial and plant diversity. *Proceedings of the National Academy of Sciences* 105 : S1505-S1511

**Morlon, H.**, Chuyong, G., Condit, R., Hubbell, S., Kenfack, D., Thomas, D., Valencia, R., Green, J. (2008). A general framework for the distance-decay of similarity in ecological communities. *Ecology Letters* 11 : 904-917

**Morlon, H.**, Fortin, C., Adam, C., Garnier-Laplace, J. (2006). Selenite transport and its inhibition in the unicellular green alga *Chlamydomonas reinhardtii*. *Environmental Toxicology and Chemistry* 5 : 1408-17

**Morlon, H.**, Fortin, C., Floriani, M., Boudou, A., Garnier-Laplace, J. (2005). Toxicity of selenite in the unicellular green alga *Chlamydomonas reinhardtii*: comparison between effects at the population and sub-cellular level. *Aquatic toxicology*, 73 : 65-78

**Morlon, H.**, Fortin, C., Adam, C., Garnier-Laplace, J. (2005). Establishing links between toxicity and bioaccumulation of selenite in the unicellular green alga *Chlamydomonas reinhardtii*. *Radioprotection*, 40. S101-S106

### **Proceedings**

**Morlon, H.** (2014) Understanding how biodiversity is distributed in space and time *in* Formal Methods in Macro-Biology *Lecture Notes in Computer Science* Volume 8738, pp 36-39

### **Books**

Jessus, C. Etonnant vivant, Découvertes et promesses du XXIe siècle (2017) CNRS Editions

Alvarado, S., Baraloto, C., Bremond, L., Bretagnolle, F., Buisson, E., Caillon, S., Claudet, J., Dounias, E., Elias, M., Favier, C., Fontaine, C., Forget, P.M., Garine-Wichatitsky, E., Hossaert-McKey, M., Mavingui, P., McKey, D., **Morlon, H.**, Murienne, J., Poncy, O., Prugnolle, F. (2015). Écologie tropicale: de l'ombre à la lumière. Editions cherche midi

### **Blogs**

Morlon, H. (2016) RPANDA: a time machine for evolutionary biologists. [Methods.blog](#)

Eng, K. & Morlon, H. (2016) A newly drawn Tree of Life reminds us to question what we know. [IDEAS.TED.COM](#)

## WORKSHOPS, SEMINARS AND CONFERENCES

### *Workshops*

- *Island biodiversity genomics workshop “Collective and harmonised HTS approaches to inventory arthropod on islands”* (Visio) July 2022
- *Developing eco-evolutionary models for high-dimensional data analyses* organized by H el ene Morlon, Jonathan Drury and Jonathan Clavel (Paris) July 2021
- *Ecological principles underlying ecosystem function on land and in the ocean* organized by Chris Bowler (Coll ege de France) May 2021
- *Island biodiversity genomics workshop “Protocol Unification”* (Visio) Nov 2020
- *Island biodiversity genomics workshop “Eco-Evolutionary Synthesis”* (Visio) Jun 2020
- *Island biodiversity genomics workshop “Genomic Observatories”* (Nicosia, Cyprus) Nov 2019
- *Island biodiversity genomics kickoff meeting* (Nicosia, Cyprus) Sept 2018
- *Phylogenomics and phylogeography: new models and insights from large scale data sets*, organized by Scott Edwards and Bengt Oxelman (Gothenburg, Sweden) May 2017
- *New Directions in Biodiversity Theory and Modelling*, organized by Michel Loreau, (Moulis) Oct 2015
- *CNRS Thematic School in Tropical Ecology*, organized by Pierre-Michel Forget (Gabon) Sept 2015
- *Identifying the regulators of biodiversity in deep time*, organized by Tiago Quental and Thomas Ezard, (Sao Paulo, Brazil) June 2015
- *Diversification & Bayesian statistics*, organized by F. Hartig and H. Morlon (Paris) March 2015
- *Innovations in biology, technology and culture*, organized by Pablo Marquet and Michael Hochberg, (Santiago, Chile) Jan 2015
- *New Directions in Biodiversity Theory and Modelling*, organized by Michel Loreau, (Moulis) Oct 2014
- *CESAB working group #4 “Community Assembly on Remote Islands: Does the Equilibrium Theory Apply?”*, PI Christophe Th ebaut, (Aix-en-Provence) March 2014
- *Statistical Ecology* working group, organized by Olivier Gimenez, (Montpellier) November 2013
- *France Berkeley Fund meeting “Long-term diversity dynamics: reconciling molecular phylogenies with the fossil record”*, organizer with Charles Marshall and Tiago Quental, (UC Berkeley) Sept 2013
- *CESAB working group #3 “Community Assembly on Remote Islands: Does the Equilibrium Theory Apply?”*, PI Christophe Th ebaut, (Aix-en-Provence) July 2013
- *NESCent meeting “Integrating approaches to macroevolution: combining fossils and phylogenies”*, invited by Samantha Price, Lars Schmitz & Graham Slater (Durham, NC) April 2013
- *CNRS Workshop “Ecology, Economy, Law”, Modeling section*, (Ol eron) April 2013
- *CNRS Thematic School in Tropical Ecology*, Martine Hossaert (Vietnam) November 2012
- *INEE Prospective Days*, invited by Sonia Kefi, October 2012
- *Phylogenetic approaches to diversification*, co-organized with Amaury Lambert, October 2012
- *All Taxa Biodiversity Inventory (ATBI) workshop*, invited by Regis Ferriere, September 2012
- *CESAB working group #1 “Community Assembly on Remote Islands: Does the Equilibrium Theory Apply?”*, PI Christophe Th ebaut, September 2012
- *Selection in Population Genetics*, Michael Desai and Aleksandra Walczak (Ecole Normale Sup erieure, Paris) December 2011
- *National Academies Keck Futures Initiative on Ecosystem Services* (UC Irvine) November 2011

- *CNRS Thematic School in Tropical Ecology*, Jérôme Chave (French Guyana) August 2011
- *Stochastic models in Ecology, Genetics and Evolution*, Sylvie Méléard (Agay, France) June 2011
- *Phylogeny and conservation*, Nicolas Mouquet (University of Montpellier, France) May 2011
- *Biodiversity Dynamics on Oceanic Islands – Linking past and present*, Rosemary Gillespie (UC Berkeley) December 2010
- *Amazonian Biodiversity*, Jérôme Chave (CNRS, French Guyana) October 2010
- *Biological diversity in a changing world*, Anne Magurran (Royal Society, Kavli, UK) October 2010
- *The Ecophylogeny of Complex Species Interactions*, Jennifer Dunne (SFI, Santa Fe) April 2010
- *Macroevolution of plant defenses*, Jérôme Chave (CNRS, French Guyana) March 2009
- *Biodiversity up-scaling*, Bill Kunin (Leeds, UK) February 2009
- *Tools and fresh approaches for species-abundance distributions* (NCEAS, Santa Barbara) October 2008
- *Tools and fresh approaches for species-abundance distributions* (NCEAS, Santa Barbara) October 2007
- *Metagenomics* (Moore Foundation, California) April 2007
- *Computational Biology* (UC Merced, California) 2006-2007

### ***Seminars and conferences***

- IMBE Symposium (Marseille), September 2021
- eLife Symposium: Computational and Systems Biology, online, September 2021
- Botany conference, Colloquium on diversification, Visio, July 2021
- University College London (UK), Departmental seminar, Visio, June 2021
- Collège de France, seminar of the “Chaire Biodiversité et Ecosystèmes”, March 2021
- University of Copenhagen (Denmark), CMEC, Visio, March 2021
- Phyloseminar, invited by Erik Matsen, March 2021
- TARA Oceans Seminar Series, Visio, Feb 2021
- Uppsala University (Sweden), Institute of Organismal Biology, Visio, Dec 2020
- Women in Science, Ecology, Visio, Nov 2020
- Seminar, Moritz Lab (Australian National University), Visio, Sept 2020
- Opening Conference of the EcoDep project, Visio, Sept 2020
- University of Queensland (Australia), School of Biological Sciences, Visio, Sept 2020
- EMBL Symposium, Heidelberg, Germany, March 2020
- Statistical Methods for Post-Genomic Data, Institut Pasteur, Paris, Jan 2020
- Boden Conference, Keynote Speaker, Melbourne, Australia, Oct 2019
- Journée François Jacob 2019, Collège de France, Paris, Sept 2019
- Symposium Talk at the 2019 Island Biodiversity Meeting, St-Denis, July 2019
- Seminar of the Probability, Statistics and Modeling Lab (LPSM), Paris, June 2019
- EMBL/College de France Meeting, Paris, April 2019
- ENS cross-Departments Meeting Day, Talk, Paris, March 2019
- LBBE Seminar, Lyon, February 2019
- iDiv Conference, Leipzig, Germany, December 2018
- Biophysics Seminar, Paris, October 2018
- Radcliff Institute for Advanced Study, Conference, Harvard, September 2018
- “Grands Exposés Scientifiques” of the Ecole Normale Supérieure, September 2018
- Conference, Max Planck Institute, Tuebingen, Germany, September 2018
- Instituto Gulbenkian de Ciência, Seminar, Lisbon, Portugal, July 2018

- Evolution Paris, Symposium Talk, Paris, June 2018
- The Molecular Tree of Life, Keynote Speaker, Xuzhou, China, May 2018
- Colloquium of the parisian Applied Math group, Paris, February 2018
- Stazione Zoologica, Seminar, Naples, Italy, November 2017
- BES Macroecology Group Annual Meeting, Keynote Speaker, London, July 2017
- Seminars in Ecology & Evolution, invited speaker, Montpellier, March 2017
- Gordon Research Conference on Speciation 2017, Keynote Speaker, Italy, February 2017
- 12<sup>th</sup> seminar on Ecology & Behavior, Keynote Speaker, Lyon, June 2016
- University of Zurich, Seminar, invited by Peter Linder, Zurich, March 2016
- American Society of Naturalists conference, Keynote Speaker, Asilomar, California, January 2016
- Iberian congress biological systematics, Keynote Speaker, Vitoria-Gasteiz, Spain, December 2015
- Seminar of the Director, Ecole Normale Supérieure, invited by Marc Mézard, Paris
- Cross-disciplinary Genomics, seminar, Paris, November 2015
- Annual days in bioinformatics, Seminar, invited by Eduardo Rocha, Paris, October 2015
- 10th Systematics Association Biennial Conference, Keynote Speaker, Oxford, August 2015
- Evolution 2015, Guaraja, Brazil, June 2015
- Frontiers in Ecology & Evolution, Invited Seminar, PSL-ENS, Paris, June 2015
- Phylogenetics and Biodiversity meeting, Invited Seminar, Philadelphia, April 2015
- Visionary and Retrospective Talk, Center for research and Interdisciplinarity, Paris, February 2015
- International Biogeography Conference, Keynote Speaker, Germany, January 2015
- Formal Methods in Macro-Biology, Keynote Speaker, Nouméa, October 2014
- Mathematical and Computational Evolutionary Biology, Keynote Speaker, Montpellier, June 2014
- Ecology and Evolutionary Biology at IBENS, ENS, May 2014
- International Biogeography Early Career Conference, Keynote Speaker, Canberra, January 2014
- Institut Henri Poincaré, Paris, Invited Seminar, November 2013
- University of Toulouse, Invited Seminar, November 2013
- University of Idaho, IBEST Seminar, invited by Luke Harmon, Moscow, April 2013
- University of Arizona, Quantitative Biology Colloquium, Tucson, April 2013
- NESCent, Invited Talk, Durham, NC, April 2013
- CNRS prospective in ecology, economy and law, Oléron, March 2013
- University of Sao Paulo, invited by Tiago Quental, February 2013
- Southern-Summer School on Mathematical Biology, Sao Paulo, January 2013
- Evolmol Seminar, invited by Frederic Austerlitz, Paris, December 2012
- Online Phyloseminar, invited by Erik Matsen, November 2012
- University of Lausanne, Switzerland, invited by Nicolas Salamin, November 2012
- Evolution Meeting, Ottawa, July 2012
- Ecology Letters conference “Ecological Effects of Environmental Change”, June 2012
- Thematic day on phylogenies, Lille, invited by Celine Poux, June 2012
- Biodiversity and Bioinformatics, Lyon, invited by Laurent Duret & Michael Blum, June 2012
- Statistics for Systems Biology, Paris, invited by Mahendra Mariadassou, May 2012
- Center for Biodiversity and Climate, Frankfurt, April 2012
- Cologne Spring Meeting “Molecular Ecology and Evolution” Cologne, February 2012
- Statistical Methods for Post-Genomic Data conference (SMPGD), session organizer, “Ecology & Genomics”, Lyon, January 2012
- University of Arizona, Tucson, Enquist Lab, December 2011
- Yale University, New Haven, Jetz Lab, November 2011
- Center for Mathematics and Informatics, Marseille, invited by Etienne Pardoux, October 2011

- Center for Macroecology, Evolution and Climate, Copenhagen, Denmark, October 2011
- European Ecological Federation congress (EEF), session co-organizer and speaker, “Evolutionary Ecology, Ecosystem function and Conservation: new perspectives”, Avila, Spain, September 2011
- ESA Organized Oral Session, Austin, TX, August 2011
- ECOBIO talk, Rennes, invited by Andreas Prinzing, June 2011
- ISEM Seminar, “Long term diversity dynamics: a phylogenetic perspective”, May 2011
- Ecole Polytechnique, Paris, “New frontiers for biodiversity and biogeography theory”, May 2011
- Laboratoire ESE, Orsay, Midipile seminar
- Museum of Natural History, Paris, March 2011
- ENS, Paris, Undergraduate Lecture on Community Phylogenetics, March 2011
- Center for Ecology and Evolution Symposium, London, March 2011
- University of California, Berkeley, Graduate Seminar, September 2010
- CNRS thematic school lecture on biodiversity, French Guyana, October 2010
- University of Arizona, Tucson, “Inferring diversity dynamics using phylogenies”, September 2010
- ESA Organized Session, "Phylogenetic beta-diversity", invited by Catherine Graham, August 2010
- Gordon Research Conference Poster Session, University of New England, Maine, July 2010
- University of California, Berkeley, Marshall Lab, June 2010
- Ecole Polytechnique, France, “Are there ecological limits on diversification?”, January 2010
- Western Evolutionary Biology Conference, UC Berkeley, December 2010
- University of Oregon, Eugene, Green Lab, December 2010
- University of Pennsylvania, Philadelphia, Ecolunch, September 2009
- University of Pennsylvania, Philadelphia, Plotkin Lab, April 2009
- CNRS, French Guyana, “Theory for microbial diversity”, March 2009
- Ecole Polytechnique, France, “Ecology and biogeography of microbial diversity”, March 2009
- University of California, Berkeley “Spatial Evolutionary Diversity”, Oct 2008
- ESA organized session, Milwaukee, August 2008.
- University of Pennsylvania, Philadelphia, “Mathematical biology”, July 2008
- Speaker at the Graduate Research Seminar (Gordon Research Conference) “Metabolic Basis of Ecology”, University of New England, Maine, July 2008
- Gordon Research Conference Poster Session, University of New England, Maine, July 2008
- University of Oregon, Eugene, Graduate Seminar, “Scaling biodiversity”, invited by Jessica Green
- University of Montpellier II, France, “Ecology and Evolution of Communities”, December 2007
- Invited speaker at the University of Marseille- Luminy, France, December 2007
- National Academy of Sciences “In the light of evolution II: Biodiversity and extinction”, UC Irvine, December 2007
- ESA/SER Joint Meeting, San Jose, August 2007 Oral communication
- Monod Conference Poster Session “Environmental Genomics”, Roscoff, France, June 2007
- University of Toulouse- Paul Sabatier, France, “Evolution and Biological Diversity”, June 2007
- University of Marseille- Luminy, France, “Microbiology, Geochemistry and Ecology”, May 2007
- University of Sydney, Australia, “Molecular and Microbial Biosciences”, December 2006
- Arrowhead Conference Poster Session, Lake Arrowhead, CA, September 2006
- University of California at Merced, “Computational Biology”, August 2006
- Gordon Research Conference Poster Session, Bates College, Maine, July 2006
- ECORAD, Aix-en-Provence, France, September 2004. Oral communication.
- Chapitre St-Laurent “Environmental protection: which priorities?” Quebec, Canada, June 2004
- Symposium for European Freshwater Sciences, Edinburgh, UK, July 2003 Oral communication
- SETAC Europe, Hamburg, Germany, April 2003 Oral communication

***Declined invitations as a Keynote Speaker (for the sake of time and carbon footprint)***

- Biology22, Basel, Switzerland
- Gordon Research Conference 2020 “Unifying Ecology Across Scales” New Hampshire, USA
- Wenner-Gren Foundations 2020 “The Tree of Life in Blossom” Stockholm, Sweden

***Media and Outreach***

- Interview, Radio France Internationale, Feb 2021
- Interview, BBC Science, Dec 2020
- Interview, Chemins d’Avenir, Sept 2020
- Interview, Horizon Magazine, May 2020
- Radio, France Culture, May 2020
- Interview, Le Monde, December 2019
- Interview, National Geographic, August 2019
- Interviewed by Nature Careers about Women in Science, August 2018
- Pi Day, invited speaker, Théâtre des Variétés Paris, March 2017
- TEDx talk, Hamburg, June 2016
- TED talk, Vancouver, February 2016
- CNRS, Les Fondamentales, debate, November 2015
- People Behind the Science Podcast, organized by Marie McNeely, August 2015

## • Résumé en français

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**Directrice de Recherche CNRS**, Ecole Normale Supérieure, janvier 2014 - présent

**Chargée de recherche CNRS**, Ecole Polytechnique, octobre 2010 – janvier 2014

**Adjunct Faculty**, University of Arizona, Sept 2013 - présent

**Membre associé**, CIRB, Collège de France, June 2011 – présent

### **Post-doctorat, Ecologie, 2006-2010**

Université de Californie à Berkeley (avec Matthew Potts), 2010

Université de Pennsylvanie à Philadelphie (avec Joshua Plotkin), 2009-2010

Université d'Oregon à Eugene (avec Jessica Green et Brendan Bohannon), 2007-2009

Université de Californie à Merced (avec Jessica Green) 2006-2007

### **Thèse, Ecotoxicologie, 2001-2005**

Mention: Très honorable - Bordeaux I

Directeurs de thèse: A. Boudou et J. Garnier-Laplace

### **DEA, Ecologie, 2001**

Mention : Bien (2<sup>e</sup>) - Université Paris VI-ENS

### **Magistère de l'ENS, Mathématiques, 1997-2000**

Agrégation de mathématiques - ENS Cachan

### **Classes Préparatoires, Mathématiques, 1995-1997**

MP, MP\* - Lycée Thiers, Marseille

### **Baccalauréat Scientifique, 1995**

Mention : Très Bien, Félicitations du jury - Lycée L'Empéri, Salon de Provence