

Curriculum vitae del prof. Antonio Gelsomino

Il prof. Antonio Gelsomino è nato a Roma il 9 giugno 1962 ed ha conseguito il Diploma di Maturità Classica presso il Liceo Classico Statale Socrate di Roma. Il prof. Antonio Gelsomino si è laureato in Scienze Agrarie con 110/110 e lode presso l'Università degli Studi della Tuscia (Viterbo) nel 1989. Nel 1991 e nel 1992 ha fruito di due borse di studio annuali conferite dal Consorzio Agrital Ricerche (Fiumicino). Nel 1992 ha conseguito l'abilitazione all'insegnamento nelle scuole secondarie di II grado (bando 23/3/1990) per la classe di concorso XVI (Chimica agraria). Ricercatore universitario dal 1992 al 2004, dal 1 gennaio 2005 è professore associato per il settore scientifico disciplinare AGR/13 (Chimica agraria) presso l'Università degli Studi *Mediterranea* di Reggio Calabria. Nel 2014 ha conseguito l'abilitazione scientifica nazionale (ASN bando 2012) come professore di prima fascia, per il settore concorsuale 07/E1-Chimica agraria, genetica agraria e pedologia.

L'attività di ricerca si articola nelle seguenti tematiche: (i) fertilità, funzionalità e diversità microbica nei suoli agrari e forestali; (ii) valorizzazione agronomica di digestati e compost ottenuti da biomasse residuali di origine agro-forestale ed agro-industriale; (iii) sequestro del carbonio e potenziale di emissione di gas ad effetto serra dal suolo; iv) interazioni allelopatiche nell'interfaccia pianta-suolo.

La produzione scientifica finanziata dal CNR, dal MIUR, dalla regione Calabria e dalla Comunità Europea, è documentata da 37 pubblicazioni apparse su rivista scientifica con comitato di redazione internazionale, da 6 articoli su rivista scientifica nazionale, da 5 capitoli di libro e da 54 comunicazioni a Convegni, Workshop e Seminari.

L'attività didattica svolta continuativamente presso la propria sede dall'a.a. 1996/1997 ha riguardato gli insegnamenti di: Chimica analitica, Chimica dei fertilizzanti, Chimica generale ed inorganica, Analisi chimica strumentale. Dall'a.a. 2001/2002 è titolare dell'insegnamento di Chimica del suolo e dall'a.a. 2008/2009 anche di Fertilità del suolo e fertilizzanti.

Per le discipline di competenza della chimica agraria è stato inoltre titolare di incarichi di docenza nell'ambito del programma POR Calabria 2000/2006, dell'VIII e del IX ciclo della Scuola di Specializzazione per la formazione degli Insegnanti della Scuola Secondaria (SSIS). Dal 2015 al 2016 ha partecipato come docente e componente del consiglio scientifico al Master Universitario di II livello in "Implementazione dei modelli innovativi nelle filiere vegetali mediterranee" Progetto PON03PE_00090_3 - Agrifoodtech.

È stato relatore di tesi di laurea triennale, magistrale e di tesi di dottorato di ricerca. È stato inoltre responsabile scientifico di tirocini, borse di studio, assegni di ricerca e contratti di diritto privato. Partecipa come componente al collegio dei docenti del Dottorato di ricerca in Scienze Agrarie, Alimentari e Forestali (XXXII ciclo).

Ha lavorato presso centri di ricerca universitari in Gran Bretagna (University of Canterbury) ed in Olanda (Wageningen Agriculture University). Ha partecipato ai lavori del progetto COST, Action 831 – "Biotechnology of Soil: Monitoring, Conservation and Remediation". È componente del gruppo di lavoro del Global Soil Partnership (GSP-FAO), Pillar 1.

Collabora come referee occasionale per diverse riviste scientifiche della scienza del suolo. È componente del comitato editoriale della rivista scientifica Open access "Soils".

È referente di programmi di mobilità Erasmus con l'Università di Helsinki (Finlandia) e di Lubiana (Slovenia).

Socio SICA, SISS e del Centro Scientifico Italiano dei Fertilizzanti.

Ha conseguito la certificazione di conoscenza accademica della lingua inglese (IELTS Academic, punteggio 6.5) e Cambridge English Language Assessment of University of Cambridge, UK (CEFR, Level C1).

Si occupa di certificazione (ISO 9001:2015) e di sicurezza (dlgs 81/08) nei laboratori di ricerca.

English version

Associate Professor Antonio Gelsomino is a soil scientist with considerable experience in studying soil fertility, microbial diversity and sustainable management of arable lands.

Education and professional positions

He was born in Rome in June 9, 1962, and received a secondary school education focusing on humanities (Liceo Classico Statale Socrate in Rome). He graduated in Agricultural Sciences with first class honours (magna cum laude) at the University of Tuscia (Viterbo, Italy) in September 1989. He wrote his graduate thesis on soil enzymatic activities under the scientific supervision of Professor P. Nannipieri. He first took up a 2-year post doc position at the Consorzio Agrital Ricerche (Fiumicino, Rome), where he carried out extensive research on the environmental fate of pesticides in soil. He arrived at the University of Reggio Calabria in 1992 where he gained a tenure-track faculty position at the rank of Assistant Professor, in the academic recruitment field of Agricultural Chemistry (AGR/13). He was appointed as an Associate Professor in 2005. Since his arrival at University of Reggio Calabria he has been dealing with soil chemistry and fertility, which represent the main fields of his academic and research activity.

In February 2014 he gained the academic qualification of Full Professor (National Scientific Qualification, ASN, call 2012, DD n. 222/2012).

Research interests are primarily focused on:

- (i) fertility, functioning and microbial diversity in agricultural soils;
- (ii) composting and agricultural use of biogas digestate and composted agro-industrial by-products;
- (iii) soil C sequestration and potential emission of GHGs from arable soils;
- (iv) allelopathic interactions at the soil-plant interface.

Original research on soil biochemistry and microbiology was carried out and acquirement of considerable specialistic skill was gained during extended international internships in qualified European laboratories, such as the Biological Department at the University of Kent in Canterbury (UK) under the supervision of Professor R.G. Burns (topic: soil enzymatic activities), and at the Soil Biotechnology Laboratory of the Research Institute for Plant Protection in Wageningen (NL), under the supervision of Professor J.D. van Elsas (topic: soil DNA extraction and characterization).

The research activity has been financially supported by a number of local, national and international research programs. He authored a number of papers appeared on international (37) and national (6) journals or published as book chapters (5) or proceedings in national and international congresses (54). Bibliometric profile in Scopus database (last accessed 20 March 2018) is: total documents: 36; total citations: 1006; h-index: 16.

Since 1996 Professor Gelsomino has continuously taught at the Department of Agricultural Sciences of the University of Reggio Calabria and delivered lectures in the field of his main expertise.

Professor Gelsomino's accomplishments and activities include providing scientific guidance and assistance during their career to first and second level students, MSc students, PhD students, post-doc students, fellowship students.

He also took several intensive courses in "Soil analysis and soil fertility evaluation" specifically addressed to MSc students, secondary school teachers, rural authorities and environmental operators.

At the Department of Agricultural Sciences, he has served as a member of internal committees for Quality Assurance in Departmental Education and Scientific Research evaluation. He participates in the Organizing Committee of the Doctoral course in "Science, technology and biotechnology for the sustainability" at the University of Viterbo (XXX and XXXI cycle) and of the Doctoral course in "Agricultural, Food and Forest Sciences" at the University of Reggio Calabria (XXXII cycle).

He is a workers' health and security representative and has been committed to achieving departmental laboratory certification according to international guidelines (ISO 9001:2015).

He attended as a national delegate the scientific meetings of the COST Action 831 (Biotechnology of soil: Monitoring, Conservation and Remediation). Currently he participates to the activity of the Pillar 1 "Promote sustainable management of soil resources for soil protection, conservation and sustainable productivity" within the frame of the Global Soil Partnership (GSP-FAO).

Reference person for the Erasmus bilateral agreement between the Mediterranean University of Reggio Calabria and the University of Helsinki (Finland) and the University of Ljubljana (Republic of Slovenia).

He offers his service as an occasional referee on several international soil science journals (i.e. Soil Biology & Biochemistry, Biology and Fertility of Soils, Applied Soil Ecology, Arid Land Research and Management, Bioresource Technology). He serves on the editorial board of the Open Access Journal "Soils".

Fellow of the Italian Society of Agricultural Chemistry (SICA), Italian Society of Soil Science (SISS), International Scientific Centre of Fertilizers-Italian National Branch (CIEC), and International Union of Soil Science Societies (IUSS). As a national delegate for the 3rd Division (Land Use and Soil Management) he serves on the national committee of the Italian Society of Soil Science (SISS).

International English Language Testing System certificate (IELTS, Academic), with an overall band score equal to 6.5, released by the British Council, on 31/07/2014; test report form number: 14IT001133GELA012A.

Certificate in Advanced English (CAE), C1 level according to the Common European Framework of Reference for Languages (CEFR), released by Cambridge English Language Assessment of University of Cambridge (UK), on 12/10/2015; certificate number: 0051440298.

Basic verbal skills in French and Slovak.

Competent user of the following software packages: Office, Systat 13, TableCurve 2D, SigmaPlot 10, DNA Community Fingerprinting Software, GelCompar II. He also has extensive knowledge of good laboratory practices, instrumental analytical chemistry, chromatographic analysis as well as of soil DNA fingerprinting techniques.

Selected publications

1. Scalise A., Pappa V.A., **Gelsomino** A., Rees R.M. (2017). Pea cultivar and wheat residues affect carbon/nitrogen dynamics in pea-triticale intercropping: A microcosms approach. *Science of the Total Environment*, 592: 436-450.

2. Ollobarren P., Capra A., **Gelsomino** A., La Spada C. (2016). Effects of ephemeral gully erosion on soil degradation in a cultivated area in Sicily. *Catena*, 145: 334-345.
3. Araniti F., Gullì T., Marrelli M., Statti G., **Gelsomino** A., Abenavoli M.R. (2016). *Artemisia arborescens* L. leaf litter: phytotoxic activity and phytochemical characterization. *Acta Physiologiae Plantarum*, 38: 128-140.
4. Scalise A., Tortorella D., Pristeri A., Petrovičová B., **Gelsomino** A., Lindström K., Monti M. (2015). Legume-barley intercropping stimulates soil N supply and crop yield in the succeeding durum wheat in a rotation under rainfed conditions. *Soil Biology & Biochemistry*, 89: 150-161.
5. **Gelsomino** A., Araniti F., Lupini A., Princi G., Petrovičová B., Abenavoli M.R. (2014). Phenolic acids in plant-soil interactions: a microcosm experiment. *Journal of Allelochemical Interactions*. 1 (1): 25-38.
6. **Gelsomino** A., Abenavoli M.R., Sorgonà A. (2014). Above- and below-ground morphological responses of a citrus rootstock interfered with orange waste compost: an evaluation as component of growing media. *Agrochimica*. LVIII (2): 148-164.
7. Mattana S., Petrovičová B., Landi L., **Gelsomino** A., Cortés M.P., Ortiz O., Renella G. (2014). Sewage sludge processing determines its impact on soil microbial community structure and function. *Applied Soil Ecology*. 75: 150-161.
8. **Gelsomino** A., Petrovičová B., Vecchio G., Laudicina V.A., Badalucco L. (2013). Chemical, biochemical and microbial diversity through a Pachic Humudept profile in a temperate upland grassland. *Agrochimica* . LVII (3): 214-232.
9. Tortorella D., Scalise A., Pristeri A., Petrovičová B., Monti M., **Gelsomino** A. (2013). Chemical and biological responses in a Mediterranean sandy clay loam soil under grain legume-barley intercropping. *Agrochimica*. LVII (1): 1-21.
10. Heinemeyer A., Tortorella D., Petrovičová B., **Gelsomino** A. (2012). Partitioning of soil CO₂ flux components in a temperate grassland ecosystem. *Eur. J. Soil Sci.* 63: 249-260.
11. Sorgonà A., Abenavoli M.R., Cacco G., **Gelsomino** A. (2011). Growth of tomato and zucchini seedlings in orange waste compost media: pH and the implication of dosage. *Compost Sci. Util.* 19: 189-196.
12. **Gelsomino** A., Azzellino A. (2011). Multivariate analysis of soils: microbial biomass, metabolic activity and bacterial community structure and their relationships with soil depth and type. *J. Plant Nutr. Soil Sci.* 174: 381-394.
13. Heinemeyer A., Di Bene C., Lloyd A.R., Tortorella D., Baxter R. Huntley B., **Gelsomino** A., Ineson P. (2011). Soil respiration: implications of the plant-soil continuum and respiration chamber collar-insertion depth on measurement and modelling of soil CO₂ efflux rates in three ecosystems. *Eur. J. Soil Sci.* 62 (1): 82-94.
14. Tortorella D., **Gelsomino** A. (2011). Influence of compost amendment and maize root system on soil CO₂ efflux: a mesocosm approach. *Agrochimica* LV (3): 161-177.
15. **Gelsomino** A., Petrovičová B., Zaffina F., Peruzzi A. (2010). Chemical and microbial properties in a greenhouse loamy soil after steam disinfestation alone or combined with CaO addition. *Soil Biol. Biochem.* 42: 1091-1100.

16. **Gelsomino** A., Abenavoli M.R., Princi G., Attinà E., Cacco G., Sorgonà A. (2010). Compost from fresh orange waste: a suitable substrate for nursery and field crops? *Compost Sci. Util.* 18: 201-210.