

PERSONAL INFORMATION**Claudio Lovisolo**

📍 University of Torino
 Department of Agricultural Forest and Food Sciences (DISAFA)

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✉ claudio.lovisolo@unito.it

🌐 <https://www.plantstresslab.unito.it/who-we-are/claudio-lovisolo>

Date of birth 29/06/1963 | *Country:* Italy

Enterprise	University	EPR
<input type="checkbox"/> Management Level	<input checked="" type="checkbox"/> Full professor	<input type="checkbox"/> Research Director, 1st level Technologist, First Researcher, 2nd level Technologist or Principal Investigator
<input type="checkbox"/> Mid-Management Level	<input type="checkbox"/> Associate Professor	<input type="checkbox"/> Level III Researcher or Technologist
<input type="checkbox"/> Employee / worker level	<input type="checkbox"/> Researcher	<input type="checkbox"/> Researcher, Technologist of IV, V, VI and VII level or Technical collaborator

WORK EXPERIENCE

- 2018 to date **Professor in Plant Physiology**
 University of Torino, Italy
 - Research and teaching
 Research on plant hydraulics, ABA and aquaporin role in water and CO₂ transport in plants, plant responses to climate constraints
- 1998-2017 **Post doc fellow, Graduate technician, Assistant and Associate Professor**
 University of Torino, Italy
 - Research and teaching
 Academic career / abroad stages in Germany (2001-2002) and USA (2010)
- 1990-1994 **Agronomist**
 Italy, Spain
 - Agronomic survey
 Design of irrigation systems and assessment of pollutants of irrigation water

EDUCATION AND TRAINING

- 1994-1997 **PhD in Eco-physiology of woody crops**
 University of Turin, Italy
 - 4-month grant of the Spanish Government for the study of Evapotranspiration and Micro irrigation scheduling in Canarias islands, Spain
 - Role of hydraulic conductivity in water transport of grapevines submitted to abiotic stress
- 1990 **Master Degree in Agricultural Sciences**
 University of Turin, Italy
 - Irrigation setup and landscape design in Aosta Valley, Italy

WORK ACTIVITIES

Invited presentations:

- 2020** Grapevine adaptations to drought stress: proposed mechanisms and methods for investigation. Convegno Conavi 2020, Udine, 5 - 7 luglio 2021 <https://conavi2020.uniud.it/programma/relazioni-ad-invito>
- 2017** Scion x rootstock interaction controls grapevine adaptation to drought stress. Drylands, Deserts and Desertification 2017, Combating Desertification and Dryland Management - Theory and Practice, November 6-9, 2017, The Jacob Blaustein Institutes for Desert Research, campus of Ben-Gurion University of the Negev, Israel. <http://in.bgu.ac.il/en/desertification/Pages/Invited-Speakers.aspx>
- 2010** A hydraulic world: from plant water transport to vineyard irrigation requirements. Seventh International Symposium on Cool Climate Viticulture and Enology, Seattle, Washington USA 20-22 June 2010: 81-82. <http://www.asev.org/publication/proceedings-7th-international-cool-climate-symposium-iccs>
- 2005** Apoplastic, symplastic and transcellular water transport in plants. International Course on Aquaporins: biophysical and molecular mechanisms for water transport, Torino 28/II-01/III/2005: 1-7.
- 2003** Quelques aspects de la physiologie des porte-greffes et de leur emploi pour la vigne. OIV Groupe d'experts "Physiologie de la vigne", Paris (F) 31/III/2003.
- 2000** Interrelationship between stomatal conductance and xylem hydraulic conductivity on transpiration control in water stressed grapevines. The Fourth International Symposium on the Tree. Montreal (Canada), 20-25/VIII/2000: 239-243.

Grants and fellows:

- 2010** WWS/UNITO 3-months fellow at Department of Organismic and Evolutionary Biology - Arnold Arboretum, hosted by dr. M.A.Zwieniecki, Harvard University, Cambridge, USA.
- 2003-2009** EU action COST 858 Viticulture: Biotic and abiotic stress - Grapevine Defence Mechanism and Grape Development
- 2002-2003** Post-doc 12-months fellow on the role of aquaporins in water and CO₂ transport in plants, tutor Prof. Ralf Kaldenhoff, Dept Plant Physiology & Biophysics, Würzburg, Germany;

Editorial activity:

- 2019** Publons Award: Sentinels of Science - Agricultural and Biological Sciences.
- 2018** Publons Award: top reviewer for Multidisciplinary.
Publons Award: top reviewer for Plant & Animal Science.
- Top Review Editor, according to Publons
<https://publons.com/author/256504/claudio-lovisolo#profile>
- 2010-** Member of the Editorial Board for 'Plant Physiology and Metabolism' of Plants (MDPI)
https://www.mdpi.com/journal/plants/sectioneditors/Plant_Physiology_Metabolism
- 2012-** Review Editor for Plant Biophysics and Modeling, *Frontiers in Plant Science*; Agroecology and Land Use Systems, *Frontiers in Plant Science*; *Frontiers in Ecology and Evolution*; *Frontiers in Environmental Science*
<https://loop.frontiersin.org/people/44799/overview>
- 20112-2015** Member of the Editorial Revising Boarding of Journal International des Sciences de la Vigne et du Vin (JISVV);
- since 2002** Peer Reviewer for: *Acta Biochimica et Biophysica Sinica*; *Acta Physiologiae Plantarum*; *Agricultural Water Management*; *Agronomy for Sustainable Development*; *American Journal of Enology and Viticulture*; *Annals of Applied Biology*; *Annals of Botany*; *AoB Plants*; *Australian Journal of Grape and Wine Research*; *BMC Plant Biology*; *Botany*; *Chilean Journal of Agricultural Research*; *Ecotoxicology and Environmental Safety*; *Environmental Experimental Botany*; *Frontiers in Agroecology and Land Use Systems*; *Frontiers in Plant Biophysics and Modeling*; *Frontiers in Plant Science - Plant Physiology*; *Frontiers in Environmental Science*; *Functional Plant Biology*; *Horticulturae*; *Hortscience*; *International Journal of Plant Sciences*; *Irrigation Science*; *Journal International des Sciences de la Vigne et du Vin*; *Journal of Experimental Botany*; *Journal of Forestry Research*; *Journal of Plant Physiology*; *Journal of Plant Interactions*; *New Phytologist*; *OENO one*; *PeerJ*; *Physiologia Plantarum*; *Plant Biology*; *Plant Biology and Biochemistry*; *Plant Direct*; *Plant Journal*; *Plant Physiology*; *Plant Science*; *Plant, Cell and Environment*; *Plant Cell, Tissue & Organ Culture*; *Planta*; *PLOS ONE*; *Scientia Agricola*; *Scientia Horticulturae*; *Scientific Reports*; *Sensors*; *The Science of the Total Environment*; *Theoretical and Experimental Plant Physiology*; *Tree Physiology*.

PUBLICATIONS
Metrics

ORCID <http://orcid.org/0000-0001-8825-2904>
SCOPUS <http://www.scopus.com/authid/detail.uri?authorId=6603558644>
RESEARCH GATE www.researchgate.net/profile/Claudio_Lovisolo
ISI WoS Clarivate <https://www.webofscience.com/wos/author/record/A-6610-2010>
Google Scholar <https://scholar.google.it/citations?hl=en&user=xdrgx5sAAAAJ>

Most relevant publications

Chialva et al (2023) The mycorrhizal root-shoot axis elicits *Coffea arabica* growth under low phosphate conditions. NEW PHYTOL, 239 (1): 271-285. <https://doi.org/10.1111/nph.18946>

Patono et al (2023) Technical advances for measurement of gas exchange at the whole plant level: Design solutions and prototype tests to carry out shoot and rootzone analyses in plants of different sizes. PLANT SCIENCE 326, 111505. <https://doi.org/10.1016/j.plantsci.2022.111505>

Patono et al (2022) Photosynthetic recovery in drought-rehydrated grapevines is associated with high demand from the sinks, maximizing the fruit-oriented performance. PLANT J 112 (4):1098-1111. <https://doi.org/10.1111/tpj.16000>

Nerva et al (2022) Spray induced gene silencing targeting a glutathione S-transferase gene improves resilience to drought in grapevine. PCE 2022, 45 (2): 347-361. <https://doi.org/10.1111/pce.14228>

Secchi et al (2021) Chemical inhibition of xylem cellular activity impedes the removal of drought-induced embolisms– new insights from micro-CT analysis. NEW PHYTOL, 22: 820-830. <https://doi.org/10.1111/nph.16912>

Visentin et al (2020) A novel strigolactone-miR156 module controls stomatal behaviour during drought recovery. PCE 43, 7: 1613-1624. <https://doi.org/10.1111/pce.13758>

Caser et al (2019) Drought stress adaptation modulates plant secondary metabolite production in *Salvia dolomitica* Codd. INDUSTRIAL CROPS AND PRODUCTS 129: 85-96. <https://doi.org/10.1016/j.indcrop.2018.11.068>

Carlomagno et al (2018) Pre-harvest berry shrinkage in cv 'Shiraz' (*Vitis vinifera* L.): understanding sap flow by means of tracing. SCI HORT 233: 394–406. <https://doi.org/10.1016/j.scienta.2018.02.014>

Pagliarani et al (2017) The accumulation of miRNAs differentially modulated by drought stress is affected by grafting in grapevine. PLANT PHYSIOL 173: 2180-2195. <https://doi.org/10.1104/pp.16.01119>

Lavoie-Lamoureux et al (2017) Factors influencing stomatal conductance in response to water availability in grapevine: a meta-analysis. PHYSIOL PLANT 159: 468–482. <https://doi.org/10.1111/ppl.12530>

Vitali et al (2016) VvPIP2;4N aquaporin involvement in controlling leaf hydraulic capacitance and resistance in grapevine. PHYSIOL PLANT 158: 284–296. <https://doi.org/10.1111/ppl.12463>

Secchi et al (2016) Changes in air CO₂ concentration differentially alter transcript levels of NtAQP1 and NtPIP2;1 aquaporin genes in tobacco leaves. INT J MOL SCI 17, 567. <https://doi.org/10.3390/ijms17040567>

Visentin et al (2016) Low levels of strigolactones in roots as a component of the systemic signal of drought stress in tomato. NEW PHYTOL 212: 954–963. <https://doi.org/10.1111/nph.14190>

Lovisolo et al (2016) Grapevine adaptations to water stress: new perspectives about soil/plant interactions. THEOR EXP PLANT 28: 53–66. <https://doi.org/10.1007/s40626-016-0057-7>

Pantaleo et al (2016) Novel functional microRNAs from virus-free and infected *Vitis vinifera* plants under water stress. SCI REP 6, Article number: 20167 <https://doi.org/10.1038/srep20167>

Liu et al (2015) Osmotic stress represses Strigolactone biosynthesis in Lotus roots: interaction between strigolactones and ABA. PLANTA 241. <http://link.springer.com/article/10.1007%2Fs00425-015-2266-8>

Chitarra et al (2014) Gene expression in vessel-associated cells upon xylem embolism repair in *Vitis vinifera* L. petioles. PLANTA 239: 887–899. <http://link.springer.com/article/10.1007%2Fs00425-013-2017-7>

Ferrandino & Lovisolo (2014) Abiotic stress effects on grapevine (*Vitis vinifera* L). ENV EXP BOT 103: 138–147. <http://www.sciencedirect.com/science/article/pii/S0098847213001597>

Tramontini et al (2014) Soil water-holding capacity mediates hydraulic and hormonal signals of near-isohydric and near-anisohydric *Vitis*. FUNCT PLANT BIOL 41: 1119–1128. <http://www.publish.csiro.au/?paper=FP13263>

Liu et al (2013) CCD 7 modulates plant growth, reproduction, senescence and determinate nodulation in the model legume *Lotus japonicus*. J EXP BOT 64: 1967-81. <http://jxb.oxfordjournals.org/content/64/7/1967>

Tramontini et al (2013) Impact of soil texture and water availability on the hydraulic control of plant and grape-berry development. PLANT SOIL 368: 215-230. <http://link.springer.com/article/10.1007%2Fs11104-012-1507-x>

Tramontini et al (2013) Rootstock control of scion response to water stress in grapevine. ENV EXP BOT 93: 20–26. <http://www.sciencedirect.com/science/article/pii/S0098847213000713>

Perrone et al (2012) The grapevine root-specific aquaporin VvPIP2;4N controls root hydraulic conductance and leaf gas exchange. PLANT PHYSIOL 160: 965-77 <http://www.plantphysiol.org/content/160/2/965>

Perrone et al (2012) Recovery from water stress affects grape leaf petiole transcriptome. PLANTA 235 (6): 1383-1396 <http://www.springerlink.com/content/v81116x714559877/>

Lovisolo et al (2010) Drought-induced changes in development and function of grapevine (*Vitis* spp.) organs. FUNCT PL BIOL 37: 98–116. <http://www.publish.csiro.au/?paper=FP09191>

Lovisolo et al (2008) An abscisic acid-related reduced transpiration promotes gradual embolism repair. NEW PHYTOL 180 (3): 642-651. <http://www3.interscience.wiley.com/journal/121376791/abstract>

Pou et al (2008) Adjustments of water-use efficiency by stomatal regulation during drought and recovery. PHYSIOL PLANT 134 (2): 313 – 323. <http://www3.interscience.wiley.com/journal/119882842/abstract>

Kaldenhoff et al (2008) Aquaporins and Plant Water Balance. PLANT CELL ENV 31 (5): 658-666. <http://www3.interscience.wiley.com/journal/119398745/abstract>

Lovisolo et al (2008) Mercurial inhibition of root hydraulic conductance in *Vitis* spp. rootstocks under water stress. ENV EXP BOT 63: 178-182. <http://dx.doi.org/10.1016/j.envexpbot.2007.11.005>

Lovisolo et al (2007) Expression of PIP1 and PIP2 aquaporins is enhanced in olive dwarf genotypes. PHYSIOL PLANT 130: 543–551. <http://www3.interscience.wiley.com/journal/118510461/abstract>

Secchi, et al (2007) Isolation and functional characterization of three aquaporins from olive (*Olea europaea* L.) PLANTA 225 (2): 381-392. <http://dx.doi.org/10.1007/s00425-006-0365-2>

Lovisolo & Schubert (2006) Mercury hinders recovery of shoot hydraulic conductivity during grapevine rehydration. NEW PHYTOL 172 (3): 469-478. <http://dx.doi.org/10.1111/j.1469-8137.2006.01852.x>

Uehlein, Lovisolo et al (2003) The tobacco aquaporin NtAQP1 is a membrane CO₂ pore with physiological functions. NATURE 425: 734-737. <http://dx.doi.org/10.1038/nature02027>

Siefritz et al (2002) PIP1 Plasma Membrane Aquaporins in Tobacco: From Cellular Effects to the Function in Plants. PLANT CELL 14 (4): 869 -876. <http://dx.doi.org/10.1105/tpc.000901>

PROJECTS	link	Funder	Budget	Role	
2023	VITIMOUNT - Adaptations of grapevines to climate change.	Cassa di Risparmio di Torino Foundation	20,000 euros	Coordinator, Pricipal Investigator	
2020	CARBOSTRESS: The allocation of carbon during drought in grapevine: a key event in plant defense strategies.	https://www.plantstresslab.unito.it/projects/carbostress	Cassa di Risparmio di Torino Foundation	89,000 euros	Coordinator, Pricipal Investigator
2019	VEG -ADAPT Adapting mediterranean vegetable crops to climate change-induced multiple stress.	https://www.veg-adapt.unito.it	https://prima-med.org	2,000,000 €, shared among 13 partners in 8 countries (UNITO coordinator).	Participant
2007	TOMRES A novel and integrated approach to increase multiple and combined stress tolerance in plants using tomato as a model	https://www.tomres.eu	European Union Horizon2020 under GA N° 727929	Total financing: 5,990,000 € Total financing to UNITO: 870,000 €	Participant
2004	PRIN Molecular aspects of size dwarfing and functional characterization of olive aquaporins' in olive trees	doi:10.1111/j.1399-3054.2007.00902.x	MIUR	Total financing: 100,000 € Total financing to UNITO: 20,000 €	UniTO PI
	PRIN Molecular aspects of water transport and functional characterization of olive aquaporins' in olive trees	doi:10.1007/s00425-006-0365-2 doi:10.1111/j.1744-7348.2007.00118.x	MIUR	Total financing: 110,000 € Total financing to UNITO: 25,000 €	UniTO PI

OTHER RELEVANT INFORMATION

European Project Evaluator (FP7, NEST, STREP). Evaluator for research projects and tenure track career for the Agence Nationale de la Recherche (ANR, France), National Science Foundation (NSF, USA), Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI, Rumania), National commission for scientific and technological research (FONDECYT, Chile), Fund for Scientific Research (F.R.S. / FNRS, Belgium).

International collaborations with Ralf Kaldenhoff (Univ Darmstadt D), for the study of aquaporins for the transport of water and CO₂, with Wolfram Hartung (Univ Wuerzburg D), for the aspects related to the signaling of abscisic acid, with Jaume Flexas (Univ Balears E), Kees van Leeuwen (Univ Bordeaux F) and Hervé Cochard (UMR-PIAF, INRA, Université Clermont-Auvergne F), for studies on abiotic stress r, and with Maciej A. Zwieniecki (Uni California Davis US) for the study of xylem embolisms.

Member of Teaching Committee Università del Piemonte orientale PhD School in Food, Health and Longevity. <https://www.phdbiomed.uniupo.it/faculty-board/>

Member of Teaching Committee IUSS Pavia PhD School in Sustainable Development and Climate change (PhD SDC). <http://www.iusspavia.it/phd-sdc>

Coordinator of the course Adaptation of food/non food crops and forests to climate change (Climate Change in Crops and Forests – CCCF – 12 ECTS) PhD School in Agricultural Forest and Food Sciences of Università di Torino. https://dott-safa.campusnet.unito.it/do/corsi.pl/Show?_id=gwp5

PERSONAL SKILLS

Mother tongue

Italian

Other languages

Fluent English and Spanish, Basic French and German.

Digital skills

Android, MS and MAC environments

Other Skills

Rowing, Cycling, DIY.

January 2023

Claudio Lovisolo

