

Sarah Courbier

Institution: Faculty of Biology II

Contact: Phone: +49 761 203 67861, Email: sarah.courbier@cibss.uni-freiburg.de

Position: Postdoctoral research fellow

Academic education including academic degrees

2015/11 - 2020/09

PhD candidate

Utrecht University, Utrecht, the Netherlands

Plant Ecophysiology, Prof. R. Pierik

Thesis: "Far-red-enriched light modulates tomato immunity towards the necrotrophic pathogen *Botrytis cinerea*" (defended on 28-10-2020).

2014/03-06 - 2015/01-05:

MSc internship

Laboratoire de Recherches en Sciences Végétale (Toulouse, France)

Plant-Microbe Interactions group, Dr. B. Dumas and Dr. E. Gaulin.

Topic: Study of a new class of effector proteins of the legume root pathogen *Aphanomyces euteiches*

2013/04 – 08

BSc internship

Sophia Agrobiotech Institute (Sophia-Antipolis, France)

Plant-Oomycete Interactions group, Dr. A. Attard.

Topic: Characterization of susceptibility genes of *Arabidopsis thaliana* upon interaction with the oomycete *Phytophthora parasitica*.

Scientific graduation

2020: **PhD** in Plant Ecophysiology (Utrecht University, Utrecht, the Netherlands)

2015: **MSc Plant biosciences** (Université Montpellier II / Université Toulouse III, France)

2013: **BSc Plant genetics** (Université Toulouse III, France)

Employment

2022/01 – today:

Postdoctoral research fellow

Albert-Ludwigs-Universität Freiburg, Freiburg im Breisgau, Germany

Light perception and signalling in plants group, Prof. A. Hiltbrunner.

Funded by the Centre for Integrative Biological Signalling Studies (CIBSS), personal DFG Walter Benjamin position fellowship followed by personal MSCA postdoctoral fellowship

Topic: Investigating the interplay between light signalling and immunity in *Arabidopsis thaliana*

2020/12 - 2021/12

Postdoctoral researcher

Wageningen University and Research, Wageningen, the Netherlands

Horticulture and Product Physiology group, Prof. L.F.M. Marcelis

Topic: Investigating the effect of light recipes on lettuce growth and nutritional composition.

2015/11 - 2020/09

PhD candidate

Utrecht University, Utrecht, the Netherlands

Plant Ecophysiology, Prof. R. Pierik

Thesis: "Far-red-enriched light modulates tomato immunity towards the necrotrophic pathogen *Botrytis cinerea*" (defended on 28-10-2020).

Other activities, awards and honours

- 2023/09: Marie Skłodowska-Curie Actions (MSCA) **fellowship** (24 months/~174.000 euros) to investigate how shade perception modulates the growth and defence tradeoff via the modulation of TOR complex 1 in Arabidopsis.
- 2021- 2023: **Assistant features editor and editorial board member** at the scientific journal *Plant Physiology*.
- 2022/09: DFG Walter Benjamin **fellowship** (24 months/ ~200.000 euros) to investigate the emerging role of TOR in the shade-mediated pathogen susceptibility in plants.
- 2022/09: CIBSS Launchpad **laureate** 2022 (+ funds 18.500 euros) to cover consumables, conference fees and student contracts over a period of 18 months (October 2022 to March 2024).
- 2022/01: CIBSS Dual career **fellowship + extension** (6 + 6 months; ~65.000 euros). Funded by the CIBSS excellence cluster to investigate the interaction between sugar signalling and immunity in Arabidopsis.

Ten most important publications

1. Kaiser E., Kusuma P., Violet-Chabrand S., Folta K., Liu Y., Poorter H., Woning N., Shrestha S., Ciarreta A., van Brenk J., Karpe M., Ji Y., David S., Zepeda C., Zhu X-G., Huntentburg K., Verdonk J. C., Woltering E., Gauthier P., **Courbier S.**, Taylor G. and Marcelis L.F.M. (2024) Vertical Farming Goes Dynamic: Potential improvements in resource use efficiency, product quality, and profitability (*accepted in Frontiers in Science*)
2. Van Brenk J.B.*, **Courbier S.***, Kleijweg C.L., Verdonk J.C., and Marcelis L.F.M. (2024) Paradise by the far-red light: Far-red and red:blue ratios independently affect yield, pigments, and carbohydrate production in lettuce, *Lactuca sativa* **Frontiers in Plant Science** (doi: 10.3389/fpls.2024.1383100)
3. **Courbier S.** (2023) Stairway to have N: Target of Rapamycin as a gatekeeper of nitrogen metabolism in *Arabidopsis thaliana*. **Plant physiology**, 192: 2582-2584
4. **Courbier S.**, Snoek B. L., Kajala K., Li L., van Wees S. C. M. and Pierik R. (2021) Mechanisms of far-red light-mediated dampening of defense against *Botrytis cinerea* in tomato leaves. **Plant Physiology** 187: 1250–1266.
5. **Courbier S.**, Grevink S., Sluijs E., Bonhomme P. O., Kajala K., Van Wees S. C. M. and Pierik R. (2020) Far-red light enhances soluble sugar levels and *Botrytis cinerea* disease development in tomato leaves in a jasmonate-dependent manner. **Plant, Cell and Environment** 6: 1-13.
6. **Courbier, S.** and Pierik, R. (2019) Canopy light quality modulates stress responses in plants. **iScience** 22:441-452.
7. Ji, Y., Ouzounis, T., **Courbier, S.**, Kaiser, E., Nguyen, P.T., Schouten H.J., Visser, R.G.F, Pierik, R., Marcelis, L.F.M., Heuvelink, E. (2019) Far-red radiation increases dry mass partitioning to fruits but reduces *Botrytis cinerea* resistance in tomato. **Environmental and Experimental Botany** 168: 103889.
8. van der Horst S., van Butselaar T., Zhang H., Steenbergen M., **Courbier S.**, Neilen, M., Küpers, J.J. (2019) Bringing together Europe's young plant scientists. **New Phytologist** 222: 29–32
9. Gaulin E., Pel M. J. C., Camborde L., San-Clémente H., **Courbier S.**, Dupouy MA, Lengellé J, Veyssiere M, Le Ru A, Grandjean F, et al. (2018) Genomics analysis of *Aphanomyces* spp. identifies a new class of oomycete effector associated with host adaptation. **BMC Biology** 16:43.

*shared first authorship