Christophe **Dominik**

Postdoctoral researcher

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10.11.1985 | French nationality

Summary

Practical experience in landscape ecology, agroecology, and community ecology. 10+ years of experience in geographical information systems (GIS) and statistical software (R). 5+ years of experience in fieldwork and arthropods identification. 1+ year of work experience abroad (Philippines). Strong interests in landscape ecology, macroecology, pollination services, biological control, community ecology, gut microbiome, and data visualization.

Education

Martin Luther University Halle-Wittenberg — *Halle (Saale), Germany*

Dr. rer. nat. | Magna Cum Laude — *2019*

Université de La Réunion — *Saint-Denis, Réunion Island*

Master of Science in Biodiversity and Tropical Ecosystems — *2011*

Université Henri-Poincaré (UHP Nancy-1) — *Nancy, France*

Bachelor of Science in Biology of Organisms and Populations — *2009*

Research Experience

Helmholtz-Zentrum für Umweltforschung (UFZ) — *Halle (Saale), Germany*

Postdoctoral researcher | Department of Community Ecology (BZF) — *Jan. 2019 - present*

P.I.: Schweiger O. | Main projects: PoshBee, VOODOO, INTERCEDE, iNTERACT, Safeguard, MAMBO, RestPoll, WildPosh, ANTENNA

- Mapping and classification of > 200 study sites using ArcGIS Pro.
- Fieldwork including nectar/haemolymph extraction, pollinator sampling, beekeeping activities, bumblebee experiments, pitfall traps.
- P.I. of three third-party funded projects iNTERACT, iPATHOS, iPATHOTELS.
- Co-P.I. and WP leader of the INTERCEDE project.
- Project budget management.
- Supervision of PhD students, Master students, and scientific staff.

Helmholtz-Zentrum für Umweltforschung (UFZ) — *Leipzig, Germany*

PhD student/Guest scientist | Department of Computational Landscape Ecology (CLE) — *Jul. 2012 - Dec. 2018*

PhD Thesis: *The effects of landscape heterogeneity on arthropod communities in rice agro-ecosystems.*
Supervisors: Seppelt R. and Václavík T. | Magna Cum Laude | Main project: LEGATO

- Mapping and classification of 30 study sites using ArcGIS 10.
- Landscape heterogeneity quantification via the calculation of landscape metrics (Fragstats).
- Supervision of technical staff.

International Rice Research Institute (IRRI) — *Los Baños Laguna, Philippines*

Guest scientist | Crop and Environmental Sciences Division (CESD) — *Jun. 2013 - Sep. 2014*

Advisor: Horgan F.G. | Main project: LEGATO

- Sampling and arthropod identification (∼ 80000 individuals) to morphospecies level (∼ 200 morphospecies).
- Supervision of fieldwork assistants in the mountainous region of the Philippines.

Centre national de la recherche scientifique (CNRS) — *Nantes, France*

Research assistant | Littoral, Environnement, Géomatique, Télédétection (UMR LETG) — *Mar. 2012 - Jun. 2012*

Supervisor: Godet L. | Main project: ECOSAL ATLANTIS

- Bird counts of common European passerine birds in salinas during a two weeks period.
- Mapping of the salinas located in Ré Island using ArcView 3.1 and calculation of landscape metrics (Fragstats).

Centre national de la recherche scientifique (CNRS) *Nantes, France*

Undergraduate Research student | Littoral, Environnement, Géomatique, Télédétection (UMR LETG) *Feb. 2011 - Jun. 2011*

M.Sc. Thesis: *Influence des structures spatiales sur la distribution des oiseaux terrestres dans un paysage fragmenté: cas des marais salants de Guérande.*

Supervisor: Godet L. | M.Sc.2 Thesis grade: 16.67/20 Rank: 2/17 | Main project: ECOSAL ATLANTIS

- Methods and analyses similar to the research experience carried out in 2012 at the CNRS (see above).

Centre de coopération internationale en recherche agronomique pour le développement (CIRAD) *Saint-Pierre, Réunion Island*

Undergraduate Research student | Peuplements végétaux et bio-agresseurs en milieu tropical (UMR PVBMT) *Jan. 2010 - Jun. 2010*

Supervisor: Quilici S. | M.Sc.1 Thesis grade: 15.73/20 Rank: 5/35

- Semi-field experiments: Infestation of four plant species within the Rosacea family with 40 larvae of *Cibdela janthina*.
- Daily survival monitoring and GLM analysis to test the food specificity of *C.janthina* on Rosacea plants.

Presentations

International conferences

SFE GFÖ EEE - Joint meeting, International Conference on Ecological Sciences *Metz, France*

Dominik C., Wogram S., Michalski S., Schweiger O. *Nov. 2022*

Talk: Pollen limitation, local resource availability and pollinator community composition affect the fertilization success of *Scabiosa ochroleuca*.

SCAPE - Scandinavian Association of Pollination Ecology - Annual Meeting *Höör, Sweden*

Papanikolaou A.D., Kühn I., Frenzel M., ..., Potts S.G., Roberts S.P.M., Schweiger O. *Oct. 2019*

Poster: Wild bee and floral diversity co-vary in response to the direct and indirect impacts of land use.

GfÖ - Ecological Society of Germany, Austria, and Switzerland - Annual Meeting *Vienna, Austria*

Dominik C., Horgan F.G., Settele J., Seppelt R., Václavík T. *Sep. 2018*

Talk: Landscape composition, configuration, and trophic interactions shape arthropod communities in rice agro-ecosystems.

GfÖ - Ecological Society of Germany, Austria, and Switzerland - Annual Meeting *Göttingen, Germany*

Dominik C., Václavík T., Horgan F.G., Settele J., Seppelt R. *Sep. 2015*

Talk: Effects of landscape structures on rice agroecosystem biodiversity and biological control across the Philippines.

FONA - Sustainable Land Management - Status Conference *Berlin, Germany*

Dominik C., Václavík T., Horgan F.G., Settele J., Seppelt R. *Apr. 2013*

Talk: The effects of landscape heterogeneity on the biocontrol-production function in the rice dominated agroecosystems.

Project's Annual General Meetings (AGM)

Safeguard - AGM 2024 *Padua, Italy*

Dominik C., Michalski S., & Schweiger O. *Feb. 2024*

PoshBee - AGM 2023 *Rome, Italy*

Dominik C., Wubet T. & Schweiger O. *Mar. 2023*

Safeguard - AGM 2023 *Sofia, Bulgaria*

Dominik C., Michalski S., & Schweiger O. *Mar. 2023*

Safeguard - AGM 2022 *Online*

Dominik C., Michalski S., & Schweiger O. *Jan. 2022*

PoshBee - AGM 2021 *Online*

Dominik C., & Schweiger O. *Jan. 2021*

PoshBee - AGM 2020 *Marseille, France*

Dominik C., & Schweiger O. *Jan. 2020*

LEGATO - AGM 2016 *Banaue, Philippines*

Dominik C., Horgan F.G., Settele J., Seppelt R., Václavík T. *Aug. 2016*

LEGATO - AGM 2015 *Yogyakarta, Indonesia*

Dominik C., Václavík T., Horgan F.G., Settele J., Seppelt R. *Mar. 2015*

LEGATO - AGM 2013 *Hanoi, Vietnam*

Dominik C., Václavík T., Horgan F.G., Settele J., Seppelt R. *Feb. 2013*

Research Grants, Funding, and Prize

Research Grants and Funding

Total funding acquired: 50.6k EUR

iDiv Flexpool Support Fund call — *7.5k EUR*
Consumables for pathogen screening, iPATHOTELS project | P.I. — *2024*

iDiv Flexpool Support Fund call — *10k EUR*
Consumables for pathogen screening, iPathos project | P.I. — *2023*

Helmholtz-Zentrum für Umweltforschung (UFZ) TB Support Fund — *8k EUR*
Consumables for gut microbiome analyses | P.I. — *2022*

Helmholtz-Zentrum für Umweltforschung (UFZ) TB Support Fund — *9.6k EUR*
Personnel (HiWi & Research assistant) | Co-P.I. — *2022*

iDiv Flexpool Support Fund call — *10k EUR*
Consumables for gut microbiome, pathogen & imaging flow cytometry analyses, iNTERACT project | P.I. — *2021*

Helmholtz-Zentrum für Umweltforschung (UFZ) TB Support Fund — *5k EUR*
Consumables for gut microbiome, pathogen & imaging flow cytometry analyses, iNTERACT project | P.I. — *2021*

Helmholtz-Zentrum für Umweltforschung (UFZ) TB PhD consortium — *Three PhD positions*
INTERCEDE project | Co-P.I. and WP Leader — *2019*

HIGRADE funding — *500 EUR*
External course and travel costs — *2014*

Prize

Helmholtz-Zentrum für Umweltforschung (UFZ) — *2k EUR*
Performance bonus for special achievements — *2022*

Professional Activities and Memberships

Research Projects

ANTENNA : Making technology work for monitoring pollinators — *Biodiversa+*
Involved scientist — *2024 - present*

WildPosh : Pan-European assessment, monitoring, and mitigation of chemical stressors on the health of wild pollinators — *Horizon Europe*
Involved scientist — *2024 - present*

RestPoll : Restoring Pollinator habitats across European agricultural landscapes based on multi-actor participatory approaches — *Horizon Europe*
Involved scientist — *2023 - present*

MAMBO : Modern approaches to the monitoring of biodiversity — *Horizon Europe*
Involved scientist — *2022 - present*

Safeguard : Safeguarding European wild pollinators — *Horizon 2020*
Involved scientist — *2021 - present*

iNTERACT : Impacts of landscape structure, floral resources, and land-use intensity on the health of beneficial arthropods in agroecosystems — *iDiv and UFZ support funds*
Principal Investigator — *2021*

INTERCEDE : Interactions of farmland biodiversity and agricultural ecosystem services under climate change — *UFZ*
Co-P.I. and WP Leader — *2020 - 2023*

VOODOO : Viral eco-evolutionary dynamics of wild and domestic pollinators under global change — *BiodivERsA*
Involved scientist — *2020 - 2023*

PoshBee : Pan-European assessment, monitoring, and mitigation of stressors on the health of bees — *Horizon 2020*
Involved scientist — *2019 - 2023*

LEGATO : Land-use intensity and ecological engineering - Assessment tools for risks and opportunities in irrigated rice based production systems — *BMBF*
Involved scientist, PhD student — *2011 - 2016*

ECOSAL-ATLANTIS : Ecotourism in the Atlantic salt-marshes: a strategy for integral and sustainable development — *INTERREG*

Involved undergraduate, Master student — *2007 - 2013*

Organisation activities

Conferences

- ANTENNA (Biodiversa+) Kick-off meeting 2024 — *Leipzig, Germany*

Co-organiser — *Mar. 2024*

- GfÖ Annual Meeting 2023: Biodiversity monitoring using digital methods and artificial intelligence: shared challenges and opportunities — *Leipzig, Germany*

Session co-chair — *Sep. 2023*

Workshops

- Safeguard project (Horizon 2020) synthesis workshop — *Leipzig, Germany*

Co-organiser — *Feb. 2023*

- UFZ TB1-IP1 PhD Day — *Leipzig, Germany*

Co-organiser — *Nov. 2022*

Events

- Lange Nacht der Wissenschaften — *Halle, Germany*

Co-organiser — *Jul. 2019, 2022*

Peer-reviews

Journals N = 37 completed reviews of 26 manuscripts
Landscape Ecology (12), Agriculture Ecosystems & Environment (7), Paddy and Water Environment (3), Journal of Applied Ecology (3), Ecology and Evolution (2), BMC Ecology (2), Basic and Applied Ecology (2), Philosophical Transactions of the Royal Society B (2), Environmental Research Letters (1), Journal of Insect Conservation (1), Insects (1), Scientific Reports (1).

Proposals iDiv Flexpool (3).

Theses Master (4), Bachelor (1).

Professional Memberships

iDiv associate member (**iDiv**), Gesellschaft für Ökologie (**GfÖ**).

Professional Outreach

Media interviews

Viren bedrohen die Welt der Insekten — *MDR Sachsen*

Link to the article — *Jul. 2020*

Press & blogs

Bees are still being harmed despite tightened pesticide regulations — *ScienceDaily*

Link to the article — *Nov. 2023*

Better many small than a few large: how landscape configuration affects arthropod communities in rice agroecosystems — *The Applied Ecologist's Blog*

Link to the article — *Aug. 2018*

Professional Supervision

PhD students

Hamilton Murray, Martin Luther University Halle-Wittenberg, Germany | *Co-supervisor* — *2024 - present*

Modern technologies for bumble bee monitoring

Wogram Simon, Martin Luther University Halle-Wittenberg, Germany | *Co-supervisor* — *2023 - present*

Modern technologies for pollinator monitoring

Heuschele Jonna, Martin Luther University Halle-Wittenberg, Germany | *Main supervisor* — *2020 - present*

The effects of landscape heterogeneity and crop diversity on biological pest control and pollinator health

Liu Yicong, Martin Luther University Halle-Wittenberg, Germany | *Co-supervisor* *2020 - present*

Pollinator-plants trait matching; pollen and nectar quality; landuse effects on networks resilience

Master students

Feldmann Noah, Martin Luther University Halle-Wittenberg, Germany | *Main supervisor* *2023 - 2024*

Effects of traffic, floral resources, and landscape structure on pollinator communities

Link to the PDF

Wogram Simon, Martin Luther University Halle-Wittenberg, Germany | *Main supervisor* *2022 - 2023*

Drivers of pollen limitation in *Scabiosa ochroleuca*: Relative importance of environmental factors at local, site and landscape scales

Link to the PDF

Leyrer Dorothea, Friedrich Wilhelm University of Bonn, Germany | *Main supervisor* *2021 - 2022*

The effects of landscape structure, floral resources and land-use intensity on the foraging behaviour and colony performance of bumblebees

Link to the PDF

Slivensky-Graf Cassidy, University of Bremen, Germany | *Main supervisor* *2021 - 2024*

The effects of landscape structure and land-use intensity on the gut bacterial communities of *Poecilus cupreus* and *Anchomenus dorsalis* (Coleoptera: Carabidae)

Link to the PDF

Bachelor students

Priese Carlotta, Weihenstephan-Triesdorf University, Germany | *Co-supervisor* *2020 - 2021*

Professional Skills

General: Experience in leading and managing interdisciplinary projects, and in supervising staff, doctoral and master students.
Practical experience in experimental design, field sampling, and statistical analyses.

Software: R, ArcGIS 3.1/9/10/Pro, Fragstats, Adobe CS5, Markdown, GitHub.

Statistical analyses: ANOVA, LM/LME/GLS/GLM/GLMM, dissimilarity matrices, RLQ, 4th-corner, SEM.

Sampling methods: Sweep-net, suction sampler (blow-vac), capture-mark-recapture, pitfall traps, color plates, exclusion nets, point counts.

Pollinators: Pollinator-plant networks, camera trapping, haemolymph/nectar extraction, colony performance and fitness assessment.
Bumblebee colony performance and set-up, pollen collection.

Fauna identification: Tropical Asian rice-arthropods, European arthropods: hemipteran, heteropteran, lepidopteran, bombus.
European passerine birds, tropical passerine birds (La Réunion Island).

Languages: French (Mother tongue), English (Proficient), German (B1).

Publications

Peer-review articles

First author: 5/17 (30 %)
Corresponding author: 12/17 (70 %)

† These authors contributed equally to the manuscript

[17] Liu Y., Dunker S., Durka W., **Dominik C.**, ..., & Schweiger O. **(2024)**. Eco-evolutionary processes shaping floral nectar sugar composition. **Scientific Reports** 14, 13856.
https://doi.org/10.1038/s41598-024-64755-5

[16] Sponsler D., **Dominik C.**, Biegerl C., Honchar H., Schweiger O. & Steffan-Dewenter I. **(2024)**. High rates of nectar depletion in summer grasslands indicate competitive conditions for pollinators. **Oikos** e10495.
https://doi.org/10.1111/oik.10495

[15] Maurer C., Martínez-Núñez C., **Dominik C.**, ..., & Albrecht M. **(2024)**. Landscape simplification leads to loss of plant-pollinator interaction diversity and flower visitation frequency despite buffering by abundant generalist pollinators. **Diversity and Distributions**, 00, e13853.
http://doi.org/10.1111/ddi.13853

[14] Askri D., Pottier M., Arafah K., ..., **Dominik C.**, ..., & Bulet P. **(2024)**. A blood test to monitor bee health across a European network of agricultural sites of different land-use by MALDI BeeTyping mass spectrometry. **Science of the Total Environment**, 172239.
https://doi.org/10.1016/j.scitotenv.2024.172239

[13] Laurent M., Bougeard S., Caradec L., ..., **Dominik C.**, ..., & Chauzat M.P. **(2024)**. Novel indices reveal that pollinator exposure to pesticides varies across biological compartments and crop surroundings. **Science of the Total Environment**, 927:172118.
https://doi.org/10.1016/j.scitotenv.2024.172118

[12] Babin A., Schurr F., Delannoy S., ..., **Dominik C.**, ..., & Dubois E. **(2024)**. Distribution of infectious and parasitic agents among three sentinel bee species across European agricultural landscapes. **Scientific Reports**, 14 (1), 3524.
http://dx.doi.org/10.1038/s41598-024-53357-w

[11] Nicholson C.†, Knapp J.†, Kiljanek T., ..., **Dominik C.**, ..., & Rundlöf M. **(2024)**. Agricultural pesticide use negatively affects bumblebee colonies across Europe. **Nature**, 1-4.
https://doi.org/10.1038/s41586-023-06773-3

[10] Høye T.T., August T., Banzan Mario V., ..., **Dominik C.**, ..., & Stowell S. **(2023)**. Modern Approaches to the Monitoring of Biodiversity (MAMBO). **Research Ideas and Outcomes**, 9: e116951.
https://doi.org/10.3897/rio.9.e116951

[9] Bottero I.†, **Dominik C.** †, Schweiger O.†, ..., & Stout J. **(2023)**. Impact of landscape configuration and composition on pollinator communities across different European biogeographic regions. **Frontiers in Ecology and Evolution**, 11:309.
https://doi.org/10.3389/fevo.2023.1128228

[8] Hodge S., Schweiger O., Klein A.M., ..., **Dominik C.**, ..., & Stout J. **(2022)**. Design and planning of a transdisciplinary investigation into farmland pollinators: rationale, co-design, and lessons learned. **Sustainability**, 14(17), 10549.
https://doi.org/10.3390/su141710549

[7] Gérard M., Baird E., Breeze T., **Dominik C.**, & Michez D. **(2022)**. Impact of crop exposure and agricultural intensification on the phenotypic variation of bees. **Agriculture, Ecosystems & Environment**, 338.
https://doi.org/10.1016/j.agee.2022.108107

[6] **Dominik C.**, Seppelt R., Horgan F.G., Settele J., & Václavík T. **(2022)**. Landscape heterogeneity filters functional traits of rice arthropods in tropical agroecosystems. **Ecological Applications**, e2560.
https://doi.org/10.1002/eap.2560

[5] Vanderplanck M., Michez D., Albrecht M., ..., **Dominik C.**, ..., & Gérard M. **(2021)**. Monitoring bee health in European agro-ecosystems using wing morphology and fat bodies. **One Ecosystem** 6: e63653.
https://doi.org/10.3897/oneeco.6.e63653

[4] Settele J., Heong K.L., Kühn I., ..., **Dominik C.**, ..., & Wiemers M. **(2018)**. Rice Ecosystem Services in South-East Asia. **Paddy and Water Environment**, 16: 211-214.
https://doi.org/10.1007/s10333-018-0656-9

[3] **Dominik C.**, Seppelt R., Horgan F.G., Settele J., & Václavík T. **(2018)**. Landscape composition, configuration, and trophic interactions shape arthopod communities in rice agro-ecosystems. **Journal of Applied Ecology**, 55: 2461-2472.
https://doi.org/10.1111/1365-2664.13226

[2] **Dominik C.**, Seppelt, R., Horgan F.G., Marquez L., Settele J., & Václavík T. **(2017)**. Regional-scale effects override the influence of fine-scale landscape heterogeneity on rice arthropod communities. **Agriculture, Ecosystems & Environment**, 246: 269–278.
https://doi.org/10.1016/j.agee.2017.06.011

[1] **Dominik C.**, Ménanteau L., Chadenas C., & Godet L. **(2012)**. The influence of salina landscape structures on terrestrial bird distribution in the Guérande basin (Northwestern France). **Bird Study**, 59: 483- 495.
https://doi.org/10.1080/00063657.2012.715279

In review/preparation

[7] Wyver C. et al. ***(in preparation)***

[6] Lanuza J.B. et al. ***(in preparation)***

[5] Tourbez C. et al. ***(in preparation)***

[4] Heuschele J. et al. ***(in preparation)***

[3] **Dominik C.** et al. ***(in preparation)***

[2] Radermacher N. et al. ***(in preparation)***

[1] Dietenberger M. et al. ***(in preparation)***

Theses

[2] **Dominik C. (2019)**. The effects of landscape heterogeneity on arthropod communities in rice agro-ecosystems. Doctoral Thesis, Martin-Luther-Universität Halle-Wittenberg.
Link to the PDF http://dx.doi.org/10.25673/13861

[1] **Dominik C. (2011)**. Influence des structures spatiales des marais salants sur les communautés d'oiseaux terrestres. Master Thesis, Université de La Réunion.
Link to the PDF