

GÉRALDINE DERROIRE

Researcher in forest ecology

Cirad – Joint Research Unit Ecology of Guiana Forests

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RESEARCH INTERESTS

Tropical forest ecology, community ecology, tropical forestry, plant functional traits, forest dynamics, biodiversity, ecological restoration, ecosystem functioning, biostatistics and modelling

RESEARCH AND WORK EXPERIENCE

- 2017– CIRAD – JOINT RESEARCH UNIT *ECOLOGY OF GUIANA FORESTS* (FRENCH GUYANA) – RESEARCHER
Scientific manager of Paracou forest research station (<https://paracou.cirad.fr>)
Research on the response of forest ecosystems to logging and climate change
Coordinator of the team *Ecosystem Processus and Services*
Manage a team of ten people (technical and administrative)
- 2016 BANGOR UNIVERSITY (UK) – TEACHING AND RESEARCH ASSOCIATE
- 2012-16 BANGOR UNIVERSITY (UK) AND SLU (SWEDEN) – DOCTORAL RESEARCH FELLOW
- 2009-12 AGROPARISTECH (MONTPELLIER – FRANCE) – TEACHING AND RESEARCH ASSISTANT
Coordinator of the Advanced Masters programme *Forest, Nature and Society* in collaboration with the course directors: communication, financial planning, student recruitment, development of a teaching collaboration with HEC Paris (Business school)
Responsible for educational content and organisation of MSc modules, student mentoring and tutoring, module evaluation for quality assurance
Coordinator of and contributor to a research project on sustainable forest management funded by the French Development Agency
- 2006-09 DEPARTMENTAL OFFICE OF AGRICULTURE AND FOREST (MARSEILLE – FRANCE) – HEAD OF SECTION
Technical and financial planning for the programme of protection against forest fires
Managed a team of four people (technical and administrative)
- 2004-06 CALEDONIAN INSTITUTE OF AGRONOMY (IAC-CIRAD) (NEW-CALEDONIA) – RESEARCH ASSISTANT
Research and technical support in forest conservation and restoration ecology
- 2003-04 DEPARTMENTAL OFFICE OF AGRICULTURE AND FOREST (EVRY – FRANCE) - HEAD OF SECTION
Development and implementation of local water policies
Managed a team of three people (technical and administrative)

EDUCATION

- 2012-16 **PHD** – BANGOR UNIVERSITY (UK) AND SLU (SWEDEN) - EUROPEAN DOCTORAL PROGRAMME FONASO
Title: *Secondary succession in tropical dry forests - Drivers and mechanisms of forest regeneration*
Supervisors: Prof John Healey (Bangor University) and Prof Per Christer Óden (SLU)
Examination committee: Prof Frans Bongers (Wageningen University), Prof David Burslem (University of Aberdeen), Dr Saara DeWalt (Clemson University) and Dr Kyle Dexter (University of Edinburgh)
- 2000-03 **MSc** - FOREST ENGINEER – AGROPARISTECH (FRANCE), TROPICAL AND RURAL FORESTRY
Thesis (CIRAD): *Weinmannia tinctoria as a model species of Reunion Island's rainforest*

PUBLICATIONS

PEER-REVIEWED PUBLICATIONS

43. Maurent, E., Hérault, B., Piponiot, C., **Derroire, G.**, Delgado, D., Finegan, B., Kientz, M. A., Amani, B. H. K., & Bieng, M. A. N. (2023). A common framework to model recovery in disturbed tropical forests: Common model for disturbed forest recovery. *Ecological Modelling*. <https://doi.org/10.1016/j.ecolmodel.2023.110418>
42. Fortunel, C., Stahl, C., Coste, S., Ziegler, C., **Derroire, G.**, Levionnois, S., Maréchaux, I., Bonal, D., Hérault, B., Wagner, F. H., Sack, L., Chave, J., Heuret, P., Jansen, S., John, G., Scoffoni, C., Trueba, S., & Bartlett, M. K. (2023). Thresholds for persistent leaf photochemical damage predict plant drought resilience in a tropical rainforest. *New Phytologist*. <https://doi.org/10.1111/nph.18973>
41. Hordijk, I., Maynard, D. S., Hart, S. P., Lidong, M., ter Steege, H., Liang, J., de-Miguel, S., Nabuurs, G. J., Reich, P. B., Abegg, M., Adou Yao, C. Y., Alberti, G., Almeyda Zambrano, A. M., Alvarado, B. V., Esteban, A. D., Alvarez-Loayza, P., Alves, L. F., Ammer, C., Antón-Fernández, C., ..., **Derroire, G.**, ..., Crowther, T. W. (2023). Evenness mediates the global relationship between forest productivity and richness. *Journal of Ecology*, August 2022, 1–19. <https://doi.org/10.1111/1365-2745.14098>
40. Vaessen, R. W., Jansen, P. A., Richard-Hansen, C., Boot, R. G. A., Denis, T., **Derroire, G.**, Petronelli, P., de Vries, J. S., Barry, K. E., ter Steege, H., & van Kuijk, M. (2023). Defaunation changes leaf trait composition of recruit communities in tropical forests in French Guiana. *Ecology*, 104(1), 0–2. <https://doi.org/10.1002/ecy.3872>
39. Amani, B. H. K., N'Guessan, A. E., Van der Meersch, V., **Derroire, G.**, Piponiot, C., Elogne, A. G. M., Traoré, K., N'Dja, J. K., & Hérault, B. (2022). Lessons from a regional analysis of forest recovery trajectories in West Africa. *Environmental Research Letters*, 17(11). <https://doi.org/10.1088/1748-9326/ac9b4f>
38. Brede, B., Terry, L., Barbier, N., Bartholomeus, H. M., Bartolo, R., Calders, K., **Derroire, G.**, Moorthy, S. M. K., Lau, A., Levick, S. R., Raunonen, P., Verbeeck, H., Wang, D., Whiteside, T., Van Der Zee, J., Herold, M. (2022) Non-destructive estimation of individual tree biomass : Allometric models , terrestrial and UAV laser scanning. *Remote Sens. Environ.* 280.
37. Liang, J. , ..., **Derroire, G.**, ..., Hui, C. Co-limitation towards lower latitudes shapes global forest diversity gradients. *Nat. Ecol. Evol.* (2022) doi:10.1038/s41559-022-01831-x.
36. Jakovac, C. C., Meave, J.A, Bongers, F.,..., **Derroire, G.**, ..., Poorter, L. (2022) Strong floristic distinctiveness across Neotropical successional forests. *Sci. Adv.* 8, eabn1767 .
35. Sousa, T. R. , Schiatti, J., ..., **Derroire, G.**, ..., Grytnes, J.A. (2022) Water table depth modulates productivity and biomass across Amazonian forests. *Glob. Ecol. Biogeogr.* 1–18 doi:10.1111/geb.13531.
34. Huertas, C., Sabatier, D., **Derroire, G.**, Ferry, B., Jackson, T.D., Pélissier, R., Vincent, G. (2022) Mapping tree mortality rate in a tropical moist forest using multi-temporal LiDAR. *Int. J. Appl. Earth Obs. Geoinf.* 109, 102780
33. Van der Sande, M., Powers, J., Kuyper, T., Norden, N., von Humboldt, A., ..., **Derroire, G.**, ..., Poorter, L. (2022). Soil resistance and recovery during Neotropical forest succession. *Philosophical Transactions B*, B, 378
32. Schmitt, S., Trueba, S., Coste, S., Ducouret, E., Tyskling, N., Heuertz, M., Bonal, D., Burban, B., Hérault, B., **Derroire, G.** (2022). Seasonal variation of leaf thickness : An overlooked component of functional trait variability. *Plant Biology*, ISSN 1435-8603
31. Cazzolla Gatti, R., Reich, P.B., ..., **Derroire, G.**, ..., Liang, J. (2022). The number of tree species on Earth. *PNAS*, 119, 1–11
30. Picard, N., Mortier, F., Ploton, P., Liang, J., **Derroire, G.**,..., Gourlet-Fleury, S. (2021). Using Model Analysis to Unveil Hidden Patterns in Tropical Forest Structures. *Frontiers in Ecology and Evolution*, 9, 599200
29. Poorter, L., Craven, D., Jakovac, van der Sande, M., ..., **Derroire, G.**,..., Hérault, B. (2021). Multidimensional tropical forest recovery. *Science*, 374, 1370–1376
28. **Derroire, G.**, Piponiot, C., Descroix, L., Bedeau, C., Traissac, S., Brunaux, O., & Hérault, B. (2021). Prospective carbon balance of the wood sector in a tropical forest territory using a temporally-explicit model. *Forest Ecology and Management*, 497, 119532.
27. ForestPlots.net, Blundo, C., Carilla, J., Grau, R., Malizia, A., Malizia, L., Osinaga-Acosta, O., Bird, M., Bradford, M., Catchpole, D., Ford, A., Graham, A., Hilbert, D., Kemp, J., Laurance, S., Laurance, W., Ishida, F. Y.,

- Marshall, A., Waite, C., ... **Derroire G.,...**, Tran, H. D. (2021). Taking the pulse of Earth's tropical forests using networks of highly distributed plots. *Biological Conservation*, 108849.
26. Schmitt, S., Tyskland, N., **Derroire, G.**, Heuertz, M., & Hérault, B. (2021). Topography shapes the local coexistence of tree species within species complexes of Neotropical forests. *Oecologia*, 1–10.
 25. Amani, B. H. K., N'Guessan, A. E., **Derroire, G.**, N'dja, J. K., Elogne, A. G. M., Karidia, T., Zo-Bi, I. C., & Hérault, B. (2021). The potential of secondary forests to restore biodiversity of the lost forests in semideciduous West Africa. *Biological Conservation*, 259(109154).
 24. Muscarella B, Thaise E, Phillips O, Lewis SL, Slik JWF, ..., **Derroire G.,...**, Balslev H. (2020). The global abundance of tree palms. *Global Ecology & Biogeography*. 29: 1495-1514
 23. Schmitt S, Hérault B, Ducouret É, Baranger A, Tyskland N, Heuertz M, Marcon É, Cazal S-O, **Derroire G.** (2020). Topography consistently drives intra- and inter-specific leaf trait variation within tree species complexes in a Neotropical forest. *Oikos*. 123: 1521-1530
 22. Longo M, Saatchi S, Keller M, ... **Derroire G.,...**, Vincent G. (2020). Impacts of Degradation on Water , Energy , and Carbon Cycling of the Amazon Tropical Forests. *Biogeosciences*. 125: e2020JG005677
 21. Sullivan MJP, Lewis SL, Affum-Baffoe K, ..., **Derroire G.,...**, Phillips O. 2020. Long-term thermal sensitivity of Earth's tropical forests. *Science* 368:869-874.
 20. Laybros A, Aubry-Kientz M, Féret J-B, Bedeau C., Brunaux O., **Derroire G.**, Vincent G. (2020). Quantitative Airborne Inventories in Dense Tropical Forest Using Imaging Spectroscopy. *Remote Sensing* , 12:1577.
 19. Chave J, Piponiot C., Maréchaux I., de Foresta H., Larpin D., Fischer F.J., **Derroire G.**, Vincent G., Hérault B. (2020). Slow Rate of Secondary Forest Carbon Accumulation in the Guianas Compared with the Rest of the Neotropics. *Ecological Applications*, 20 (1): e02004
 18. Kattge J., Bonisch G., Diaz S., Lavorel S., Prentice I.C., Leadle P., Tautenhahn S., Werner G.D.A., ..., **Derroire G.**, ...729 authors..., Wirth C. (2020). TRY plant trait database - enhanced coverage and open access. *Global Change Biology*, 26: 119– 188.
 17. Piponiot C., Rutishauser E., **Derroire G.**, Putz F.E., Sist P., West T., Descroix L., ,..., Hérault B. (2019). Optimal Strategies of Ecosystem Services Provision for Amazonian Production Forests. *Environmental Research Letters* 14: 124090
 16. Schepaschenko D., Chave J., Phillips O.L., Lewis S.L., Davies S.J., Réjou-Méchain M., Sist P.,..., **Derroire G.** et al. (2019). The Forest Observation System, Building a Global Reference Dataset for Remote Sensing of Forest Biomass. *Scientific Data* 6 (1): 198.
 15. Piponiot C, Rödig E, Putz FE, Rutishauser E, Sist P, ..., **Derroire G.**, ..., Hérault B, (2019). Can timber provision from Amazonian production forests be sustainable? *Environmental Research Letters*. 14 064014
 14. Steidinger BS, Crowther TW, Liang J, van Nuland ME, Werner GDA, ..., **Derroire G.**, ..., Peay K, (2019). Climatic control of decomposition drive the global biogeography of forest-tree symbioses. *Nature* 569: 404-408.
 13. Bruelheide H, Dengler J, Purschke O, Lenoir J, Jimenez-Alfaro B, ..., **Derroire G.**, ..., Jandt U. (2018). Global trait-environment relationships of plant communities. *Nature Ecology & Evolution*, 2, 1906–1917.
 12. Piponiot C., **Derroire G.**, Descroix L., Mazzei L., Rutishauser E., Sist, P., Hérault B. (2018). Assessing timber volume recovery after disturbance in tropical forests - a new modeling framework. *Ecological Modelling*, 384, 353-369.
 11. **Derroire G.**, Powers J.S., Hulshof C.M., Cárdenas Varela L.E., Healey J.R. (2018) Contrasting patterns of leaf trait variation among and within species during tropical dry forest succession in Costa Rica. *Scientific Reports*, 8, 285, doi:10.1038/s41598-017-18525-1.
 10. **Derroire G.**, Balvanera P., Castellanos-Castro C., Decocq G., Kennard D.K., Lebrija-Trejos E., Leiva J.A. , Odén P.C., Powers J.S., Rico-Gray V., Tigabu M., Healey J.R. (2016) Resilience of tropical dry forests – a meta-analysis of changes in species diversity and composition during secondary succession. *Oikos*, 125, 1386-1397. **Editor's Choice article.**
 9. O'Leary B.C., Kvist, K., Bayliss H.R., **Derroire G.**, Healey J.H., Hughes K., Kleinschroth F., Sciberras M., Woodcock P., Pullin A.S. (2016) The reliability of evidence reviews in environmental science and conservation. *Environmental Science & Policy*, 64, 75-82.
 8. **Derroire G.**, Coe R., Healey J.R. (2016) Isolated trees as nuclei of regeneration in tropical pastures: testing the importance of niche-based and landscape factors. *Journal of Vegetation Science*, 27, 679-691.

7. **Derroire G.**, Tigabu M., Odén P.C., Healey J.R. (2016) Effects of established trees on woody regeneration in secondary succession of tropical dry forests: a review of mechanisms. *Biotropica*, 48, 290-300.
6. **Derroire G.**, Lagrange A., Tassin J. (2008) Flowering and fruiting phenology in maquis of New Caledonia. *Acta Botanica Gallica*, 155, 263-276.
5. Rivière J.-N., Hivert J., Schmitt L., **Derroire G.**, Sarrailh J.-M., Baret S. (2008) Rôle des fougères arborescentes dans l'installation des plantes à fleurs en forêt tropicale humide de montagne à La Réunion (Mascareignes, Océan Indien) [Role of tree ferns in flowering plant settlement in tropical montane rainforests of La Réunion (Mascarene Archipelago, Indian Ocean)]. *Revue d'écologie (Terre et Vie)*, 63, 199-207.
4. Bocquet A., Chambrey C., **Derroire G.**, Tassin J. (2007) Modes de colonisation de la savane arborée par des plantes de forêt tropicale sèche en Nouvelle-Calédonie [Modalities of colonization of woody savannah by tropical dry forest plants in New Caledonia]. *Revue d'écologie (Terre et Vie)*, 62, 87-91.
3. **Derroire G.**, Schmitt L., Rivière J.-N., Sarrailh J.-M., Tassin J. (2007) The essential role of tree-fern trunks in the regeneration of *Weinmannia tinctoria* in rain forest on Réunion, Mascarene Archipelago. *Journal of Tropical Ecology*, 23, 487-492.
2. Tassin J., **Derroire G.**, Rivière J.-N. (2006) Variation morphométrique des feuilles d'*Aphloia theiformis* le long d'un gradient altitudinal à la Réunion [Morphometric variation of *Aphloia theiformis* leaves along an altitudinal gradient in Reunion Island]. *Revue d'écologie (Terre et Vie)*, 61, 397-400.
1. Tassin J., **Derroire G.**, Rivière J.-N. (2004) Gradient altitudinal de la richesse spécifique et de l'endémicité de la flore ligneuse indigène à l'île de La Réunion (archipel des Mascareignes) [Altitudinal gradient of species richness and endemism of native woody flora in La Réunion Island (Mascarene Archipelago, Indian Ocean)]. *Acta Botanica Gallica*, 151, 181-196.

BOOKS AND BOOK CHAPTERS

- Leroy M., **Derroire G.**, Vendé J., Lemenager T. (2015) La gestion durable des forêts : un concept et des dispositifs de gestion qui limitent la prise en charge des enjeux de biodiversité [Sustainable forest management: limited effectiveness of the concept and its management for biodiversity]. In: L. Mermet and T. Lemenager (Eds.), *Développement et biodiversité : Comment négocier le tournant environnemental ?* AFD, Paris, pp. 87-105.
- Leroy M., **Derroire G.**, Lemenager T., Vende J. (2013) *Sustainable management of tropical forests - From a critical analysis of the concept to an environmental evaluation of its management*. AFD, Paris, 231p.

TECHNICAL PUBLICATIONS AND OUTREACH

- Demenois, J., Albrecht, A., Blanfort, V., Blazy, J.-M., Freycon, V., Roggy, J.-C., Sierra, J., Versini, A., Fujisaki, K., Teste, A., Thongo Mbou, A., Gavazzi, A., Ponton, C., Moniot, M., Acosta-Alba, I., Montouroy, Y., Avadi, A., Benoist, A., Brechet, L., ..., **Derroire, G.**, ..., Daguet, E. (2023) *Rapport final – Etude « 4 pour 1 000 » Outre-mer - Stocker du carbone dans les sols agricoles et forestiers ultramarins - Etat des connaissances et leviers d'actions dans les départements et régions d'Outre-mer*.
- Arias, A. (author), Brunaux, O., **Derroire, G.** & Pons, Suzanne, (editors). (2022) *Projet GFCLim 'Gestion Forestière et Changements Climatiques en Guyane Française'*. Les cahiers de l'adaptation aux changements climatiques sur le plateau des Guyanes .
- Piponiot, C., Sist, P., **Derroire, G.** & Hérault, B. (2022) *L'approvisionnement en bois venant des forêts guyanaises peut-il être durable ?*
- Hérault B, Coste S, **Derroire G**, Descroix L., Dulormne M., Louison L., Piponiot C., Traissac S. (2020) *Gestion Forestière et Changements Climatiques En Guyane Française.*; 2020. doi:10.13140/RG.2.2.34751.33442/1
- Masse D., Chotte J.L., Scopel E. (Coord.), Ba A., Barnaud A., Barthés B., Bellefontaine R., Berthouly C., Bied-Charreton M., Blanchard M., Brévault T., Clouvel P., Cournac L., **Derroire G.**, Diégane D., Do Rego F., Drevon J.J., Harmand J.M., Hien E., Kane A., Lahmar R., Lardy L., Manlay R., Maraun F., Miana de Deria S., Naudin K., Requier-Desjardins M., Seghieri J., Serpantié G., Sissiko F., Soti V., Thiaw, C., Vall E., Vayssieres J., Vigouroux Y., Wade T. (2015) *L'ingénierie écologique pour une agriculture durable dans les régions sèches [Ecological engineering for sustainable agriculture in dry areas]*, Les dossiers thématiques du CSFD-N°11. CSFD/Agropolis International, Montpellier. 60 pp.

Roumagnac F., L'Huillier L., Tassin J., Lagrange A., **Derroire G.**, Vea C., Chavin J.-P., Boucher M., Jaffré T. (2008) *Utilisation d'espèces végétales indigènes pour la revégétalisation [Use of native plants for revegetation]*. Projet Koniambo, Nouméa. 88 p.

SOFTWARE

Derroire G., Aubry-Kientz M., Mirabel A., Krebber D., Marcon E., Hérault B., (2022). *vernabota: Association between vernacular and botanical names for Guyana for data*. R package. <https://ecofog.github.io/vernabota/>

Badouard V, Schmitt S. , Salzet G., Gaquiere T., **Derroire G.** (2022). *LoggingLab: An R Package to Simulate Forest Logging*. R package. <https://vincyanebadouard.github.io/Maria/>

CONFERENCE PRESENTATIONS

ORAL PRESENTATIONS

2015 **Derroire G.**, Powers J.S., Hulshof C.M., Healey J.R. Sapling leaf trait variation within and across species reveals community assembly processes during tropical dry forest succession. British Ecological Society annual meeting, Edinburgh, UK.

2015 **Derroire G.**, Powers J.S., Hulshof C.M., Healey J.R. Community assembly during secondary succession of tropical dry forests: Leaf traits reveal the drivers of change in resource acquisition strategies. Society for Ecological Restoration world conference on ecological restoration, Manchester, UK.

2014 **Derroire G.**, Healey J.R. Isolated trees as nuclei of regeneration in tropical pastures: testing the importance of niche-based and landscape factors. British Ecological Society – Société Française d'Ecologie joint annual meeting, Lille, France.

2011 Leroy M., **Derroire G.**, Vendé J., Aubert P.-M., Espinosa L., Leménager T., 2011. Concept et dispositifs de gestion durable des forêts tropicales : une analyse critique de la prise en charge des enjeux environnementaux [*Sustainable management of tropical forests: a critical analysis of the environmental effectiveness of the concept and its management*]. Secrétariat International Francophone pour l'Evaluation Environnementale, Colloque international de Yaounde, Yaounde, Cameroon.

POSTERS

2013 **Derroire G.**, Odén P.C., Tigabu M., Healey J.R. Changes in species diversity and composition during secondary succession in tropical dry forests. Society for Ecological Restoration world conference on ecological restoration, Madison, USA.

2012 **Derroire G.**, Healey J.R. Effects of canopy development on woody species regeneration in early stages of succession in secondary tropical dry forests. British Ecological Society annual meeting, Birmingham, UK.

TEACHING QUALIFICATION

2015 POSTGRADUATE CERTIFICATE IN HIGHER EDUCATION (STAGE 1) - BANGOR UNIVERSITY (UK) (A grade)
Associate fellow of The Higher Education Academy
Topic: Combining teaching approaches to improve student participation in online small-group work

TEACHING EXPERIENCE

ECOFOG – AGROPARISTECH & UNIVERSITY OF FRENCH GUIANA (FRENCH GUIANA)

2018 Contributor (group work supervision) to field module in French Guiana, module *Tropical Forest* (MSc)

BANGOR UNIVERSITY (UK)

2016 Contributor (discussion forum and marking) to distance learning module *Forest ecosystems* (MSc) and contributor (field and practical demonstrator) to modules *Forest ecology* (BSc), *Forest resources assessment* (MSc)

2015-16 Contributor (lecture on biodiversity measures) to module *Conservation practice* (BSc)

2014 Contributor (group work supervision) to distance learning module *Location Specific Knowledge* and field module *Summer school in French Guyana, Erasmus Mundus MSc SUTROFOR*

- 2012-14 Contributor (field and practical demonstrator and marking) to modules *Forest ecology* (BSc), *Forest resources assessment* (MSc), *Making Snowdonia* (BSc)

AGROPARISTECH-GEEFT (FRANCE)

- 2012 Creator and coordinator with Dr Raphaël Manlay and contributor (lecture and practical) of module *Ecological engineering for tropical ecosystems* (MSc)
- 2011-12 Contributor (seminar) to module *Environmental impact assessment* (Advanced master)
- 2010-11 Contributor (group work supervision) to field modules in Ethiopia and Costa Rica, *Erasmus Mundus MSc SUTROFOR*
- 2009-11 Academic tutor of 15 MSc theses in forestry and NTFPs (7), ecology (4), conservation and restoration (2) and environmental impact assessment (2)
- 2009-12 Coordinator and contributor (practicals and seminars) of modules *Ecology of tropical forests and Dendrometry and forest inventory* (MSc)

FELLOWSHIPS, GRANTS AND AWARDS

RESEARCH GRANTS

- 2022-25 ALT: Amazonian landscapes in transition (ANR, €740 000, *WP leader*, PI Jérôme Chave)
- 2022-24 SYNTREESYS: Synthesis of neotropical tree biodiversity with plot inventories (Cesab-FRB, *collaborator*, PI Jérôme Chave, Adriane Esquivel)
- 2020-24 UNDERSTORY: An infrastructure to explore plant diversity of the Amazonian forest understory (ANR LabEx Ceba, €200 000, *co-PI* with Jérôme Chave)
- 2020-24 PHENOBS: Towards a phenology observatory in French Guiana to study climate-vegetation feedbacks and the diversity of plant strategies (ANR LabEx Ceba, €200 000, *WP leader*, PI Nicolas Barbier)
- 2020-24 METRADICA: Mechanistic traits to predict shifts in tree species abundance and distribution with climate change in the Amazonian forest (ANR LabEx Ceba, €200 000, *WP leader*, PI Clément Stahl and Ghislain Vielledent)
- 2019-21 MANAGFORRES: Effect of forest management on guyanese forest ecosystem response to climate change (Agence Française pour la Biodiversité, €60 000, *PI*)
- 2018-21 MOVE: facilitating MAES to support regional policy in Overseas Europe: mobilizing stakeholders and pooling resources (EU-DG ENV, €1000K total, *collaborator*, PI José MV Azevedo)
- 2017-20 GFCLIM: Adapting forest management to climate change in the Guiana Shield (EU structural funds, €560K total, *WP leader*, PI Bruno Hérault)
- 2015 Anna-Britta och Vadim Söderströms fund, SLU: Travel stipend (SEK12 000)
- 2015 Foundation Fund for Forest Science, SLU: Small research project (SEK32 500 SEK)
- 2015 SENRGY, Bangor University: Research fund (£638)
- 2013 Lennart Hjelm fund, SLU: Travel grant for internationalisation (SEK13 000)
- 2013 Coalbourn trust: Research fund (£3100)
- 2010-12 LA GESTION DURABLE DES FORÊTS EN MILIEU TROPICAL (French Development Agency, €19 624, *co-PI* with Maya Leroy and Thiphaine Leménager)

FELLOWSHIPS

- 2012-16 *Erasmus Mundus* Doctoral Fellowship “Forest and Nature for Society” (FONASO) (€125 400 ~ \$140 030)

AWARDS

- 2016 Drapers’ Medal, Outstanding postgraduate contribution, Bangor University
- 2015 Best talk, College of Natural Sciences PhD conference, Bangor University

STUDENT SUPERVISION

PHD STUDENTS

- 2022-25 Vinciane Badouard: *Environmental drivers of spatial distribution of understory trees in tropical forest* – Co-advisers: Grégoire Vincent, Eric Marcon, Géraldine Derroire – Funding: Cirad/Ademe
- 2020-23 Elliott Maurent: *Characterisation and modelling of biodiversity trajectories in disturbed forests of Latin America. Case of production and secondary forest in Amazonia and Costa Rica* – Co-advisers: Bryan

Finegan, Marie-Ange Ngo Bieng, Géraldine Derroire, Bruno Héroult - Funding: Cirad/Abies doctoral school

2019-22 Daniela Krebber: *Role of biodiversity on tropical forest response to climate and anthropogenic disturbance* - Co-advisers: Eric Marcon, Géraldine Derroire, Claire Fortunel - Funding: Cirad/Labex Ceba

VISITING PHD STUDENTS

2019-20 Bienvenu HK Amani: *Dynamics of secondary forest recovery - What are the relative influences of local biophysical, agro-historical and soil-climatic determinants?* Advisers: Bruno Héroult and Justin Kassi, 2 visits (3months each)

PHD THESIS COMMITTEE

2020-23 Thomas Gaquière : *Effet de la dynamique de canopée de forêt exploitée sur les populations d'espèces d'arbres récoltées en Guyane*. Advisers : Eric Marcon, Stéphane Traissac

2019-22 Tom Hattermann: *Diversité des stratégies d'exploration des plantes grimpantes de forêt tropicale humide : vers une application en robotique douce*. Advisers : Nick Rowe, Patrick Heuret

2017-20 Sylvain Schmitt: *Ecological genomics of niche exploitation and individual performance in tropical forest trees*. Advisers: Myriam Heurtz, Bruno Héroult, Niklas Tysklind

MSC STUDENTS

2023 Lilou Kieffer : *Evaluation spatiale et quantitative de la ressource ligneuse issue de la défriche forestière en Guyane* –M2 Istom - Co-advisers: Géraldine Derroire, Romain Lehnebach

2023 Benjamin Lagrange : *Etude de la Phénologie végétative et reproductive des arbres de canopée de Guyane française en couplant des méthodes de télédétection et morpho-anatomie des branches* - M2 Biodiversité, Ecologie, Evolution - Université des Antilles - Co-advisers: Géraldine Derroire, Patrick Heuret

2022 Margaux Rojat : *Effet de la gestion forestière sur la réponse des écosystèmes forestiers guyanais aux changements climatiques* - M2 Université de la Réunion

2022 Lisa Moreno : *Auto-écologie des espèces recensées dans la strate des 1-10 cm de DBH en relation avec les caractéristiques topographiques et la disponibilité en lumière* - M2 Université de Montpellier - Co-advisers: Géraldine Derroire, Grégoire Vincent & Giacomo Sellan

2021 Paul Mischler: *Réponses fonctionnelles et distribution des arbres dans des environnements contrastés en forêts tropicales* - AgroParisTech - Université de Montpellier - Co-advisers: Clément Stahl, Claire Fortunel & Géraldine Derroire

2021 Elia Dardevet: *Rôle de la biodiversité sur la croissance des arbres dans les forêts tropicales naturelles et exploitées de Guyane française* – AgroParisTech - Co-advisers: Claire Fortunel & Géraldine Derroire

2020 Théophile Kabasele Walelu: *Réponse fonctionnelle de la régénération des arbres en forêt tropicale africaine et amazonienne* - AgroParisTech - Université de Montpellier - Co-advisers: Sylvie Gourlet-Fleury, Charles Doumenge, Stéphane Traissac & Géraldine Derroire

2019 Maïri Souza Oliveira: *Résilience de la biodiversité des forêts tropicales d'Amérique après perturbation anthropique* - Ingénieur SupAgro - Co-advisers: Marie-Ange Ngo Bieng & Géraldine Derroire

2019 Léna Klay: *Modélisation de la forêt guyanaise par les processus ponctuels grâce aux methods* - INLA-SPDE - M1 Mathématiques Appliquées - Université Paris Sud - Co-advisers: Eric Marcon, Stéphane Traissac & Géraldine Derroire

2019 Coralie Dalban-Pilon: *Effets à long terme des perturbations passées sur les trajectoires de biodiversité lors de la succession secondaire en forêt tropicale Guyanaise* - M2 Biodiversité, Ecologie, Evolution - Université des Antilles - Co-advisers: Géraldine Derroire & Hubert de Foresta

2019 Margot Gradoz: *Abrouissement dans les chablis : interaction entre les brouteurs et la régénération forestière en Guyane française* - M2 Biodiversité, Ecologie, Evolution - Université de la Guyane - Co-advisers: Cécile Richard-Hansen & Géraldine Derroire

2019 Eva Philippe: *Modélisation de la survie de jeunes arbres en forêt tropicale humide* - Gap-year - Ecole Normale Supérieure - Co-advisers: Stéphane Traissac & Géraldine Derroire

- 2018 Emilie Ducouret: *Functional trait variability in the Symphonia globulifera species complex in French Guiana* - M2 Biodiversité, Ecologie, Evolution - Université des Antilles - Co-advisers: Sylvain Schmitt & Géraldine Derroire
- 2018 Miguel Angel Urrutia Sanchez: *Variation in growth and mortality rates in the tropical rainforests of French Guiana* - M2 Erasmus Mundus Tropimundo - Co-advisers: Géraldine Derroire & Stéphane Traissac

PROFESSIONAL MEMBERSHIPS

Association for Tropical Biology and Conservation, British Ecological Society
TmFO, Rainfor-ForestPlots, GFBI

PROFESSIONAL ACTIVITIES AND SERVICE

- 2021- Cirad correspondent in UMR EcoFoG
- 2020- Member of the scientific board of the *Parc Naturel Régional de Guyane*
- 2020- Member of the steering committee of the international network *2ndFor*
- 2017- Coordinator of the permanent forest plot network *Guyafor* in French Guiana
- 2017- Member of the scientific board of Labex CEBA
- 2017- Member of the scientific board of the Nouragues Research station
- 2012-14 Graduate student representative on the SENRGY Research Committee (Bangor University)
- Reviewer: *Annals of Botany*, *Journal of Vegetation Science*, *Biotropica*, *Ecology*, *Journal of Plant Ecology*, *Oecologia*, *Mammalian Biology*, *PlosOne*, *Journal of Tropical Ecology*

ADDITIONAL TRAINING

- 2021 First aid in remote areas, 3 day course
- 2017 Bayesian statistics, AgroParisTech, 1 week course
- 2015 Systematic review and meta-analysis for environmental sciences, University of London, 1 week course
- 2013 Advance statistics with R, Highland Statistics, 2 week course

LANGUAGES AND COMPUTATIONAL SKILLS

French (native), English (fluent), Spanish (advanced), Portuguese (beginner)
Programming language and software: R, Stan, ArcGIS

Last update: February 2022