

# Christophe Dominik

POSTDOCTORAL RESEARCHER

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10.11.1985 | French nationality



## Summary

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



## Education

### Martin Luther University Halle-Wittenberg

DR. RER. NAT. | MAGNA CUM LAUDE

Halle (Saale), Germany

2019

### Université de La Réunion

MASTER OF SCIENCE IN BIODIVERSITY AND TROPICAL ECOSYSTEMS

Saint-Denis, Réunion Island

2011

### Université Henri-Poincaré (UHP Nancy-1)

BACHELOR OF SCIENCE IN BIOLOGY OF ORGANISMS AND POPULATIONS

Nancy, France

2009



## Research Experience

### Helmholtz-Zentrum für Umweltforschung (UFZ)

POSTDOCTORAL RESEARCHER | DEPARTMENT OF COMMUNITY ECOLOGY (BZF)

Halle (Saale), Germany

Jan. 2019 - present

P.I.: Schweiger O. | Main projects: PoshBee, VODOO, INTERCEDE, INTERACT, Safeguard, MAMBO

- 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 two third funded projects iINTERACT, iPATHOS.
- 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)

PHD STUDENT/GUEST SCIENTIST | DEPARTMENT OF COMPUTATIONAL LANDSCAPE ECOLOGY (CLE)

Leipzig, Germany

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)

GUEST SCIENTIST | CROP AND ENVIRONMENTAL SCIENCES DIVISION (CESD)

Los Baños Laguna, Philippines

Jun. 2013 - Sep. 2014

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

- Sampling and identification of arthropods (~ 80000 individuals) to morphospecies level (~ 200 species).
- Supervision of field work assistants in the mountainous region of the Philippines.

### Centre national de la recherche scientifique (CNRS)

RESEARCH ASSISTANT | LITTORAL, ENVIRONNEMENT, GÉOMATIQUE, TÉLÉDÉTECTION (UMR LETG)

Nantes, France

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, TÉLÉDETECTION (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

- Material/Methods and analysis 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 | PEUPELEMENTS 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 *C.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., ..., DOMINIK C., ..., 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)

#### 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

Banau, 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:** 43.1k EUR

**iDiv Flexpool Support Fund call**

CONSUMABLES FOR PATHOGEN SCREENING, IPATHOS | P.I.

10k EUR

2023

**Helmholtz-Zentrum für Umweltforschung (UFZ) TB Support Fund**

CONSUMABLES FOR GUT MICROBIOME ANALYSES | P.I.

8k EUR

2022

**Helmholtz-Zentrum für Umweltforschung (UFZ) TB Support Fund**

PERSONNEL (HiWi & RESEARCH ASSISTANT) | Co-P.I.

9.6k EUR

2022

**iDiv Flexpool Support Fund call**

CONSUMABLES FOR GUT MICROBIOME ANALYSES, PATHOGEN SCREENING, AND IMAGING FLOW CYTOMETRY, INTERACT | P.I.

10k EUR

2021

**Helmholtz-Zentrum für Umweltforschung (UFZ) TB Support Fund**

CONSUMABLES FOR GUT MICROBIOME ANALYSES, PATHOGEN SCREENING, AND IMAGING FLOW CYTOMETRY, INTERACT | P.I.

5k EUR

2021

**Helmholtz-Zentrum für Umweltforschung (UFZ) TB PhD consortium**

INTERCEDE PROJECT | Co-P.I. AND WP LEADER

Three PhD positions

2019

**HIGRADE funding**

EXTERNAL COURSE AND TRAVEL COSTS

500 EUR

2014

**PRIZE**

**Helmholtz-Zentrum für Umweltforschung (UFZ)**

PERFORMANCE BONUS FOR SPECIAL ACHIEVEMENTS

2k EUR

2022



## Professional Activities and Memberships

### RESEARCH PROJECTS

**RestPoll** : Restoring Pollinator habitats across European agricultural landscapes based on multi-actor participatory approaches

INVOLVED SCIENTIST

Horizon Europe

Accepted

 **MAMBO** : Modern approaches to the monitoring of biodiversity

INVOLVED SCIENTIST

Horizon Europe

2022 - present

 **Safeguard** : Safeguarding European wild pollinators

INVOLVED SCIENTIST

Horizon 2020


2021 - present

**INTERACT**: Impacts of landscape structure, floral resources and land-use intensity on the health of beneficial arthropods in agroecosystems

PRINCIPAL INVESTIGATOR

iDiv and UFZ support funds

2021

 **INTERCEDE**: Interactions of farmland biodiversity and agricultural ecosystem services under climate change

WP LEADER AND CO-P.I.

UFZ

2020 - 2023

 **VOODOO**: Viral eco-evolutionary dynamics of wild and domestic pollinators under global change

INVOLVED SCIENTIST

BiodivERsA


2020 - present

 **PoshBee** : Pan-european assessment, monitoring, and mitigation of stressors on the health of bees

INVOLVED SCIENTIST

Horizon 2020

2019 - 2023

 **LEGATO** : Land-use intensity and ecological engineering - Assessment tools for risks and opportunities in irrigated rice based production systems

INVOLVED SCIENTIST, PhD STUDENT

BMBF

2011 - 2016

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

INVOLVED UNDERGRADUATE, MASTER STUDENT

INTERREG

2007 - 2013

### ORGANISATION ACTIVITIES

Workshop : Safeguard synthesis workshop

CO-ORGANIZER

Leipzig, Germany

Feb. 2023

Workshop : UFZ TB1-IP1 PhD Day

CO-ORGANIZER

Leipzig, Germany

Nov. 2022

Event : Lange Nacht der Wissenschaften

CO-ORGANIZER

Halle, Germany

Jul. 2019, 2022

## PEER-REVIEWS

Journals N = 36 completed reviews of 25 manuscripts

Landscape Ecology (12), Agriculture Ecosystems & Environment (7), Paddy and Water Environment (3), Journal of Applied Ecology (2), 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 (2).

## PROFESSIONAL MEMBERSHIPS

Gesellschaft für Ökologie (GfÖ), Société Française d'Écologie (SFE), iDiv associate member (iDiv).

## Professional Outreach

### MEDIA INTERVIEWS

*Viren bedrohen die Welt der Insekten*

 [LINK TO THE ARTICLE](#)

MDR Sachsen

Jul. 2020

### PRESS & BLOGS

*Better many small than a few large: how landscape configuration affects arthropod communities in rice agroecosystems*

 [LINK TO THE ARTICLE](#)

The Applied Ecologist's Blog

Aug. 2018

## Professional Supervision

### PHD STUDENTS

**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

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

2022 - present

POLLINATOR MOVEMENT AND PLANT REPRODUCTION ALONG MULTIPLE LANDSCAPE GRADIENTS

**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 Cassidy**, University of Bremen, Germany | *Main supervisor*

2021 - 2023

THE EFFECTS OF LANDSCAPE STRUCTURE AND DIET ON THE HEALTH OF CARABIDS IN OSR DOMINATED LANDSCAPES

### 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 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

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### PEER-REVIEW ARTICLES

First author: 5/9 (55.5 %)

Last author: 0/9 (0 %)

Corresponding author: 4/9 (44.5 %)

† These authors contributed equally to the manuscript


- [9] Bottero I.†, **Dominik C.**†, Schweiger O.†, ..., & Stout J. (2023). Impact of landscape configuration and composition on pollinator communities across different European biogeographic regions (**accepted in *Frontiers In Ecology And Evolution***)
- [8] Hodge S., Schweiger O., Klein A.M., ..., **Dominik C.**, ..., Brown M., & 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.**, ..., Toktas Y., & 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.**, ..., Zhu Z., & 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 arthropod 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] Liu Y., ..., **Dominik C.**, & Schweiger O. Disentangling the impacts of coadaptation according to pollinator dietary demands, flower morphology, and ‘other’ phylogenetic constraints. (**in preparation**)
- [6] **Dominik C.** et al. Towards a better understanding of bee health: Effects of multiple environmental pressures on the gut microbiome of *Bombus terrestris* across a pan-European site network (**in preparation**)
- [5] Radermacher N. et al. Variation in the diet of spiders in rice paddy ecosystems of different landscape complexity depends on species identity and hunting strategy (**in preparation**)
- [4] Nicholson C. et al. Agricultural pesticide use negatively affects bumblebee colonies across Europe (**in review in Nature**)
- [3] Askri D. et al. Monitoring bee health in natural environment in two-mass flowering crops by blood test using MALDI BeeTyping® mass spectrometry (**to be submitted in Science of the Total Environment**)
- [2] Babin A. et al. Another brick in the wall: spillover of infectious and parasitic agents between bee species in a pan-European assessment (**to be submitted in Scientific Reports**)

- [1] Diätenberger M. et al. Effects of multiple habitat types and landscape composition on trap-nesting bees, wasps and their natural enemies in a gradient of land use (*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.  
<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](#)