

Curriculum Vitae Prof.ssa Muscolo Adele

Born in Reggio Calabria, Italy, on May 20th, 1962.

Education

1980- High school diplomas in scientific studies.

1985 - Graduated in Biological Sciences (MSc), at the University of Messina, Faculty of Science.

1985-1987- Practice attendance at biological laboratory of the “Riuniti” hospital, Reggio Calabria, Italy.

1987- Professional qualification with honours, to exercise the biology profession, Biology Faculty, Messina University, Sicily, Italy.

1987, 1988 - Fellowship with grant at the “Institute of Cybernetic, on signal transduction pathway. Arco Felice”, Naples.

1988- PhD in Food Science at the Policlinic “Federico II”, University of Naples. Studies and researches performed at the “Policlinic, Federico II University of Naples, Italy (output scientific papers, published in national journals).

Professional position

1988- Researcher at the Department of Agrochemistry and Agrobiology of the Agricultural Faculty “Mediterranea” University of Reggio Calabria, Italy.

Since 2001- Associate professor of Pedology, Biochemistry and Soil Ecology in the Agricultural Faculty of “Mediterranea” University of Reggio Calabria, Italy.

Since 2010 –Winner of the Full professor position in Soil Chemistry and Biochemistry, and Soil Ecology, Bolzano University Italy

Teaching experience

Course taught

1993-1994, 1994-1995, 1995-1996, 1996-1997 - Courses in Forestry Soil Chemistry

1995-1996, 1996-1997, 1997-1998 - Courses in Pedology

1997-1998, 1998-1999, 1999-2000, 2000-2001 -Courses in Plant Biochemistry

1998-1999, 1999-2000, 2000-2001 Courses in Pedology: theory and practice

2001-2002- Courses in Pedology, Plant Biochemistry and Forestry Soil Chemistry

2002-2003, 2003-2004- Courses in Pedology, Plant Biochemistry

Since 2004- Courses in Forestry Soil Chemistry and Soil Ecology

Seminars on specific interest of Agricultural Chemistry

- 1995-** Course on Food and Environment organized by the National Order of Biologists and Calabria Region.
- 1996-** Chemistry lectures in professional training course for operators of "Food Biotechnology Fund" organized from ENAIP, Calabria Region.
- 1997 -** Teaching in the course, for training technical operator in the laboratory.
- 2000-** Lecture titled "Biological activity of humic matter" at the Centre for Research in Plant Sciences, Faculty of Health and Life Sciences, Bristol University (UK).
- 2001-** Lectures in "Biochemistry and Physiology, Geology and Pedology", in the International Master, II Level in collaboration with the Ecole Nationale Supérieure d'Architecture de Paris la Villette at "Mediterranea" University of Reggio Calabria.
- 2005-** Course in Soil Chemistry, (4 CFU), for Technical Training Education Course supported by Calabria Region IFTS titled "Senior technician for the management of agro-environmental area", held at the office of C.R.A. (Lamezia Terme, CZ).
- 2006-2007-** Soil Chemistry (60 hours) at the Secondary Teacher Training School (SSIS)-AA Cycle VIII (UNICAL, Cosenza, Italy).
- 2007-2008-** Soil Chemistry (60 hours) lessons at the Specialization School for Secondary Teacher Training School (SSIS)-IX AA Cycle 2007-2008 (UNICAL Cosenza).
- 2008-** Pedology (10 hours) lessons in the Training (Project FIXO) course for "expert in technological transfer innovation, design and turf management in Mediterranean environments", held at the Faculty of Agriculture of Reggio Calabria, Italy.
- Since 2008-** Lecturer and trainer in the School of Doctoral Research "PhD in cultivation and defense of tropical and subtropical crops". Coordinator: Prof. Rocco Zappia, Department of Agriculture and Forest System Management.
- 2009-** "Soil quality: assessment and management" lessons in the International Master Level "Technological innovation and sustainability of Mediterranean olive" at the Mediterranean University of Reggio Calabria, Italy.
- Since November 2011-** Member of the teaching committee of PhD School "PhD Science and technology for forestry and environment management. Tuscia University, Viterbo, Italy
Coordinator: Prof. Rosanna Bellarosa Department of Agriculture, Forests, Nature and Energy (D.A.F.N.E.) Tuscia University, Viterbo, Italy.
- Since 1988-** She follows students in the preparation of thesis and in the internship and she is tutor and co-tutor of Master, and PhD thesis.

Research fields

Since 1988, she has been studying soil chemistry and biochemistry, focusing on the dynamic of organic matter and on the effects of humic substances separated in fractions (different molecular weight and composition) on seed germination and plant growth and metabolism. She has been studying the evolution of organic matter in forest soil under different vegetation, and the relationship between soil organic matter labile and recalcitrant C fractions and soil biodiversity in the soil ecosystem functioning. With particular attention to role of the water soluble phenolic compounds (WSP) in influencing the accumulation and availability of soil nutrients and the rates of nutrient cycling in forest ecosystem as well as the effect of WSP on seed germination and seedling growth. Recent studies have been designed to determine the effects of forest management waste disposal and environmental constraints on soil properties, organic matter trend, microbial biomass nutrient cycles and enzyme activities in forest soils. She is also studying the effects of abiotic stress (salinity, drought and heat) on seed germination, seedling growth and metabolism, evaluating the biochemistry trait of stress resistance, and the physiological and adaptive systems of plants in response to different environmental conditions, considering their bio-physiological behaviour and productive response. The use of polluting recalcitrant agricultural wastes (olive wastes and citrus pulps), and inorganic sulfur obtained from the residues of the desulfurization of natural gas and oil as fertilizer for a sustainable recovery of soils, an eco-friendly agriculture, while reducing sulfur gas emission in the atmosphere is also a research objective of her research fields.

Academic service

Since 1990- Referee for the journals: “Biotechnology Progress”, “Environmental Progress”, “Journal of Chemical Ecology”, “The Science of the Total Environment”, “Journal of Tropical Forest Science”, “ International Journal of Environmental Pollution”, “Acta Oecologica”, “Soil Science Society of America Journal”, “Acta Physiologiae Plantarum”, “Annals of Applied biology”, “Journal of Experimental Botany”, “Plant and Soil”, “Forest Ecology and Management”, “Journal of Forestry Research”, “Journal of Sustainable Agriculture”, “Biology letters”.

Since 2007- Member of the Editorial Board for: The Open Enzyme Inhibition Journal; Dynamic Soil, Dynamic Plant; Tree and Forestry Science and Biotechnology; The European Journal of Plant Science and Biotechnology, Functional Plant Science and Biotechnology (Global Science Book, UK), **Since 2011 for** Journal of Forestry Research, **Since 2011** Member of the Editorial Board for Open Journal of Forestry, **Since 2011** Member of the Editorial Board for Journal of Plant Science

and Molecular Breeding, London, UK **Since 2012** Member of Editorial Board for Dataset Papers in Agriculture. **Since 2012** Member of Editorial Board for Advances in Forestry Letter (AFL) **Since 2013** Member of the Editorial Board for HOAJ Biology Herbert Publications Ltd UK, and Agricultural Science and Applications (JASA) American V-King Scientific Publishing, LTD USA. **Since 2013** appointed as associate Editor of Journal of Forestry Research in charge of all submission in the topic of forest soil.

Editorial Service

2009- Invited Editor of the book "Soil Phenols"(2009) Nova Science Publisher (NY)

2010- Guest Editor of the Special Issue on "Olive oil Mill waste water in the Mediterranean area" on Terrestrial and Aquatic Environmental Toxicology (publication date 2010) (Global Science Book, UK)

2011- Guest Editor of the Special Issue on "Halophyte and salinity" in Dynamic soil Dynamic plant (Global Science Book, UK) (publication date 2011) Flowers T and Muscolo A (Eds) .

2013- Guest Editor of Special Issue titled "Sustainable cultivation and exploitation of halophyte crops in a salinizing world" in the journal "Environmental and Experimental Botany". (Eds) Flowers T, Rozema J and Muscolo A.

2014- Guest Editor of SI titled "Physiology and ecology of halophytes – plants living in salt-rich environments" in Annals of Botany Plant (AoBP) Flowers T and Muscolo A (Eds)

2014- Book evaluator for Scientific Research Publishing (SCIRP)

Professional Society

Member of Italian Society of Agriculture Chemistry (S.I.C.A), Italian Society of Soil Science (SISS) and International Humic Substances Society (IHSS).

Referee of national and international Projects

Since 2008- Reviewer of research for research funding agencies in Czech Republic, besides the Italian MIUR

Since 2008- Reviewer of research projects for young scholars, for Agriculture Department, Padua University, Italy.

Since 2008- Reviewer of research Projects for Agriculture Department, Padua University, Italy.

Since 2008- Reviewer of National Research Projects (PRIN, FIRB), for the Italian Minister of Research and Education.

Since 2009- Reviewer of research projects, for Romanian Government through the National Research Council (CNCS).

- 2013-** Reviewer for TPD of the COST PROJECT proposals: 1. oc-2013-1-15308 Agroforestry: From ancient wisdom to meeting future challenges.
- 2014-** Reviewer TDP for the COST PROJECT proposals: Call oc-2013-2- 17308)
- 2014-** Reviewer of a research project on indicators of sustainability for the Icelandic Center for Research (<http://www.rannis.is>),
- 2015-** Reviewer of Research Project **NewPPPOP** for the **French National Research Agency**.
- 2015-** Reviewer for Cooperative Projects of Technological Transfer, and First Industrialization For Businesses Innovative at High Potential. Titles: PLASMA and REFLOX . Campania Region Italy, (FUNDED by FESR P.O.R. Campania-2007-2013)
- 2015- External evaluator** of Biology university courses for the Ministry of Education, Portugal
- 2015-July External reviewer for a** research Project for Agriculture Department, Padua University, Italy

Management and administrative experiences

- 2001-2007-** Elected member within the Academic Senate of “Mediterranea” University of Reggio Calabria.
- 2002-** Member of the selection board of qualifying examination as Doctor of Agronomy and Forestry.
- 2006 -2009 -** Coordinator of the Class 12/A-Agriculture chemistry, for the Training of Teachers for Secondary School Teaching (SSIS) (UNICAL, Cosenza-Italy).
- 2007-** Member of the selection board of qualifying examination as Doctor of Agronomy and Forestry.
- 2007-** Member of the examination committee for access to the ninth cycle SSIS, AA 2007-2008 – in Natural Science (Grades 12 / A, 13 / A, 54 and 60).
- 2007-** Expert representative of Agriculture Faculty, for the technical Strategic Plan preparation of the municipality of Reggio Calabria in the context “Environment, Waste and Energy”
- 2007-** Head of the Boarding Committee for the internal selection to cover No. 8 vacancies Category D area, technical, scientific and technical data processing positions.
- 2008-** Member of committee evaluator, for internships in soil chemistry, supported by Calabria Region
- 2008-** Deputy Chair of the Committee for the final examination of school teachers D.M. 85/05 (SSIS- UNICAL, CS).
- 2008** April - member of the selection Committee for the comparative assessment designed to cover a university researcher position in the AGR /13, Agricultural Chemistry.

- 2008-** Representative of the Agriculture Department in the AUDIT technological innovation committee. Ministerial Project (System for the Territorial Research and the Transfer Technological Organized, protocol MIUR 3265, 11/07/2006).
- 2009-** Deputy head of GESAF Department at the Agriculture Faculty of “Mediterranea” University Reggio Calabria Italy
- Since 2009-** Head of the University Committee for Safety and Risk of workers at Mediterranea University of Reggio Calabria Italy.
- Since 2008-** Head of the Committee for the training of the technical scientific personnel of Mediterranea University of Reggio Calabria Italy.
- 2009-2014** - Chair of Editorial Committee of the COST Action FA0901.
- 2009-2014** - Chair of the Working Group 1 of the COST Action FA0901.
- 2009-2014-** Member of the Management Committee MIUR of the COST project “Putting Halophytes to Work: From Genes to Ecosystems”. Chair: Timothy Flowers University of Sussex (UK) Action FA0901
- Since 2010-** Head of University Committee for the training of technical-scientific staff of Mediterranea University of Reggio Calabria Italy.
- Since 2010-** Delegate of Agriculture department Mediterranea University of Reggio Calabria for the Erasmus Program and International Relationships.
- 2010-** Member of the Committee for the assignment of No. 4 scholarships, funded by the Province of Reggio Calabria (DP Notice No. 27 of 19 September 2007).
- 2010-** Head of the University Committee for the Safety of workers. at “Mediterranea” University of Reggio Calabria Italy.
- 2011-** Director of Master (Academic year 2011-2012) “Biomass and Energy: Production and use of biomass for bio-energy new technology for a sustainable development” Mediterranea University Reggio Calabria Italy
- 2014-** Head of the committee for the Internship Active Training for High School Teachers. Class Certification A012 A.A. 2014-2015

Supervision and evaluation

PhD dissertation examiner and Graduate school student evaluator

- 2011-** External evaluator for the PhD Thesis (Área de Edafología y Química Agrícola), Departamento de Ciencias Agroforestales ETS de Ingenierías Agrarias de Palencia. Universidad de Valladolid Spain.

- 2012 (21 March)**- Member of the Committee Defence, to evaluate the PhD Thesis for the Department of Biological Science Vigo University, Spain.
- 2012 (23 November)**- Head of PhD thesis Committee at the Department of Scienze Agrarie, Alimentari e Agro-Ambientali (DiSAAA), Pisa University, Italy.
- 2013 (3-April)**- PhD External examiner for the thesis “Responses of Quinoa to salinity and temperature regimes” dissertation in Copenhagen University.
- 2013 (8-April)**- External evaluator of applications for LSM International Summer Research Program **2013**, at the Graduate School Life Science Munich (LSM).
- 2014**- External examiner for PhD thesis on Production and evaluation of biochar for improving soil quality and Maize production" at University of Agriculture Faisalabad, Pakistan.
- 2015**- External examiner for PhD thesis on the impact of biochar in ameliorating drought and salinity stress in plants. Defense 30 April, 2015 at the University of Copenhagen, Denmark.

Supervision of foreign graduate, PhD students and post Doctoral fellow

- 2008**- PhD student from Isfahan University of Technology for thesis compilation.
- 2011-2012**- PhD student from Science faculty, Sofia University, Sofia, Bulgaria.
- 2012**- PhD student from Copenhagen University, Copenhagen, Denmark.
- .2012**- Post Doc fellowship from Coimbra University, Coimbra, Portugal.
- 2013**- Post Doc fellowship from Valladolid University, Palencia, Spain.
- 2014** - PhD students from Sousse University, Tunisia.
- 2015**- PhD student from Sousse University, Tunisia.
- 2015**- Post Doc from Sousse University, Tunisia (Erasmus Mundi).
- 2015**- PhD student from Sousse University, Tunisia (PhD program).
- 2015**- PhD student from Valladolid University, Palencia, Spain.

National and International Research agreement

- Since 2011**- International Agreement with Professor Edward Someus Sweden. Biochar technology EU FP7-Refertil 289785.
- 2011 (December)**- International Agreement with Prof. Vladimir Jacoviski Faculty of Technology and Metallurgy, Skopje, Macedonia, for a Scientific cooperation “Utilization of different products obtained from biomass-waste for application in agriculture”.

Since 2012- National research agreement for a scientific cooperation with Euro-Energy Industry (Milan). The agreement aims to introduce non-food species to produce biodiesel in the degraded soils of Calabria, Southern Italy with the dual objective to recover degraded areas and produce green energy.

Since 2013- National research agreement for a scientific cooperation with “Cooperativa Fattoria della Piana”, Società Agricola and “Mediterranea” University, Reggio Calabria Italy on “Analysis and monitoring of quality and quantity of biomass input, and digestate output for agro-energy purpose.”

Since 2014- National research agreement for a scientific cooperation with Steel Belt System s.r.l on the use of polluting recalcitrant agricultural wastes (olive wastes and citrus pulps), and inorganic sulfur obtained from the residues of the desulfurization of natural gas and oil as fertilizer for a sustainable recovery of soils, an eco-friendly agriculture, while reducing sulfur gas emission in the atmosphere.

Invited speaker and meeting organizer

12/13 March 2010- Invited speaker at the International conference “Putting Halophytes to Work - From Genes to Ecosystems” Crop and Forage production in saline and arid environments: an overview. Federico II University, Naples.

7 October 2010- Invited speaker at the National Congress Social responsibility, Lecture: It 's time to change: environmental issues and Social Responsibility. Province Palace, Reggio Calabria, Italy.

24 November 2010- Invited speaker at the national congress “Recovery of Mediterranean Forest. Soil the factory of life: its biodiversity and function. Agriculture Faculty, “Mediterranea” University, Reggio Calabria, Italy.

14 April 2011- Lecturer at the Workshop - PEER Behavioral project. Loughborough University, LE11 3TU LONDRA, UK.

30-31 May 2011- Invited speaker at the BETTER-PRACTICE-EXCHANGE 2011 – ENERGY In The German Capital Region From Regional To International – Cooperating With European Energy Regions. Lecture Biogas for Energy.

28/29 September 2011- Invited speaker at the Regional Congress on “Quality and Food security. Lecture on “Enhancing the quality of vegetable products through eco-friendly measures on soil quality University of Calabria, Rende, Cosenza, Italy.

- 5/7 December 2011-** Invited speaker at the IHSS Congress Lecture: Humic substances: relationship between structure and activity. Is its changing structure responsible for different and controversial biological activity? Royal Palace of Portici, Naples.
- 30 March 2012-** Italian representative at the Workshop -The Global Soil Biodiversity” The ExCel Centre, London.
- 18/19 April 2012-** Member of the Scientific Committee for International Workshop on Sustainable cultivation and exploitation of halophyte crops in a salinizing world. Amsterdam, Netherlands.
- 18-19 April 2012.** Invited speaker at International Workshop on Sustainable cultivation and exploitation of halophyte crops in a salinizing world. Lecture ” Ecophysiology of Pennisetum clandestinum: a valuable salt tolerant grass. Amsterdam, Netherlands.
- 7 May 2012-** Invited speaker at the National Congress alternative energy for a sustainable development. Lecture: Biomass for biodiesel production, Province Palace of Reggio Calabria, Italy
- 2-6 July 2012-** Member of National Organizing Scientific Committee of “Eurosoil World Congress”, Bari, Italy .
- 16 July 2012-** Invited participant at the brokerage event and face to face meeting for the FP7 Proposal, Charles Magne Palace, Brussels.
- Since 2013-** Representative of Agriculture Department for the International Relationship with European and Extra-European Universities.
- 9 April 2013-** Invited lecturer at IPK Gatersleben, Germany “Plant responses to saline and arid environments: impact of plant stress on growth and root features” Heterosis GroupDPPN Leibniz Institute of Plant Genetics and Crop Plant Research Gatersleben (IPK) Corrensstrasse 3D-06466 Gatersleben, Germany
- 10 May 2013-** Member of the Scientific Committee for the 7th World Congress on Allelopathy, 28 July-1th August 2014, Vigo Spain.
- 16 May 2013-** Member of SCIENTIFIC COMMITTEE for the International Conference “Bioscience - development and new opportunities" - KLIMENT'S DAYS”, Sofia, Bulgaria, 20th - 22nd November 2013.
- November 2013-** Invited speaker at the International Conference Bioscience - development and new opportunities. Lecture: Soil in the context of a green economy for a sustainable development
- 9/14 April 2014.** Member of the Scientific Committee for the International Conference Halophytes from gene to ecosystem, University of Coimbra, Portugal.

12/13 May 2014- Member of Scientific Committee of the international conference on “Halophytes for Food Security in Dry Lands” Centre for Sustainable Development (CSD), Qatar University, Doha, Qatar.

20/22 July 2015- Invited speaker at Recycling Expo-2015, Barcellona, under track 10, “Agricultural waste recycling”.

Visiting scientist

Visiting Professor Vigo University, Spain, September 2009. European Project arrangement.

Visiting Professor Coimbra University, Portugal, February 2010.

Visiting Professor Coimbra University, September 2011.

Visiting Professor Sussex University Organizing Meeting, November 2013.

Visiting professor Seed Bank Kew, UK . Research Program, February 2013.

Visiting Professor IPK, Gatersleben, Germany, Research Program, April-May 2013.

Visiting Professor IPK Gatersleben Germany, Research Program, September-October 2013.

Visiting Professor Seed Bank, Kew UK, Research program, April-August 2014.

Visiting Professor Seed Bank, Kew UK, Research program, May 2015.

AWARDS:

- **Knight of the Italian Republic:** in view of the special merit in the scientific field, and on the proposal of the President of the Council of Ministers, after consultation with the junta of the Order of Merit of the Italian Republic, with decree dated June 2, 2012, she was awarded with the honors of **Knight of the Italian Republic for the work done in the research field.**
- **Recognition as Valuable Italian Researcher,** in the domain of Food and Agriculture, selected researcher for the EXPO Milan 2015. http://www.cibiexpo.it/s14_scienza-ricerca.php.

Recent National and International Research Project (2005-2014)

2005- Regional Project "Issues related to the olive oil sector in the Province of Reggio Calabria its redevelopment and revitalization." Scientific Responsible: Prof. D. Gioffre, **Scientific Coordination**

- Prof. Muscolo Adele, Attinà Emilio.** Funded by the 'Department of Industry and Local Development and Agriculture Province of Reggio Calabria.
- 2005- National Project PRIN (ex 40%)**"Biological activity of humic substances on nitrogen metabolism in maize seedlings and in embryogenic cultures of forest tree species in relation to the structure of humic substances themselves", Scientific Unit of Padova Prof. Nardi Serenella, Scientific Coordinator of the National Prof. Alessandro Piccolo University of Naples Federico II. Operative National Project (PON) (2006). Trasferimento tecnologico e l'innovazione di PMI. Nell'ambito dell'area tematica "Analisi e prevenzione del rischio di siccità e di desertificazione".
- 2007-2013- National Operative Project:** "Laboratory Public/private RRL - Railways Research Laboratory (Jatroba as energy source).(financed)
- 2007-2013- National Operative Project** Laboratory Public/private RRL "Nanotechnology Detection Sensors and Omich Tecnology for Food Safety, Authenticity and Traceability - NANOFOOD (financed)
- 2007-2013- National Operative Project (PON) RESEARCH AND COMPETITIVENESS 2007-2013** Resource How To Plant Biodiversity Agriculture and Forestry and the Environment As Source Of Renewable Energy (Financed).
- 2008- European Project FP7 Call KBBE 2008-2B** Proposal n° 226839 (HUMRUS 2008). Prof.ssa Muscolo Adele leader del WP5 "Biological effect of Humus". Leader del Progetto Dr. Miloslav Pekar, Institute of Physical and Applied Chemistry, Brno University of Technology, Faculty of Chemistry (mark 9/10 threshold).
- 2009- National Operative Project APQ (2009)** "Experimental research project on the upgrading of the indigenous grape Gaglioppo area Cirò (Caparra and Siciliani) within 3 APQ action funded by Calabria Region, WP." Soil quality in a pedo-climatic of Crotona and analysis of the root/soil cultivation systems confined to the identification of grapevine rootstocks, in combination with the variety Gaglioppo, suitable environment under study and adaptable in soils characterized by nutritional deficiency Funded by Italian Research Minister (2010).
- 2009- National Operative Project APQ 2 laboratory** "Conservation and enhancement of soil resource: definition of the quality of the soil for agricultural eco-management and quality of the products" as part of the Project, Food Quality and Safety. Funded by Italian Research Minister.
- 2009- European Project COST** "Putting Halophytes to Work: From Genes to Ecosystems". Component of Management Committee, and WG1 Chair. Chair of the COST project FAO901: Prof. Timothy Flowers University of Sussex (UK).
- 2009- PSR Measure 124, Winery Iuzzolini (KR)** "Sustainable Soil Management's Vineyard for improving Quality Of Grape And Wine" (no financed).

- 2009- European Project FP7 (Call KBBE2010-4 Proposal n° 266286), “METACROP“** Chair WG 13 Prof. Muscolo Adele. Scientific European Chair Prof. Manuel Reigosa Roger, University of Vigo, Spain (no financed, mark 9.5/10 treshold).
- 2009-2010-** Head of research team participants to the teaching and Research Project: BIOLOGICAL INVASION BY *Prosopis Juliflora* (SW.) DC IN CAATINGA: IMPACTS ON THE QUALITY OF NON-SALINE SOILS AND SALINE. Chairs Leonaldo Alves de Andrade and Adele Muscolo. Funded by FEDERAL UNIVERSITY OF PARAÍBA. Brasil.
- 2010-2013-** National District Project "Food Processing High-Tech" use of citrus biomass in agriculture as fertilizers. funded
- 2010-2013- National Operative Project:** "Agribusiness High Technology District" use of biomass residues in crop protection funded.
- 2010- European Project (FP7)** “Multipurpose living crops for sustainable Agriculture in Europe (MULCROSA) Chair WG 2 Prof Muscolo Adele. Chair: Prof Manuel Reigosa Roger, (Vigo), Spain
- 2010- National Project PRIN.** Enhancement of lignine biomass residues for energy I. Role in the bioactivity and plant rhizosphere and in the production of biodegradable polymers National Co-Chair Prof. Alessandro Piccolo University of Naples "Federico II" Local Chair Prof. Muscolo Adele "Effects of lignin derivatives on germination, growth, root morphology and mechanisms antioxidative in seedlings of *Arabidopsis thaliana* and *Zea mays* " (no funded)
- 2010 National Project FIRB.** Proposal number (RBFR109NSH_002). Department GESAF Prof.ssa Muscolo (Dr Sidari Rossana) (no Funded)
- 2011 National Project MIPAAF** "SUSTAINABLE MANAGEMENT OF OLIVE FOR IMPROVING THE PRODUCTIVITY "Thematic “Development of Calabrian olive oil sector through Research and Experimentation
- 2011 MIPAAF National Project** Sustainable Soil Management for improving the quality of grapes Theme: Viticulture Research and Experimentation.
- 2011 MARIE CURIE INTRA-EUROPEAN** grants (opening dates = 15/02/2011) Influence of phenolic compounds on the net nitrate uptake, physiological responses and stress tolerance induction in maize. Dr M. Iftikhar Hussain (Vigo University Spain) (**no financed**).
- 2010-2013** Head of Trans National Project ROBINWOOD (2010-2013) Plus, INTERREG IV C European Project “Forest System Management: better Practice (**Funded**).
- 2011** Participant to the **COST Action** Proposal **oc-2011-1-9981 Chair** Raphael Th. Klumpp Universitaet fuer Bodenkultur Wien. Proposal “Managing European fir species under climate change conditions (FIRCLI)” (no funded)

- 2011** Participant to the European Project ENPI CBC MED (08-2011) “Development of Salicornia and Sarcocornia as food for human (vegetable), Cattle and Fish” Leader Prof. Moshe Sagi French Associates Institute for Agriculture and Biotechnology of Drylands, Blaustein Institutes for Desert Research, Sede Boqer campus Ben-Gurion University, P.O.B. 653, Beer Sheva 84105, Israel. Not Funded
- 2011** Participant to the Project ARimnet[©] September 2011. Coordination of Agricultural Research in the Mediterranean Area: Degraded soil, waste-water and or saline water resources used for halophyte cultivation as vegetable and ornamental crops for the recovery and conservation of Mediterranean soils. (SALTCROPS) . Chair Prof. Manuel Reigosa Rogers Vigo University, Spain. Not Funded
- 2011-2013** Participant to the LIFE PROJECT (2011-2013) “Monitoring Soil Biodiversity, in Pollino National Park, Biodiversity and Cave restoration.(funded by Italian Minister)
- 2012-2015** Participant to the National Research Project: **PRIN** Increasing the value of lignin residues from biomasses for energy. Role in the bio-activation of plant growth and rhizo-sphere soil and in the production of biodegradable co-polymers. (not funded)
- 2013** FP7 Project EPPN. European Research Project. **Responsible** for the project entitled “Phenotypic and metabolic responses to drought and salinity of four lentil genotypes” in cooperation with IPK-MP and IPK-APPP, (Leibniz University Germany) Funded
- 2013** FP7 Project Participant as leader of the WP titled “Digestate: from Identification to Valorization of high Value Compounds (fertilizers, herbicide etc)” in FP7 Project (2013) “Preventing and valorising bio-waste in bio refineries (large-scale integrating projects targeted to SMEs) Call: FP7-KBBE-2013-7 – single stage selected but not funded (due to a lack of funding)
- 2013** Scientific Coordinator of FP7 Project KBBE.2013.1.2-05: Biological control agents in agriculture and forestry for effective pest and pathogen control.
- 2013-2015** Head of the Regional Research Project PSR mis 214 action 6, “Preservation and recovery of *Brassica incana* in Calabria Funded.
- 2013-2015** WP leader of the Regional Research Project PSR mis 214 action 6. “Preservation and recovery of *Lavandula multifida* in Calabria Leader Prof Panuccio MR. Funded.
- 2013-2015** Head of the research team participants to International Project: Bioenergy crop production under drought and salinity for better feed and fuel First Annual PSSP Competitive Grants Program Pakistan
- 2013-2015** **WP** leader of the Regional Research Project the PSR mis 124 action 1. Regional research project entitled “ Energetic valorization of Agriculture Biomass for Biogas Production”
- 2013** Marie Curie Intra-European Fellowships (IEF): FP7-PEOPLE-2013-IEF: Impact of Phenolic compounds on nutrient uptake, on stress tolerance induction and on improving food safety in n

- maize (PHENOTOMAZ) **Applicant:** Ana Martínez-Peñalver Mas PhD Faculty of Biology. University of Vigo Campus Lagoas-Marcosende s/n E-36310 Vigo (Spain) **not funded**
- 2013** Marie Curie International Incoming Fellowships (IIF): FP7-PEOPLE-2013-IIF. Morphology and physiology of lentil roots in response to bacterial inoculation in salt-affected soils. **Applicant:** Sajid Mahmood PhD Student Institute of Soil & Environmental Sciences, University of Agriculture, Faisalabad-Pakistan.(not funded)
- 2013** EFIMED Short Scientific Visits International Call: “Relationship between enzyme activity in soils and productivity of *Pinus sylvestris* L. and *Pinus halepensis* Mill. forest plantations in Northern Spain”. **Applicant:** Teresa de los Bueis Mellado PhD Student in Conservation and Sustainable Use of Forest Systems. Sustainable Forest Management Research Institute. Valladolid University-INIA ETS Ingenierías Agrarias, Avda. de Madrid 44. 34004 Palencia (Spain) (funded)
- 2013** Head of the Cooperative Research Program: Biological Resource Management For Sustainable Agriculture Systems: OECD 2013: call theme I – The natural resources challenge. Sea Water Irrigation for The Cultivation of Halophytes as sustainable, underutilised crops (SWITCH) **Applicant:** Prof. Muscolo Adele “Mediterranea” University of Reggio Calabria Italy, Host Institution: Royal Botanic Garden Kew UK. **Approved on 14th December 2013 and funded.**
- 2013 Joint Programming Initiative (JPI)** Water challenges for a Changing World (December 2013). Chair Prof. Bernhard Huchzermeyer, Institute of Botany Leibniz University Hannover, Muscolo Adele responsible for the WP 6. Effect of contaminate water on soil chemical and biochemical processes. Not funded.
- 2013-2015** National Project: Private RRL - Railways Research Laboratory (*Jatropha curcas* as energy source) (funded by MIUR).
- 2014-2015** PSR Calabria mis 214 - action 6 Projects for the preservation of genetic resource in Calabria region project proposal: recovery and reproductive, dissemination and use of Calabria potato "purple Calabrian" (funded)
- 2014** MARIE SKŁODOWSKA-CURIE ACTIONS Individual Fellowships (IF) Call: H2020-MSCA-IF-2014, ESPLA” “The effects of toxic metals on soil ecosystems and plant growth. (Not funded).
- 2015 -2016. National Research Program (PON)** Agrifoodtech,Vegetal sector Coordinator of the action “*Utilization of industrial and agriculture residues as compost in agriculture*”.(funded)
- 2015** Coordinator of ARIMNET Project “**METABOPHEN**” Pre-proposal ID: 526 (not funded)
- 2015** Horizon 2020, WAVE Project, call Waste 7, (Ensuring sustainable use of agricultural waste, co-products and by-products). Under evaluation
- 2015** Member of the steering group of COST action “**Proposal Reference OC-2015-1-19647**
Title: Water for Food and Bioenergy. Under evaluation

2015 Coordinator of The EMBO Long Term Fellowships Project: “The effects of toxic metals on soil ecosystems and plant growth”. Under evaluation

2015 -2016. National Research Program (PON3) Agrifoodtech, olive oil sector. Coordinator of the action “ “Soil quality improvement by using biological compounds”. (funded).

2015 -2016. National Research Program (PON3) Agrifoodtech, filiera vegetale. Coordinator of the action “ “Testing of compost used in agriculture as a fertilizer obtained by-products of the DMF. (funded).

National Cooperation:

University of Padua: Prof.ssa Nardi Serenella

University of Bologna: Dr.ssa Francioso Ornella

University of Sassari: Prof.ssa Pusino Alba

University of Naples Federico II: Prof.ssa De Pascale Stefania, Prof. Piccolo Alessandro

University of Basilicata: Dr. Celano Giuseppe

University of Bari: Prof. Senesi Nicola

University of Calabria Prof.ssa Maiolo Loredana

University of Pisa Prof. Durante Mauro

University of TOR Vergata (Roma 2) Prof. Baciocchi Renato

University Cattolica of Piacenza Prof Trevisan

International Cooperation

University of Belgrade, Serbia Prof Miroslava Mitrovic

University of Belgrade, Serbia, Prof Pavle Pavlovic

Vigo University (Spain), Prof Manuel Reigosa Roger

Bristol University (UK), Prof. Heather MacDonald

Marrakech University Morocco, Dr Abdellatif Boussaid

University of Sfax Tunisia Prof. Sami Sayadi

Universidade de Trás-os-Montes e Alto Douro, Portugal Prof. Carla Maria Amaral

University of Sussex (UK) Prof. Timothy Flowers

Seed Bank Kew UK Dr Seal Charlotte

University of Coimbra (Portugal) Prof. Helena Freitas

University of Sofia Prof. Mariela Odjakova

Université De Savie Laboratoire D'Ecologie Alpine Leca-Tde, Prof.Christiane Gallet;
Universitat Autònoma de Barcelona Prof.ssa Eva Castells, Unitat de Toxicologia
Facultat de Veterinaria

University of Colorado Ecology and Evolutionary Biology (USA) Prof. Steve
Schmidt

University Torun (Poland) Prof.ssa Agnieszka Piernik

University of Brno (Czech Republic) Faculty of Chemistry Prof.ssa Miloslav Pekar.

Dr. Uwe Schleiff - Independent Expert for: salinity+Irrigation, Fertilizers+Crops,
Soils+Environment Wolfenbuettel/Germany

Prof. Leonaldo Alves de Andrade Doutor em Ciência Florestal UFPB – CCA- DFCA
Laboratório de Ecologia Vegetal Areia – Paraíba – Brasil (Teaching and research
Cooperation in progress)

Prof. Abdelgawad Alkahal Soils, Water and Environment Research Institute,
Agricultural Research Center, Giza, Egypt

Prof. Dr. Jelte Rozema Systems Ecology Department of Ecological Science
Faculty of Earth and Life Sciences VU University (Vrije Universiteit) Amsterdam
De Boelelaan 1085, 1081 HV Amsterdam The Netherlands

Prof. Moshe Sagi, French Associates Institute for Agriculture and Biotechnology of
Drylands, Blaustein Institutes for Desert Research, Sede Boqer campus
Ben-Gurion University, Beer Sheva, Israel.

Prof Sven-Erik Jacobsen Department of Plant and Environmental Sciences
Crop Sciences University of Copenhagen Hoejbackkegaard Allé 13
DK-2630 Taastrup Denmark.

Professor Dr. Zahir A. Zahir Institute of Soil & Environ. Sci. University of
Agriculture Faisalabad-38040, Pakistan

Prof . Ajmal Khan, Professor & Research Area Coordinator in Food Security
Center for Sustainable Development College of Arts and Sciences Qatar University

Dr. M Iftikar Hussain International Center for Biosaline Agriculture – ICBA, Dubai -
United Arab Emirates

Congress Participation

She took part in numerous National and International Congress, seminar and study meeting:

1. Italian Society of Vegetal Physiology (SIFV) School “ Percezione e traduzione del segnale nella piante”, Maratea, 1995.
2. Doctorate school “Ruolo delle attività di membrane nella produzione vegetale:dagli aspetti molecolari quelli agronomici”, Verbania (Pallanza) 2-4-luglio 1997.
3. VI National Congress of the Italian Society of Agriculture Chemistry (SICA), Udine, 1988.
4. VIII National Congress of the Italian Society of Agriculture Chemistry, Bari, 1990.
5. XXXIII National Congress of the Italian Society of Vegetal Physiology (SIFV) Palermo, 1993.
6. XII National Congress of the Italian Society of Agriculture Chemistry, Piacenza, 1994.
7. XXXVIII National Congress of the Italian Society of Vegetal Physiology, Verona, 1994.
8. XIV National Congress of the Italian Society of Agriculture Chemistry, Rimini, 1996.
9. X International Congress FESPP, Firenze, 1996.
10. III National Congress of International Humic Substances Society, Bologna, 1997.
11. XV National Congress of the Italian Society of Agriculture Chemistry, Viterbo, 1997.
12. XXXVI National Congress of the Italian Society of Vegetal Physiology (SIFV), Bari, 1997.
13. XVI National Congress of the Italian Society of Agriculture Chemistry, Ravello, 1998.
14. XVII National Congress of the Italian Society of Agriculture Chemistry, Portoferraio, 1999.
15. International Study Meeting “Lo Stretto di Messina nel Piano Territoriale del 2000: Processi Evolutivi, Stato dell’Arte e Prospettive”, Reggio Calabria, 1999.
16. XVIII National Congress of the Italian Society of Agriculture Chemistry, Catania, 2000.
17. Study Meeting “ Prospettive di Utilizzazione dei reflui Oleari” Bari, 2001.
18. XIX National Congress of the Italian Society of Agriculture Chemistry, Reggio Calabria, 2001.
19. XX National Congress of the Italian Society of Agriculture Chemistry, Padova, 2002.
20. Seminar “Il ruolo della sostanza Organica in una Agricoltura Sostenibile” Lerici, 5-6 Giugno 2003.
21. XXI National Congress of the Italian Society of Agriculture Chemistry, Ancona, 2003.
22. XXII National Congress of the Italian Society of Agriculture Chemistry, Perugia, 2004.
23. XIV National Congress of the Italian Ecology Society, Siena, 2004.
24. XXIII National Congress of the Italian Society of Agriculture Chemistry, Torino, 2005.
25. XXIV National Congress of the Italian Society of Agriculture Chemistry, Alghero, 2006.
26. VII National Congress of the Italian Society of IHSS, Catania, 2007.
27. XXV National Congress of the Italian Society of Agriculture Chemistry, Pisa, 2007.

28. Congress "Gestione sostenibile delle acque reflue olearie e dei sottoprodotti delle industrie agro-alimentari" "Mediterranea" University of Reggio Calabria 24-07-2008.
29. XXVI National Congress of the Italian Society of Agriculture Chemistry, Palermo, 2008.
30. International Congress Climate Change: Exchange Global Risks, Challenger & Decision" Copenhagen 10-12 Marzo 2009.
31. XXVII National Congress of the Italian Society of Agriculture Chemistry, Matera, 2009.
32. XVI National Congress of the IHSS 14-16 December Padua, 2009.
33. XXVIII National Congress of the Italian Society of Agriculture Chemistry, Piacenza, 2010.
34. **Participant** to Global Forum Climatic changes and salinity Valencia, 25-29 October 2010.
35. **Invited speaker** Meeting Environment and Religion: "Social responsibility in the Environmental Changes, Reggio Calabria, Italy, October 8-2010.
36. **Invited Speaker** Meeting "QUALITA' E SICUREZZA DEGLI ALIMENTI" The role of Public Research in Calabria;"Valutazione e potenziamento della qualità, della sicurezza e della salubrità degli alimenti", Uni-Cal, Cosenza, 22-23 October 2010.
37. **Chairman National Congress** "Le statine del Bergamotto: Nuovi orizzonti terapeutici. Auditorium dell'Osservatorio Epidemiologico ACE e ISS, Pellaro Reggio Calabria, Italy, November 12-2010.
38. **Invited Speaker** "National Congress on European Education Information " International Mobility to develop Education Abilities", Calabria Regional Palace, Reggio Calabria, Italy, 29 April 2011.
39. **Invited speaker** in the International meeting on "BETTER-PRACTICE-EXCHANGE 2011 ENERGY (30-31-May Postdam Berlin, GE) **Oral presentation: Biomass for Bioenergy**
40. **Invited member** to in the National info Day on FP7 2012-Food Agriculture and Biotechnology, Rome, Italy, 27 June 2011.
41. Co-organizer of the International meeting on Halophytes in Torun, Poland, 11-13 May 2011.
42. **Invited member** to the Steering National Organizing Committee of 4th International Congress EUROSIL, 2-6 July 2012, Bari, Italy.
43. **Convener** of Oral Session "Soil organic matter dynamic and climate" 4th International Congress EUROSIL, 2-6 July 2012, Bari, Italy.
44. **Invited participants** to the Info day and Partnering Event on Call FP7 _KBBE -6-2012. Brussel, 15 July 2011.

45. **Invited Speaker** Meeting “QUALITA’ E SICUREZZA DEGLI ALIMENTI”. The role of Public Research in Calabria; Potenziamento della qualità dei prodotti vegetali mediante interventi eco-compatibili sulla qualità del suolo, 28-September 2011.
46. **Invited speaker** for the opening lecture, to the National Congress of IHSS, Naples 6-8 December 2011.
47. Plant abiotic stress tolerance. Vienna, Austria-22-26 February 2012.
48. **Invited, chairman and speaker** to the International Symposium SEB 700: Soil Enzymology, Soil Enzyme Diversity and Ecology. 3rd Symposium on Enzymes & Biocatalysis (SEB-2012) April 25-28, 2012 Xi’an, China.
49. **Invited speaker** to GSBI round table Friday March 30th in London, England.
50. **Invited speaker** to International workshop 18-19 April 2012 Sustainable cultivation and exploitation of halophyte crops in a salinizing world. Vrije Universiteit, Amsterdam, Netherlands
51. **Chairman** National Congress Renewable Energy for a sustainable development. May 7-8-2012, Reggio Calabria, Palazzo Foti, Sede del governo Provinciale, Piazza Italia, Reggio Calabria.
52. **Invited Speaker** for a lecture “Biomass for Energy” National Congress Renewable Energy for a sustainable development. May 7-8-2012, Reggio Calabria, Palazzo Foti, Sede del governo Provinciale, Piazza Italia, Reggio Calabria.
53. **International Congress on** Halophyte in a salinizing world. Leibniz University Hannover, 29-31 August 2012, Hannover, Germany.
54. **Chairman** of the Section Soil Organic matter dynamic and climate, EUROSIL, 2012, Bari July 2-6.
55. **Invited** speaker for the Plenary lecture in the International Conference “Bioscience - development and new opportunities” - KLIMENT'S DAYS”, Sofia, Bulgaria 20-22th November 2013.
56. **Chairman** for Ecology, environment and sustainable development section in the International Congress KLIMENT'S DAYS”, Sofia, Bulgaria 20-22th November 2013.
57. **Invited speaker** for the plenary lecture in the International Congress Halophytes for Food Security in Dry Lands” Centre for Sustainable Development (CSD), Qatar University, Doha, Qatar May 12-13, 2014.
58. **Invited speaker** **Recycling**-2015 conference, 20-22 July 2015, Barcelona, Oral Presentation “Using agriculture waste and/or sulfur obtained from the residues of the desulfurization of natural gas and oil as fertilizer for productive purposes”.

Personal skills and competences

Able to gather and synthesize information on internal and external environments.

Sensitive to diversity and multiculturalism.

Demonstrate ability in conflicting management and dispute resolution.

Demonstrate system thinking ability.

Able to analyze and design organizational structure and processes.

Able to manage change. Comfortable with risk taking understand creative process.

Able to work well in team.

Social skill and competence

Self motivated, ample social capacities and facilities to initiate, communicate, interact and maintain positive social relationships with others in work and life.

Acquired travelling, researching, working and collaborating with different people, professionals, teams, institutions, organizations from different multicultural environments and European and non European countries

Organisational skills and competences

Project management skills for large-scale projects, implementation and productions. Planning evaluation, organization, leading, supervision, decision-making, monitoring, keen anticipation of problems or constraints, problem solving and decision making, adjusting plans to accommodate changes and update situations and priorities. Strong organization, coordinating and communication skills within an interdisciplinary multi-tasking team. Strong assessment skills in determining the success of a strategy to reach original goals, within the set time frame, resources and budget allocations.

Technical skills and competences

Leadership competence: Research Planning, Cooperation among different research team, Laboratory Management, Strong human relations, public speaking, writing and motivational skills. Ability to conceptualize and communicate concepts. Verbal and written communication skills, and the ability to interact effectively with individuals and audience members. Effective verbal communication skills: to inform, present, teach, motivate, inspire, and persuade. [Large audiences/reduce group's/individuals/press and media]. Effective written communication skills: for essays, research papers, project descriptions, book reports, thesis papers, reviews, term papers, etc.

Computer skills and competences	Skilled in word processing. Able to use statistical packages, Skilled with Internet.
Artistic skills and competences	Good kitchen skills with extensive product knowledge
Other skills and competence,	Demonstrate knowledge of program and planning, Able to conduct research planning for geographic area
Driving licence(s)	Driving licence type B (car) (since1980)

Specify mother tongue: **Italian**

	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C1	C2	C1	C2
French	A1	A1	A1	A1	A1
Spanish	A1	A2	A1	A1	A1

Author/co-author of 160 original papers published in peer reviewed, national and international journals and books.

Publication list

Articles in International Journals

1. Muscolo A., M. Felici, G. Concheri, S. Nardi. (1993). Effect of earthworm humic substances on peroxidase and esterase activity during growth of leaf explants of *Nicotiana Plumbaginifolia*. Biol. Fert. Soils 15: 127-131.
2. Nardi S., M.R. Panuccio, M.R. Abenavoli, A. Muscolo. (1994). Auxin-like effect of humic substances extracted from faeces of *Allolobophora Caliginosa* and *A. Rosea*. Soil Biol. Biochem. 26: 1341-1346.
3. Fuggi A., M.R. Abenavoli, A. Muscolo, M.R. Panuccio. (1995). Glutamine Synthetase in cells from carrot (*Daucus carota* L) interaction between phosphinothricin and glutamate.

Current Issues in Plant Molecular and Cellular Biology. Kluwer Academic Publisher, 589-594.

4. Muscolo A., M.R. Panuccio, M.R. Abenavoli, G. Concheri, S. Nardi (1996). Effect of molecular complexity and acidity of earthworm faeces humic fractions on glutamate dehydrogenase, glutamina synthetase, and phosphoenolpyruvate carboxylase in *Daucus Carota* a II cells. Biol. Fert. Soils 22: 83-88.
5. Muscolo A., S. Nardi (1997). Auxin or auxin-like activity of humic matter. In: The Role of Humic Substances in the Ecosystems and in Enviromental Protection. Drozd J., Gonet S.S., Senesi N. and J. Werber (Eds.), pp.987-992.
6. Nardi S., D. Pizzighello, A. Muscolo, F. Della Vecchia, G. Concheri (1998). Effects of forest humus on biological activity in roots of *Pinus sylvestris* related to chemical humus fraction characteristics. F.E.B.7: 203-208.
7. Muscolo A, M. Sidari (1998). Evolution of phenolic compound and humic substances in different forest soils of Aspromonte (Southern Italy) under different tree species. F.E.B. 7: 197-202.
8. Muscolo A., M. Sidari (1998). Biological activity of humic substances and phenolic compounds extracted from two different forest soils of Aspromonte (Southern Italy). . F.E.B. 7: 695-700.
9. Muscolo A., S. Cutrupi, S, Nardi. (1998) IAA Detection in Humic matter. Soil Biol. Biochem. vol. 30 n° 8/9 pp.1199-1201
10. Nardi S., D. Pizzighello, F. Reinero, A. Muscolo (1999). Biological activity of Humic substances extracted from soils under different vegetation cover. Commun. Soil Sci. Plant Anal. vol 30 issue number 5+6, pp 621-634.
11. Muscolo A., M.R. Panuccio, S. Nardi (1999). Effect of two different humic substances on seed germination of *Pinus laricio*. Seed Sci.& Technol. vol 27 n° 2, pp 799-803.
12. Muscolo A., F. Bovalo, F. Gionfriddo, S. Nardi (1999). Earthworm humic matter produces auxin-like effects on *Daucus carota* cell growth and nitrate metabolism. Soil Biol. Biochem. 31: 1303-1311.
13. Muscolo A., M.R. Panuccio, M. Sidari, S. Nardi (1999). Influence of two different humic fractions on carbohydrate metabolism in callus culture of *Pinus laricio* spp calabrica. Humic Subst. Environ. vol 1 n° 2 pp 21-28.

14. Muscolo A., M.R. Panuccio, M. Sidari, S. Nardi (2000). Effect of two different humic substances on some glycolytic enzymes in callus culture of *Pinus laricio*. *Humic Subst. Environ.* 3: 25-29.
15. Muscolo A., M.R. Panuccio, M. Sidari, S. Nardi (2001). The ascorbate system during the early stage of germination in *Pinus laricio* seeds treated with two different humic substances. *Seed Sci. & Technol.* 29: 275-279.
16. Panuccio M.R., A. Muscolo, S. Nardi (2001). Effect of humic substances on nitrogen uptake and assimilation in two species of *Pinus*. *J. Plant Nutr.* 24 (4 & 5): 693-704.
17. Abenavoli M.R., A. Muscolo, A. Sorgonà (2001). Morphophysiological changes in *Petunia hybrida* induced by allelopathic coumarin. *Allelopathy J.* 8 (2): 171-178.
18. Muscolo A., M.R. Panuccio, M. Sidari (2001). Respiratory enzymes activities during germination of *Pinus laricio* seeds treated with phenols extracted from different forest soils. *Plant Growth Regul.* 35: 31-35.
19. Muscolo A., M.R. Panuccio, M. Sidari (2001). The effects of phenolics compounds extracted from two different forest soils in Aspromonte Southern Italy on germination of *Pinus laricio* seeds. *Fresenius Environmental Bulletin* Vol 10 n° 8: 659-663.
20. Muscolo A., Panuccio M.R. Sidari M., Sessi E., Nardi S. (2002) Alteration of aminoacid metabolism by humic substances during germination of *Pinus laricio* seeds. *Seed Science & Technology* 30: 205-210.
21. Muscolo A., Panuccio M.R. Sidari M. (2002) Glyoxylate cycle in germination of *Pinus laricio* seeds: effects of phenolic compounds extracted from different forest soils *Plant Growth Regulation* 37/1: 1-5.
22. Panuccio M R, Sidari M., Muscolo A. (2002) Effects of different salt concentrations and pH conditions on growth of *Pennisetum clandestinum* HOCHST (Kikuyu grass) *Fresenius Environmental Bulletin* 11 n° 6: 659-663.
23. Nardi S., Pizzeghello D., Muscolo A., Vianello A. (2002) Review: Physiological effects of humic substances on higher plants. *Soil Biology & Biochemistry* 34: 1527-1536.
24. Muscolo A, Sidari M., Panuccio M R 2003 Effects of salinity on growth and nutritive properties of Kikuyu grass (*Pennisetum clandestinum* Hochst). *Plant Science* 164: 1103-1110.
25. Pizzeghello D., Muscolo A., Nardi S. (2003) Biological Effects of humic substances extracted from the H and the A horizons of three different forest soils. *Humic Substances in the Environment* vol 3 37-40.

26. Muscolo A., Sidari M., Panuccio M.R. (2003) Tolerance of Kikuyu grass to long term salt stress is associated with induction of antioxidant defences. *Plant Growth Regulation* 41:57-62.
27. Sidari M., Panuccio M.R., Muscolo A. (2004) Influence of acidity on growth and biochemistry of *Pennisetum clandestinum*. *Biologia Plantarum* 48:133-136.
28. Muscolo A., Panuccio M R, Sidari M., Nardi S. (2005) The Effect of humic substances on *Pinus* callus are reversed by 2,4-D. *Journal of Chemical Ecology* 31, (3): 577-590.
29. Muscolo A., Panuccio M R, Sidari M., De Santis C., Finocchiaro A. (2005) Early effects of phenolic compounds extracted from two forest litters, on ammonium uptake and assimilation in *Pinus laricio* and *Pinus pinaster* seedlings. *Plant and Soil* 269: 309-320.
30. Russell L., Stokes A., R, Macdonald H, Muscolo A., Nardi S. (2006). Stomatal responses to humic substances and auxin are sensitive to inhibitors of phospholipase A₂. *Plant and Soil* 282: 175-185.
31. Muscolo A., Sidari (2006). Seasonal fluctuation in soil phenolics of a coniferous forest: effects on seed germination of different coniferous species. *Plant and Soil* 284: 305-318.
32. Muscolo A., Sidari M., Francioso O., Tugnoli V., Nardi S. (2007). The auxin-like activity of humic substances is related to membrane interaction in carrot cell cultures. *Journal of Chemical Ecology*, 33:115-129
33. Muscolo A., Sidari M., Mercurio R. (2007). Variations in soil chemical properties and microbial biomass in artificial gaps in silver fir stands. *European Journal of Forest Research* 126: 59-65
34. Muscolo A., Sidari M., Mercurio R. (2007). Influence of gap size on organic matter, microbial biomass and nutrient cycle in Calabrian pine (*Pinus laricio*, Poiret) stands. *Forest Ecology and Management* 242: 412-418.
35. Muscolo A., Sidari M., Attinà E., Francioso O., Tugnoli V. Nardi S. (2007). Biological activity of humic substances is related to their chemical structure. *SSSAJ*, 71: 75-85.
36. Muscolo A., Sidari M. (2007). Coniferous mediterranean forest soil dynamics. *Dynamic Soil, Dynamic Plant*, 1, 24-37
37. Muscolo A., Sidari M., Santonoceto C., Anastasi U., Preiti G. (2007). Response of four genotypes of lentil to salt stress conditions. *Seed Science & Technology*, 35:497-503.
38. Nardi S, Muscolo A, Vaccaro S, Baiano S, Spaccini R, Piccolo A (2007). Relationship between molecular characteristics of soil humic fractions and glycolytic pathway and Krebs cycle in maize seedlings. *Soil Biology & Biochemistry* 39, 3138-3146.

39. Muscolo A., Sidari M., Mallamaci C., Attinà E.(2007) Changes in germination and glyoxylate and respiratory enzymes of *Pinus pinea* seeds under various abiotic stresses *Journal of Plant Interactions*, **2:4**, 273-279.
40. Sidari M., Santonoceto C., Anastasi U, Preiti G., Muscolo A. (2008) Variations in four genotypes of lentil under NaCl-salinity stress. *Am. J. Agr. Biol. Sci.* **3**, 410-416.
41. Muscolo A., Sidari M (2008) Drought, salinity, and heat differently affect seed germination of *Pinus pinea*. *Journal of Forest Research*, 13: 326-330.
42. Muscolo A., Sidari M., Vecchio G., Ronzello G. (2008). Influence of slope aspect on soil chemical and biochemical properties in a *Pinus laricio* forest ecosystem of Aspromonte (Southern Italy). *European Journal of Soil Biology*, 44: 364-372.
43. Muscolo A., Sidari M. (2009) Carboxyl and phenolic fractions of a forest humic substance differently affect *Pinus laricio* callus growth and metabolism *Soil Sci Soc Am J* 73:1119-1129
44. Mercurio R, Mallamaci C, Muscolo A, Sidari M. (2009). Effetti della dimensione delle buche sulla rinnovazione naturale in rimboschimenti di pino nero *forest@*, vol. 6, pp. 312-319 [online: 18/09/2009] - doi: 10.3832/efor0591-006.
45. Vaccaro S., Muscolo A., Pizzeghello D., Spaccini R., Piccolo A., Nardi S. (2009). Effect of a Compost and Its Water-Soluble Fractions on Key Enzymes of Nitrogen Metabolism in Maize Seedlings. *J. Agric. Food Chem.* 57, 11267–11276
46. Muscolo A., Sidari M., Mallamaci C., Mercurio R. (2010) Gap size effects on above- and below-ground processes in a silver fir stand. *European Journal of Forest Research* 129 (3) 355-365.
47. Muscolo A., Logoteta B., Sidari M., Panuccio MR (2010). Carboxyl and phenolic humic fractions alter the root morphology in *Arabidopsisthaliana* seedlings. *Fresenius Environmental Bulletin* 19, (12b)1-14
48. Muscolo A., Mallamaci C., Sidari M., Mercurio R. (2010). Effect of gap sizes on *Pinus Black* regeneration *Tree and Forestry Science and Biotechnology* **5 (SI 1)** pp. 1-6, ISSN: 0282-7581.
49. Muscolo A., Sidari M., Mallamaci C., Attinà E (2010) Effects of Olive Mill waste water on seed germination and seedling growth *Terrestrial and Aquatic Environmental Toxicology* 4 (SI 1) 75-83 **Guest Editor (Muscolo Adele)**
50. Sidari M., Mallamaci C., Attinà E., Muscolo A (2010) Response of soil properties and microbial communities to the application of Olive Mill Wastewaters *Terrestrial and Aquatic Environmental Toxicology* 4 104-108 **Guest Editor (Muscolo Adele)**

51. Muscolo A., Sidari M., Pizzeghello D., Nardi S. 2010 invited minireview: Effects of Humic Substances Isolated from Earthworm Faeces Dynamic Soil Dynamic Plant, 3: 45-52
52. Schiavon, M., Pizzeghello D., Muscolo A., Vaccaro S., Francioso O., Nardi S. (2010). High molecular size humic substances enhance phenylpropanoid metabolism in maize (*Zea mays* L.). *Journal of Chemical Ecology*, 36, 662-669. DOI: 10.1007/s10886-010-9790-6.
53. Bravo F., Lucà, M., Mercurio R., Muscolo A., Sidari M. (2011) Soil and forest productivity: a case study from Stone pine (*Pinus pinea* L.) stands in Calabria (southern Italy) *iForest* 4: 25-30
54. Muscolo A., Sidari M., Panuccio MR., Santonoceto C., Orsini F., De Pascale S. (2011) Plant responses in saline and semiarid environments: an overview. *The European Journal of Plant Science and Biotechnology*, 5:1-11 (invited review).
55. Schleiff U Muscolo A. (2011) Fresh Look at Plant Salt Tolerance as Affected by Dynamics at the Soil/Root-Interface Using Leek and Rape as Model Crops. *The European Journal of Plant Science and Biotechnology*, 5:27-32 (invited review).
56. Muscolo A., Mallamaci C., Panuccio MR., Caputo C., De Pascale S. (2011) Effects of Long term irrigation water salinity on soil properties and microbial Biomass. *Ecological Question* 14: 77-83
57. Panuccio MR, Logoteta B., De Lorenzo F., Muscolo A. (2011) Root Plasticity improves salt tolerance in different genotypes of lentil (*lens Culinaris*). *Ecological Question* 14: 95-97.
58. Morais, M.C., Panuccio, M., Muscolo, A., Freitas, H. (2012). Does salt stress increase the ability of the exotic legume *Acacia longifolia* to compete with native legumes in sand dune ecosystems? *Environmental and Experimental Botany*, doi:10.1016/j.envexpbot.2012.03.012 82: 74-79
59. Morais, M.C., Panuccio, M., Muscolo, A., Freitas, H. (2012). Salt tolerance traits increase the invasive success of *Acacia longifolia* in Portuguese coastal dunes. *Plant Physiology and Biochemistry*, doi:10.1016/j.plaphy.2012.03.013 55: 60-65, 55:60-65.
60. Texeira Da Silva, J., Muscolo A. (2012) International collaboration, co-operation and partnerships in science writing: Focus on Italy. *Romanian Biotechnological Letters*, 7043-7048.
61. White Paper from the inaugural GSBI London 30th March (2012). IDENTIFY KEY CHALLENGES FOR SOIL BIODIVERSITY SCIENCE Participants: Wim van der Putten (Chair), Franciska de Vries (Rapporteur), Nele Ameloot, Colin Campbell, Rob Griffiths, Zoë Lindo, Adele Maria Muscolo, Kelly Ramirez, Karl Ritz Link: <http://www.globalsoilbiodiversity.org/>

62. Ertani A., Muscolo A., Altissimo A., Nardi S. (2013). Alfalfa plant-derived biostimulant stimulate short-term growth of salt stressed *Zea mays* L. plants. *Plant and Soil* DOI 10.1007/s11104-012-1335-z 364 (1-2) 145-158.
63. Muscolo A, Sidari M, Texeira da Silva J (2013). Biological Effects of Water-Soluble Soil Phenol And Soil Humic Extracts on Plant Systems. *Actae Physiologia Plantarum*. DOI 10.1007/s11738-012-1065-0 .35 (2) 309-320
64. Muscolo A. Sidari M., Nardi S. (2013) Humic substance: relationship between structure and activity. Deeper examination suggests univocal findings. *Journal of Geochemical Exploration* 129 (2013) 57–63
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