

# LEONARD BLASCHEK

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## EDUCATION

PHD, PLANT PHYSIOLOGY 2017–2022 (expected)

*Stockholms Universitet, Sweden*

*Project:* Functional and Genetic Analysis of Laccase Isoforms during Lignification

*Supervisor:* Dr. Edouard Pesquet

*Co-Supervisors:* Prof. Vincent Bulone, Prof. Jonas Gunnarsson

LICENTIATE, PLANT PHYSIOLOGY 2017–2020

*Stockholms Universitet, Sweden*

*Project:* Cellular Lignin Distribution Patterns and their Physiological Relevance

*Supervisor:* Dr. Edouard Pesquet

*Co-Supervisors:* Prof. Vincent Bulone, Prof. Jonas Gunnarsson

*Examination Committee:* Dr. András Gorzsás, Dr. Annelie Carlsbecker, Prof. Ulla Westermark

MASTER OF SCIENCE, GENETIC AND MOLECULAR PLANT BIOLOGY 2015–2017

*Uppsala Universitet, Sweden*

*Thesis:* Distinct Roles of Laccase Isoforms During Lignification in *A. thaliana*

*Supervisor:* Dr. Edouard Pesquet

BACHELOR OF SCIENCE, BIOLOGY 2013–2015

*Ernst-Moritz-Arndt-Universität Greifswald, Germany*

*Thesis:* Plasma Membrane-Bound Proteases in the Roots of *H. vulgare*

*Supervisor:* Prof. Christine Stöhr

## PUBLICATIONS

————— 2021 —————

**Blaschek L**, Pesquet E (2021). Phenoloxidases in Plants—How Structural Diversity Enables Functional Specificity. *Front. Plant Sci.* 12, 2183. [10.3389/fpls.2021.754601](https://doi.org/10.3389/fpls.2021.754601)

————— 2020 —————

Yamamoto M, **Blaschek L**, Subbotina E, Kajita S, Pesquet E (2020). Importance of Lignin Conifer-aldehyde Residues for Plant Properties and Sustainable Uses. *ChemSusChem* 13, 4400–4408. [10.1002/cssc.202001242](https://doi.org/10.1002/cssc.202001242)

**Blaschek L**<sup>†</sup>, Nuoendagula<sup>†</sup>, Bacsik Z, Kajita S, Pesquet E (2020). Determining the Genetic Regulation and Coordination of Lignification in Stem Tissues of *Arabidopsis* Using Semiquantitative Raman Microspectroscopy. *ACS Sustain. Chem. Eng.* 8, 4900–4909. [10.1021/acssuschemeng.0c00194](https://doi.org/10.1021/acssuschemeng.0c00194)

**Blaschek L**, Champagne A, Dimotakis C, Nuoendagula, Decou R, Hishiyama S, Kratzer S, Kajita S, Pesquet E (2020). Cellular and Genetic Regulation of Coniferaldehyde Incorporation in Lignin of Herbaceous and Woody Plants Using Quantitative Wiesner Staining. *Front. Plant Sci.* 11, 109. [10.3389/fpls.2020.00109](https://doi.org/10.3389/fpls.2020.00109)

————— NOT YET PEER-REVIEWED —————

Ménard D<sup>†</sup>, **Blaschek L**<sup>†</sup>, Kriechbaum K, Lee CC, Zhu C, Nuoendagula, Bacsik Z, Bergström L, Mathew A, Kajita S, Pesquet E (2021). Specific and dynamic lignification at the cell-type level controls plant physiology and adaptability. *bioRxiv*. [10.1101/2021.06.12.447240](https://doi.org/10.1101/2021.06.12.447240)

<sup>†</sup>: contributed equally

## PRESENTATIONS

**Blaschek L** (2021, selected talk). Laccase paralogs non-redundantly direct lignification. *ASPB Plant Biology 2021*, Online.

**Blaschek L** (2021, selected talk). Specific and dynamic lignification at the cell-type level controls plant physiology and adaptability. *SEB 2021 Annual Conference*, Online. — [link to recording](#)

**Blaschek L** (2021, selected talk). Laccase paralogs non-redundantly direct lignification. *SEB 2021 Annual Conference*, Online.

**Blaschek L** (2021, selected talk). Laccase paralogs non-redundantly direct lignification. *7<sup>th</sup> International Conference on Plant Cell Wall Biology*, Online. — [link to recording](#)

**Blaschek L** (2019, selected talk). The structural importance of lignin in xylem vessels. *3<sup>rd</sup> Stockholm Cell Wall Meeting*, Stockholm University, Stockholm.

**Blaschek L** (2019, selected talk). Spatial distribution of coniferaldehyde lignin. *28<sup>th</sup> Congress of the Scandinavian Plant Physiology Society*, Umeå.

**Blaschek L** (2018, selected talk). Determining the spatial distribution of aldehyde units in lignin. *2<sup>nd</sup> Stockholm Cell Wall Meeting*, KTH Royal Institute of Technology, Stockholm.

## GRANTS, SCHOLARSHIPS & AWARDS

**Blaschek L** (2021). Best student presentation award at the 7<sup>th</sup> International Conference on Plant Cell Wall Biology.

**Blaschek L** (2019). Travel grant of the Department of Ecology, Environment and Plant Sciences, Stockholm University to attend the 28<sup>th</sup> Congress of the Scandinavian Plant Physiology Society.

**Blaschek L**, Pesquet E (2018). Kungliga Vetenskapsakademien Scholarship BS2018–0061 for the sequencing of the *Zinnia violacea* genome.

## EXPERTISE

### WET LAB

Cell suspension cultures, cloning, enzyme activity assays, histology, plant growth, transformation & crossing (*Arabidopsis*, *Populus*, *Zinnia*), quantitative bright field, fluorescence and vibrational microscopy

## DRY LAB

Automated image analysis (python, ImageJ), data analysis and plotting (R, bash), molecular bioinformatics and phylogenetics, reproducible reporting (markdown, git), text processing (Office, LaTeX)

## COURSES & WORKSHOPS

Piecewise Structural Equation Modelling (2019). *Stockholm University*  
Advanced Imaging of Cells *in vitro* and *in vivo* (2018). *Stockholm University*  
Optical Clearing and Expansion Microscopy (2018). *SciLifeLab, Stockholm*  
Advances in Enzyme Regulation (2018). *Swedish University of Agricultural Sciences, Uppsala*

## TEACHING

Molecular plant–microbe interactions (MSc level). 2017–2020. Project design and supervision.  
*Stockholm University*  
Green biotechnology (MSc level). 2018–2021. Project design and supervision. *Stockholm University*

## SERVICE

Member of the departmental equality group, *Stockholm University* 2019–2021  
Course representative in the department for evolutionary biology, *Uppsala University* 2015  
Student representative in the board of the botanical institute, *Universität Greifswald* 2014–2015