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RESEARCH EXPERIENCE

DECEMBER 2022 - ONGOING Researcher (RTDa)

Iron plaque as a polymath trait against flooding and soil salinization (IPSALS). Institution: University of Udine(IT)MAY 2022 - DECEMBER 2022 PostDoc position

Salt stress alleviation in crops: the combined use of humic substances and plant growth-promoting rhizobacteria (SalStrAI). Institution: University of Udine(IT)

NOVEMBER 2021 - APRIL 2022 PostDoc position

Soil-vegetation relations in wet environments and hydromorphic soils in urban-rural landscape. Institutions: University of Udine(IT), PULCHRA project (EU-H2020-SWAF-2018-GA)

SEPTEMBER 2021 - FEBRUARY 2022 PostDoc position, national award For Women in Science L'Oréal-UNESCO

Common reed die-back and climate change: where is the link? Institutions: University of Udine (IT), L'Oréal Italia S.p.A. (IT)

MARCH 2021

Influence of salinity and pH on iron plaque mineralogy and micronutrients recycling as visualized by X-ray fluorescence and near edge X-ray absorption spectroscopy. Access to Elettra facilities - X-RAY FLUORESCENCE beamline – of the Trieste Research Area (IT), 15 shifts (5 days). Institutions: University of Copenhagen (DK), University of Ljubljana (SLO), University of Nova Gorica (SLO), Elettra Sincrotrone Trieste (IT)

SEPTEMBER 2019 - AUGUST 2021 PostDoc position, MSCA IF - ROLLBAR project

Roots in armour - a barrier induced to protect against intrusion of soil phytotoxins? Institutions: University of Copenhagen (DK)Granted from EU CommissionH2020-MSCA-IF. Grant_number 839542.

JANUARY 2018

Visualization by synchrotron X-ray phase contrast micro tomography of bottlenecks for gas-phase diffusion in two wetland plant species showing contrasting tissue O₂ dynamics. Access to Elettra facilities - SYRMEP beamline – of the Trieste Research Area (IT) during the days 16 and 17 February 2018. Institutions: University of Udine, Trieste (IT) and Copenhagen (DK), Elettra Sincrotrone Trieste (IT)

NOVEMBER 2018 - AUGUST 2019 PostDoc position

Study on soil-plant interactions in natural and farmed ecosystems. Institutions: University of Udine(IT), FVG Regional Administration (IT)

AUGUST - OCTOBER 2018

Study on soil-plant interactions in hydromorphic soils of the Marano and Grado Lagoon. Institutions: University of Udine (IT)

APRIL - JULY 2018

Tests on nutritional efficiency of organo-mineral fertilizers produced by SCAM S.p.A. Institutions: SCAM S.p.A.,University of Udine (IT)

NOVEMBER 2017 - MARCH 2018

Effects of mercury contamination on soil microbial biomass, soil and crops collected along the Isonzo river. Institutions: University of Udine (IT), FVG Regional Administration (IT), ARPA FVG (IT)

JULY - DECEMBER 2017

Update of the Friuli Venezia Giulia check-list of alien plant species. Institutions: Museum of Natural History of Udine (IT), FVG Regional Administration (IT)

FEBRUARY 2016 - JULY 2016

Monitoring of plant responses to submergence stress: internal plant aeration and underwater photosynthesis. Institution: Freshwater Biology section, University of Copenhagen (DK)

EDUCATION

25 MAY 2017 - PH.D., LIFE AND ENVIRONMENTAL SCIENCE Dep. of Life Science, University of Trieste and Udine (IT)
Dissertation: Interactions between soil and plants in halophile systems: selection mechanisms and effects on pedogenesis.

SCIENTIFIC SERVICES

2022 - ONGOING. Expert panel member for MSCA-PF applications. EU Commission
2022 - present. Member of SICA - Italian Society of Agricultural Chemistry
2021 - 2022. Guest Editor for the Special Issue in Plants (IF 3.935 in 2021) Plant-Soil Interactions in Wetlands and Flooded Environments
From 2017. REVIEWER FOR (a selection of journals): Functional Plant Biology, International Journal of Environmental Research and Public Health, Journal of Soils and Sediments, PLOS ONE, Science of the Total Environment

GRANTS

For Women in Science L'Oréal-UNESCO award, year 2021, funded 20,000.00 € Marie Skłodowska-Curie Individual fellowship H2020-MSCA-IF-2018-839542, grant amount 207,312.00 €

INVITED LECTURES

Pellegrini E.* Novel approaches and technologies for current and future challenges in agricultural chemistry. ACWS- Agricultural Chemistry Winter School, University of Udine, of Turin and SICA-Società Italiana di Chimica Agraria, February 2022, Udine (IT). Held online

Pellegrini E.*, Valdevit F., Balducci P., Contin M. and De Nobili M. Modelling Acid Volatile Sulfides (AVS) and Simultaneously Extractable Metals (SEM) in anoxic soils with a cutting-edge approach, RESoil Conference, October 2018, Ljubljana (SLO)
*lecture's speaker

ABSTRACTS AND ORAL PRESENTATIONS (a selection)

Tomat S., Pellegrini E.*, Horvat M., Piani B., Contin M. Salinity and flooding mobilize mercury from polluted soils and sediments. EMEC - European Meeting on Environmental Chemistry, December 2022, Ljubljana (SLO).

Peralta Ogorek L.L., Tong S., Kjær J.E., Song Z., Bastegaard V.K., Zonta F., Yamauchi T., Jiménez J. d.l.C, Takahashi H., Nakazono M., Herzog M., Pellegrini E., Pedersen O.* The root barrier to radial oxygen loss – a jack of all trades. ISPA- International Society for Plant Anaerobiosis, September 2022, Bad Staffelstein (DE). Keynote lecture by Pedersen O.

Pellegrini E.*, Boscutti F., Casolo V., Contin M., De Nobili M. The encroachment of *Amorpha fruticosa* l. alters soil C and N cycles in natural dry grasslands. ISMOM-International Symposium on Interactions of Soil Minerals with Organic Components and Microorganisms, June 2019, Siville (ES)

Pellegrini E.*, Casolo V., Boscutti F., Petruzzellis F., Nardini A., Tromba G., Pedersen O. 3D visualization of air-filled tissues in two flood-prone halophytes reveals contrasting bottlenecks for long-distance O₂ transport. FISV- Federazione Italiana Scienze della Vita [Italian Federation of Life Science]. September 2018, Rome (IT)

Contin M.*, Pellegrini E., De Nobili M. Mercury contamination of soils from the Soča/Isonzo river basin, RESoil Conference, October 2018, Ljubljana (SLO)

Vitti S.*, Boscutti F., Pellegrini E., Casolo V. Study of plant traits, soil features and plant invasion in sandy beach of Grado and Marano lagoon (northern Adriatic Sea). IPSC-International Plant Science Conference, Società Botanica Italiana [Italian Society of Botany], September 2018, Fisciano, Salerno (IT)

Pellegrini E.*, Casolo V., Boscutti F., Contin M., De Nobili M. Accumulo dei solfuri nei suoli barenicoli ed implicazioni sulla distribuzione delle comunità vegetali [Sulfides in saltmarsh soils and consequences on plant zonation]. SICA-Italian Society of Agricultural Chemistry, September 2017, Udine (IT)

Pellegrini E.*, Konnerup D., Winkel A., Casolo V., Pedersen O. Internal aeration during partial and complete submergence in two halophytes. ISPA-International Society for Plant Anaerobiosis, September 2016, Aarhus (DK)

Pellegrini E.*, Floreani F., Contin M., De Nobili M. Methane and carbon dioxide fluxes from Limonium residues decomposition in saltmarsh soils: effects of tide regime. ESSC-European Society for Soil Conservation, June 2015, Imola (IT)

Pellegrini E.*, De Nobili M., Boscutti F., Casolo V. First evidences on soil traits affecting plant distribution in saltmarshes. ESSC, June 2015, Imola (IT)

*lecture's speaker

Publikationer

Root acclimations to soil flooding prime rice (*Oryza sativa* L.) for subsequent conditions of water deficit

Peralta Ogorek, Lucas León, Song, Zhiwei, Pellegrini, Elisa, Liu, Fulai, Tomasella, M., Nardini, A. & Pedersen, Ole, 2024, I: Plant and Soil. 494, s. 529-546

A meta-analysis of plant tissue O₂ dynamics

Herzog, Max, Pellegrini, Elisa & Pedersen, Ole, 2023, I: Functional Plant Biology. 50, 7, 13 s.

Enhancing Flood Tolerance in Wheat (*Triticum aestivum*) and Rice (*Oryza sativa*): Identifying Key Physiological Traits

Herzog, Max, Tong, Shuai, Kjær, Johan Emil, Konnerup, D., Peralta Ogorek, Lucas León, Song, Zhiwei, Pellegrini, Elisa & Pedersen, Ole, 2023. 1 s.

Responses of key root traits in the genus *Oryza* to soil flooding mimicked by stagnant, deoxygenated nutrient solution

Tong, Shuai, Kjær, Johan Emil, Peralta Ogorek, Lucas León, Pellegrini, Elisa, Song, Zhiwei, Pedersen, Ole & Herzog, Max, 2023, I: Journal of Experimental Botany. 74, 6, 15 s.

Restricted O₂ consumption in pea roots induced by hexanoic acid is linked to depletion of Krebs cycle substrates

Gargiulo, S., Casolo, V., Zancani, M., Pellegrini, Elisa, Filippi, A., Konnerup, D., Morandini, P. & Pedersen, Ole, 2023, s. 55. 1 s.

Restricted O₂ consumption in pea roots induced by hexanoic acid is linked to depletion of Krebs cycle substrates

Casolo, V., Zancani, M., Pellegrini, Elisa, Filippi, A., Gargiulo, S., Konnerup, D., Morandini, P. & Pedersen, Ole, 2023, I: Physiologia Plantarum. 175, 5, 13 s., e14024.

The quantitative importance of key root traits for radial water loss under low water potential

Song, Zhiwei, Zonta, F., Peralta Ogorek, Lucas León, Bastegaard, V. K., Herzog, Max, Pellegrini, Elisa & Pedersen, Ole, 2023, I: Plant and Soil. 482, 18 s.

Electron donating properties of humic acids in saltmarsh soils reflect soil geochemical characteristics

Bravo, C., Toniolo, R., Pellegrini, Elisa, Millo, C., Covelli, S., Contin, M., Martin-Neto, L. & Nobili, M. D., 2022, I: Geoderma. 419

Flooding and Soil Properties Control Plant Intra- and Interspecific Interactions in Salt Marshes

Pellegrini, Elisa, Incerti, G., Pedersen, Ole, Moro, N., Foscari, A., Casolo, V., Contin, M. & Boscutti, F., 2022, I: Plants. 11, 15, 17 s., 1940.

Impacts of salinization caused by sea level rise on the biological processes of coastal soils - A review

Mazhar, S., Pellegrini, Elisa, Contin, M., Bravo, C. & De Nobili, M., 2022, I: Frontiers in Environmental Science. 10, 18 s., 909415.

The rice wax synthesis-related gene Leaf Gas Film-1 (LGF1) is involved in the formation of the radial oxygen loss barrier

de la Cruz Jiménez, J., Noorohmah, S., Zeisler, V., Schreiber, L., Peralta Ogorek, Lucas León, Pellegrini, Elisa, Pedersen, Ole, Nagai, K., Ashikari, M., Takahashi, H. & Nakazono, M., 2022, s. 67.

The root barrier to radial oxygen loss: a jack of all trades

Peralta Ogorek, Lucas León, Tong, Shuai, Kjær, Johan Emil, Song, Zhiwei, Bastegaard, V. K., Zonta, F., Yamauchi, T., de la Cruz Jiménez, J., Takahashi, H., Nakazono, M., Herzog, Max, Pellegrini, Elisa & Pedersen, Ole, 2022, s. 14.

Urban sprawl facilitates invasions of exotic plants across multiple spatial scales

Boscutti, F., Lami, F., Pellegrini, Elisa, Buccheri, M., Busato, F., Martini, F., Sibella, R., Sigura, M. & Marini, L., 2022, I: Biological Invasions. 24, 5, s. 1497-1510 14 s.

Novel functions of the root barrier to radial oxygen loss – radial diffusion resistance to H₂ and water vapour: [incl. corrigendum]

Peralta Ogorek, Lucas León, Pellegrini, Elisa & Pedersen, Ole, maj 2021, I: New Phytologist. 231, 4, s. 1365-1376

Agricultural land use curbs exotic invasion but sustains native plant diversity at intermediate levels

Pellegrini, Elisa, Buccheri, M., Martini, F. & Boscutti, F., 2021, I: Scientific Reports. 11, 10 s., 8385.

Artificial neural network (ANN) modelling for the estimation of soil microbial biomass in vineyard soils

Pellegrini, Elisa, Rovere, N., Zaninotti, S., Franco, I., De Nobili, M. & Contin, M., 2021, I: Biology and Fertility of Soils. 57, 1, s. 145-151 7 s.

Effects of flooding stress on the saltmarsh halophyte *Salicornia fruticosa* (L.) L. upscaling perspectives

Vuerich, M., Cingano, P., Petrusa, E., Braidot, E., Pellegrini, Elisa, Mestroni, M. & Boscutti, F., 2021, s. 97. 1 s.

Habitat type and community age as barriers to alien plant invasions in coastal species-habitat networks

Lami, F., Vitti, S., Marini, L., Pellegrini, Elisa, Casolo, V., Trotta, G., Sigura, M. & Boscutti, F., 2021, I: Ecological Indicators. 133, 10 s., 108450.

Radial Oxygen Loss from Plant Roots - Methods

Jiménez, J. D. L. C., Pellegrini, Elisa, Pedersen, Ole & Nakazono, M., 2021, I: Plants. 10, 11, 15 s., 2322.

Stand age, degree of encroachment and soil characteristics modulate changes of C and N cycles in dry grassland soils invaded by the N₂-fixing shrub *Amorpha fruticosa*

Pellegrini, Elisa, Boscutti, F., Alberti, G., Casolo, V., Contin, M. & De Nobili, M., 2021, I: Science of the Total Environment. 792, 10 s., 148295.

Cascading effects from plant to soil elucidate how the invasive *Amorpha fruticosa* L. impacts dry grasslands

Boscutti, F., Pellegrini, Elisa, Casolo, V., de Nobili, M., Buccheri, M. & Alberti, G., 2020, I: Journal of Vegetation Science. 31, 4, s. 667-677

Contrasting responses of native and alien plant species to soil properties shed new light on the invasion of dune systems

Vitti, S., Pellegrini, Elisa, Casolo, V., Trotta, G. & Boscutti, F., 2020, I: Journal of Plant Ecology. 13, 6, s. 667-675

Evidence of non-structural carbohydrates-mediated response to flooding and salinity in *Limonium narbonense* and *Salicornia fruticosa*

Pellegrini, Elisa, Forlani, G., Boscutti, F. & Casolo, V., 2020, I: Aquatic Botany. 166, 8 s., 103265.

Effects of natural zeolites on ryegrass growth and bioavailability of Cd, Ni, Pb, and Zn in an Albanian contaminated soil

Contin, M., Miho, L., Pellegrini, Elisa, Gjoka, F. & Shkurta, E., 2019, I: Journal of Soils and Sediments. 19, 12, s. 4052-4062

Molecular study on *Senecio fontanicola* (*S. doria* group, *Asteraceae*) and its conservation status

Pellegrini, Elisa, Casolo, V., Iamónico, D., Oriolo, G., Rovere, N. & Vischi, M., 2019, I: Hacquetia. 18, 1, s. 87-95 9 s.

Phytotoxicity of hexanoic acid in *Pisum sativum*: effects on roots and isolated mitochondria

Zancani, M., Casolo, V., Filippi, A., Pellegrini, Elisa, Gargiulo, S., Nielsen, S. R. & Pedersen, Ole, 2019. 1 s.

Soil Organic Carbon and Carbonates are Binding Phases for Simultaneously Extractable Metals in Calcareous Saltmarsh Soils

Pellegrini, Elisa, Contin, M., Vittori Antisari, L., Ferronato, C. & De Nobili, M., 2019, I: Environmental Toxicology and Chemistry. 38, 12, s. 2688-2697 10 s.

3D visualization of air-filled tissues in two flood-prone halophytes reveals contrasting bottlenecks for long-distance O₂ transport

Pellegrini, Elisa, Casolo, V., Boscutti, F., Petruzzellis, F., Nardini, A., Tromba, G. & Pedersen, Ole, 1 jan. 2018.

A new paper sensor method for field analysis of acid volatile sulfides in soils

Pellegrini, Elisa, Contin, M., Vittori Antisari, L., Vianello, G., Ferronato, C. & De Nobili, M., 2018, I: Environmental Toxicology and Chemistry. 37, 12, s. 3025-3031 7 s.

Plant traits shape the effects of tidal flooding on soil and plant communities in saltmarshes

Pellegrini, Elisa, Boscutti, F., De Nobili, M. & Casolo, V., 2018, I: Plant Ecology. 219, 7, s. 823-835 13 s.

Study of plant traits, soil features and plant invasion in sandy beach of Grado and Marano lagoon (northern Adriatic Sea)

Vitti, S., Boscutti, F., Pellegrini, Elisa & Casolo, V., 2018. 1 s.

Contrasting oxygen dynamics in *Limonium narbonense* and *Sarcocornia fruticosa* during partial and complete submergence

Pellegrini, Elisa, Konnerup, D., Winkel, A., Casolo, V. & Pedersen, Ole, 2017, I: Functional Plant Biology. 44, 9, s. 867-876 10 s.

Mercury uptake by halophytes in response to a long-term contamination in coastal wetland salt marshes (northern Adriatic Sea)

Pellegrini, Elisa, Petranich, E., Acquavita, A., Canário, J., Emili, A. & Covelli, S., 2017, I: Environmental Geochemistry and Health. 39, 6, s. 1273-1289 17 s.

Soil properties and plant community relationship in a saltmarsh of the Grado and Marano lagoon (northern Italy)

Vittori Antisari, L., Ferronato, C., Pellegrini, Elisa, Boscutti, F., Casolo, V., De Nobili, M. & Vianello, G., 2017, I: Journal of Soils and Sediments. 17, 7, s. 1862-1873 12 s.

Hydromorphic to subaqueous soils transitions in the central Grado lagoon (Northern Adriatic Sea, Italy)

Vittori Antisari, L., De Nobili, M., Ferronato, C., Natale, M., Pellegrini, Elisa & Vianello, G., 2016, I: Estuarine, Coastal and Shelf Science. 173, s. 39-48 10 s.

Methane and carbon dioxide fluxes from *Limonium* residues decomposition in saltmarsh soils: effects of tide regime

Pellegrini, Elisa, Floreani, F., Cortin, M. & De Nobili, M., 2015, I: International Journal of Environmental Quality. 18, 8 s.

Soil hydromorphism in two saline and brackish system: classification, indicators and pedogenetic processes

Ferronato, C., Contin, M., De Nobili, M., Falsone, G., Pellegrini, Elisa, Vianello, G. & Vittori Antisari, L., 2015, I: International Journal of Environmental Quality. 14 s.

OTHER SCIENTIFIC PAPERS (NO PEER-REVIEW):

Buccheri M., Boscutti F. Pellegrini E. Martini F. 2019. La flora aliena nel Friuli Venezia Giulia – Alien flora Friuli Venezia Giulia. Gortania. 40:7-78

Pellegrini E., Floreani F., Contin M, De Nobili M. 2015. Methane and carbon dioxide fluxes from *Limonium* residues decomposition in saltmarsh soils: effects of tide regime. Environmental quality. 18:21-28. DOI: 10.6092/issn.2281-4485/5797

Ferronato C., Contin M., De Nobili M., Falsone G., Pellegrini E., Vianello G., Vittori Antisari L. 2015. Soil hydromorphism in two saline and breckish system: classification, indicators and pedogenetic processes. Environmental quality. 19:17-30. DOI: 10.6092/issn.2281-4485/5803

TECHNICAL REPORTS

Collaboration agreement with ARPAFVG for a sedimentary and geochemical study in salt marshes of the Marano and Grado Lagoon. Scientific head team: G. Fontolan, S. Covelli. Working group: A. Bezzi, A. Emili, D. Martinucci, E. Pellegrini, S. Pillon, C. Popesso. Trieste, April 2013. Available online at http://www.arpa.fvg.it/export/sites/default/tema/acqua/acque_marino_costiere_e_di_transizione/allegati_vari/Studio-delle-aree-barenicole-lagunari-2012.pdf

BOOKS AND CHAPTERS

Strazzaboschi L, Pellegrini E., Boscutti F. 2015. La flora delle aree terrazzate. [Flora of terraces] In: Casolo V. (Eds.) Il borgo di Porzus: tra prati e cielo. L'equilibrio tra uomo e natura nello sviluppo del territorio. [Porzus: from meadows to haven]. pp.59-68, Forum ed. ISBN:978-88-8420-879-8

Aa.vv. 2015. Flora notevole del Friuli Venezia Giulia. Specie incluse nella Lista Rossa Nazionale e nell'Allegato II alla Direttiva "Habitat". [Protected flora of the Friuli Venezia Giulia. Plant species of the National Red List and plants included in the Attached II of the "Habitat" Directive]. GREF- Regional Group of Flora Investigation. Volume n.14. Available online at http://www.gref-fvg.it/Pubblicazioni_files/000flora%20notevole%201_1.jpg