

Curriculum Vitae

INFORMAZIONI PERSONALI

Nome PELLEGRINO
Cognome CONTE
Recapiti Dipartimento di Scienze Agrarie e Forestali
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E-mail pellegrino.conte@unipa.it
pellegrino.conte@gmail.com

FORMAZIONE TITOLI

• 2000	Guest scientist at the Wageningen NMR Centre (The Netherlands) to be trained on NMR ed ESR analyses on natural organic matter
• 1995 – 1998	PhD in Agricultural Chemistry - Università degli Studi di Napoli Federico II
• 1996	Guest scientist at the Department of Molecular Physics and the Department of Soil Science and Geology of the Wageningen Agricultural University (The Netherlands) to be trained on the applications of NMR spectroscopy and laser diffraction on natural organic matter
• 1995	GC-MS training at the Department of Chemistry of the Technische University of Braunschweig (Germany)
• 1992-1993	Post-graduation fellowship at the Istituto per la Chimica di Molecole di Interesse Biologico (ICMIB) of the Consiglio Nazionale delle Ricerche (CNR)
• 1985 – 1991	Studies in Chemistry
	Università degli Studi di Napoli Federico II
• 1980 – 1985	Classical studies (art and humanities)
	Liceo Classico Statale "Giosuè Carducci" – Nola (NA)

ATTIVITA' DIDATTICA

Frontal teaching activity	
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	<ul style="list-style-type: none"> Chimica dei Suoli Forestali
<ul style="list-style-type: none"> from 2017 to present 2023 	<ul style="list-style-type: none"> Tecnologie per la protezione e conservazione del suolo
<ul style="list-style-type: none"> from 2017 to present 	<ul style="list-style-type: none"> Recupero delle Aree Degradate
<ul style="list-style-type: none"> 2022 	<ul style="list-style-type: none"> Fertilità dei substrati e nutrizione minerale delle piante in vivaio
<ul style="list-style-type: none"> 2020 	<ul style="list-style-type: none"> Indicatori della qualità dei suoli
<ul style="list-style-type: none"> from 2006 to 2008, and 2016 	<ul style="list-style-type: none"> Chimica del Suolo
<ul style="list-style-type: none"> from 2006 to 2016 	<ul style="list-style-type: none"> Chimica Agraria
<ul style="list-style-type: none"> 2014 	<ul style="list-style-type: none"> Sustainable production, management of biological resources and environmental monitoring
<ul style="list-style-type: none"> from 2012 to 2014 	<ul style="list-style-type: none"> Chimica Generale
<ul style="list-style-type: none"> from 2006 to 2014 	<ul style="list-style-type: none"> Chimica Organica
<ul style="list-style-type: none"> 2008 	<ul style="list-style-type: none"> Bioindicatori della Qualità del Suolo

Tutor/Co-tutor of PhD students	
<ul style="list-style-type: none"> 2024-2027 	<ul style="list-style-type: none"> Characterization of biochars from Sicilian waste-biomasse for a circular economy – Dr. Ettore Madonia Characterization and traceability of Sicilian extra virgin oli oils by using innovative NMR techniques – Dr. Monica Di Maria
<ul style="list-style-type: none"> 2022-2025 	<ul style="list-style-type: none"> Caratterizzazione ed applicazione di biochar per il miglioramento della qualità dei suoli – Dr. Calogero Librici
<ul style="list-style-type: none"> 2020-2023 	<ul style="list-style-type: none"> Understanding wine terroir: metabolomic approaches to unveil the influence of soil on the chemical composition of <i>Nero D'Avola</i> grapes and wines – Dr. Paola Bambina
<ul style="list-style-type: none"> 2011-2014 	<ul style="list-style-type: none"> Characterization of chemical and physical properties of biochar for energy purposes and environmental restoration – Dr. Giulia Cimò Study of chemical-physical properties in industrial biochar – Dr. Valentina Marsala La risorsa rinnovabile per la sostenibilità ambientale ed energetica della filiera dei sistemi serra in Italia – Dr. Carlo Campiotti

RICERCHE FINANZIATE

Responsible of projects or working group leader/member	
• 2022 to present	Member of a PRIN 2020 project financed by MIUR entitled "Soil biodegradation of nutrients enriched cellulose- and chitosan-derived mulching films for sustainable horticulture". Scientific responsible and coordinator Prof. V.A. Laudicina
• 2020 to present	Italian working group member of the project EJP Soil "Towards climate – smart sustainable management of agricultural soils"; IRIS Code PRJ-0389
• 2015-2021	Substitute MC to the COST Action CA15209 - European Network on NMR Relaxometry (EURELAX) (https://www.cost.eu/actions/CA15209/#tabs+Name:Description)
• 2013	Responsible for the project "Methodologies for biomass pretreatments for energy production and biomass evaluation by biochemical and NMR techniques" funded by the University of Palermo
• 2010-2012	Responsible for the bilateral Germany-Italy Vigoni project "Interaction of the insecticide chlordane with soil organic matter as studied by fast field cycling NMR relaxometry (FFC-NMR)"
• 2008	Responsible for the International cooperation project (CoRI) funded by the University of Palermo for the exchange of professors between Forschungszentrum Jülich (Germany) and University of Palermo
• 2007	Responsible for the project "Innovative techniques for evaluation of the environmental contamination" funded by the University of Palermo
• 2006	Responsible for the project "New sustainable processes for soil remediation" funded by the University of Palermo
• 2004	Working group responsible in a PRIN project financed by MIUR entitled "Characterization of different organic carbon and nitrogen forms by nuclear magnetic resonance (NMR) spectroscopy and pyrolysis gas-chromatography with mass spectrometry detection (PYR-GC -MS)".
• 2002	Responsible for a young-researchers project funded by the University of Naples Federico II for a study entitled "Effect of chemical physical properties of soils surrounding Naples on the environmental availability of polycyclic aromatic hydrocarbons"

ASSOCIAZIONI SCIENTIFICHE

	1. Applied Sciences (https://www.mdpi.com/journal/applsci/sectioneditors/EnvironmentalSciences)
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Editorial board member	2. Top Italian Scientists Journal (https://journal.topitalianscientists.org/EditorialBoard#Natural&EnvironmentalSciences)
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Member of scientific societies	1. Società Italiana di Chimica Agraria (SICA) 2. Società Italiana di Pedologia (SIPE) 3. Società Italiana di Scienza del Suolo
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PUBBLICAZIONE

Books

1. **P. Conte**, D.F. Chillura Martino, P. Lo Meo (2024) *The Environment in a Magnet: Applications of NMR Techniques to Environmental Problems*, Royal Society of Chemistry – New Developments in NMR ISBN: 978-1-83767-125-0
2. **P. Conte** (2018) *Frammenti di Chimica. Come smascherare falsi miti e leggende* C1V Edizioni Vol. 18. Serie: Scientia et Causa ISBN: 8898295618

Journal articles

1. F. Torregrossa, L. Cinquanta, D. Albanese, F. Cuomo, C. Librici, P. Lo Meo, **P. Conte** (2024) *Vegan and sugar-substituted chocolates: assessing physicochemical characteristics by NMR relaxometry, rheology, and DSC* **European Food Research and Technology** *accepted*
2. V. Ciaramitaro, E. Piacenza, P. Lo Meo, C. Librici, M.M. Calvino, **P. Conte**, G. Lazzara, D.F. Chillura Martino (2023) *From micro to macro: Physical-chemical characterization of wheat starch-based films modified with PEG200, sodium citrate, or citric acid* **International Journal of Biological Macromolecules** 253: 127225
3. S.M. Muscarella, V.A. Laudicina, L. Badalucco, **P. Conte**, G. Mannina (2023) *Ammonium Recovery from Synthetic Wastewaters by Using Zeolitic Mixtures: A Desorption Batch-Study* **Water** 15: 3479
4. **P. Conte**, A. Nicosia, V. Ferro (2023) *A new model for solving hydrological connectivity inside soils by Fast Field Cycling NMR relaxometry* **Water** 15: 2397
5. G. Fellet, **P. Conte**, L. Marchiol (2023) *Biochar effects on Ce leaching and plant uptake in *Lepidium sativum* L. grown on a ceria nanoparticle spiked soil* **Applied Sciences** 13: 6846
6. A. Di Vincenzo, D.F. Chillura Martino, E. Piacenza, **P. Conte**, A. Pettignano, G. Lazzara, P. Lo Meo (2023) *Reduced graphene oxide/silver nanoparticles/ -cyclodextrin nano-sponges composites with improved photocatalytic activity* **Applied Surface Science Advances** 15: 100407
7. P. Bambina, A. Spinella, G. Lo Papa, D.F. Chillura Martino, P. Lo Meo, O. Corona, L. Cinquanta, **P. Conte** (2023) *¹H NMR-Based Metabolomics to Assess the Impact of Soil Type on the Chemical Composition of Nero d'Avola Red Wines* **Journal of Agricultural and Food Chemistry** 71: 5823–5835
8. R. Angelico, C. Colombo, E. Di Iorio, M. Brtnický, J. Fojt, **P. Conte** (2023) *Humic Substances: From Supramolecular Aggregation to Fractal Conformation — Is There Time for a New Paradigm?* **Applied Sciences** 13: 2236
9. G. Landi, G.V. Spinelli, F. Zama, D.F. Chillura Martino, **P. Conte**, P. Lo Meo, V. Bortolotti (2023) *An automatic L1 -based regularization method for the analysis of FFC dispersion profiles with quadrupolar peaks* **Applied Mathematics and Computation** 444: 127809
10. S.M. Muscarella, V.A. Laudicina, B. Cano, L. Badalucco, **P. Conte**, G. Mannina (2023) *Recovering ammonium by treated and untreated zeolitic mixtures: A comprehensive experimental and modelling study* **Microporous and Mesoporous Materials** 349: 112434
11. G. Fellet, **P. Conte**, V. Bortolotti, F. Zama, G. Landi, D.F. Chillura Martino, V. Ferro, L. Marchiol, P. Lo Meo (2022) *Changes in physical-chemical biochar properties following addition to soil* **Agriculture** 12: 320
12. M. Pipiška, E.K. Krajíková, M. Hvostik, V. Frišták, L. Uriška, I. Erniaková, M. Kauchová, **P. Conte**, G. Soja (2022) *Biochar from Wood Chips and Corn Cobs for Adsorption of Thioflavin T and Erythrosine B* **Materials** 15: 1492
13. **P. Conte**, V. Ferro (2022) *Measuring hydrological connectivity inside soils with different texture by fast field cycling nuclear magnetic resonance relaxometry* **Catena** 209: 105848
14. E. Piacenza, D.F. Chillura Martino, L. Cinquanta, **P. Conte**, P. Lo Meo (2022) *Differentiation among dairy products by combination of fast field cycling NMR relaxometry data and chemometrics* **Magnetic Resonance in Chemistry** 60: 369–385

15. G. Adiletta, D. Albanese, M. Di Matteo, L. Cinquanta, O. Corona, C. Li Citra, **P. Conte** (2021) *Fast Field Cycling ¹H-NMR Relaxation Properties During Convective Dehydration of Mango Fruits* **Chemical Engineering Transactions** 87: 175-180
16. **P. Conte** (2021) *Applications of fast field cycling NMR relaxometry* **Annual Reports in NMR Spectroscopy** 104: 141-188
17. P. Lo Meo, S. Terranova, A. Di Vincenzo, D. Chillura Martino, **P. Conte** (2021) *Heuristic Algorithm for the Analysis of Fast Field Cycling (FFC) NMR Dispersion Curves* **Analytical Chemistry** 93: 8553-8558
18. S. Cataldo, F. Crea, P. Lo Meo, **P. Conte**, A. Di Vincenzo, D. Milea, A. Pettignano (2021) *Evaluation of adsorption ability of Cyclodextrin-Calixarene Nanosponges towards Pb²⁺ ion in aqueous solution* **Carbohydrate Polymers** 267: 118151
19. **P. Conte**, R. Bertani, P. Sgarbossa, P. Bambina, H.-P. Schmidt, R. Raga, G. Lo Papa, D.F. Chillura Martino, P. Lo Meo (2021) *Recent Developments in Understanding Biochar's Physical-Chemistry* **Agronomy** 11: 615
20. **P. Conte**, L. Cinquanta, P. Lo Meo, F. Mazza, A. Micalizzi, O. Corona (2021) *Fast field cycling NMR relaxometry as a tool to monitor Parmigiano Reggiano cheese ripening* **Food Research International** 139: 109845
21. **P. Conte**, P. Lo Meo (2020) *Nuclear Magnetic Resonance with Fast Field-Cycling Setup: A Valid Tool for Soil Quality Investigation* **Agronomy** 10: 7. 1040
22. P. Lo Meo, F. Mundo, S. Terranova, **P. Conte**, D.F. Chillura Martino (2020) *Water Dynamics at the Solid-Liquid Interface to Unveil the Textural Features of Synthetic Nanosponges* **The Journal of Physical Chemistry B** 124: 1847-1857
23. **P. Conte**, V. Ferro (2020) *Standardizing the use of Fast Field Cycling NMR relaxometry for measuring hydrological connectivity inside a soil* **Magnetic resonance in Chemistry** 58: 41-50
24. R. Bassi, E.M. Bucci, R.A. Calogero, P. Carninci, G. Ciliberto, **P. Conte**, M. De Luca, G. Corbellini, A. Giordano, L. Marchionni, G. Massaro Giordano, A. Parini, G. Sbardella (2019) *Look for methods, not conclusions* **Cell Death & Disease** 10: 931-932
25. **P. Conte**, G. Cuccurullo, A. Metallo, A. Micalizzi, L. Cinquanta, O. Corona (2019) *Comparing different processing methods in apple slice drying. Part 2 solid-state Fast Field Cycling ¹H-NMR relaxation properties, shrinkage and changes in volatile compounds* **Biosystems Engineering** 188: 345-354
26. R. Komendová, J. Židek, M. Berka, M. Jemelková, V. ezá ová, **P. Conte**, J. Ku erik (2019) *Small-sized platinum nanoparticles in soil organic matter: Influence on water holding capacity, evaporation and structural rigidity* **The Science of the Total Environment** 694: 133822
27. V. Rezacova, **P. Conte**, R. Komendova, F. Novak, M. Repkova, J. Ku erik (2019) *Factors influencing structural heat-induced relaxation of dissolved organic matter* **Ecotoxicology and Environmental Safety** 167: 422-428
28. A. Dieguez-Alonso, A. Anca-Couce, V. Frišták, E. Moreno-Jiménez, M. Bacher, T. Bucheli, G. Cimò, **P. Conte**, N. Hagemann, A. Haller, I. Hilber, O. Husson C.I. Kammann, N. Kienzl, J. Leifeld, T. Rosenau, G. Soja, H.-P. Schmidt (2019) *Designing biochar properties through the blending of biomass feedstock with metals: Impact on oxyanions adsorption behavior* **Chemosphere** 214: 743-753
29. **P. Conte**, V. Fiore, A. Valenza (2018) *Structural and Mechanical Modification Induced by Water Content in Giant Wild Reed (A. donax L.)* **ACS Omega** 3: 18510 18517
30. **P. Conte**, V. Ferro (2018) *Measuring hydrological connectivity inside a soil by low field nuclear magnetic resonance relaxometry* **Hydrological Processes** 32: 93-101
31. S. Joseph, C.I. Kammann, J.G. Shepherd, **P. Conte**, H.-P. Schmidt, N. Hagemann, A.M. Rich, C.E. Marjo, J. Allan, P. Munroe, D.R.G. Mitchell, S. Donne, K. Spokas, E.R. Graber (2018) *Microstructural and associated chemical changes during the composting of a high temperature biochar: Mechanisms for nitrate, phosphate and other nutrient retention and release* **The Science of the Total Environment** 618: 1210-1223
32. **P. Conte**, H.-P. Schmidt (2017) *Soil-Water Interactions Unveiled by Fast Field Cycling NMR Relaxometry* **eMagRes** 6: 453-464
33. N. Hagemann, S. Joseph, H.-P. Schmidt, C.I. Kammann, J. Harter, T. Borch, R.B. Young, K. Varga, S. Taherymoosavi, K.W. Elliott, A. McKenna, M. Albu, C. Mayrhofer, M. Obst, **P. Conte**, A. Dieguez-Alonso, S. Orsetti, E. Subdiga, S. Behrens, A. Kappler (2017) *Organic coating on biochar explains its nutrient retention and stimulation of soil fertility* **Nature Communications** 8: 1089
34. **P. Conte**, C. Di Stefano, V. Ferro, V.A. Laudicina, E. Palazzolo (2017) *Assessing hydrological connectivity inside a soil by fast-field cycling nuclear magnetic resonance relaxometry and its link to sediment delivery processes* **Environmental Earth Science** 76: 526
35. M.A. Rao, G. Di Rauso Simeone, R. Scelza, **P. Conte** (2017) *Biochar based remediation of water and soil contaminated by phenanthrene and pentachlorophenol* **Chemosphere** 186: 193-201
36. A. Walche, **P. Conte** (2017) *Elucidating the Role of Phosphorous on Growth Performance and Yield components of Haricot bean (Phaseolus vulgaris L.) at Arba Minch, Southern, Ethiopia* **International Journal of Agricultural Research and Review** 5: 579-587
37. F. Parrino, **P. Conte**, C. De Pasquale, V.A. Laudicina, V. Loddò, L. Palmisano (2017) *Influence of Adsorbed Water on the Activation Energy of Model Photocatalytic Reactions* **The Journal of Physical Chemistry C** 121: 2258-2267
38. **P. Conte**, V.A. Laudicina (2017) *Mechanisms of Organic Coating on the Surface of a Poplar Biochar* **Current Organic Chemistry** 21: 559 - 565
39. **P. Conte**, J. Ku erik (2016) *Water dynamics and its role in structural hysteresis of dissolved organic matter* **Environmental Science and Technology** 50: 5. 2210-2216
40. S. Bubici, J.P. Korb, J. Ku erik, **P. Conte** (2016) *Evaluation of the surface affinity of water in three biochars using fast field cycling NMR relaxometry* **Magnetic Resonance in Chemistry** 54: 365-370
41. R. Lo Scalzo, M. Fibiani, G. Francese, A. D'Alessandro, G.L. Rotino, **P. Conte**, G. Mennella (2016) *Cooking influence on physico-chemical fruit characteristics of eggplant (Solanum melongena L.)* **Food Chemistry** 194: 835-842
42. G. Cimò, **P. Conte** (2015) *Conformational redistribution of honey components following different storage conditions* **International Journal of Spectroscopy** 354327
43. H.-P. Schmidt, B.H. Pandit, V. Martinsen, G. Cornelissen, **P. Conte**, C.I. Kammann (2015) *Fourfold Increase in Pumpkin Yield in Response to Low-Dosage Root Zone Application of Urine-Enhanced Biochar to a Fertile Tropical Soil* **Agriculture** 5: 723-741

44. C.I. Kammann, H.-P. Schmidt, N. Messerschmidt, S. Linsel, D. Steffens, C. Müller, H.-W. Koyro, **P. Conte**, J. Stephen (2015) *Plant growth improvement mediated by nitrate capture in co-composted biochar* **Scientific Reports** 5: 11080
45. **P. Conte**, N. Nestle (2015) *Water dynamics in different biochar fractions* **Magnetic Resonance in Chemistry** 53: 726–734
46. **P. Conte** (2015) *Effects of ions on water structure: a low-field 1H T₁ NMR relaxometry approach* **Magnetic Resonance in Chemistry** 53: 711–718
47. G. Baiamonte, C. De Pasquale, V. Marsala, G. Cimò, G. Alonzo, G. Crescimanno, **P. Conte** (2015) *Structure alteration of a sandy-clay soil by biochar amendments* **Journal of Soils and Sediments** 15: 816-824
48. A.G. Caporale, M. Pigna, A. Sommella, **P. Conte** (2014) *Effect of pruning-derived biochar on heavy metals removal and water dynamics* **Biology and Fertility of Soils** 50: 1211-1222
49. **P. Conte**, U.M. Hanke, V. Marsala, G. Cimò, G. Alonzo, B. Glaser (2014) *Mechanisms of water interaction with pore systems of hydrochar and pyrochar from poplar forestry waste* **Journal of Agricultural and Food Chemistry** 62: 4917–4923
50. Z. Cihlá, L. Vojtová, **P. Conte**, S. Nasir, J. Ku erik (2014) *Hydration and water holding properties of cross-linked lignite humic acids* **Geoderma** 230-231: 151-160
51. G. Cimò, J. Ku erik, A.E. Berns, G.E. Schaumann, G. Alonzo, **P. Conte** (2014) *Effect of Heating Time and Temperature on the Chemical Characteristics of Biochar from Poultry Manure* **Journal of Agricultural and Food Chemistry** 62: 1912–1918
52. **P. Conte**, G. Alonzo (2013) *Environmental NMR: Fast-field-cycling Relaxometry* **eMagRes** 2: 389–398
53. R. Scotti, **P. Conte**, A.E. Berns, G. Alonzo, M.A. Rao (2013) *Effect of organic amendments on the evolution of soil organic matter in soils stressed by intensive agricultural practices* **Current Organic Chemistry** 17: 2998-3005
54. **P. Conte**, V. Loddo, C. De Pasquale, V. Marsala, G. Alonzo, L. Palmisano (2013) *Nature of interactions at the interface of two water-saturated commercial TiO₂ polymorphs* **Journal of Physical Chemistry C** 117: 5269-5273
55. G.E. Schaumann, D. Diehl, M. Bertmer, A. Jaeger, **P. Conte**, G. Alonzo, J. Bachmann (2013) *Combined proton NMR wideline and NMR relaxometry to study SOM-water interactions of cation-treated soils* **Journal of Hydrology and Hydromechanics** 61: 50-63
56. A. Maccotta, C. De Pasquale, A. Caruso, C. Cosentino, G. Alonzo, **P. Conte** (2013) *Reconstruction of the environmental evolution of a Sicilian saltmarsh (Italy)* **Environmental Science and Pollution Research** 20: 4847-4858
57. **P. Conte**, V. Marsala, C. De Pasquale, S. Bubici, M. Valagussa, A. Pozzi, G. Alonzo (2013) *Nature of water-biochar interface interactions* **GCB Bioenergy** 5: 116–121
58. V.A. Laudicina, C. De Pasquale, **P. Conte**, L. Badalucco, G. Alonzo, E. Palazzolo (2012) *Effects of afforestation with four unmixed plant species on the soil–water interactions in a semiarid Mediterranean region (Sicily, Italy)* **Journal of Soils and Sediments** 12: 1222-1230
59. C. De Pasquale, V. Marsala, A.E. Berns, M. Valagussa, A. Pozzi, G. Alonzo, **P. Conte** (2012) *Fast field cycling NMR relaxometry characterization of biochars obtained from an industrial thermochemical process* **Journal of Soils and Sediments** 12: 1211-1221
60. M. Smith, **P. Conte**, A.E. Berns, J. Thomson, T.R. Cavagnaro (2012) *Spatial patterns of, and environmental controls on, soil properties at a riparian-paddock interface* **Soil Biology and Biochemistry** 49: 28-45
61. F. Aboud, C. De Pasquale, A. Sinacori, S. Massi, **P. Conte**, G. Alonzo (2011) *Palynological, physico-chemical and aroma characterization of Sicilian honeys* **Journal of ApiProduct and ApiMedical Science** 3: 164–173
62. G. Butera, C. De Pasquale, A. Maccotta, G. Alonzo, **P. Conte** (2011) *Thermal transformation of micro-crystalline cellulose in phosphoric acid* **Cellulose** 18: 1499-1507
63. A.E. Berns, **P. Conte**, A. Pohlmeier, G. Alonzo (2011) *Preface to the Special Issue on "Applications and developments of magnetic resonance techniques in geosciences"* **Organic Geochemistry** 42: 865-866
64. J. Ku erik, A. Prusova, A. Rotaru, K. Flimel, J. Janecek, **P. Conte** (2011) *DSC study on hyaluronan drying and hydration* **Thermochimica Acta** 523: 245-249
65. A.E. Berns, S. Bubici, C. De Pasquale, G. Alonzo, **P. Conte** (2011) *Applicability of solid-state fast field cycling NMR relaxometry in understanding relaxation properties of leaves and leaf-litters* **Organic Geochemistry** 42: 978-984
66. **P. Conte**, C. Abbate, A. Baglieri, M. Nègre, C. De Pasquale, G. Alonzo, M. Gennari (2011) *Adsorption of dissolved organic matter on clay minerals as assessed by infra-red, CPMAS ^{13}C NMR spectroscopy and low field T₁ NMR relaxometry* **Organic Geochemistry** 42: 972-977
67. A.E. Berns, **P. Conte** (2011) *Effect of ramp size and sample spinning speed on CPMAS ^{13}C NMR spectra of soil organic matter* **Organic Geochemistry** 42: 926-935
68. **P. Conte**, V. Mineo, S. Bubici, C. De Pasquale, F. Aboud, A. Maccotta, D. Planeta, G. Alonzo (2011) *Dynamics of pistachio oils by proton nuclear magnetic resonance relaxation dispersion* **Analytical and Bioanalytical Chemistry** 400: 1443–1450
69. G. Cardone, G. Carotenuto, **P. Conte**, G. Alonzo (2011) *Synthesis and characterization of a novel high luminescent gold-2-mercapto-1-methylimidazole complex* **Luminescence** 26: 506-509
70. A. Prusova, **P. Conte**, J. Ku erik, G. Alonzo (2010) *Dynamics of hyaluronan aqueous solutions as assessed by fast field cycling NMR relaxometry* **Analytical and Bioanalytical Chemistry** 397: 3023-28
71. **P. Conte**, A. Maccotta, C. De Pasquale, G. Alonzo (2010) *Supramolecular organization of triglycerides in extra-virgin olive oils as assessed by NMR relaxometry* **Fresenius Environmental Bulletin** 19 (9b): 2077-2082
72. F. Russo, L. Gianfreda, **P. Conte**, M.A. Rao (2010) *Interaction of a Recombinant Prion Protein with Organo-Mineral Complexes as Assessed by FT-IR and CPMAS ^{13}C NMR Analysis* **The Open Magnetic Resonance Journal** 3: 84-88
73. **P. Conte**, C. De Pasquale, E.H. Novotny, G. Caponetto, V.A. Laudicina, M. Ciofalo, M. Panno, E. Palazzolo, L. Badalucco, G. Alonzo (2010) *CPMAS ^{13}C NMR Characterization of Leaves and Litters from the Reafforested Area of Mustigarufi in Sicily (Italy)* **The Open Magnetic Resonance Journal** 3: 89-95
74. A.E. Berns, **P. Conte** (2010) *Effect of RF Field Inhomogeneity and Sample Restriction on Spectral Resolution of CPMAS- ^{13}C NMR Spectra of Natural Organic Matter* **The Open Magnetic Resonance Journal** 3: 75-83

75. D. Agrelli, C. Amalfitano, **P. Conte**, L. Mugnai (2009) *Chemical and spectroscopic characteristics of the wood of Vitis vinifera cv. Sangiovese affected by Esca Disease* **Journal of Agricultural and Food Chemistry** 57: 11469–11475
76. **P. Conte**, A. Maccotta, C. De Pasquale, S. Bubici, G. Alonzo (2009) *Dissolution mechanism of crystalline cellulose in H₃PO₄ as assessed by high-field NMR spectroscopy and Fast Field Cycling NMR relaxometry* **Journal of Agricultural and Food Chemistry** 57: 8748-52
77. **P. Conte**, S. Bubici, E. Palazzolo, G. Alonzo (2009) *Solid state ¹H-NMR relaxation properties of an eggplant fruit at different proton Larmor frequencies* **Spectroscopy Letters** 42: 235-239
78. A.E. Berns, **P. Conte**, H. Philipp, E.G. Witte, H. Lewandowski (2009) *Interactions between 2-aminobenzothiazole and natural organic matter as evidenced by CPMAS ¹⁵N-NMR spectroscopy* **Vadose Zone Journal** 8: 670–676
79. G. Carotenuto, M. Palomba, F. Capezzuto, C.L. Hison, P. Perlo, **P. Conte** (2009) *Synthesis and characterization of bismuth nanoparticles* **Journal of Nanoparticle Research** 11: 1729-1738
80. **P. Conte**, A.E. Berns (2008) *Dynamics of cross polarization in solid state nuclear magnetic resonance experiments of amorphous and heterogeneous natural organic substances* **Analytical Sciences** 24: 1183-1188
81. C. De Pasquale, R. Fodale, M. Giulivi, **P. Conte**, G. Alonzo (2008) *HS-SPME and GC-MS as valid tools to assess volatile organic compounds from soil natural organic matter* **Chem. Listy** 102: s1284-s1285
82. **P. Conte**, A.E. Berns, H. Philipp, P. Burauel, H.-D. Narres, H. Vereecken (2008) *Effect of wetting/drying on the conformational arrangement of a heterogeneous organic mixture as assessed by solid state ¹³C NMR spectroscopy* **Chem. Listy** 102: s933-s935
83. **P. Conte** (2008) *¹H NMR spectroscopy with multivariate statistical analysis as a tool for a rapid screening of the molecular changes occurring during micro-oxygenation of an Italian red wine* **The Open Magnetic Resonance Journal** 1: 84-87
84. **P. Conte**, D. Šmejkalová, A. Piccolo, R. Spaccini (2008) *Evaluation of the factors affecting direct polarization solid state ³¹P-NMR spectroscopy of bulk soils* **European Journal of Soil Science** 59: 584-591
85. **P. Conte**, R. Spaccini, D. Šmejkalová, A. Nebbioso, A. Piccolo (2007) *Spectroscopic and conformational properties of size-fractions separated from a lignite humic acid* **Chemosphere** 69: 1032-1039
86. **P. Conte**, A. Piccolo (2007) *Solid state nuclear magnetic resonance spectroscopy as a tool to characterize natural organic matter and soil samples. The basic principles* **Optica Pura y Aplicada** 40: 215-226
87. **P. Conte**, A. Piccolo (2007) *Precise measurement of ¹H 90° pulse in solid-state NMR spectroscopy for complex and heterogeneous molecular systems* **Analytical and Bioanalytical Chemistry** 387: 2903-2909
88. D. Šmejkalová, **P. Conte**, A. Piccolo (2007) *Structural Characterization of isomeric dimmers from the oxidative oligomerization of catechol with a biomimetic catalyst* **Biomacromolecules** 8: 737-743
89. **P. Conte**, G. Carotenuto, A. Piccolo, P. Perlo, L. Nicolais (2007) *NMR-investigation of the mechanism of Silver mercaptide thermolysis in amorphous polystyrene* **Journal of Materials Chemistry** 17: 201-205.
90. **P. Conte**, R. Spaccini, A. Piccolo (2006) *Advanced CPMAS-¹³C NMR techniques for molecular characterization of size-separated fractions from a soil humic acid* **Analytical and Bioanalytical Chemistry** 386: 382-390
91. **P. Conte**, B. Panunzi, M. Tingoli (2006) *Iodofluorination of alkenes and alkynes promoted by iodine and 4-iodotoluene difluoride* **Tetrahedron Letters** 47: 273-276
92. R. Spaccini, J.S.C. Mbagwu, **P. Conte**, A. Piccolo (2006) *Changes of humic substances characteristics from forested to cultivated soils in Ethiopia* **Geoderma** 132: 9-19
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96. **P. Conte**, A. Agretto, R. Spaccini, A. Piccolo (2005) *Soil remediation: humic acids as natural surfactants in the washings of highly contaminated soils* **Environmental Pollution** 135: 515-522
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100. R. Spaccini, J.S.C Mbagwu, C.A. Igwe, **P. Conte**, A. Piccolo (2004) *Carbohydrates and aggregation in lowland soils of Nigeria as influenced by organic input* **Soil and Tillage Research** 75: 161-172
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106. A. Piccolo, **P. Conte**, R. Spaccini, M. Chiarella (2003) *Effects of some dicarboxylic acids on the association of dissolved humic substances* **Biology and Fertility of Soils** 37: 255-259
107. R. Spaccini, A. Piccolo, **P. Conte**, G. Haberauer, M.H. Gerzabek (2002) *Increased soil organic sequestration through hydrophobic protection by humic substances* **Soil Biology and Biochemistry** 34: 1839-1851

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109. A. Piccolo, **P. Conte**, E. Trivellone, B. Van Lagen, P. Buurman (2002) *Reduced heterogeneity of a lignite humic acid by preparative HPSEC following interaction with an organic acid. Characterization of size-separates by Pyr-GC-MS and ¹H-NMR spectroscopy* **Environmental Science and Technology** 36: 76-84
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113. **P. Conte**, A. Zena, G. Pilidis, A. Piccolo (2001) *Increased retention of polycyclic aromatic hydrocarbons in soils induced by soil treatment with humic substances* **Environmental Pollution** 112: 27-31
114. A. Cozzolino, **P. Conte**, A. Piccolo (2001) *Conformational changes of humic substances induced by some hydroxy-, keto-, and sulfonic- acids* **Soil Biology and Biochemistry** 33: 563-571
115. R. Spaccini, **P. Conte**, A. Zena, A. Piccolo (2000) *Carbohydrates distribution in size-aggregates of three European soils under different climate* **Fresenius Environmental Bulletin** 9: 468-476
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117. **P. Conte**, A. Zena, G. Pilidis, A. Piccolo (2000) *Effect of native and exogenous humic substances on adsorption of PAHs on soils* **Annali di Chimica** 90: 401-406
118. A. Piccolo, **P. Conte** (2000) *Molecular size of humic substances. Supramolecular associations versus macromolecular polymers* **Advances in Environmental Research** 3: 508-521
119. A. Piccolo, **P. Conte**, A. Cozzolino (1999) *Effects of mineral and monocarboxylic acids on the molecular association of dissolved humic substances* **European Journal of Soil Science** 50: 687-694
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124. A. Piccolo, **P. Conte**, I. Scheunert, M. Paci (1998) *Atrazine interactions with soil humic substances of different molecular structure* **Journal of Environmental Quality** 27: 1324-1333
125. **P. Conte**, A. Piccolo, B. van Lagen, P. Buurman, P.A. de Jager (1997) *Quantitative differences in evaluating soil humic substances by liquid- and solid-state ¹³C-NMR spectroscopy* **Geoderma** 80: 339-352
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127. A. Piccolo, A. Zena, **P. Conte** (1996) *A comparison of acid hydrolyses for the determination of carbohydrate content in soils* **Communication in Soil Science and Plant Analysis** 27: 2909-2915
128. A. Piccolo, G. Celano, **P. Conte** (1996) *Adsorption of glyphosate by humic substances* **Journal of Agricultural and Food Chemistry** 44: 2442-2446
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Book chapters

1. L. Piscitelli, **P. Conte**, T. Mimmo (2022) *Pirolisi In: Biomasse in agricoltura. Caratterizzazione e utilizzo sostenibile* Edited by C. Ciavatta, G. Gigliotti, T. Miano, F. Zambone, C. Zaccone. 193-213 Quarto Inferiore (BO), Italy: Pàtron Editore, Bologna ISBN: 978-88-555-3564-9
2. A. Spinella, **P. Conte** (2021) *Nuclear Magnetic Resonance Spectroscopy In: Spectroscopy for Materials Characterization* Edited by Simonpietro Agnello. 281-317 J. Wiley & Sons, Hoboken, New Jersey (USA) ISBN: 9781119697329
3. **P. Conte** (2019) *Chapter 10. Environmental applications of fast field cycling NMR relaxometry In: Field-cycling NMR Relaxometry: Instrumentation, Model Theories and Applications* Edited by: Rainer Kimmich. 229-254 RSC ISBN: 978-1-78801-154-9
4. **P. Conte**, H.-P. Schmidt, G. Cimò (2015) *Research and Application of Biochar in Europe In: Agricultural and Environmental Applications of Biochar: Advances and Barriers* Edited by M. Guo, Z. He, and M. Uchimiya. SSSA Special Publication 63 5585 Guilford Rd., Madison, WI 53711, USA: SSSA
5. **P. Conte**, G. Alonzo (2014) *Chapter 8 - Environmental NMR: fast field cycling relaxometry In: NMR spectroscopy: a versatile tool for environmental research* Edited by Mirna J. Simpson and André Simpson. J. Wiley and Sons ISBN: 978-1-118-61647-5
6. A. Piccolo, **P. Conte**, A. Cozzolino, R. Spaccini (2003) *The conformational structure of humic substances In: Handbook of Processes and Modelling in the Soil-Plant System* Edited by: D.K. Benbi, R. Nieder. The Haworth Reference Press, London, UK
7. **P. Conte**, R. Spaccini, A. Agretto, A. Piccolo (2002) *Soil washing con una soluzione di acido umico esogeno di un suolo contaminato proveniente dal sito ACNA di Cengio (SV), In: Progetto Sisifo: risultati 1° anno di attività 2001-2002* Edited by P. Canepa. 121-127 INCA, Italy

8. **P. Conte**, A. Piccolo (2002) *Effect of concentration on the self-assembling of dissolved humic substances* In: Developments in Soil Science Edited by Violante, P.M. Huang, J.M. Bollag, L. Gianfreda. 409-417 Elsevier Science
9. A. Piccolo, **P. Conte**, A. Cozzolino, R. Spaccini (2001) *Molecular sizes and association forces of humic substances in solution* In: Humic Substances and Chemical Contaminants Edited by C.E. Clapp, M.H.B. Hayes, N. Senesi, P. Bloom, P.M. Jardine. 89-118 Soil Science Society of America, Inc. Madison, Wisconsin
10. A. Piccolo, G. Celano, **P. Conte** (2000) *Methods of isolation and characterization of humic substances to study their interactions with pesticides* In: Pesticide/Soil Interactions Edited by J. Cornejo and P. Jamet. 103-116 Institut National de la Recherche Agronomique (INRA)
11. A. Piccolo, **P. Conte**, A. Cozzolino (2000) *Differences in high performance size exclusion chromatography between humic substances and macromolecular polymers* In: Humic Substances – Versatile components of Plants, Soils, and Water Edited by E.A. Ghabbour and G. Davies. 111-124 RSC-Royal Society of Chemistry, Cambridge, UK
12. A. Piccolo, **P. Conte** (1998) *Advances in nuclear magnetic resonance and infrared spectroscopies of soil organic particles* In: Structure and surface reactions of soil particles Edited by P.M. Huang, N. Senesi, J. Buffle. 183-250 Wiley New York
13. A. Piccolo, G. Celano, **P. Conte** (1997) *Adsorption of glyphosate on humic substaces extracted from European soils under monocultural practices* In: *Fate of pesticides in the soil and the environment* Edited by J. Cornejo and P. Jamet. 55-57 UE-COST Bulletin 6, Bruxelles

ATTIVITA' SCIENTIFICHE

International appointments	
• 2014 to present	Member of the European Biochar Certificate (https://www.european-biochar.org/en/footer/contact)
• 2023	External auditor to judge research projects submitted to the Fund for Scientific Research – FNRS (Belgium)
• 2023	External commissioner for the evaluation of Dr. Ghulam Haide CV for the associate professor tenure track position at the Atta Ur Rehman School of Applied Bioscience, National University Science and Technology, Islamabad (Pakistan)
• 2022	External commissioner for the evaluation of Dipita Ghosh's Ph thesis submitted to the Indian Institute of Technology (Indian School of Mines) Dhanbad, Jharkhand (India)
• 2022	External auditor to judge research projects submitted to the CI Innovation Fund (Canada)
• 2018	Reviewer of a project submitted for funding to the University of Mons (Belgium)
• 2017	External auditor to judge research projects submitted to the CI Innovation Fund (Canada)
• 2017	External auditor to judge research projects submitted to the National Science Center (Poland)
• 2016	External auditor to judge research projects submitted to the CI Innovation Fund (Canada)
• 2016	External auditor to judge research projects submitted to the

	National Science Center (Poland)
• 2016	External auditor to judge research projects submitted to The American Chemical Society Petroleum Research Fund (USA)
• 2015	External commissioner for the evaluation of Hashim Farooq's doctoral thesis at the Department of Chemistry of the University of Toronto (Canada). The exam was held on 03.17.2015
• 2014	Italian delegate at the ECOST-MEETING-TD1107-230114-038129 entitled "Focus Meeting biochar surface interaction, water dynamics, redox potential" held in Wien on 23/24 January 2014
• 2005-2010	Visiting professor (three months per year) at the Forschungszentrum Jülich (Germany)

National appointments	
• 2020 to present	Expert reviewer for the evaluation of projects submitted for funding to Campania region
• 2021	Member of the commission for the selective evaluation for a position of full professor at the University of Bari Aldo Moro. D. no. 276, 02/02/2021
• 2018-2021	Member of the National Scientific Habilitation Committee (ASN) for the SC 07/E1 (SSD AGR13, AGR14, and AGR07)
• 2020	Member of the commission for the selective evaluation for a position of full professor at the University of Bologna. D.R. no. 84, 28/01/2020
• 2019	Member of the commission for the selective evaluation for a position of associate professor at the University of Torino. D.R. no. 3363, 9/8/2019
• 2019	Member of the commission for the selective evaluation for a position of associate professor at the University of Bologna. D. no. 1045, 19/06/2019
• 2019	Member of the commission for the selective evaluation for a position of associate professor at the University of Bari Aldo Moro. D.R. no. 3068, 07/10/2019
• 2018	Chair of the commission for the examination of candidates to a position of assistant professor at the Freie Universität Bozen

	<ul style="list-style-type: none"> • 2017 Expert reviewer for the evaluation of projects submitted for funding to Emilia Romagna region
	<ul style="list-style-type: none"> • 2016 Expert reviewer for the evaluation of projects submitted for funding to Emilia Romagna region
	<ul style="list-style-type: none"> • 2012 Adjunct Member of the Scientific Committee of the Interuniversity Consortium "Chemistry for the Environment" (INCA)
	<ul style="list-style-type: none"> • 2006 Member of the commission for the awarding of the title of PhD "Exploitation and Management of agro-forestry resources (address: soil reclamation and protection and applied pedology XIX Cycle at the University of Naples Federico II. Prot. N. 0109759, 14.12.2006
	<ul style="list-style-type: none"> • 2006 President of the commission for the awarding of a scholarship the field of "Catalytic methods for the sequestration of organic carbon in soil and molecular characterization of soil organic substances" at the University of Naples Federico II. Prot. 1766 Pos. 7/B, 13.09.2006
	<ul style="list-style-type: none"> • 2005 President of the commission for the awarding of a scholarship the field of "Catalytic methods for the sequestration of organic carbon in soil and molecular characterization of soil organic substances" at the University of Naples Federico II. Prot. 679 Pos. 7/B, 03.30.2005

Other appointments at University of Palermo	
	<ul style="list-style-type: none"> • 2023 President of the preliminary commission for the assignment of tasks for supplementary teaching activities at the SAAF department of the University of Palermo. Director decree no 170564-03/11/2023
	<ul style="list-style-type: none"> • 2023 President of the commission for the procedure to select an associate professor in the field SC 07/E1, SSD AGR07. D.R. n. 8103/2023, 8/11/2023
	<ul style="list-style-type: none"> • 2023 Member of the bachelor's degree commission for the summer season of the a.y. 2022/2023. The exams were held on July 1, 2023
	<ul style="list-style-type: none"> • 2023 Member of the master's degree commission for the summer season of the a.y. 2021/2022. The exams were held on June 1, 2023
	<ul style="list-style-type: none"> • 2019-to present Expert for the "Characterization of Atomic-Molecular Structure Lab at the ATeN Center (Advanced Technologies Network Center) of the University of Palermo. Prot. 167-15/05/2019 – Rep. Decrees (AOO Peripherals) n. 6/2019 (https://www.unipa.it)

	servizi/atencenter/i-laboratori/caratterizzazione-della-struttura-atomico-molecolare-/
• 2018	Delegate of the Director of the Department of Agricultural, Food and Forestry Sciences in the Scientific Council of the ATeN Center (Advanced Technologies Network Center) of the University of Palermo (resolution of the Department Council dated 10.04.2018). The charge has ceased in November 2018
• 2016	member of the Departmental Research QA Commission (CAC RD). Department resolution in the Minute no. 8 of 09.19.2016
• 2015 to present	Member of the Teaching Board of the PhD in "Mediterranean agro-food and forestry systems"
• 2009 to 2015	Member of the Scientific Committee of the Dairy Supply Chain Research Consortium (CoRFiLaC) placed in Ragusa
• 2014	Member of the evaluation commission envisaged by the "Regulations for internal interdepartmental mobility" to examine Dr. Stefania Aiello's request for membership in the Department of Agricultural and Forestry Sciences. Rectoral Decree no. 372 of 27.10.2014
• 2013	Member of the Commission for the evaluation of transparency sheets. Resolution of the ATAF Interclass Council dated on 14.03.2013
• 2012	Member of the Student/Teacher Joint Commission. Resolution of the Agriculture Faculty Council dated on 25.09.2012
• 2011	Member of the graduation degree commission for the summer season of the a.y. 2010/2011. Prot. N. 1470 of 11.07.2011
• 2011	Delegate for Special Waste Disposal of the Department of Agro-Environmental Systems
• 2010	Member of the commission for the entrance exams to the PhD school "Technologies for sustainability and environmental recovery". D.R. 3448 Prot. N. 72023, 21.10.2010
• 2010	President of the commission for the selective procedure for the award of a research grant for the development of research entitled: "Development of fast field cycling nuclear magnetic resonance spectroscopy (FFCNMR) for the study of the chemical degradation processes of biomass for energy use" at the University of Palermo, Department of Agro-Forestry Engineering and Technologies. D.R. N. 1543/2010 Prot. N. 29053, 27.04.2010
• 2009	President of the commission for the selective procedure for the award of a research grant for the development of research entitled: "Development of fast field cycling nuclear magnetic

	resonance spectroscopy (FFCNMR) for the study of the chemical degradation processes of biomass for energy use" at the University of Palermo, Department of Agro-Forestry Engineering and Technologies. D.R. N. 3395/2009 Prot. N. 38285, 05.28.2009
• 2008	Member of the commission for the public selective procedure based on qualifications and interview for the reassignment of the MIUR research grant entitled "Study on the presence and fate of pesticides in environmental matrices" announced by the University of Palermo with D.R. 386 of 01.30.2008. Appointment Prot. N. 23726, 19.03.2008
• 2006-2008	Member of the Council of the Interdepartmental Research Center on Nuclear Magnetic Resonance for the Environment, Agro-Food and New Materials (CERMANU) of the University of Naples Federico II
• 2006	From November 2006 till its termination, member of the Teaching Board of the PhD in "Technologies for sustainability and environmental treatment". For the XXIX PhD cycle, member of the Teaching Board of the Doctorate in Mediterranean Fruit Growing

AMBITI DI RICERCA

1. Evaluation of food quality and traceability

Five most significant papers:

- P. Bambina, A. Spinella, G. Lo Papa, D.F. Chillura Martino, P. Lo Meo, O. Corona, L. Cinquanta, **P. Conte (2023)** *¹H NMR Based Metabolomics to Assess the Impact of Soil Type on the Chemical Composition of Nero d'Avola Red Wines* **Journal of Agricultural and Food Chemistry** 71: 5823-5835
- E. Piacenza, D.F. Chillura Martino, L. Cinquanta, **P. Conte**, P. Lo Meo (2022) *Differentiation among dairy products by combination of fast field cycling NMR relaxometry data and chemometrics* **Magnetic Resonance in Chemistry** 60: 369-38
- G. Adiletta, D. Albanese, M. Di Matteo, L. Cinquanta, O. Corona, C. Li Citra, **P. Conte (2021)** *Fast Field Cycling ¹H-NMR Relaxation Properties During Convective Dehydration of Mango Fruits* **Chemical Engineering Transactions** 87: 175-180
- P. Conte**, L. Cinquanta, P. Lo Meo, F. Mazza, A. Micalizzi, O. Corona (2021) *Fast field cycling NMR relaxometry as a tool to monitor Parmigiano Reggiano cheese ripening* **Food Research International** 139: 109845
- P. Conte**, G. Cucurullo, A. Metallo, A. Micalizzi, L. Cinquanta, O. Corona (2019) *Comparing different processing methods for apple slice drying. Part 2: solid-state Fast Field Cycling ¹H-NMR relaxation properties, shrinkage and changes in volatile compounds* **Biosystems Engineering** 188: 345-354

These studies were funded by the FFO from the University of Palermo and, partly, by the COST Action 15209 - European Network on NMR Relaxometry (<http://eurelax.uwm.edu.pl/>)

1. Study of soil quality and degradation

Five most significant papers:

- a. **P. Conte**, A. Nicosia, V. Ferro (2023) A new model for solving hydrological connectivity inside soils by Fast Field Cycling NMR relaxometry **Water** 15: 2397
- b. **P. Conte**, V. Ferro (2022) Measuring hydrological connectivity inside soils with different texture by fast field cycling nuclear magnetic resonance relaxometry **Catena** 209: 105848
- c. **P. Conte**, P. Lo Meo (2020) Nuclear Magnetic Resonance with Fast Field-Cycling Setup: A Valid Tool for Soil Quality Investigation **Agronomy** 10: 1040
- d. **P. Conte**, V. Ferro (2020) Standardizing the use of Fast Field Cycling NMR relaxometry for measuring hydrological connectivity inside a soil **Magnetic resonance in Chemistry** 58: 41-50
- e. **P. Conte**, V. Ferro (2018) Measuring hydrological connectivity inside a soil by low field nuclear magnetic resonance relaxometry **Hydrological Processes** 32: 93–101

These studies were funded by the FFO from the University of Palermo

1. Evaluation of biochar characteristics and its effects on soil fertility

Five most significant papers:

- a. G. Fellet, **P. Conte**, L. Marchiol (2023) Biochar effects on Ce leaching and plant uptake in *Lepidium sativum* L. grown on a ceria nanoparticle spiked soil **Applied Sciences** 13: 6846
- b. G. Fellet, **P. Conte**, V. Bortolotti, F. Zama, G. Landi, D.F. Chillura Martino, V. Ferro, L. Marchiol, P. Lo Meo (2022) Changes in physical-chemical biochar properties following addition to soil **Agriculture** 12: 320
- c. **P. Conte**, R. Bertani, P. Sgarbossa, P. Bambina, H.-P. Schmidt, R. Raga, G. Lo Papa, D.F. Chillura Martino, P. Lo Meo (20) Recent Developments in Understanding Biochar's Physical–Chemistry **Agronomy** 11: 615
- d. A. Dieguez-Alonso, A. Anca-Couce, V. Frišták, E. Moreno-Jiménez, M. Bacher, T. Bucheli, G. Cimò, **P. Conte**, N. Hagemar A. Haller, I. Hilber, O. Husson, C.I. Kammann, N. Kienzl, J. Leifeld, T. Rosenau, G. Soja, H. -P. Schmidt (2019) Designing biochar properties through the blending of biomass feedstock with metals: Impact on oxyanions adsorption behavior **Chemosphere** 214: 743-753
- e. N. Hagemann, S. Joseph, H.-P. Schmidt, C.I. Kammann, J. Harter, T. Borch, R.B. Young, K. Varga, S. Taherymoosavi, K.W. Elliott, A. McKenna, M. Albu, C. Mayrhofer, M. Obst, **P. Conte**, A. Dieguez-Alonso, S. Orsetti, E. Subdiga, S. Behrens, A. Kappler (2017) Organic coating on biochar explains its nutrient retention and stimulation of soil fertility **Nature Communications** 8: 1089

These studies were funded by the FFO from the University of Palermo, and, partly, by the EU COST Action TD1107 'Biochar option for sustainable resource management' (<https://urly.it/3zh3x>)

1. Characterization of natural organic matter and its role in soil fertility

Five most significant papers:

- a. R. Angelico, C. Colombo, E. Di Iorio, M. Brtnický, J. Fojt, **P. Conte** (2023) Humic Substances: From Supramolecular Aggregation to Fractal Conformation — Is There Time for a New Paradigm? **Applied Sciences** 13: 2236

- b. R. Komendová, J. Židek, M. Berka, M. Jemelková, V. Jeřábková, **P. Conte**, J. Kučerík (2019) Small-sized platinum nanoparticles in soil organic matter: Influence on water holding capacity, evaporation and structural rigidity **The Science of the Total Environment** 694: 133822
- c. V. Rezacova, **P. Conte**, R. Komendova, F. Novak, M. Repkova, J. Kučerík (2019) Factors influencing structural heat-induced relaxation of dissolved organic matter **Ecotoxicology and Environmental Safety** 167: 422-428
- d. **P. Conte**, J. Kučerík (2016) Water dynamics and its role in structural hysteresis of dissolved organic matter **Environmental Science and Technology** 50: 2210–2216
- e. Z. Cihlá, L. Vojtová, **P. Conte**, S. Nasir, J. Kučerík (2014) Hydration and water holding properties of cross-linked lignite humic acids **Geoderma** 230-231: 151-160

These studies were funded by the FFO from the University of Palermo

1. New materials for agricultural and environmental applications

Five most significant papers:

- a. V. Ciaramitaro, E. Piacenza, P. Lo Meo, C. Librici, M.M. Calvino, **P. Conte**, G. Lazzara, D.F. Chillura Martino (2023) From micro to macro: Physical-chemical characterization of wheat starch-based films modified with PEG200, sodium citrate, or citric acid **International Journal of Biological Macromolecules** 253: 127225
- b. A. Di Vincenzo, D.F. Chillura Martino, E. Piacenza, **P. Conte**, A. Pettignano, G. Lazzara, P. Lo Meo (2023) Reduced graphene oxide/silver nanoparticles/cyclodextrin nano-sponges composites with improved photocatalytic activity **Applied Surface Science Advances** 15: 100407
- c. S. Cataldo, F. Crea, P. Lo Meo, **P. Conte**, A. Di Vincenzo, D. Milea, A. Pettignano (2021) Evaluation of adsorption ability of Cyclodextrin-Calixarene Nanosponges towards Pb²⁺ ion in aqueous solution **Carbohydrate Polymers** 267: 118151
- d. P. Lo Meo, F. Mundo, S. Terranova, **P. Conte**, D.F. Chillura Martino (2020) Water Dynamics at the Solid–Liquid Interface to Unveil the Textural Features of Synthetic Nanosponges **The Journal of Physical Chemistry B** 124: 1847-1857
- e. **P. Conte**, V. Fiore, A. Valenza (2018) Structural and Mechanical Modification Induced by Water Content in Giant Wild Reec (*A. donax* L.) **ACS Omega** 3: 18510 18517

These studies were funded by the FFO from the University of Palermo

ALTRE ATTIVITÀ

Conference organization	
• 2023 – Palermo, 12-15 September	Member of the Scientific and Organizing Committee of the 3 rd Joint SICA-SIPE-SISS Conference titled “Synergies in the soil plant system for environmental protection and food safety” (https://www.spa2023.it/)
• 2018 – Palermo, 10-13 September	Member of the local organizing committee of the 1 st SISS-SIPI

	joint conference "The role of soil science for the objectives of sustainable development" (https://scienzadelsuolo.org/atti_convegni.php)
• 2016 – Palermo	Organization of the winter school "Biochar applications: current developments and future perspectives" funded by European Biochar Research Network & COST Action TD1107 "Biochar as an option for sustainable resource management"
• 2014 – Palermo, 16-17 January	Chair of the Organizing Committee of the 2 nd Mediterranean Biochar Symposium (https://meditbiochar2.weebly.com/)
• 2013 – Palermo, 14-15 November	Chair of the Organizing Committee of the 3 rd National Conference of the University Consortium on Environmental Chemistry (INCA)
• 2013 – Turin, 23-25 May	Member of the Scientific Committee of the 8 th Conference on Field Cycling NMR Relaxometry (https://ffcrelax.com/ffcrelax2019/index.php/edizioni/edition-2013/)
• 2013 – Como, 17-18 January	Vice-chair of the organizing committee of the 1 st Mediterranean Symposium on Biochar (https://meditbiochar2.weebly.com/proceedings-of-the-first-mediterranean-biochar-symposium.html)
• 2010 – Wien, 02-07 May	Co-Chair of the organizing committee for the session SSS21 "Magnetic resonance: new understandings and applications in soil and environmental science" within the General Assembly of the European Geoscience Union (http://meetingorganizer.copernicus.org/EGU2010/session/2512)
• 2009 – Palermo, 21-24 September	Member of the local organizing committee and of the scientific committee of the XXXIX national congress of the Italian Discussion Group on Magnetic Resonance (GIDRM) (https://www.gidrm.org/national-congress-2009-21-24-september-in-palermo/)
• 2009 – Wien, 19-24 April	Chair of the organizing committee of the session SSS23 "Applications and new developments of magnetic resonance techniques in soil science" within the General Assembly of the European Geoscience Union (http://meetingorganizer.copernicus.org/EGU2009/session/947)
• 2007 – Naples, 09-14 September	Member of the organizing committee of the International Summer School 2007 "Natural Organic Matter: A resource for environment and nanotechnologies" (http://www.chimicagraria.files/Brochure_Summer_School.pdf)

Guest editing activity	<ul style="list-style-type: none"> • Biology and Fertility of Soils, 2014, vol. 50 http://link.springer.com/journal/374/50/8/page/1 • Current Organic Chemistry, 2013, vol. 17 (24) http://benthamscience.com/journal/contents.php?journalID=coc&issueID=119024 • Organic Geochemistry, 2011, vol. 42 (8) http://www.sciencedirect.com/science/journal/01466380/42/8
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	<ul style="list-style-type: none"> The Open Magnetic Resonance Spectroscopy Journal, 2010 vol. 3 http://www.benthamscience.com/open/tomrj/openaccess2.htm
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Awards and recognitions	
• 2023	A study leaded as principal investigator was chosen for the cover page of Journal of Agricultural and Food Chemistry (Vol 71 N 14 April 2023; https://pubs.acs.org/toc/jafcau/71/14). The title of the study was: ¹ H NMR-Based Metabolomics to Assess the Impact of Soil Type on the Chemical Composition of Nero d'Avola Red Wines
• 2020 to present	Included in the selection of the top 100,000 scientists by c-sco (with and without self-citations) or a percentile rank of 2% or above in the sub-field. (https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/6)
• 2018 to present	Included in the list of the Top Italian Scientists in Natural and Environmental Sciences (https://topitalianscientists.org/tis/466 Pellegri no Conte - Top Italian Scientist in Natural & Environmental Science ;

Invited speaker	
• 2021	Invited speaker at the round table of the workshop "Soil conservation and environmental protection" held in Imola (Italy) on 6-8 September
• 2021	Invited speaker at the round table of the "XXVII Congresso Nazionale della Società Chimica Italiana", held online on 14-23 September
• 2019	Invited speaker at the 11 th Conference on Fast Field Cycling NMR Relaxometry held in Pisa Italy
• 2017	Invited speaker at the XII Encontro Brasileiro de Substâncias Húmicas e Matéria Orgânica Natural (XII EBSH-MON) in Sino (Mato Grosso, Brazil)
• 2016	Invited speaker at the workshop "NMR: nuove applicazioni in ambito chimico, farmaceutico ed agro-alimentare" held at the University of Turin on 01 December
• 2015	Invited speaker at the 3 rd Practical Applications of NMR in Industry Conference (PANIC) held in San Diego (California, USA)

	<ul style="list-style-type: none"> • 2014 Invited speaker at the 12th International Biochar Conference Wellington (New Zealand)
	<ul style="list-style-type: none"> • 2013 Invited speaker at the 1st Mediterranean Biochar Symposium
	<ul style="list-style-type: none"> • 2011 Invited speaker at the 7th Conference on Fast Field Cycling NMR relaxometry
	<ul style="list-style-type: none"> • 2007 Invited speaker at the International Summer School 2007 “Natural Organic Matter: A resource for environment and nanotechnologies” held at the University of Naples Federico II

Interviews on media, blogs, and other websites	
	<ul style="list-style-type: none"> • 2024 Interview on the magazine <i>Prismag</i> about water quality and water brands (https://prismag.it/acque-lusso-status-symbol/?fbclid=IwAR2xtD04X-Wf9VIm9L5971H29PmfXIKiJiVBkfGZ-8n_eGMogj4GyeafKU)
	<ul style="list-style-type: none"> • 2023 Interview for the YouTube channel <i>Senza logica mal si cogita</i> Michele Totta (https://www.youtube.com/channel/UCuttGnRDJ1FRSegTxzzV5gg) about homeopathy, GMOs, a biodynamic agriculture (https://youtu.be/frD8BIQgmEA)
	<ul style="list-style-type: none"> • 2022 Interview for the YouTube channel <i>Senza logica mal si cogita</i> Michele Totta (https://www.youtube.com/channel/UCuttGnRDJ1FRSegTxzzV5gg) about chemistry in everyday life (https://www.youtube.com/watch?v=HMNbU0rT0GU)
	<ul style="list-style-type: none"> • 2021 Interview on Radio24 for the podcast <i>Melog</i> by Gianluca Nicoletti about biodynamic agriculture (https://www.radio24.ilsole24ore.com/programmi/melog/puntata/melog-home-editioncornoletame-e-vescica-di-cervo-per-lagricoltura-c-terzo-millennio-110838-2419257883074384)
	<ul style="list-style-type: none"> • 2021 Interview on the website www.vinosa.it about biodynamic agriculture (https://vinosa.it/il-vino-nella-scienza-e-la-scienza-c-vino-quattro-chiacchiere-con-il-chimico-del-suolo-pellegrino-conte/)
	<ul style="list-style-type: none"> • 2021 Interview for the YouTube channel <i>Ipotesi Geo</i> by Daniel Puer (https://www.youtube.com/@IpotesiGeo) about the analyses to unveil food frauds and food traceability (https://www.youtube.com/watch?v=zoZlb4cz7tE)
	<ul style="list-style-type: none"> • 2021 Interview for the YouTube channel <i>Ipotesi Geo</i> by Daniel Puer (https://www.youtube.com/@IpotesiGeo) about the biodynamic agriculture (https://youtu.be/L26PJauNcfs)

	<ul style="list-style-type: none"> • 2020 Interview on the website <i>Butac – Bufale un tanto al chilo</i> about the big explosion in Beirut (https://www.butac.it/beirut-esplosione-nucleare/)
	<ul style="list-style-type: none"> • 2020 Interview on the web magazine <i>Greenme</i> about the big explosion in Beirut (https://www.greenme.it/news/approfondimenti/disastro-di-beirut-chimica-fisica-nitrato-ammonio/)
	<ul style="list-style-type: none"> • 2020 Interview on the web magazine <i>Open</i> about the big explosion Beirut (https://www.open.online/2020/08/05/esplosione-nel-poddi-beirut-il-ruolo-del-nitrato-di-ammonio/)
	<ul style="list-style-type: none"> • 2020 Interview on the web magazine <i>Open</i> about the toxic cloud in Wuhan – China (https://www.open.online/2020/02/12/coronavirus-queste-immagini-dimostrano-che-stanno-cremancimigliaia-di-corpi-a-wuhan-no-improbabile/)
	<ul style="list-style-type: none"> • 2020 Interview on the website www.vinosa.it about wine quality (https://vinosa.it/il-vino-nella-scienza-e-la-scienza-del-vino-quattro-chiacchiere-con-il-chimico/)
	<ul style="list-style-type: none"> • 2019 Interview on the web magazine <i>Open</i> about lithium ion for batteries (https://www.open.online/2019/10/11/litio-il-metallo-dipremio-nobel-che-ha-cambiato-il-mondo-e-le-nostre-vite/)
	<ul style="list-style-type: none"> • 2019 Interview for the website www.c1v.org about the role of chemistry in everyday life (https://www.c1v.org/post/2019/07/0contente)
	<ul style="list-style-type: none"> • 2019 Interview for the website www.c1v.org about the difference between plastic and aluminum bottles for the environmental sustainability (https://www.c1v.org/post/0810)
	<ul style="list-style-type: none"> • 2019 Interview on the web magazine <i>Open</i> about recyclable plastic (https://www.open.online/2019/04/23/un-nuovo-tipo-di-plastica-per-risolvere-il-problema-del-riciclo/)
	<ul style="list-style-type: none"> • 2019 Interview on <i>Econopoly – IlSole24Ore</i> about organic agriculture (https://www.econopoly.ilsole24ore.com/2019/02/20/italiani-salutisti-biologico/)
	<ul style="list-style-type: none"> • 2019 Interview for the website <i>La casa dei Libri</i> (https://casadeilibri.wordpress.com/) about the fake news (https://urly.3zc8)
	<ul style="list-style-type: none"> • 2018 Interview for the website <i>Gravità Zero</i> (https://www.gravita-zero.org/) about the fake news (https://www.gravita-zero.org/2018/11/intervista-al-prof-pellegrino-conte.html)
	<ul style="list-style-type: none"> • 2018 Interview on <i>Econopoly – IlSole24Ore</i> about white sugar and sweeteners (https://www.econopoly.ilsole24ore.com/2018/10/zuccherobianco-bufale/)

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| | <ul style="list-style-type: none">• 2018 Interview for the web magazine <i>Sanità Informazione</i> (https://www.sanitainformazione.it/) about sugars and sweeteners (https://www.sanitainformazione.it/serveundottore/nutrizione/zucchero-canna-male-verita/) |
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