

# Curriculum Vitae



## Lisa Fürtauer

(previously Haberl)

Date and Place of Birth:

**06.01.1990, Schärding**

Citizenship:

**Austrian**

Academic title:

**Professor as Junior-  
Professor**

**PhD**

**Mag. rer. nat.**

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## Current Position and Affiliation:

**“Professor as Juniorprofessor”**

**RWTH Aachen University**

Faculty I, Biology III (Plant Physiology)

Plant Molecular Systems Biology

Worringer Weg 1

52074 Aachen, Germany

## Links and ID:

URL: <https://www.bio3.rwth-aachen.de/go/id/hlaq/>

Google Scholar: [Publications](#)

Loop: [Loop Account](#)

ORCID ID: [0000-0001-5248-4105](#)

Twitter: [@Lisa\\_Fuertauer](#)

## Education:

June 2018	<b>Doctoral Thesis and Defense</b> ‘Reprogramming of plant metabolism in a changing environment: mathematical analysis and experimental quantification’ <b>(passed with distinction)</b> Dept. of Ecogenomics and Systems Biology <b>University of Vienna, Austria</b> Supervisor: Prof. Dr. Wolfram Weckwerth and Prof. Dr. Thomas Nägele
May 2015 – June 2018	<b>Doctoral Studies</b> in Natural Sciences in the field of Life Sciences (Biology) <b>(overall passed with distinction)</b>
2008 – Apr. 2015	<b>Studies in Mathematics and Biology</b> and Environmental Studies for Teachers profession at the University of Vienna <b>(overall passed with distinction)</b> degree of diploma: <b>passed with distinction</b>

## Academic Appointments

Since 09/2021	„ <b>Professor as Juniorprofessor</b> “ Faculty I, Biology III, Plant Molecular Systems Biology, <b>RWTH Aachen University, Germany</b>
2020	Offer of W1-professorship for Plant Molecular Systems Biology at University of Aachen, Germany
2019-2021	“ <b>Akademischer Rat auf Zeit</b> ” / ‘ <b>Assistant Professor</b> ’ Dept. Biology I, Plant Evolutionary Cell Biology, <b>LMU Munich, Germany</b>
2018	<b>Postdoctoral Researcher</b> Dept. Biology I, Plant Evolutionary Cell Biology, <b>LMU Munich, Germany</b>
2015-2018	<b>Predocctoral Fellow</b> in the DFG and FWF (DACH) funded project: ‘Regulation of primary metabolism under oxidative stress’, Dept. of Ecogenomics and Systems Biology, <b>University of Vienna, Austria</b>

## Contributions to the Scientific Community

### MAJOR ACHIEVEMENTS

My research profile combines experimental with mathematical and computational analysis of subcellular plant metabolism

#### **Key results of my work are:**

- Development of a benchtop fractionation method for a high-throughput subcellular analysis of plant cells
- Shown role of HEXOKINASE 1 on photorespiration
- Non-intuitive link between vacuolar and plastidial metabolism (mathematically predicted and biologically confirmed)
- Effects of subcellular reprogramming during abiotic stress

For more details and updated versions please check:

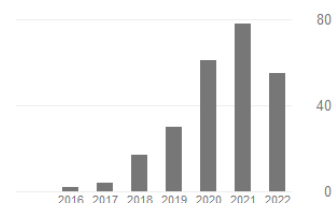
Google Scholar: [Publications](#)

ORCID ID: [0000-0001-5248-4105](#)

### Citation Index (Google Scholar, 07/2022)

Cited by

	All	Since 2017
Citations	250	247
h-index	9	9
i10-index	9	9



## Fellowships and Awards

2020	<b>The Plant Journal</b> : First prize awarded for the <b>most outstanding resource article in 2019</b> (Fürtauer et al., ‘Resolving subcellular plant metabolism’) <a href="#">Link to TPJ</a>
2019	<b>Equal Opportunities Funds</b> gained for students assistants from the LMU Munich
Since 2019	<b>Bio Mentoring Program</b> for early career researchers from the Faculty of Biology, LMU Munich
2019	Selected and invited to take part at the “ <b>New Phytologist Next Generation Scientists Meeting 2019</b> ” in Dublin, Ireland

- 2018 **Promoting scientific talents** ('Wissenschaftliche Talentförderungsprämie') awarded by the Upper Austrian government
- 2018 **Best talk award for young scientists** ('Quantifying the Subcellular Plant Metabolome') at the ATSPB conference
- 2015-2018 **Excellence Scholarship** for outstanding doctoral studies awarded by the Austrian Federal Ministry of Science, Research and Economics
- 2013-2015 **Excellence Scholarship** for outstanding students awarded by the Austrian Federal Ministry of Science and Research

## Additional Trainings and Skills

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- 2021/22 Several courses on: **Leadership, Editing Strategies** for Academic Writers, **Proposal Writing**
- 2021 Workshop & Webinar: '**Effective Visual Communication of Science**'
- Since 2019 **Mentoring activity:** CyberMentor Program for **MINT** subjects (mathematics, informatics, natural sciences and engineering) to **support (female) students and early career researchers.**
- 2019 State-approved certificate for **genetic technology safety regulations training** (GenTSV "Gentechnik-Sicherheitsverordnung")
- 2018 Workshop: Introduction on **third-party funding** ('Einsteigerworkshop: Einwerben von Drittmitteln'), LMU Munich, Germany
- 2016 **COST Interaction Training:** Workshop on metabolomics in plant biology, University of Vienna, Austria
- 2008-2015 **Pedagogic training** and specific **didactics in mathematics and biology** (certificates for >40 ECTS, University of Vienna)
- 2009-2014 **Tutor** in various practical courses for plant physiology, ecology and anatomy (University of Vienna)

## Membership of Scientific Societies

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- Since 2019 German Society for Plant Sciences
- Since 2018 Austrian Society of Plant Biology

## Academic Duties

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### Lectures and Courses:

For updated versions please see [RWTH lecture system \(RWTH online\)](#)

- Since 2022 Internship **Plant Science** (Master, 8 SWS)
- (RWTH Aachen) Internship **Computational Modelling in Systems Biology** (Master, 8 SWS)  
Module: **Systems and Computational Biology in Theory and Practice** (Master, 5 SWS)
- Since 2021 SE **Fundamentals of Bioanalytics and Computational Life Sciences**
- (RWTH Aachen) (Bachelor, 2 SWS)  
SE **Metabolic Networks: Structure, Function & Dynamics** (Bachelor, 2 SWS)

Specialization Module 'Cell and Molecular Biology of Plants'  
Specialization Module Practical Course 'Cell and Molecular Biology of  
Plants' (Bachelor, Lecture: 5 SWS; Laboratory: 8 SWS)  
SE Plant Science

2018-2021:  
(LMU Munich) SE **Metabolic Networks**: Structure, Function & Analysis (Master, 2 SWS)  
UE **Systems Biology** (Master, 3 SWS)  
SE **Systems Biology** (Master, 2 SWS)  
UE **Plant Science I** (Bachelor, 6 SWS)  
UE **Cell Biology I** (Bachelor, 3 SWS)  
UE **Cell Biology II** (Bachelor, 1.5 SWS)  
SE **Evolutionary Cell Biology** (Master+Bachelor, 2 SWS)

2016-2018:  
(University of Vienna) UE Methods in **Plant Physiology, Anatomy & Ecology** (Master, 4 SWS)  
L **Molecular Biology of Plants** (Master; 0.2 SWS)

### Other Duties:

2022  
(RWTH Aachen) Member of the **Examination Board Biology / Biotechnology /  
Ecotoxicology**

2019-2021:  
(LMU Munich) **Committee member** (scientific staff) for an appointment procedure for a  
W2 professorship

2018-2021:  
(LMU Munich) **Supervision of students** during their **thesis** and research courses (>10)  
Interviewer for **Master Selections**  
Participant at the **Botanical colloquium / Plant Science Seminar**  
Participant of **Bio-Habil Meetings**  
Substitute of the **Seminar "Plant Evolutionary Cell Biology"**, LMU Munich

2012  
(Univ. of Vienna) **Student jury member** of a habilitation committee at the Faculty of  
Mathematics

### Reviewing Activities

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Since 2020 Peer-Review for Journals: **Plant Physiology**, **Metabolites**

### Conference Contributions

Woodfin R, Fürtauer L, Rylott L, Bruce N (2022) Elucidating the fate of glutathione-conjugates in-planta – an explosive story that will leave you buzzing! ICAR2022, Belfast, Northern Ireland (**Poster**)

Fürtauer L (2021) Participation FLUXMAPS – Online-conference (**selected to participate**)

Fürtauer L (2020): Subcellular Plant Metabolism meets Modelling– Resolving Dynamics in a changed Environment. University of Münster, Germany. (**Invited Talk**)

Fürtauer L (2020): Unravelling Subcellular Dynamics of Plant Metabolism in a Changing Environment. RWTH Aachen, Germany. (**Invited Talk**)

Fürtauer L (2020): Reprogramming of Subcellular Plant Metabolism in a Changing Environment. University of Rostock, Germany. (**Invited Talk**)

**Fürtauer L** (2020): Divide and Conquer: Resolving Subcellular Plant Metabolism. Helmholtz Zentrum München, Germany. **(Invited Talk)**

**Fürtauer L**, Küstner L, Heyer AG, Weckwerth W, Nägele T (2019): Chloroplast vs. Mitochondria: Resolving Subcellular Plant Metabolism to the Next Level. International Plant Science Conference/Botanikertagung, Rostock, Germany. **(Talk)**

**Fürtauer L**, Küstner L, Heyer AG, Weckwerth W, Nägele T (2019): Quantification of subcellular plant metabolism. New Phytologist Next Generation Scientists, Dublin, Ireland. **(Selected to participate, Talk)**

**Fürtauer L** (2019): Quantifying the Subcellular Plant Metabolome. LMU talk series of BioHabil. **(Invited Talk)**

**Fürtauer L**, **Nägele T** (2018): Designing a stable cellular reaction network – the pivotal role of subcellular compartmentation. Synthetic Biology III, Landshut, Germany. **(Poster)**

**Fürtauer L**, Weckwerth W, Nägele T (2018): Quantifying the Subcellular Plant Metabolome. Meeting of the Austrian Society of Plant Biology, Graz, Austria. **(Talk, Talk Award)**

**Weizmann J**, **Fürtauer L**, Weckwerth W, Nägele T (2018): The role of vacuolar invertase activity in shaping photosynthetic stress response of *Arabidopsis thaliana*. Meeting of the Austrian Society of Plant Biology, Graz, Austria. **(Talk)**

**Fürtauer L**, Weckwerth W, Nägele T (2018): Quantifying the Subcellular Plant Metabolome. FEBS Conference, Prague, Czech. **(Talk)**

**Fürtauer L**, Pschenitschnigg A, Scharnosi H, Weckwerth W, **Nägele T** (2018): Defining a metabolic core module of stress response in *Arabidopsis thaliana*. FEBS Conference, Prague, Czech. **(Poster)**

**Fürtauer L** (2018): Subcellular Rearrangement of Plant Metabolism in a changing Environment. Science Day at the University of Vienna, Austria. **(Invited Talk)**

**Weizmann J**, **Fürtauer L**, Weckwerth W, Nägele T (2018): The Role of Vacuolar Sucrose Cleavage in Abiotic Stress Response of *Arabidopsis thaliana*. APMRS, Vienna, Austria. **(Poster)**

**Nägele T**, **Fürtauer L**, **Nagler M**, **Weizmann J**, Weckwerth W (2017): Deriving strategies of metabolic network regulation from metabolomic time series data. Matlab Expo, Munich, Germany. **(Poster)**

**Fürtauer L** & Nägele T (2016): Subcellular Stability Characteristics of the Central Carbohydrate metabolism. Trinational *Arabidopsis* meeting (TNAM), Vienna. **(Poster)**

**Haberl L**, Engelmeier D, Bachmann G, Weckwerth W (2015): Molecular and Physiological Characterization of Leaf Development in *Theobroma cacao*. 7<sup>th</sup> ÖGMBT Annual Meeting, Salzburg, Austria. **(Poster)**

## Notifications:

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**2020 The Plant Journal**: First prize awarded for the most outstanding resource article in 2019 (**Fürtauer et al.**, ‘Resolving subcellular plant metabolism’); [Link to TPJ](#) DOI:10.1111/tpj.14730

**2020 “MINTerview des Monats”** [in German] Interview über Studium, Beruf, Frauenquoten & Feedback [CyberNews 2020/2 Seite 19](#)

**2019 Research Highlight in The Plant Journal (Maron Lyza)**: “Divide and conquer: giving organelle context to genomic data” [Link to article \(Maron Lyza\)](#) DOI: 10.1111/tpj.14559

2019 New Phytologist next generation Scientists Meeting recorded talk about “Quantification of subcellular plant metabolism” [New Phytologist Foundation](#)

2019 Science Daily: “Cell biology: Compartments and complexity” [Link to Science Daily](#)

2019 LMU press release: [in German] “Raum und Regulation” [Link to LMU News](#)

2018 F1000 Prime Recommended Article: “Vacuolar sucrose cleavage prevents limitation of cytosolic carbohydrate metabolism and stabilizes photosynthesis under abiotic stress” [Link to F1000](#)

2017 Laborjournal (Andrea Pitzschke): [in German] „Zellfraktionierung auf der Bench“ [Link to Laborjournal](#)