

PERSONAL INFORMATION

Dr. Luigi Paolo D'Acqui



Sex | Date of birth | Nationality

POSITION

Senior Researcher Scientist at the CNR Institute for Research on Terrestrial Ecosystems in Florence from 2020.

Head of the Florence branch of the CNR Research Institute on Terrestrial Ecosystems from 2018 to 2020.

Research Scientist at the CNR, Institute of Ecosystem Study –ISE, Firenze from 1995-2020.

Ph.D. in Soil Sciences, University of Florence; Agricultural Sciences. 1995

Title of the thesis: *'Surface crusts on a tropical soil in Zimbabwe: formation processes and control possibilities'*;

Teaching qualification: **Associate Professor**. University AGR 14 from 2014.

EDUCATION

Specialization in *'Soil Structure'* at INRA (Institut National de la Recherche Agronomique), Département de Science du Sol - Service d'Étude des Sols et de la Carte Pédologique de France, Centre de Recherches d'Orléans France (6 months), 1991;

Specialization in *'Problems of irrigation processing in arid and semi-arid areas of developing countries'* at the Istituto Agronomico per l'Oltremare (Ministry of Foreign Affairs), Florence, six months) 1989;

Master degree in *'Agricultural Sciences'* (110/110) at the Faculty of Agricultural and Forestry Sciences, University of Florence, 1988. Thesis title: *'Experimental approach to the characterization of soil microstructure'*;

Post-Doctoral Scholarship for Foreign Studies of the European Economic Community within the EC program on Human Capital and Mobility, at ITC (International Training Centre for Post-Graduate Soil Scientist) Ghent – Belgium. Title: *'Training Soil Transformation and Degradation'*; (10 months) 1993;

Scholarship of the National Research Council (CNR) at the Centro di Studio per i Colloidi Suolo (CNR) in Florence. Title: *'Surface properties of mineral colloids and neogenesis of clayey minerals'*; (12 months) 1992 – 1993;

Scholarship of the National Research Council (CNR) at the Centro di Studio per i Colloidi Suolo (CNR) in Florence. Title: *'Surface properties of mineral colloids and neogenesis of clayey minerals'*; (12 months) 1990 – 1991;

Scholarship of the National Research Council (CNR) at the Centro di Studio per i Colloidi Suolo (CNR) in Florence. Title: *'Interaction between organic molecules and soil mineral colloids'*; (12 months) 1989 – 1990;

RESEARCH EXPERIENCE

Participation in the EJP SOIL Project within the European Joint Programme (EJP) on agricultural soil management of the European Union (EU), H2020: *'Towards climate-smart sustainable management of agricultural soils'*. 2020 – 2025;

Project responsible of the CNR Partnership within the "Trans-national Access" to the CNR Arctic station "Dirigibile Italia" within the international project "International Network for Terrestrial Research and Monitoring in the Arctic" (INTERACT III - n. 871120 - H2020) 2020 – 2024;

Project responsible of the Florence working group for soil within the project *'Integrated Carbon Observation System'* - ICOS for the monitoring stations of Renon, Castelporziano and Borgo Cioffi 2019-2021. ICOS is an Infrastructure for European Research of the European Commission;

Project responsible of the CNR Partnership within the "Trans-national Access" to the CNR Arctic station "Dirigibile Italia" within the international project *'International Network for Terrestrial Research and Monitoring in the Arctic'* (INTERACT II - n. 730938 - H2020 - 2016-2020; since 2018;

Project leader of a Project within a UE Network "International Network for Terrestrial Research and Monitoring in the Arctic" 2016-2017:

- *'Biological crusts of different Arctic extreme environments and their impact on the soil ecosystem (biodiversity, gas exchange and nutrient cycling) (BIOSOIL)'*;

Participant to research Project within National Antarctic Research Program directed by the Ministry of Education, University and Research (MIUR) 2015-2017

- *'Structure, function, development of Biological Soil Crusts (BSC) in polar regions: contribution to the understanding of the ecological role of the BSC on a planetary scale (WHYCRUST)'*;

Participant to research Project within National Antarctic Research Program directed by the Ministry of Education, University and Research (MIUR) 2014-2016

- *'Development of a portable fluorosensor for investigation of terrestrial microbial communities of polar environments (SFIDA)'*.

Participant to research Project funded by the Sardinian Region (20.000 €). "Legge regionale 7 agosto 2007, n.7: Promozione della ricerca scientifica e dell'innovazione tecnologica in Sardegna" 2012-2015.

- *'Definition of a methodology for monitoring infestations defoliating moths in the woods with Quercus spp. of Sardinia by integrating techniques remote sensing'*;

Participant to research Project founded by Regione Toscana, (100.000 €) Italy 2009-2012, POR FESR 2009-2011:

- *'Riduzione dell'Impatto delle Pressioni Agricole sulla Risorsa Idrica (RIPARI)'*;

Participant to UE Project for Developing Countries (40.000 €) 2006-2009: *'Competence Platform on Energy Crop and - Agroforestry Systems for Arid and Semi-arid Ecosystems- Africa (COMPETE)'*;

Project responsible of soil Italian team (160.000 €) within the UE Project:

- *'Biotic and Abiotic Mechanisms of TSE Infectivity Retention and Dissemination in Soil (TSE-SOIL-FATE)'*. 2002-2005, Program: "Quality of Life & Management of Living Resources";

Project leader of the UE Project (1.2 million €) for Developing Countries 2001 – 2004:

- *'Use of indigenous N₂-fixing cyanobacteria for sustainable improvement of soil biogeochemical performance and physical fertility in semiarid tropics (CYANOSOILS)'*;

Project responsible of soil team within a CNR Strategic Project on the Nitrogen nutrition, assimilation and C sequestration (NITCAR) 2000–2002:

- *'Specific levels of stabilization of soil organic C'*;

Participant to UE Project for Developing Countries 1998 - 2001:

- *'Southern African Savannas: sustainable management of natural resources (soil, water, flora & fauna) a synthesis study of human impacts and enhancement of economic and social benefits' (SAVANE)'*;

Participant to UE Project for Developing Countries 1998 - 2001:

- *'Fate and impact of pesticidal proteins from Bacillus Thuringensis in tropical soils and waters as influenced by interactions with clays (MICROBE)'*;

Visiting scientist at CSIRO Division of Soil, now CSIRO Land & Water, Adelaide Australia, (2 months) 1998;

Participant to UE Project in the Environment and Climate Program 1997 - 2000:
- *Modeling within-storm erosion Dynamics (MWISED)*;

Visiting scientist at CSIRO Division of Soil, now CSIRO Land & Water, Adelaide Australia, (1 month) 1996;

Participant to UE Project for Developing Countries (STD2 - A 285 - I) 1990 - 1993:
- *Improvement of productivity of crusting soils and depleted sandy soils in Zimbabwe areas under intensive cropping*.

ACCADEMIC/TEACHING EXPERIENCES

Supervisor of doctoral students' thesis work, at the CNR, ex-Institute for Genesis and Ecology of Soil Studies - IGES now Institute for Ecosystem Studies - ISE and the Department of Soil Science and Plant Nutrition of University of Florence from 1998 to present.

Dr. Condello Leania (1996-1999)

Thesis Title: *'Il ruolo della sostanza organica su alcune proprietà fisico-chimiche del Suolo'*;

Dr. Carolina A. Santi (2000-2003)

Thesis Title: *'Dinamica del carbonio del suolo nell'ecosistema mediterraneo dell'isola di Pianosa'*;

Dr. Amaranta Pucci (2003-2006)

Thesis Title: *'The adsorption of recPrP in soil: the role of OM as revealed by Low Temperature Ashing approach'*.

PhD Supervisor of Mr. Mfundo P. Maqubela thesis at Department of Soil Science, Faculty of Agriculture and Environmental Science, University of Fort Hare South Africa from 2002 to 2005:
Thesis Title: *'Effects of cyanobacteria and organic amendments on soil structure stability and nutrient dynamics of selected degraded soils in the Eastern Cape Province'*.

Assistant Supervisor (2003-2007) of Miss Eva Nannini thesis for Bachelor degree at the Dipartimento di Ingegneria Chimica, Mineraria e delle Tecnologie Ambientali – Università di Bologna and the Institute for Ecosystem Studies – ISE:
'Depurazione di reflui oleari: fattibilità progettuale' Patent n° FI200600155.

Assistant Supervisor (2007-2010) of Dr. Marco Casarosa thesis for Bachelor degree at the Dipartimento di Scienze Matematiche Fisiche e Naturali – Università di Firenze and Institute for Ecosystem Studies – ISE: *'Verso il "CLAY-RNA WORLD": studi sul processo di interazione tra basi nucleotidiche e substrati argillosi'*.

Supervisor of Dr.ssa Ana Piedra Buena Diaz post-doctoral international fellowship of six months (2008), funded by CSIC (Spain), at the Institute for Ecosystem Studies – ISE for *'Studies on the environmental human impact and its consequence on the nature of soil organic matter'*.

Member of the Steering Committee of the Degree Course in Biotechnology for Environmental Management and Sustainable Agriculture (BIO-EMSA) of the Department of Agricultural, Food, Environmental and Forestry Sciences and Technologies (DAGRI) of the University of Florence since 2019.

INSTITUTIONAL ACTIVITIES

Responsible of informatics services of ex-Centre of Studies for Soil Colloids and ex-Institute for Genesis and Ecology of Soil (IGES) from 1997 to 2002.

Member of Scientific Council of ex-Institute for Genesis and Ecology of Soil Studies (IGES) as Secretary from 1999 to 2002;

Member of Institute Board of Institute for Ecosystem Studies - (ISE) 2002 -2016 (as Secretary 2002-2008).

INTERNATIONAL INSTITUTIONAL ACTIVITIES

Representative of CNR at European Union as Member of Advisory Forum for the Organic Matter from 2004 to 2006 within the "EU Soil Thematic Strategy".

Italian Representative as "Observer Country" within the Working Group, Conservation of Arctic Flora and Fauna (CAFF) of the Arctic Council since 2018.

RESEARCH INTERESTS

Soil physic and chemistry, clay mineralogy, surface area analysis, soil structure, soil porosity and pores size distribution, stability of soil aggregates, micromorphology, particle size distribution, mineral-organic complexes, interactions between soil mineral colloids and organic matter, soil C sequestration, soil C map, clays and minerals as sorbents for pollutants, clay-protein interactions, swelling and dispersion, interparticle bonding, fate of Prion in soil, interactions tillage effects, soil degradation, soil fertility and cyanobacteria, sustainable management of soil resource in tropical areas, use of biotechnologies to improve soil fertility. Infrared spectroscopy (MID-IR) and photoacoustics (PAS). Chemometrics. Origin of life. Soil biocrusts in extreme cold environments (Arctic and Antarctica).

REFeree IN INTERNATIONAL JOURNALS

Agrochimica
Catena;
Biology and Fertility of Soil;
Geoderma;
Sensor;
Fresenius Environmental Bulletin;
Applied Clay Science;
Land Degradation & Development;
Australian Journal of Soil Research.
Environmental Science & Technology
Wetlands Ecology and Management

INTERNATIONAL SOCIETY MEMBERSHIP

SSS (International Soil Science Society);
IHSS (International Humic Substances Society);
EGU (European Geoscience Union).

EDUCATION AND TRAINING

Doctorate in Soil Sciences at the University of Florence, Italy, 1995.

Dissertation: Surface crusts in a tropical soil in Zimbabwe: formation processes and possibility of control;

Specialization in Soil Structure at INRA (Institut National de la Recherche Agronomique), Département de Science du Sol - Service d'Étude des Sols et de la Carte Pédologique de France, Centre de Recherches d'Orléans France (6 months), 1991;

Specialization in Problems in transformation of irrigated areas into dry and semi-dry conditions of Developing Countries at the Istituto Agronomico per l'Oltremare, (Certificate by the Ministry of Foreign Affairs), Firenze (6 months), 1989;

Graduated (Laurea) in Agricultural Science at the University of Florence, Italy, 1988.

Dissertation: Experimental approach to characterize soil microstructure.

Research Fellowships

European Union (EU) **Post Doctoral research fellowships** at International Training Center (ITC) for Post Graduate Soil Scientist, Ghent, Belgium (10 months), 1993:

- Formation transformation and degradation of soils;

CNR Research fellowships at CNR Studies Center for Soil Colloids, Firenze (12 months), 1992-1993:

- Surface properties of mineral colloids and clay minerals neogenesis;

CNR Research fellowships at CNR Studies Center for Soil Colloids, Firenze (12 months), 1990-1991:

- Surface properties of mineral colloids and clay minerals neogenesis;

CNR Research fellowships at CNR Studies Center for Soil Colloids, Firenze (12 months), 1989-1990:

Interaction between organic matter and soil mineral colloids.

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C1	C1	C1
Replace with name of language certificate. Enter level if known.					
French	B2	B2	B2	B1	A1
Replace with name of language certificate. Enter level if known.					

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
[Common European Framework of Reference for Languages](#)

PUBLICATIONS

LIST OF PUBLICATIONS

Peer-reviewed articles in International Journals

1. Sparvoli E., Ristori G.G., **D'Acqui L.** 1989. Porosité des sols argileux en fonction de l'hydratation. Influence du type d'argile et des ciments sur leur stabilité structurale. *Compte Rendu Acad. Sci. Paris*, t. 308, Série II, p. 327-333.
2. Ristori G.G., Sparvoli E., De Nobili M. e **D'Acqui L.** 1992. Characterization of organic matter in particle-size fractions of Vertisols. *Geoderma*, 54: 295-305.
3. Bruand A., **D'Acqui L.P.**, Nyamugafata P., Darthout R., Ristori G. G. 1993. Analysis of porosity in a tilled "crusting soil" in Zimbabwe. *Geoderma* 59 235-248.
4. **D'Acqui L.P.**, Daniele E., Fornasier F., Radaelli L. and Ristori G.G. 1999. Interaction between clay microstructure, decomposition of plant residues and humification. *European Journal of Soil Science* 49, 579-587.
5. **D'Acqui L.P.**, Churchman G.J., Janik L.J., Ristori G.G. and Weissmann D.A. 1999. Effect of Organic Matter Removal by Low-Temperature Ashing on Dispersion of Undisturbed Aggregates from a Tropical Crusting Soil. *Geoderma* 93, 311-324.
6. Pardo, M.T., Ristori, G., **D'Acqui L.P.**, Almendros G. 2003. An assessment of Soil Fertility and Agronomic Constraints in Southern Africa Savannas: A Case Study of Pandamatenga Area, Botswana. *South African Geographical Journal* 85 (1), 35-41.
7. R. Baraldi, F. P. Vaccari, M. R. Colom, M. F. Cotrufo, **L. P. D'Acqui**, 2004. The Pianosa LAB: An integrated research project to assess the carbon balance of Pianosa island. *Journal of Mediterranean Ecology* vol. 5, No.1.
8. C.A. Santi, **L.P. D'Acqui**, A. Doderò, B. Pezzarossa, R. Pini, F. Petacco, M. Scatena, R. Risaliti, 2004. Soil Carbon Storage and Sequestration on Pianosa Island. *Journal of Mediterranean Ecology* vol. 5, No.1.
9. M.R. Colom, F.P. Vaccari, A. Scartazza, E. Brugnoli, G. Zerbi, S. Sforzi, R. Baraldi, M.F. Cotrufo **L.P. D'Acqui**, C.Santi, C. Vazzana, R. Vivoli, L. Spaccino, 2004. Pianosa Island: Structure, Functioning and Biodiversity of Main Ecosystems. *Journal of Mediterranean Ecology* vol. 5, No.1.
10. Santi, C.A., Certini G, **D'Acqui L.P.** 2006. Direct determination of organic carbon by dry combustion in soils with carbonates. *Communications in Soil Science and Plant Analysis*, 37: 155-162.
11. Malam Issa, O., Défarge C., Le Bissonais Y., Marin B., Duval O., Bruand A., **D'Acqui L.P.**, Nordenberg S., Anneman M. 2007. Effects of the inoculation of cyanobacteria on the microstructure and the structural stability of a tropical soil. *Plant and Soil*, 290 (1-2), 209-219.
12. **D'Acqui, L.P.**, Santi C.A., Maselli F. 2007. Use of ecosystem information to improve soil organic carbon mapping in a Mediterranean island. *Journal of Environmental Quality*, 36, 262-271.
13. Certini G., Forte C., **D'Acqui L.P.**, Santi C.A. 2007. Spectroscopic properties of bulk and dichromate oxidation resistant soil organic matter from an anthroposequence in a Mediterranean environment. *Plant and Soil*, 291, 55-65.
14. **D'Acqui L.P.** and Ristori G.G. 2008. Use of Indigenous N₂-Fixing Soil Cyano-Bacteria for Low-Input, Sustainable Improvement of Overall Fertility of Degraded Lands in Semiarid Tropics. *J. Soil Sci. Plant Nutr.* 8 (3) 2008, p. 192.
15. **D'Acqui L.P.**, Pucci A., Calamai L. 2008. Coupled LTA - PAS FTIR Approach for Studies of Organic Matter Dynamics and Function at the Interface of Soil Aggregates. *J. Soil Sci. Plant Nutr.* 8 (3) 2008, p. 141.
16. Lozzi I., Pucci A., Pantani O.L., **D'Acqui L.P.**, Calamai L. 2008. Interferences of suspended clay fraction in protein quantitation by several determination methods. *Analytical Biochemistry*, 376 (1), 108-114.
17. Piedra Buena, A., Pucci, P., Tinoco, A., Almendros G. and **D'Acqui L.P.** 2008. Use of Low Temperature Ashing Coupled with DRIFT-FTIR Spectroscopy to Characterize Soil Organic Matter Resistance to Degradation. *J. Soil Sci. Plant Nutr.* 8 (3) 2008, p. 162.
18. Pucci A., **D'Acqui L.P.** and Calamai L. 2008. Fate of Prions in Soil: Interactions of RecPrP with Organic Matter of Soil Aggregates as revealed by LTA-PAS *Environmental Science & Technology*, 42 (3), 728-733.
19. Santi C.A., Cortès S., **D'Acqui L.P.**, Sparvoli E. and Pushparaj B. 2008. Reduction of organic pollutants in olive mill wastewater by

using different mineral substrates as adsorbents. *Bioresource Technology*, 99, 1945–1951.

20. Maqubela M. P., Mnkeni P.N.S., Malam Issa O., Pardo M. T. and **D'Acqui L.P.** 2009. *Nostoc* cyanobacterial inoculation in South African agricultural soils enhances soil structure, fertility, and maize growth. *Plant and Soil*, 315: 79-92.
21. Borin S., Ventura S., Tambone F., Mapelli F., Schubotz F., Brusetti L., Scaglia B., **D'Acqui L.P.**, Solheim B., Turicchia S., Marasco R., Hinrichs K.U., Baldi F., Adani F. and Daffonchio D. 2010. Rock weathering creates oases of life in a High Arctic desert. *Environmental Microbiology*, 12: 293–303.
22. Churchman, G.J., Foster, R.C. **D'Acqui, L.P.** Janik L.J., Skjemstad J.O., Merry, R.H., Weissmann, D.A. 2010. Effect of land-use history on the potential for carbon sequestration in an Alfisol. *Soil & Tillage Research*, 109: 23–35.
23. Cuzman, O.A. Ventura, S., Sili, C., Mascalcchi, C., Turchetti, T., **D'Acqui L.P.** and Tiano, P. 2010. Biodiversity of Phototrophic Biofilms Dwelling on Monumental Fountains. *Microbial Ecology*, 60: 81–95.
24. Maqubela M. P., Mnkeni P. N. S., Muchaonyerwa P., **D'Acqui L.P.** and Pardo M. T. 2010. Effects of cyanobacteria strains selected for their bioconditioning and biofertilization potential on maize dry matter and soil nitrogen status in a South African soil. *Soil Science and Plant Nutrition*, 56: 552–559.
25. Pucci, A., Branciamore, S., Casarosa M., **D'Acqui, L.P.**, Gallori, E. 2010. Implications for an RNA-Clay World: Interaction of Cytosine with Clay Minerals. *Journal of Cosmology*, 10: 3398–3407.
26. **D'Acqui, L.P.**, Pucci, A. and Janik, L.J. 2010. Soil properties prediction of western Mediterranean islands with similar climatic environments by means of mid-infrared diffuse reflectance spectroscopy. *European Journal of Soil Science*, 61: 865–876.
27. Pucci A., Russo F., Rao M.A., Gianfreda L., Calamai L. and **D'Acqui L.P.** 2012. Location and stability of a recombinant ovine prion protein in synthetic humic-like mineral complexes. *Biology and fertility of soil*, 48:443–451.
28. Vaccari, F.P., Lugato, E. Gioli B., **D'Acqui L.P.**, Genesio, L., Toscano, P., Matese, A., Miglietta F. 2012. Land use change and soil organic carbon dynamics in Mediterranean agro-ecosystems: The case study of Pianosa Island. *Geoderma* 175–176: 29–36.
29. Arenella M., **D'Acqui L.P.**, Pucci A., Giagnoni, L., Nannipieri P., Renella G. 2014. Contact with soil-borne humic substances interfere with the prion identification by mass spectrometry. *Biology and fertility of soil*, 50:1009–1013.
30. **D'Acqui, L.P.**, Santi, C.A., Vizza, F., Certini, G. 2015. Living and dead soil organic matter under different land uses on a Mediterranean island. *European Journal of Soil Science*, 66: 298–310. DOI: 10.1111/ejss.12219.
31. Coleine C. Selbmann L., Ventura S., **D'Acqui L.P.**, Onofri S., Zucconi L. 2015. Fungal Biodiversity in the Alpine Tarfala Valley. *Microorganisms* 3:612–62.
32. Rinaldi L.M.R., Leva A., **D'Acqui L.P.** 2015. Influence of seed provenance on the propagation of *Picea abies* (L.) Karst. *Advances in Horticultural Science*, 29: 185–191.
33. Mattei, P., **D'Acqui, L.P.**, Nicese, F.P., Lazzerini, G., Masciandaro, G., Macci, C., Doni, S., Sarteschi, F., Giagnoni, L., Renella, G. 2016. Use of phytoremediated sediments dredged in maritime port as plant nursery growing media. *Journal of Environmental Management*, 186: 225–232.
34. **D'Acqui, L.P.**, Bonetti A., Certini, G. 2017. Physical protection of organic matter in minesoils assessed by low-temperature ashing (LTA). *Geoderma* 288: 120–129.
35. Maselli F, Vaccari F.P., Chiesi M., Romanelli M.S., **D'Acqui L.P.** 2017. Modelling and analyzing the water and carbon dynamics of Mediterranean macchia by the use of ground and remote sensing data. *Ecological Modelling*, 351: 1–13.
36. Chiti, T., Certini, G. Marzaioli, F., **D'Acqui, L.P.**, Forte, C., Castaldi, S., Valentini, R. 2019 Composition and turnover time of organic matter in soil fractions with different magnetic susceptibility. *Geoderma* 349: 88-96.
37. Albanese, L., Bonetti, A., **D'Acqui, L.P.**, Meneguzzo, F., Zabini, F. 2019. Affordable Production of Antioxidant Aqueous Solutions by Hydrodynamic Cavitation Processing of Silver Fir (*Abies alba* Mill.) Needles. *Foods* 8 (2), 65. <https://doi.org/10.3390/foods8020065>.
38. Guo, L., Shen, J., Li, B., Li, Q., Wang, C., Guan, Y., **D'Acqui, L.P.**, Luo, Y., Tao, Q., Xu, Q., Li, H., Yang, J., Tang X. Impacts of agricultural land use change on soil aggregate stability and physical protection of organic C. 2020. *Science of the Total Environment* 707, 13604.
39. Canini, F., Geml, J., **D'Acqui, L.P.**, Selbmann, L., Onofri, S., Ventura, S., Zucconi, L. 2020. Exchangeable cations and pH drive diversity and functionality of fungal communities in biological soil crusts from coastal sites of Victoria Land, Antarctica. *Fungal Ecology*,

45: 100923.

40. **D'Acqui L.P.**, Certini G., Marchi E., Cambi M. 2020. Machinery's Impact on Forest Soil Porosity. *Journal of Terramechanics*. 91: 65-71.
41. Canini, F., Geml, J., **D'Acqui, L.P.**, Buzzini, P. Turchetti, B., Onofri, S., Ventura, S., Zucconi, L. 2021. Fungal diversity and functionality are driven by soil texture in Taylor Valley, Antarctica. *Fungal Ecology*, 45: 101041. <https://doi.org/10.1016/j.funeco.2021.101041>

Peer-reviewed articles in International Books

42. **D'Acqui L. P.**, Bruand A. and Pagliai M. 1994. Study of soil porosity with mercury porosimetry and image analysis on backscattered electron scanning images (BESI). Application to tilled "crusting soils" in Zimbabwe. In: *Developments in Soil Science 22 - Soil micromorphology: studies in management and genesis*. Eds. A. J. Ringrose-Voase and G. S. Humphreys. Elsevier. p 581-590.
43. **D'Acqui L. P.**, Ristori G. G, Nyamugafata P., Pardo M.T., Doderio A. and Sparvoli E. 1995. Studies on crusting in a kaolinitic soil from Zimbabwe and effect of different conditioners. In: *Proceedings of Second International Symposium on "Sealing, Crusting, Harsetting Soils: Productivity and Conservation 1994*. Eds. H.B. So, G.D. Smith, S.R. Raine, B.M. Shafer and R.J. Loch. Australian Society of Soil Science Inc. pp 355-362.
44. Le Bissonnais Y., Bruand A., Nyamugafata P., **D'Acqui L. P.** 1995. Variability of aggregate stability and surface crusting in Zimbabwe. In: *Proceedings of Second International Symposium on "Sealing, Crusting, Harsetting Soils: Productivity and Conservation 1994*. Eds. H.B. So, G.D. Smith, S.R. Raine, B.M. Shafer and R.J. Loch. Australian Society of Soil Science Inc. pp 473-478.
45. **D'Acqui L.P.**, Sparvoli E., Agnelli A., Santi C.A., 2005. Soil and organic wastes: transformation of olive oil mill waste water and clay particle aggregation. In: *Soil Abiotic and Biotic Interactions and the Impact on the ecosystem and Human Welfare*. Eds. P.M.Huang, A.Violante, J.M.Bollag, P. Vityakon. Science Publishers Inc., USA. pp 73-85.
46. Pucci, A., Branciamore, S., Casarosa M., **D'Acqui, L.P.**, Gallori, E. 2010. Implications for an RNA-Clay World: Interaction of Cytosine with Clay Minerals. In: *Origins, Abiogenesis and the Search for Life*. Ed. Michael Russell. Cosmology Science Publisher, Cambridge, MA. pp. 233-242. ISBN-10: 0982955219 ISBN-13: 978-0982955215.
47. Ventura, S., Sterflinger, K., Komarek, O., **D'Acqui L.**, and De Philippis, R. 2014. MICROTEA: Structure and function of microbial communities in challenging, polar terrestrial habitats: A pan-Arctic survey. In: *Zackenberg Ecological Research Operations, 19th Annual report*. Eds. Jensen, L.M., Christensen, T.R. and Schmidt, N.M. Aarhus University, DCE – Danish Centre for Environment and Energy. 130 pp. ISSN: 1904-0407. ISBN: 978-87-93129-22-1.
48. **D'Acqui L.P.** 2016. Use of Indigenous Cyanobacteria for Sustainable Improvement of Biogeochemical and Physical Fertility of Marginal Soils in Semiarid Tropics. In: *Bioformulations: for Sustainable Agriculture*. Eds. Arora N.K., Mehnaz S., Balestrini R. Springer. ISBN 978-81-322-2777-9. DOI 10.1007/978-81-322-2779-3

Peer-reviewed articles in National Books

49. Pezzarossa B., Pini R., Petacco F., Scatena M., **D'Acqui L.P.**, Doderio A., Santi C.A., Mazzoncin M, Risaliti R. 2001. Ecosistema suolo. In: *Il progetto PianosaLab*. Editori Vaccari F. P., Miglietta F., Zerbi G.. Editrice Forum. Udine. pp. 17-26.

Articles in National Journal

50. Pezzarossa B., Pini R., Petacco F., Scatena M., **D'Acqui L.P.**, Doderio A., Santi C.A., Mazzoncin M, Risaliti R. 2002. Caratterizzazione dell'ecosistema suolo dell'isola di Pianosa. Caratterizzazione dell'ecosistema suolo dell'isola di Pianosa. *Bollettino della Società Italiana della Scienza del Suolo*, 51:447-454.
51. Turchetti T., Pennacchio F., **D'Acqui L.P.**, Maresi G., Pedrazzoli F. 2012 Interventi per la gestione dei castagneti invasi dal cinipide. *Forest@* 9: 227-235.

Articles in National Books

52. **D'Acqui L. P.**, Maselli, F., Santi C. A. 2007. Sequestro del C del suolo: la mappatura del C del suolo in ecosistemi mediterranei. In: *Clima e Cambiamenti Climatici: le attività di ricerca del CNR*. A cura di B. Carli, G. Cavarretta, M. Colacino, S. Fuzzi. Editore Consiglio Nazionale delle Ricerche – Roma. pp. 645-648.

Proceedings and Extended Abstracts and abstract of International Conferences

53. **D'Acqui L. P.**, Bruand A. and Pagliai M. 1992. Contribution of backscattered electron scanning image (BESI) and image analysis to the study of soil porosity. Application to the study of "crusting soils" under intensive commercial agriculture in Zimbabwe. *9th International Working Meeting on Soil Micromorphology 1992 (Australia)*. Abstracts p. 133,
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