

Tiziana Centofanti

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Research and Teaching Interests

Ecosystem Restoration, Environmental Pollution, Nature-Based Solutions, Food Systems

Education

Ph.D. Environmental Sciences
Swiss Federal Institute of Technology Zurich (ETHZ), Switzerland
2001-2005

M.Sc. Agricultural Sciences (with distinction)
Marche Polytechnic University, Ancona, Italy
1998-1999

B.Sc. Agricultural Sciences
Marche Polytechnic University, Ancona, Italy
1994-1998

Employment

Visiting Professor
Dept. Environmental Sciences and Policy & Dept. Public Policy
Central European University, Vienna, Austria
January 2016 - present

Environmental Scientist
Institute for Circular Economy & Nature-Based Solutions
Alchemia-nova GmbH, Vienna, Austria
September 2020 - present

Research Fellow
Environmental Social Science Research Group, Budapest, Hungary
July 2018 - 2021

Research Scientist
Center for Irrigation Technology, California State University Fresno (CA), USA
2012-2015

Research Scientist
Dept. of Civil and Environmental Eng., U. of Maryland, College Park (MD), USA
2007-2012

Post-doctoral Fellow
Soil and Agrifood Institute, Cranfield University, United Kingdom
2006-2007

Publications

Peer-reviewed journal articles

- Bañuelos, G.S., Placido, D.F., Zhu, H., Centofanti, T., Zambrano, M.C., Heinitz, C., Lone, T., McMahan, C.M., 2022. Guayule as an alternative crop for natural rubber production grown in B- and Se-laden soil in Central California. *Industrial Crops and Products*. 189: 115789
- Bañuelos, G.S., Centofanti, T., Zambrano, M.C., Vang, K. and Lone, T. 2022. Salsola soda as selenium biofortification crop under high saline and boron growing conditions. *Frontiers in Plant Science*. 13: 996502.
- Centofanti, T., Murugesan A. 2021. Leader and citizens participation for the environment. Experimental evidence from communities in Eastern Europe. *Journal of Behavioral and Experimental Economics*. Revise & Resubmit.
- Balázs, B., Kelemen, E., Centofanti, T., Vasconcelos, M.W. and Iannetta, P.P., 2021. Policy Interventions Promoting Sustainable Food-and Feed-Systems: A Delphi Study of Legume Production and Consumption. *Sustainability*. 13(14):7597.
- Balász, B., Kelemen, E., Centofanti, T., E., Vasconcelos, M. W., Iannetta, P. M. 2021. Integrated policy analysis to identify transformation paths to more-sustainable legume-based food and feed value-chains in Europe. *Agroecology and Sustainable Food Systems*. 45(6):931-953.
- Zhu H., Bañuelos G.S., Centofanti T. 2019. Feasibility of growing halophyte agretti (Salsola soda) as an alternative boron-tolerant food crop in unproductive boron-laden regions. *Plant and Soil*. 445:323-334.
- Centofanti T., Bañuelos G.S., Ayars J.E. 2019. Fruit nutritional quality under deficit irrigation: the case of table grapes in California. *Journal of the Science of Food and Agriculture*. 99(5):2215-2225.
- Centofanti T., Bañuelos G.S., Wallis C. E. 2018. Fruit quality of pomegranate grown in arid environment and irrigated with saline water. *Sustainable Water Resources Management*. 4(4):951-964
- Centofanti T., Bañuelos G.S., Zambrano M.C., Wallis C. E. 2017. Desert plant for saline and drought-stricken farmland: assessment of Opuntia cactus nutritional characteristics. *Journal of Environment and Bio Resources*. 1(1):1-8.
- Centofanti T., Bañuelos G.S., Wallis C. E., Ayars J.E. 2017. Deficit irrigation strategies and their impact on yield and nutritional quality of pomegranate fruit. *Fruits, The International Journal of Tropical and Subtropical Horticulture*. 72:47-54.
- Centofanti T., McConnell L.L., Chaney R.L., Beyer N.W., Davis A.P., Jackson D. 2016. Assessment of trace element accumulation by earthworms in an orchard soil remediation study using soil amendments. *Water, Air & Soil Pollution*. 227:1-14.

- Centofanti T., Andrade N.A., McConnell L.L., Chaney R.L., Hapeman J.C., Torrents A., Beyer N.W., Nguyen A., Anderson M.O., Novak J.M., Jackson D. 2016. Organic amendments for risk mitigation of organochlorine pesticide residues in old orchard soils. *Environmental Pollution*. 120:182-191.
- Centofanti T. and Bañuelos G.S. 2015. Evaluation of the halophyte *Salsola soda* as alternative crop for saline soils high in selenium and boron. *Journal of Environmental Management*. 157:96-102.
- Andrade N.A., Centofanti T., McConnell L.L., Hapeman J.C., Torrents A., Nguyen A., Beyer N.W., Chaney R.L., Novak J.M., Anderson M. O., Cantrell K.B. 2014. Utilizing thin-film polymer solid-phase extraction to assess the effect of organic carbon amendments on the bioavailability of DDT and dieldrin to earthworms. *Environmental Pollution*. 185:307-313.
- Centofanti T., Sayers Z., Davis A.P., Sicher R.S., Cabello-Conejo M.I., Kidd P.S., Kakei Y., Nishizawa N.K., Chaney R.L. 2013. Xylem composition and root-to-shoot Ni translocation in *Alyssum* species. *Plant and Soil*. 373:59-75.
- Cabello-Conejo M.I., Centofanti T., Kidd P.S., Prieto-Fernandez A., Chaney R.L. 2012. Evaluation of plant growth regulators to increase Ni phytoextraction by *Alyssum* species. *International Journal of Phytoremediation*. 15:365-375.
- Centofanti T., Siebecker M.G., Chaney R.L., Davis A.P., Sparks D.L. 2012. Hyperaccumulation of nickel by *Alyssum corsicum* is related to solubility of Ni mineral species. *Plant and Soil*. 359:71-83.
- Centofanti T., Tappero R.V., Davis A.P., Chaney R.L. 2011. Chelator-buffered nutrient solution is ineffective in extracting Nickel from seeds of *Alyssum*. *International Journal of Phytoremediation*. 13:434-440.
- Chaney R.L., Fellet G., Torres R., Centofanti T., Green C. E., Marchiol L. 2009. Using chelator-buffered nutrient solution to limit Ni phytoavailability to the Ni-hyperaccumulator *Alyssum murale*. *Northeastern Naturalist*. 16 (special Issue 5):215-222.
- Fellet G., Centofanti T., Chaney R.L., Green C.E. 2009. NiO(s) (bunsenite) is not available to *Alyssum* species. *Plant and Soil*. 319:219-223
- Centofanti T., Hollis J.M., Blenkinsop S., Fowler H.J., Truckell I., Dubus I.G. and Reichenberger S. 2008. Development of agro-environmental scenarios to support pesticides risk assessment in Europe. *Science of the Total Environment*. 407:574-588.
- Centofanti T., Flühler H., Frossard E. 2007. Time-dependent distribution of surface-applied radionuclides and their recovery in maize during the growing season. *Journal of Environmental Quality*. 36:280-290.
- Centofanti T. and Frossard E. 2006. Uptake and translocation of ¹³⁴Cs by maize roots as affected by heterogeneous distribution of ¹³⁴Cs. *Plant and Soil*. 284:293-303.
- Centofanti T., Penfield R., Albrecht A., Pellerin S., Flühler H. Frossard E. 2005. Is the transfer factor the relevant tool to assess the soil-to-plant transfer of radionuclides under field conditions? *Journal of Environmental Quality*. 34:1972-1979.

Book chapters

- Vasconcelos MW, Grusak MA, Pinto E, Gomes A, Ferreira H, Balazs B, Centofanti T, Ntatsi G, Savvas D, Karkanis A, Williams M. 2020. The Biology of Legumes and Their Agronomic, Economic, and Social Impact. *In: The Plant Family Fabaceae*. Hasanuzzaman, M., Araujo, S. and Gill, S.S. (eds.) Springer, Singapore.
- Centofanti T., Bañuelos G.S. 2019. Practical uses of halophytic plants as a source of food and fodder. *In: Halophytes and Climate Change: Adaptive Mechanisms and Potential Uses*.

- Hasanuzzaman M., Shabala S. and Fujita M. (eds.) CABI, Wallingford, UK. pp:324-342.
- Centofanti T. 2015. Phytoextraction of trace metals - principles and applications. *In: Environmental Sustainability: the role of green technology.* Thangavel P. and Sridevi G. (eds.) Springer Publishing. New York, USA. pp:217-227.
- Chaney R.L., Baklanow I.A., Centofanti T., Broadhurst C.L., Baker A.J.M, Reeves R.D., van der Ent A., Roseberg R.J. 2014. Phytoremediation and phytomining: Using plant to remediate contaminated or mineralized environments. *In: Plant Ecology and Evolution in Harsh Environments.* Rajakaruna N., Boyd R. and Harris T. (eds.) Nova Science Publishers, Inc. NY, USA. pp:365-392.
- Chaney R.L., Broadhurst C.L., Centofanti T. 2010. Phytoremediation of soil trace elements. *In: Trace elements in soils.* Hooda P.S. (eds.). John Wiley & Sons, Ltd. Chichester, UK. pp:311-339.

Multimedia

- Centofanti T., Bañuelos G.S., Wallis C., Ayars J.E. 2015. Deficit irrigation: is it impacting yield and nutritional quality of fruits? *New Ag International Magazine*, English edition, March-April 2015, pp: 54-56. *Invited paper.*
- Kohkha S. October 20, 2014. [Drought-stressed crops may be better for you](#). The California Report Statewide Radio Program/KQED Public Radio. *Invited interview.*

Research Grants & Scholarships (recent)

- SYMBIOREM (Symbiotic, circular bioremediation systems and biotechnology solutions for improved environmental, economic and social sustainability in pollution control. EU HORIZON. Co-Investigator (Scientific lead), total budget €5,476,390 (2022-2026)
- DIVAGRI (Revenue DIVERSification pathways in Africa through bio-based and circular AGRicultural innovations). Funded by EU H2020. Scientific Coordinator, total budget €8,956,000 (2021-2025)
- Resource recovery from wastewater using alternative crops: a circular bioeconomy approach. Funded by California Department of Water Resources. Co-investigator (with Gary Bañuelos), total budget \$250,000 (2021-2023)
- Visiting Scholar Grant - Erasmus Mundus Masters Program in Environmental Sciences, Policy and Management (MESPOM) (February-June/2019)
- Greening the Margin: Building Cooperation and Public Goods among Roma and Non-Roma communities in Slovakia and Hungary. Funded by CEU ACRO Research Grant. Co-Principal Investigator (with Anand Murugesan), total budget €4,500 (2018-2019)
- Integrating economic and ecological experiments to examine environmental conservation norms. Funded by CEU ACRO Research Grant. Co-Principal Investigator (with Anand Murugesan), total budget €5,000 (2016-2018)
- Investigation of alternative salt-tolerant crops for phyto-management of degraded soils and waters. Funded by California Department of Water Resources. Co-Principal Investigator (with Gary Bañuelos), total budget \$250,000 (2015-2017)

Teaching

Current courses:

Central European University, Vienna, Austria

Environmental Pollution and Biological Remediation Methods (2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023) (graduate)

Global Environmental Change, Health, and Policy (2019 & Fall 2019, 2022, 2023) (undergraduate)

Introduction to Circular Economy (2023) (graduate)

Past courses:

Central European University, Hungary

Agroecology and Organic Farming Systems (2018, 2019, 2020, 2022, co-taught with Guntra Aistara) (graduate)

Science, Society, and Environmental Policy (2017 & 2018) (graduate)

Food Policy and Politics (2018, 2019, 2020) (graduate)

Szent Istvan University, Hungary

Environmental Management (co-taught with Gyorgy Vegvari, Fall 2016) (graduate)

California State University Fresno

Plant Nutrition and Soil Chemistry (co-taught with Gary Bañuelos, Winter 2014) (graduate)

Professional Service (recent)

Invited speaker. EU Circular Talks on the ECES (European Circular Economy Stakeholder Platform), September 2023 - [Bioremediation as an effective tool for a clean environment](#).

Topic Coordinator. *Frontiers in Plant Science* (2022). [Selenium in Soil-Plant-Animal Systems and its Essential Role for Human Health](#).

Invited session leader. CIVICA Doctoral Conference, 15-17 December, 2021, European University Institute, Florence, Italy. Session title: *How to write an effective teaching statement*.

Proposal reviewer. French National Research Agency (ANR). AAP générique, 2020.

Referee

Agriculture, Ecosystems and Environment (2011, 2018, 2019, 2021)

Agriculture for Sustainable Development (2021)

Annals of Botany PLANTS (2014)

Antioxidants (2014)

Applied Soil Ecology (2019, 2020)

Biochar(2023)

Chemoecology (2015)

Chemosphere (2016, 2018)

Current Analytical Chemistry (2017)

Environmental Pollution (2016, 2017)

Environmental Science & Technology (2010)
Fruits, The International Journal of Tropical and Subtropical Horticulture (2020)
International Journal of Phytoremediation (2012, 2014, 2017, 2019)
Journal of Arid Land (2016, 2023)
Journal of the Science of Food and Agriculture (2017, 2019)
Land Degradation and Development (2017)
Plant Growth Regulation (2013)
Science of the Total Environment (2011, 2019, 2020, 2023)

Links

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