

# Tiziana Centofanti

## Contact

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[Alchemia-nova GmbH](#), Institute for innovative phytochemistry & closed loop processes  
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## Education

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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

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Environmental Scientist and Head of the Research Division  
Alchemia-nova GmbH, Vienna, Austria  
September 2020 - present

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

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

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

Research Assistant  
Marche Polytechnic University, Italy  
1999-2001

## Research consultancy/Academic visiting positions

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Visiting Professor  
Dept. of Environ. Sciences and Policy, Central European University, Vienna/Budapest  
April 2016 - present

Visiting Professor  
School of Public Policy, Central European University, Vienna/Budapest  
April 2016 - April 2020

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

## Professional Service

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

Invited lecturer. EIT Climate-KIC Catapult Programme. Delivered a lecture on *Food Policy* (November 2018 & September 2019)

Invited lecturer. Regional Academy of the United Nations. Delivered a lecture on *Climate-smart agriculture and gendered impact of climate change* (September 2019)

Member of the organising committee for the International Workshop: *Rhizosphere, preferential flow and bioavailability. A holistic view of soil-to-plant transfer?*. September 21-26, 2002, Ascona, Switzerland.

## Mentoring

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List of students that I have mentored and trained for internship or thesis  
Alice Al-Baghdadi - Student, M.Sc. in Environmental Sciences, Central European University, 2018-2019  
Shynuga Thirukeswaran - Student, M.Sc. in Environmental Sciences, Central European University, 2018-2019  
Estefania Rubiniak - Student, MA in Public Policy, Central European University, 2017-2018

Justin King - Laboratory and research assistant, California State University Fresno, 2012-2015  
Christian Garcia - Intern for Project SEED program sponsored by American Chemical Society, 2014  
Abigal Vidrio - Intern for USDA Agricultural Ambassadors Program sponsored by USDA Hispanic Serving Institutions National Program, 2014  
Guido Fellet - Visting Ph.D. student, 2008  
Maribel Cabello-Conejo - Visting Ph.D. student, 2010

## Teaching

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Current courses:

Central European University, Vienna, Austria

*Environmental Pollution and Biological Remediation Methods* (2016, 2017, 2018, 2019, 2020, 2021) Graduate

Past courses:

Central European University, Hungary

*Global Environmental Change, Health, and Policy* (2019 & Fall 2019) Graduate

*Science, Society, and Environmental Policy* (2017 & 2018) Graduate

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

## Research Grants & Scholarships

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DIVAGRI (Revenue DIVERsification pathways in Africa through bio-based and circular AGRICultural innovations). EU H2020 (CE-SFS-36-2020). Scientific Coordinator, total budget €8,956,000 (2021-2025)

Using drainage water to grow an alternative salt and boron tolerant crop-guayule- that produces natural latex and resin for the westside of the San Joaquin Valley in Central California. Funded by California Department of Water Resources. Co-investigator (with Gary Bañuelos), total budget \$250,000 (2020-2022)

Visiting Scholar Grant to the 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 Central European University 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 Central European University Research Grant. Co-Principal Investigator (with Anand Murugesan), total budget €5,000 (2016-2018)
- Investigation of halophyte *Salsola soda* as an alternative salt-tolerant crop for phytomanagement of salt-affected soils and waters high in boron and selenium. Funded by California Department of Water Resources. Co-principal Investigator (with Gary Bañuelos), total budget \$250,000 (2015-2017)
- Determining nutritional quality in sustained deficit irrigated grapes. Funded by California Table Grape Commission. Co-Investigator (with Gary Bañuelos), total budget \$19,000 (2013-2014)
- In situ remediation of DDT and Dieldrin residues in old orchard soils at Beltsville Agricultural Research Center. Funded by U.S. Environmental Protection Agency. Co-Investigator (with Rufus Chaney), total budget \$200,000 (2011-2013)
- Erasmus Mundus European Scholarship (exchange student). University of Hohenheim, Germany (January-June/1998)
- Leonardo da Vinci European Scholarship (intern). East Malling Research Station, Kent, United Kingdom (April-September/1997)

## Publications

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### *Peer-reviewed journal articles*

- Balasz, B., Kelemen, E., Centofanti, T., E., Vasconcelos, M. W., Ianetta, 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* WJSA. DOI: 10.1080/21683565.2021.1884165.
- 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 <sup>134</sup>Cs by maize roots as affected by heterogeneous distribution of <sup>134</sup>Cs. *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.

#### *Conference papers*

- Balasz B., Kelemen E., Centofanti T. 2019. New governance solutions for legume-based food systems. European Conference on Crop Diversification. Spetember 18-21, 2019. Budapest, Hungary (HU). *Invited*.
- Centofanti T. 2018. Soybean production in Italy: agronomy, economics, and policy. 2nd TRUE LIN Workshop for the Continental Region. September 11-13, 2018, Budapest (HU). *Invited*.
- Anderson M.O., Hapeman C.J., Jackson D., McConnell L.L., Nelson Beyer W., Chaney R.L., Centofanti T., Green C. E., Jennings C., Nygyen A., LaChance T., Torrents A. Decreasing bioavailability of organochlorine pesticides in historical orchard soils. Society of Environmental Toxicology and Chemistry (SETAC) North America 37th Annual meeting, November 6-10, 2016, Orlando (FL), USA. *Invited*.
- Hapeman J.C., Centofanti T., Andrade N.A, McConnell L.L., Torrents A., Beyer N.W., Chaney R.L., Nguyen, A., Novak J.M., Anderson M. O., Cantrell K.B., Jackson D. Assessing risk mitigation strategies of DDT and dieldrin residues in historical orchard soil. American Chemical Society, August 16-20, 2015, Boston, MA. *Invited*.
- Rodriguez A., Zoldoske T., Centofanti T., Bañuelos G.S. Discovering potential neutraceuticals in drought and salt tolerant pomegranates grown with poor quality water in central California. 2013 Water resources and Policy Initiatives Conference, June 20-22, 2013, Long Beach, CA.
- Andrade N.A, Centofanti T., McConnell L.L., Hapeman J.C., Torrents A., Beyer N.W.,

- Chaney R.L., Novak J.M., Anderson M. O., Cantrell K.B. Utilizing thin-film polymer solid-phase extraction to assess the effect of organic carbon amendments on the bioavailability of DDT and dieldrin to earthworms. Society of Environmental Toxicology and Chemistry (SETAC) North America 32nd Annual Meeting, November 13-17, 2011, Boston, MA. *Invited*.
- Centofanti T., Sayers Z., Cabello-Conejo M.I., Kidd P.S., Davis A.P., Sicher R.C., Chaney R.L. Determination of nickel chelators in xylem sap of Alyssum at steady-state nickel uptake. 11th International Conference of the Biogeochemistry of Trace Elements (ICOBTE), July 3-7, 2011, Florence, Italy.
- Centofanti T., Siebecker M.G., Davis A.P., Sparks D.L., Chaney R.L. Phytoavailability of Ni Compounds to Alyssum Species. 6th International Phytotechnology Conference, December 1-4, 2009, St. Louis, MO.
- Centofanti T., Hollis J., Truckell I., Fowler H., and Blenkinsop P. Identification of Agro-environmental scenarios characterizing European Agriculture. XIII Symposium on Pesticide Chemistry, September 3-6, 2007, Piacenza, Italy. *Invited*.
- Centofanti T. and Frossard E. Uptake and translocation of  $^{134}\text{Cs}$  by a fraction of the root system of maize as affected by K supply. International Plant Nutrition Colloquium, September 14-19, 2005, Beijing, China.
- Centofanti T., Penfield R., Albrecht A., Flühler H. and Frossard E. Uptake of  $^{134}\text{Cs}$  by a small fraction of maize root growing in  $^{134}\text{Cs}$  enriched areas. RHIZOSPHERE Congress 2004, September 12-17, 2004, Munich, Germany.
- Centofanti T., Penfield R., Albrecht A., Kulli B., Flühler H., Frossard E. Factors controlling  $^{54}\text{Mn}$ ,  $^{65}\text{Zn}$ ,  $^{57}\text{Co}$  and  $^{134}\text{Cs}$  uptake by maize. 7th International Conference of the Biogeochemistry of Trace Elements (ICOBTE), June 15-19, 2003, Uppsala, Sweden.
- Centofanti T., Penfield R., Albrecht A., Kulli B., Flühler H., Frossard E. Effects of soil structure on the displacement of surface-applied radionuclides and root distribution. International workshop: Rhizosphere, preferential flow and bioavailability. A holistic view of soil-to-plant transfer?, September 21-26, 2002, Ascona, Switzerland.
- Centofanti T., Penfield R., Albrecht A., Flühler H. and Frossard E.  $^{65}\text{Zn}$ ,  $^{54}\text{Mn}$ ,  $^{57}\text{Co}$  and  $^{134}\text{Cs}$  uptake by maize grown under field and pot conditions. Preliminary results. Society of Environmental Toxicology and Chemistry (SETAC) Europe 12th Annual meeting, May 12-16, 2002, Vienna, Austria.

### *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*.

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## Refereeing

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Acta Agriculturae Scandinavica (2016)  
Agriculture, Ecosystems and Environment (2011, 2018, 2019, 2021)  
Annals of Botany PLANTS (2014)  
Antioxidants (2014)  
Applied Soil Ecology (2019, 2020)  
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)  
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)  
Natural Resources Forum (2020)

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## Professional Mememberships

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American Chemical Society (2014 - present)