

Yafei Li, Dsc., Scientific Collaborator

Agroscope, Agroecology and Environment Division, Soil Quality and Soil Use Group

Citizen of China | Married | A son (2024)

English (Fluent); Chinese (Native)

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Employment

Scientific Collaborator , Agroscope	Nov 2025 – now
Postdoc , Agroscope, Soil Quality and Soil Use group	Jun 2024 – Oct 2025
Postdoc , Agroscope, Agricultural Landscape and Biodiversity Group	Aug 2022 – May 2024
Scientific Assistant , ETH Zurich	Mar 2018 – Apr 2022
Research Assistant , Chinese Academy of Sciences	Jul 2017 – Feb 2018
Intern , Pearl River Water Resources Commission, China	Jul 2013 – Dec 2013
Intern , Chinese Academy of Sciences	Aug 2013 – Sep 2013

Education

PhD , ETH Zurich. Micrometeorology	Mar 2018 – Dec 2021
MSc , University of Copenhagen. Water & Environment	Aug 2014 – Dec 2016
MSc , University of Chinese Academy of Sciences. Environmental Science	Aug 2014 – Jun 2017
BSc , Sun Yat-sen University. Environmental Management	Sep 2010 – Jun 2014

Teaching & Supervision

Master student supervision: Rutger Jager (2023) "Agricultural technology and agroecological practice for sustainable intensification in Dutch arable farming". VU Amsterdam.

Tutor for Master and Doctoral Course "Stable Isotope Ecology" (2022) ETH Zurich.

Advisor of student helpers and apprentices, Grassland Sciences Group (2018-2021) ETH Zurich.

Advisor for water analysis (2017-2018) Chinese Academy of Sciences.

Research Interests

Water–Energy–Carbon Coupling and sustainable management in Terrestrial Ecosystems

- Water–carbon coupling mediated by dew and fog processes
- Water use strategy and adaptation under extreme environments
- Socio-economic management, technology adoption and agroforestry for agricultural sustainability
- Process-based modeling of soil organic carbon stocks regulated by agricultural management

Conference organization

Session convener: Soil carbon flux for climate and soil health. World Congress of Soil Science 2026. Nanjing, China. 7–12 June 2026.

Projects

2024-2027. Federal Office for Agriculture Switzerland FOAG. Methodological Development of Humus Balance Calculator. **Lead Researcher.**

2022-2024. Swiss National Science Foundation. What is Sustainable Intensification? Operationalizing Sustainable Agricultural Intensification Pathways in Europe (SIPATH). **Lead Researcher on Technology and Agroforestry Adoption.**

2018-2022. Swiss National Science Foundation. The Importance of Fog and Dew for Swiss Grasslands Today and in the Future (IFDewS). **Lead Researcher.**

2014-2017. National Natural Science Foundation of China. Water Sources and Hydrological Responses of Typical Plants in Ejina Delta, China. **Lead Researcher.**

Reviewer of Agricultural and Forest Meteorology; Journal of Hydrology; Agronomy for Sustainable Development; Soil & Tillage Research; European Journal of Soil Science; Agricultural Systems; Hydrological Processes; Scientific Reports

Publications

PhD thesis: Effect of dew and fog on Swiss grasslands using stable isotopes of water. 2021. ETH Zurich. Supervisors: Prof. Dr. Werner Eugster, Prof. Dr. Nina Buchmann, Prof. Dr. Franziska Aemisegger.

Master thesis: The Responses of winter wheat to transgenerational exposure in elevated [CO₂] environment combined with drought stress. 2016. University of Copenhagen. Supervisor: Prof. Dr. Fulai Liu

Master thesis: Water source dividing of *Populus euphratica* and *Tamarix ramosissima* in the riparian zones in Ejina Delta, the lower reaches of Heihe River Basin. 2017. University of Chinese Academy of Sciences. Supervisor: Prof. Dr. Jingjie Yu

(Peer-reviewed journals)

- [1]. den Hond-Vaccaro C, Jarosch K, Kay S, Li Y, Herzog F (2026) Experts expect European agroforestry systems to stabilize crop yields under climate change. *Agronomy for Sustainable Development*. (accepted)
- [2]. Levers C, Helfenstein J, Bürgi M, Debonne N, Diogo V, Dossche R, Herzog F, Li Y, Mohr F, Swart R, Williams TG, Verburg PH (2026). Conceptualising and mapping polarisation trends in land systems. *Ambio*, 1-18.
- [3]. Li Y#, Riedl A#, Buchmann N, Eugster W (2026) Magnitude and impacts of non-rainfall water inputs and nocturnal evapotranspiration on temperate grassland ecosystems. *Journal of Hydrology*. 134632 (# equal contribution)
- [4]. Li Y, Ammann J, Helfenstein J, Williams TG, Levers C, Mohr F, Diogo V, Zafeiriou R, Rolo V, Beckmann M, Hernik J, Kizos T, Herzog F (2026) The potential of variable-rate technology for sustainable intensification of European arable farming. *European Journal of Agronomy*. 172, 127868.

- [5]. Li Y, Helfenstein J, Swart R, Levers C, Mohr F, Diogo V, Bürgi M, Williams TG, Zafeiriou R, Zarina A, Ammann J, Rolo V, Verburg PH, Beckmann M, Hernik J, Kizos T, Herzog F (2025) Agroecological and technological practices in European arable farming: Past uptake and expert visions for future development. *Land Use Policy*. 153, 107553.
- [6]. Li Y, Herzog F, Levers C, Mohr F, Verburg PH, Bürgi M, Dossche R, Williams TG (2024) Agricultural technology as a pathway of sustainable intensification: insights from the development, diffusion and impact of patents. *Agronomy for Sustainable Development*. 44, 14.
- [7]. Li Y, Eugster W, Riedl A, Westerhuis S, Buchmann N, Aemisegger F (2023) Identifying key stages of radiation fog evolution using water vapor isotopes. *Agricultural and Forest Meteorology*. 334, 109430.
- [8]. Li Y, Eugster W, Riedl A, Lehmann MM, Aemisegger F, Buchmann N (2023) Dew benefits on alpine grasslands are cancelled out by combined heatwave and drought stress. *Frontiers in Plant Science*. 14, 1136037.
- [9]. Li Y, Riedl A, Eugster W, Buchmann N, Cernusak LA, Lehmann MM, Werner RA, Aemisegger F (2023) The role of radiative cooling and leaf wetting in air–leaf water exchange during dew and radiation fog events in a temperate grassland. *Agricultural and Forest Meteorology*. 328, 109256.
- [10]. Riedl A, Li Y, Eugster J, Buchmann N, Eugster W (2022) Technical note: High accuracy weighing micro-lysimeter system for long-term measurements of non-rainfall water inputs to grasslands. *Hydrology and Earth System Sciences*. 26(1): 91-116.
- [11]. Li Y, Aemisegger F, Riedl A, Buchmann N, Eugster W (2021) The role of dew and radiation fog inputs in the local water cycling of a temperate grassland during dry spells in central Europe. *Hydrology and Earth System Sciences*. 25, 2617-2648.
- [12]. Li X., Li Y, Zhu X, Liu S, Liu F (2019) Modulation of photosynthate supply by CO₂ elevation affects the post-head-emergence frost-induced grain yield loss in wheat. *Journal of Agronomy and Crop Science*. 205, 54-64.
- [13]. Li Y#, Li X#, Yu J, Liu F (2017) Effect of the transgenerational exposure to elevated CO₂ on the drought response of winter wheat: Stomatal control and water use efficiency. *Environmental and Experimental Botany*. 136, 78-84. (# equal contribution)
- [14]. Yu J., Li Y. (2018) Uncertainties in the usage of stable hydrogen and oxygen isotopes for the quantification of plant water sources (in Chinese with English abstract). *Acta Ecologica Sinica*. 38, 7942-7949.
- [15]. Li Y, Yu J, Lu K, Wang P, Zhang Y, Du C (2017) Water sources of *Populus euphratica* and *Tamarix ramosissima* in Ejina Delta, the lower reaches of the Heihe River, China (in Chinese with English abstract). *Chinese Journal of Plant Ecology*. 41, 519-528.

Conferences

- [1]. (Oral) A model-based tool for supporting sustainable management of soil organic carbon in Swiss croplands, Nanjing, China, 7–12 June 2026.
- [2]. (Poster) Developing a Soil Organic Matter Management Tool for Swiss Farmers. European

Geosciences Union General Assembly, Vienna, Austria, 27 April–2 May 2025.

- [3]. **(Invited)** How Can Agri-Tech Support Sustainable Agriculture? Insights from Patent Reviews and Farm Surveys. 35th Meeting of the OECD's Farm Level Analysis Network (FLAN), Paris, France, 12-13 June 2025.
- [4]. **(Oral)** Agricultural technology as the pathway towards sustainable intensification of European farming landscapes. 11th IALE World Congress. Nairobi, Kenya, 10–15 July 2023.
- [5]. **(Invited)** Sustainable intensification in European agriculture. Seminar: Current Topics in Grassland Sciences". ETH Zurich. 24 April 2023.
- [6]. **(Oral)** The role of dew and radiation fog inputs in the local water cycling of a temperate grassland during dry spells in central Europe. European Geosciences Union General Assembly, Vienna, Austria, 23–27 May 2022.
- [7]. **(Invited)** The role of dew and fog in local water cycle using stable isotopes of water. Biogeochemical Processes Department Seminar, Max Planck Institute for Biogeochemistry. 3 Feb 2022.
- [8]. **(Poster)** The role of dew and radiation fog inputs in the local water cycling of a temperate grassland during dry spells in central Europe. Workshop – «Water isotopes: From Weather to Climate », hybrid workshop, 15–17 November 2021.
- [9]. **(Poster)** Tracing dew and fog water inputs into temperate grassland using stable water isotopes in the extreme summer 2018. European Geosciences Union General Assembly, Online, 4–8 May 2020.
- [10]. **(Oral)** Effect of Dew and Fog Water on Swiss Grasslands Using Stable Water Isotopes. the 17th Swiss Geoscience Meeting, Fribourg, Switzerland, 22–23 Nov 2019.
- [11]. **(Oral)** Effect of dew and fog water on Swiss grassland with stable water isotopes - a case study in 2018 extreme summer drought. The 8th International Fog and Dew Association Conference, Taipei, China, 14–19 July 2019.
- [12]. **(Poster)** Quantifying the effect of dew and fog water on Swiss grasslands with stable water isotopes. European Geosciences Union General Assembly, Vienna, Austria, 7–12 April 2019.
- [13]. **(Poster)** Quantifying the importance of dew on Swiss grasslands with stable water isotope. The 16th Swiss Geoscience Meeting, Bern, Switzerland, 30 Nov – 1 Dec 2018.

Honors & Awards

PhD scholarship funded by Swiss National Science Foundation. 2018

Exemption from doctoral qualifying exam at ETH Zurich. 2018

Outstanding Student Leader, University of Chinese Academy of Sciences.2015

Outstanding Student, University of Chinese Academy of Sciences.2015

Outstanding Undergraduate Intern Scholarship, Chinese Academy of Sciences.2014

Exemption for Postgraduate Entrance Examination, Sun Yat-sen University.2013

Chinese National Encouragement Scholarship, Sun Yat-sen University.2011/2013

Outstanding Student Scholarship, Sun Yat-sen University.2011/2012/2013

China Southern Airlines Stipend, Sun Yat-sen University.2012

Outstanding Newspaper Editor, Sun Yat-sen University.2011

Referees

PhD supervisors:

Prof. Dr. Nina Buchmann (ETH Zruich): nina.buchmann@usys.ethz.ch

Prof. Dr. Franziska Aemisegger (University of Bern): franziska.aemisegger@unibe.ch

Prof. Dr. Werner Eugster (died in 2022)

Postdoc Advisers:

Dr. Felix Herzog (Agroscope, retired in 2025): felix.herzog@hispeed.ch

Prof. Dr. Peter H. Verburg (VU Amsterdam): p.h.verburg@vu.nl

Dr. Florian Walder (Agroscope): florian.walder@agroscope.admin.ch

PD. Dr. Jens Leifeld (Agroscope): jens.leifeld@agroscope.admin.ch