

Carolina Rodriguez

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Overview

I do research on agroecology and sustainable urban and rural farming systems, particularly in sustainable resource management. I include theories and methodologies in natural and social sciences that I apply in my current research. I work closely with stakeholders at local and regional scales, focusing on producing knowledge relevant to transforming urban and rural farming systems. My main focus areas are:

- The role of urban agriculture in water, nutrient, and urban sustainability.
- Crop diversification practices in agricultural systems and their implication for resource use and cropping systems sustainability.

Tertiary Education

Ph.D. in *Agricultural Science, specialization in Crop Production, 2016-2021*

Department of Biosystems and Technology, Swedish University of Agricultural Sciences

M.Sc. in *Agricultural Science Focus of studies: Agroecology, 2012-2015*

Swedish University of Agricultural Sciences

BS. in *Agronomy, 2000-2005*

Universidad Nacional de Colombia

Employment history

- 2022-2023 **Postdoctoral Researcher.** Ecological and Environmental Modelling, IFM, Linköping University, Sweden
- 2021 **Postdoctoral Research Fellow.** Farming Systems Ecology Group, Wageningen University and Research.
- 2016-2021 **Ph.D. Student.** Cropping systems Ecology group, Swedish University of Agricultural Science.
- 2016 **Research assistant.** Cropping systems Ecology group, Swedish University of Agricultural Science, and European Union project Climate- CAFÉ "Climate Change Adaptability of cropping and Farming systems for Europe."
- 2014 **Research assistant.** Cropping systems Ecology group, Swedish University of Agricultural Science

Deductible time

Twelve months of parental leave in 2013-2014 and six months in 2016-2017 (children born October 2013 and November 2016).

Research Interest

Agroecology, crop diversity, ecosystem services, participatory methodologies, multi-criteria assessments, multidisciplinary approaches, sustainability, urban agriculture, cognitive mapping, and network analysis.

Publication Record

Published eight articles and one report. 161 citations, h-index 6 and i10-index 4.

<https://scholar.google.com/citations?user=F4XFcgYAAAAJ&hl=en>

Peer-reviewed

- **Rodriguez C.**, Dimitrova Mårtensson L.-M., Zachrisson M., & Carlsson G. Sustainability of diversified organic cropping systems - challenges identified by farmer interviews and multi-criteria assessments. *Front. Agron.* 3, 75. <https://doi.org/10.3389/fagro.2021.698968>
- **Rodriguez C.**, Dimitrova Mårtensson L.-M., Jensen ES., & Carlsson G., (2021). Combining crop diversification practices can benefit cereal production in temperate climates. *Agron. Sustain. Dev.* 41, 48. <https://doi.org/10.1007/s13593-021-00703-1>
- Jensen, ES., Chongtham, I., Dhamala, N., **Rodriguez, C.**, Carton, N., & Carlsson, G. (2020). Diversifying European agricultural systems by intercropping grain legumes and cereals. *Int J Agric Nat Reso.* 47(3), 174-186. <http://dx.doi.org/10.7764/ijanr.v47i3.2241>
- **Rodriguez C.**, Carlsson G., Englund J.-E, Flöhr A., Pelzer E., Jeuffroy MH, Makowski D., & Jensen ES. (2020). Grain legume-cereal intercropping enhances the use of soil-derived and biologically fixed nitrogen in temperate agroecosystems. A meta-analysis. *Eur J Agron.* 118, 126077. <https://doi.org/10.1016/j.eja.2020.126077>

Submitted

- **Rodriguez, C.**, Lopez Hörsel, S., Dimitrova Mårtensson L.-M., & Blennow, K. Is yield loss during drought correlated to landscape-level crop diversity? Development of enabling methodology for crop diversity studies with application in Scania, Sweden (*Submitted*)

Grant Awarded

2022-2023 **Principal Investigator.** Urban agriculture as a form of multifunctional green infrastructure. Hem I Sverige- fonden Foundation (180 000 sek).

2020-2021 **Co-applicant.** Demonstrating dependencies between humanity and nature for a sustainable future: A nitrogen case study. ALTER-Net High Impact Action (AHIA)-fund (14 500€).

Selected Academic presentations

Four talks as a presented author and three posters

- **Rodriguez C.**, Jensen ES., & Carlsson G. Diversifying crop rotation sequences with grain legume/cereal intercrops and legume/grass cover crops. Intercropping for sustainability Virtual Conference. 18-20 June 2021 (*Oral presentation*).
- **Rodriguez C.**, Carlsson G., Englund J.-E, Flöhr A., Pelzer E., Jeuffroy MH, Makowski D., & Jensen ES. Grain legume-cereal intercropping enhances soil N acquisition and increases the reliance on dinitrogen fixation in grain legumes: A meta-analysis. European Conference on Crop diversification. 18-21 September 2019. Budapest, Hungary (*Oral presentation*).

Editorial Activity

Review for Journals in Agronomy for Sustainable Development, Field Crops Research.

Outreach

- Panel on "Mat för en hållbar planet - hur odlar vi den?". Linköpings Naturcentrum.
- Invited to the podcast *Feeding your Mind*. SLU Future Food.
- Seminars, workshops, and field demonstrations for diverse stakeholders (Farmers, gardeners, government officers, advisors, retailers, scientists, politicians) as part of several projects financed by EU Horizon 2020.
- Facilitation of farmer and scientist collaboration in a European project (Climate-CAFÉ).
- Agroecology day. SLU. Feeding the World Agroecologically.

Teaching

- Lecturer. Environmental management. Biology Bachelor program. Linköping University, 2023.
- Teaching assistant. Seminars in Environmental issues on Crop Production course. Swedish University of Agricultural Sciences, 2019-2020.
- Guest lecture in Agroecology and Sustainability of Production Systems course. Agroecology Master program. Swedish University of Agricultural Sciences, 2019-2020.
- Guest lecture in Agroecology basics course. Agroecology master program. Swedish University of Agricultural Sciences. 2019.

Supervision

2022-2023	Supervisor Master student Oluwatoyin Odeyemi. Ecosystem service provision across a gradient of urban gardens in Linköping. Linköping university.
2021-2022	Co-supervisor Master student. The potential of <i>Thrips tabaci</i> suppression by diversified Allium and Brassica oleracea cropping systems: A meta-analysis. Wageningen university.
2018-2019	Co-supervisor Master student Shaktima Lopez Hösel. Crop Diversity in Scania - Geographical and Cognitive Mapping. SLU.

Board Assignments

Member of the board of the European Society for Agroecology.
Member of the Agronomists' Association in Sweden.

Academic Service on University Boards

- Ph.D. representative: Council for Ph.D. education at Swedish University of Agricultural Sciences (FUR). 2020

- Ph.D. representative: SLUSS Ph.D. Student Council at Swedish University of Agricultural Sciences. 2020
- Ph.D. student representative at LTV faculty: ASK Ph.D. Council. Swedish University of Agricultural Sciences, Alnarp. 2019-2020
- Ph.D. student representative: Departmental Board, Dept. of Biosystems and Technology, Swedish University of Agricultural Sciences. 2018-2019

Specific Research Skills

- Computer/programming languages: Proficient with R, ArcGIS (intermediate)
- Spoken languages: Spanish (mother tongue), fluent in English and Swedish.
- Systematic reviews: Meta-analyses
- Sustainability assessments: SAFA, MASC, DEXI-PM
- Large and long-term field experiments
- Mental models
- Network analysis (basic)