

CURRICULUM VITAE



PERSONAL INFORMATION

Name **CLAUDIO CIAVATTA**
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E-mai claudio.ciovatta@unibo.it
Sex Male
Nationality Italian
Date of birth 13.02.1958
Marital status Married to Marina, father of Sara and Giulia

JOB EXPERIENCE

- Date (from – to)

Academic career

2005, January 20st - to date: Full professor, Department of Agricultural and Food Sciences (DiSTAL), School of Agriculture and Veterinary Medicine, *Alma Mater Studiorum* University of Bologna.
1998, November 1st - 2005, January 19th: Associate professor, Department of Agro-Environmental Science and Technologies (DiSTA), University of Bologna;
1990, January 3rd - 1998, October 31st: Assistant professor, Institute of Agricultural Chemistry, Faculty of Agriculture, University of Bologna;

- Employer address

Alma Mater Studiorum University of Bologna, Department of Agricultural and Food Sciences (DiSTAL), School of Agriculture and Veterinary Medicine, *Alma Mater Studiorum* University of Bologna (UniBo)
Viale G. Fanin n. 40
I-40127 Bologna
Italy

EDUCATION

- Date (from – to)

1977-1981: graduated *cum laude* in Agricultural Sciences, April 15th, 1982 - University of Bologna

PERSONAL SKILLS

MOTHER TONGUE

ITALIAN

OTHER LANGUAGES

- Understanding
- Speaking
- Writing

ENGLISH

Good – C1
Good – C1
Good – C1

FRANCH

Good – C1
Discreet – B1
Discreet – B1

COMMUNICATION SKILLS

Good communication skills gained through my experience as researcher and teacher. Excellent capacity of relationship with other research teams.

ORGANISATIONAL / MANAGERIAL SKILLS

Leadership of about ten unit team.
Coordinator of some research teams with multidisciplinary skills.

SCIENTIFIC SKILLS	<p>Responsible within national research programs: National Research Council (CNR), Ministry of Scientific and Technological Research (MURST) and Ministry of Agricultural, Food and Forestry Policies (Mipaaf), European Union, INTAS and NATO.</p> <p>Contract No. QLK5-CT-2002-02344 "Integrated Biological Treatment and Agricultural Reuse of Olive Mill Effluents with the Concurrent Recovery of Energy Sources" Acronym: BIOTROLL. Task of the Research Unit in Bologna: Agricultural reuse of the remaining sludge after biogas production.</p> <p>INTAS Ref. No. 186/01 – POLL "Humic substances from soils and waste-composts as natural photosensitizers to promote the degradation of pollutants in the environment. CR1 University of Bologna, DiSTA-Department of Agro-environmental Sciences and Technologies.</p> <p>INTAS Ref. No.: 05-1000008-8055 - "Soil and compost organic matter structural compounds to promote the photodegradation of pesticides in the environment: for a better knowledge of photoactive components". CR1 University of Bologna, DiSTA-Department of Agro-environmental Sciences and Technologies.</p>
NATIONAL & INTERNATIONAL CONFERENCES	<p>He attended many national and international congress and conferences as well as member of the scientific committee.</p>
TEACHING ACTIVITIES	<p>Academic year 2015-2016 lecturer at UniBo of: "Agricultural biochemistry and soil fertility", "Management of soil fertility" and "Soil fertility" in the past academic years at University of Bologna:</p> <p>"Agricultural biochemistry", Soil chemistry, "Soil fertility and Plant nutrition", and "Use and recycling of biomasses of Agro-industrial origin";</p> <p>"Agricultural biochemistry" at University of "Politecnica delle Marche";</p> <p>"Soil chemistry", at University of Modena and Reggio Emilia.</p>
SCIENTIFIC SKILLS	<p>His scientific activity is focused on soil chemistry and biochemistry and mainly includes research on the aspects of the characterization of the soil's humic and humic-like substances, of organic fertilizers, compost and of the organic-based wastes and biosolids with both agronomical and environmental implications. Since long time my research a devoted to reuse organic-based by-products of agro-industrial origin encouraging the circular economy. the main objective is to increase structural and functional knowledge on the organic matter because it plays a key role in supplying plant nutrients, adsorption of heavy metals and xenobiotics. Researches are carried out using chromatographic (IEF, SEC-Page), potentiometric, termogravimetric (TG), differential thermal analysis DTA), spectroscopic techniques DRIFT, ¹H-, ¹³C-NMR, and elemental analyzer (CHN) equipped with isotopic ¹⁵N and ¹³C mass spectrometer. Particular attention is also devoted to the nitrogen (N) cycle with research aimed at to determine the mineralization of organic N (i.e., OxiTop® method is applied).</p>
PUBLICATIONS	<p>Author / co-author of more than 300 publications most of which published in international and peer-reviewed journals (selected publications are listed in the Annex).</p> <p>Scopus (December 30th, 2017): H-Index 27, Citations 2342 on 114 articles surveyed (http://www.scopus.com/authid/detail.url?authorId=7003277305);</p> <p>Google Scholar (December 30th, 2017): H-Index 35, Citations 3778, i-H10-index 85 (http://scholar.google.com/citations?view_op=list_works&hl=en&user=PBfpH7MAAAAJ)</p>
ACADEMIC ACTIVITIES	<p>2015, November 1st to date: Dean, School of Agriculture and Veterinary Medicine, UniBo</p> <p>2012, May 3rd - 2015, May 2nd: Elected Senator in Academic Senator of the University of Bologna for a 3-year period</p> <p>2009-2012, Chairman, Degree Course in "Agricultural Technology"</p> <p>2010-2012, May 15th: Head, PhD Program in "Agricultural, Environmental, Food Science and Technology"</p>

2007-2012, May 15th: Head, Ph.D. School in "Agricultural Science" of the University of Bologna;
2003-2007, Head, Leonardo Program (UE-Erasmus) of the Agricultural Science Faculty,
University of Bologna.

POSITIONS IN SCIENTIFIC SOCIETIES

2016- to date: Corresponding academic resident, Academy of Sciences of the Bologna Institute (Section III - Biological, Animal and Plant Sciences)

2016-2017: Past President, Italian Society of Agricultural Chemistry - SICA

2014-2015: President, Italian Society of Agricultural Chemistry - SICA

2013-2014: Vice President Elect, Italian Society of Agricultural Chemistry - SICA

2015, December 15th – to date: Academic Ordinary of the Italian Academy of Agriculture

2010 – December 14th, 2015: Academic Corresponding of the Italian Academy of Agriculture

2004-2012: Member, "Board of Directories" of the International Humic Substances Society - IHSS.

2004 – to date: Member of the Committee B. "Soil organic matter and organo-mineral interaction", Soil System Science (SSS), European Geosciences Union (EGU)

2003 – to date: Member of the Scientific Board of Archives Agronomy & Soil Science

1993-1997: Secretary-Treasurer, Italian Society of Agricultural Chemistry - SICA.

REFERRING ACTIVITY

Referee, among the others, of more than 15 international scientific peer reviewed Journals: Agriculture, Ecosystems and Environment, Biology and Fertility of Soils; Chemosphere; Clean - Soil, Air, Water , Environmental Science and Technology; European Journal of Agronomy; European Journal of Soil Science; Geoderma; Journal of Agriculture and Food Chemistry; Journal of Analytical Applied Pyrolysis.; Journal of Arid Environments; Journal of Chromatography A; Journal of Environmental Quality; Journal of Environment Science and Technology; Journal of Hazardous Materials; Journal of Management and Waste Resources; Journal of Soil and Sediments Contamination; Waste Management; Soil Science Society of America Journal.

MEMBER OF SCIENTIFIC SOCIETIES

- International Humic Substances Society – IHSS and IHSS-Italian Chapter;
- International Society of Horticultural Science - ISHS;
- International Union of Soil Science - IUSS;
- Italian Society of Agricultural Chemistry - SICA;
- Italian Society of Soil Science – SISS;
- Scientific Center on fertilizers (CIEC-Italian Chapter).

MINISTERIAL APPOINTMENTS

2016 up to date: Advisor CEN/TC 260/WG 8 – "Organic and organo-mineral fertilizers".

2011 November-2017: Advisor in Brussels (European Commission - DG Growth): "Fertilizer Working Group" and "Regulatory Committee on Fertilizers.

2000-to date: Member of the Sub-Commission for Official analytical methods of fertilizers (MiPAF)

1994-to date: Member of the Italian Fertilizer advisor committee.

COMPUTER SKILLS

Microsoft Office packages

DRIVING LICENSE

License Type B

ANNEX

List of main publications

- Ciavatta C.**, Vittori Antisari L. and Sequi P. (1988). A first approach to the characterization of the presence of humified materials in organic fertilizers. *Agrochimica* **32**:510-517.
- Ciavatta C.**, Vittori Antisari L. and Sequi P. (1989). Determination of organic carbon in soils and fertilizers. *Commun. Soil Sci. Plant Anal.* **20**:759-773.
- Ciavatta C.**, Vittori Antisari L. and Sequi P. (1989). Humification parameters of organic materials applied to the soil. In: *Proceedings of the International Symposium on Humic Substances in the Aquatic and Terrestrial Environment*, pp. 177-185.
- Govi M., **Ciavatta C.**, Vittori Antisari L. and Sequi P. (1989). Characterization of organic materials by means of analytical isoelectric focusing. In: *Proceedings of the International Symposium on Humic Substances in the Aquatic and Terrestrial Environment*, pp. 143-150.
- Ciavatta C.**, Govi M., Vittori Antisari L. and Sequi P. (1990). Characterization of humified compounds by extraction and fractionation on solid polyvinylpyrrolidone. *J. Chromatogr.* **509**:141-146.
- Ciavatta C.**, Govi M., Vittori Antisari L. and Sequi P. (1990). An enzymatic approach to the determination of the degree of stabilization of organic carbon in fertilizers. *Fert. Res.* **25**:167-174.
- Sequi P., **Ciavatta C.** and Vittori Antisari L. (1990). Use of humification parameters to assess evolution of organic matter in organic fertilizers. In: *Proceedings of the 14th International Congress of Soil Science*, IV, pp. 198-203, Kyoto, Japan.
- Sequi P., **Ciavatta C.** and Vittori Antisari L. (1991). Organic fertilizers and humification in soil. In: *Organic Substances and Sediments in Water, Vol. 1 - Humic and Soils*. (Robert A. Baker Ed.), pp. 351-367. Lewis Publ., USA.
- Govi M., **Ciavatta C.**, Vittori Antisari L. and Sequi P. (1991). Characterization of humified substances in organic fertilizers by means of analytical electrofocusing: A first approach. *Fert. Res.* **28**:333-339.
- Ciavatta C.**, Govi M., Vittori Antisari L. and Sequi P. (1991). Determination of organic carbon in aqueous extracts of soils and fertilizers. *Commun. Soil Sci. Plant Anal.* **22**:795-807.
- Ciavatta C.**, Govi M. and Marzadori C. (1991). Use of enzymatic hydrolysis to assess stability of organic matter extracted from fertilizers and amendments. *Finnish Humus News* **3**(3):297-302.
- Govi M., Montecchio D. and **Ciavatta C.** (1991). Characterization of humic and humic-like substances in organic fertilizers and amendments. *Finnish Humus News* **3**(3):303-308.
- Govi M., Francioso O., **Ciavatta C.** and Sequi P. (1992). Influence of long-term fertilization on soil humic substances: a study by electrofocusing. *Soil Sci.* **154**:8-13.
- Ciavatta C.**, Govi M., Pasotti L. and Sequi P. (1993). Changes in organic matter during stabilization of compost from municipal solid wastes. *Biores. Technol.* **43**:141-145.
- Ciavatta C.**, Govi M., Simoni A. and Sequi P. (1993). Evaluation of heavy metals during stabilization of organic matter in compost produced with municipal solid wastes. *Biores. Technol.* **43**:147-153.
- Ciavatta C.**, Govi M. and Sequi P. (1993). Characterization of organic matter in compost produced with municipal solid wastes: An Italian approach. *COMPOST: Sci. Technol.* **1**:75-81.
- Govi M., **Ciavatta C.** and C. Gessa (1993). Evolution of organic matter in sewage sludge: a study based on the use of humification parameters and analytical electrofocusing. *Biores. Technol.* **44**:175-180.
- Ciavatta C.** and Govi M. (1993). Use of insoluble polyvinylpyrrolidone and isoelectric focusing in the study of humic substances in soils and organic wastes: a review. *J. Chromatogr.* **643**:261-270.
- Govi M., Bonoretti G., **Ciavatta C.** and Sequi P. (1994). Characterization of soil organic matter using analytical isoelectric focusing: a comparison of six commercial carrier ampholytes. *Soil Sci.* **157**(2):91-96.
- Ciavatta C.**, Govi M. and C. Gessa (1994). Enzymatic hydrolysis of extractable non-humic substances in organic fertilizers and amendments. In: *Humic Substances in the Global Environment and Implications on Human Health* (N. Senesi and T.M. Miano, Eds.), 251-255. Elsevier Science B.V. - Amsterdam.
- Govi M., **Ciavatta C.** and C. Gessa (1994). Evaluation of the stability of the organic matter in slurries, sludges and composts. In: *Humic Substances in the Global Environment and Implications on Human Health* (N. Senesi and T.M. Miano, Eds.), pp. 1311-1216. Elsevier Science B.V. - Amsterdam.
- Govi M., Montecchio D., **Ciavatta C.** and Sequi P. (1995). Evolution of organic matter during stabilization of sewage sludge. *Agricoltura Mediterranea* **125**:107-114.
- Govi M., **Ciavatta C.**, Sitti L., and C. Gessa (1995). Evaluation of the stabilization level of pig organic waste: influence of humic-like compounds. *Commun. Soil Sci. Plant Anal.* **26**(3-4):425-439.
- Ciavatta C.**, Govi M., Sitti L. and C. Gessa (1995). Capillary electrophoresis of humic acid fractions. *Commun. Soil Sci. Plant Anal.* **26**(19 & 20):3305-3313.
- Rossi N., Piccinini S., **Ciavatta C.**, Cremonini F. and Sorlini G. (1996). Inalca experiment in composting of slaughter house organic wastes. In: *Proceedings of the International Conference on: The Science of Composting*, May 30-June 2, 1995. Bologna, Italy. pp. 1289-1293.
- Ciavatta C.**, Manunza B., Montecchio D., Govi M. and C. Gessa (1996). Chemical parameters to evaluate the stabilization level of the organic matter during composting. In: *Proceedings of the International Conference on: The Science of Composting*, May 30-June 2, 1995. Bologna, Italy. pp. 1109-1112.
- Govi M., **Ciavatta C.**, Sitti L., Bonoretti G. and C. Gessa (1996). Influence of leather meal fertilizer on soil organic matter: A laboratory study. *Fert. Res.* **44**:65-72.
- Ciavatta C.**, Govi M., Bonoretti G. and C. Gessa (1996). Identification of peat and leonardite using humification parameters and isoelectric focusing (IEF): A first approach. *Fert. Res.* **44**:225-230.
- Francioso O., Sánchez-Cortés S., Tugnoli V., **Ciavatta C.**, Sitti L. and C. Gessa (1996). Infrared, Raman, and nuclear magnetic resonance (^1H , ^{13}C and ^{31}P) spectroscopy in the study of fractions of peat humic acids. *Appl. Spectr.* **50**:1165-1174.
- Ciavatta C.**, Figliolia A., Leita L. and Petruzzelli G. (1997). Evaluation of Heavy Metals During Stabilization of Organic Matter in Compost Produced with Municipal Solid Wastes: Chemical, Agronomical and Environmental Aspects. In: *Encyclopedia of Environmental Control Technology* (P.N. Cheremisinoff, Ed.) 613-631.
- Ciavatta C.**, Govi M., and C. Gessa (1997). Investigation of fulvic acids from peat using capillary electrophoresis. *J. High Res. Chromatogr.* **20**:67-77.
- Ciavatta C.** and C. Gessa (1998). Chromium-containing fertilizers and their production. In: *Chromium Environmental Issues*. (S. Canali, F. Tittarelli and Sequi P., Eds.), pp. 63-82 - *Franco Angeli* 1996.

- Ciavatta C.**, Govi M., Sitti L. and C. Gessa (1997). Influence of blood meal organic fertilizer on soil organic matter: A laboratory study. *J. Plant Nutr.* **20**(11):1573-1591
- Francioso O., **Ciavatta C.**, Tugnoli V., Sánchez-Cortés S., and C. Gessa (1998). Spectroscopic characterization of pyrophosphate incorporation during extraction of peat humic acids. *Soil Sci. Soc. Am. J.* **1**:181-187.
- Francioso O., Sánchez-Cortés S., Tugnoli V., **Ciavatta C.**, and C. Gessa (1998). Characterization of peat fulvic acid fractions by means of FT-IR, SERS and ^1H , ^{13}C NMR spectroscopy. *Appl. Spectr.* **52**(2):270-277.
- Francioso O., Sánchez-Cortés S., **Ciavatta C.**, Garcia-Ramos J.V. and Gessa C. (1998). Characterization of humic substances using FT-IR, SERS and ^1H , ^{13}C ^{31}P NMR spectroscopy. In 7th *European Conference on the Spectroscopy of Biological Molecules* (P. Carmona, R. Navarro and A. Hernanz Eds.). 7-12 September 1997. pp. 615-616. *Kluwer Academic Publishers*, Dordrecht, The Netherlands.
- Francioso O., **Ciavatta C.**, Tugnoli V., Govi M., Sánchez-Cortés S., Montecchio D. and Gessa C. (1997). Chromatographic, potentiometric and spectroscopic methods of characterization of fractionated humic substances. In XIII International Symposium on Environmental Biogeochemistry, "Matter and Energy Fluxes in the Anthropocentric Environment" (N. Senesi, T.M. Miano Eds.). September 21-26, 1997, Monopoli (Bari) - Italy, pp. 666. Abstract volume. *Seleservice*, Modugno (Bari).
- Francioso O., Sánchez-Cortés S., **Ciavatta C.**, Marzadori C. and Gessa C.(2000). DRIFT and SERS analysis of peat humic and fulvic acid fractions. *Res. Adv. Appl. Spectrosc.*, **1**:1-11.
- Francioso O., **Ciavatta C.**, Sánchez-Cortés S., Tugnoli V., Sitti L. e Gessa C. (2000). Spectroscopic characterization of soil organic matter in long-term amendment trials. *Soil Sci.* **165**:495-504.
- Ciavatta C.**, Francioso O., Tugnoli V. and Gessa C. (2000). Evaluation of the quality of organic matter of compost using spectroscopic techniques (DRIFT and ^1H NMR). In: *Proceedings of the 9th Workshop of the network on Recycling of Agricultural, Municipal and Industrial Residues in Agriculture*. Gargnano (Italy), pp. 223-225.
- Trubetskaya O.E., Trubetskoj O.A. & **Ciavatta C.** (2001). Evaluation of the evolution of organic matter to humic substances in compost by coupling SEC-PAGE. *Biores. Technol.* **77**(1): 51-56.
- C. Ciavatta**, O. Francioso, D. Montecchio, L. Cavani and M. Grigatti (2001). Use of organic wastes of agro-industrial and municipal origin for soil fertilisation: quality criteria for organic matter. In: *The First International Encounter, Management of Organic Wastes in Rural Mediterranean Areas*. Pamplona, 22-23 February, 2001, University of Navarra, pp. 1-17.
- Francioso O., Sánchez-Cortés S., Tugnoli V., Marzadori C. and **Ciavatta C.** (2001). Spectroscopic study (DRIFT, SERS and ^1H -NMR) of different humic substances. *J. Mol. Struct.* **565**: 481-485.
- Ciavatta C.**, Cavani L., Francioso O., Grigatti M., Montecchio D. and Gessa C. (2001). Compost of agro-industrial and municipal origin for soil fertilisation: quality criteria for organic matter. In: *Ricicla 2001* (a cura di L. Morselli), pp. 717-731, *Maggioli Editore*, Rimini
- Cavani L., **Ciavatta C.**, Trubetskaya O.E., Reznikova O.I., Afanas'eva G.V. and Trubetskoj O.A. (2003). Capillary zone electrophoresis of soil humic acid fractions obtained by coupling size exclusion chromatography-polyacrylamide gel electrophoresis. *J. Chromat. A*, **983**:263-270.
- Cavani L., **Ciavatta C.** and Gessa C. (2003). Identification of organic matter from peat, leonardite and lignite fertilisers using humification parameters and electrofocusing. *Biores. Technol.* **86**: 45-52.
- Francioso O., **Ciavatta C.**, Montecchio D., Tugnoli V., Sánchez-Cortés S., and Gessa C. (2003). Quantitative estimation of peat, brown coal and lignite humic acids using chemical parameters, ^1H -NMR and DTA analyses. *Biores. Technol.* **88**: 189-195.
- Manici L. M., **Ciavatta C.**, Kelderer M., Erschbaumer G. (2003). Replant problems in South Tyrol: role of fungal pathogens and microbial population in conventional and organic apple orchards. *Plant and Soil* **256**: 315-324.
- Grigatti M., Ciavatta C. e Gessa C. (2004). Evolution of organic matter from sewage sludge and yard trimming during composting. *Biores. Technol.*, **91**:163-169.
- Francioso O., Montecchio D., Gioacchini P., **Ciavatta C.** (2005). Thermal analysis (TG-DTA) and isotopic characterization (^{13}C - ^{15}N) humic acids from different origins. *Appl. Geochem.*, **20**:537-544.
- Bousselhaj K., Fars S., Laghmari A., Nejmeddine A., Ouazzani N. and **Ciavatta C.** (2004). Nitrogen fertilizer value of sewage sludge co-composts. *Agronomie* **24**: 487-492.
- Francioso O., Montecchio D., Gioacchini P., **Ciavatta C.** (2005). Thermal analysis (TG-DTA) and isotopic characterization (^{13}C - ^{15}N) humic acids from different origins. *Appl. Geochem.*, **20**:537-544.
- Francioso O., Sánchez-Cortés S., Corrado G., Gioacchini P., **Ciavatta C.** (2005). Characterization of soil organic carbon in long-term amendment trials. *Spectr. Letters*, **38**:283-291.
- Amine-Khodja A., Trubetskaya O., Trubetskoj O., Cavani L., **Ciavatta C.**, Guyot G., . Richard C. (2006). Humic-like substances extracted from composts can promote the photodegradation of Irgarol 1051 in solar light. *Chemosphere* **62**: 1021-1027).
- Nastri A., Ramieri N.A., Abdayem R., Piccaglia R., Marzadori C., **Ciavatta C.** (2006). Olive pulp and its effluents suitability for soil amendment. *J. Hazardous Materials A* **138**: 211-217.
- Cavani L., Ter Halle A., Richard C. and **Ciavatta C.** (2006). Photosensitizers properties of protein hydrolysates-based fertilizer. *J. Agric. Food Chem.* **54**(24): 9160 – 9167.
- Tonon G., **Ciavatta C.**, Solimando D., Gioacchini P. and Tagliavini M. (2006). Fate of the ^{15}N deriving from soil decomposition of abscised leaves and pruning wood from apple (*Malus domestica*) trees. *Soil Sci. Plant Nutr.* **53**: 78-85.
- Gioacchini P., Manici L.M., Ramieri N.A., Marzadori C. and **Ciavatta C.** (2007). Nitrogen dynamics and microbial response in soil amended with olive pulp and its effluents after biogas production. *Biol Fert. Soils.* **43**: 621-630.
- Grigatti M., Dios Pérez M., Blok W.J., **Ciavatta C.** and Veeken A. (2007). A standardized method for the determination of the intrinsic carbon and nitrogen mineralization rates of natural organic matter sources. *Soil Biol Biochem.* **39**(7): 1493-1503.
- Clapp C.E., Hayes M.H.B., **Ciavatta C.** (2007). Organic wastes in soils: Biogeochemical and environmental aspects. *Soil Biol. Biochem.* **39**(6), Pages 1239-1243.
- Grigatti M., M.E. Giorgioni, Cavani L. and **Ciavatta C.** (2007). Vector analysis in the study of nutritional status of *Philodendron* cultivated in compost-based media. *Scientia Horticulturae* **112**(4): 448-455.
- Grigatti M., Cavani L. and **Ciavatta C.** (2007). A multivariate approach to the study of the composting process by means of analytical electrofocusingFrancioso O., Ferrari E., Saladini M., Montecchio D., Gioacchini P., **Ciavatta C.** (2007). TG-DTA,

- DRIFT and NMR characterisation of humic-like fractions from olive wastes and amended soil. *J. Haz. Mat.* 149:408–417.
- Grigatti M., Giorgioni M.E. and **Ciavatta C.** (2007). Compost-based growing media: influence on growth and nutrient use of bedding plants. *Biores. Technol.* 98: 3526-3534.
- Richard C, Guyot G, Rivaton A, Trubetskaya O., Trubetskoj O., Cavani C. and **Ciavatta C.** (2007). Spectroscopic approach for elucidation of structural peculiarities of Andisol soil humic acid fractionated by SEC-PAGE setup. *Geoderma* 142: 210-216.
- Francioso O. Gioacchini P., Tugnoli V., Montecchio D. and **Ciavatta C.** (2008). Effect of manure and crop residues continuous application on humic C in a cultivated soil. In *Soil Ecology Research Developments*. (Tian-Xian Liu Ed.), pp. 217-231, ISBN 1600219713, Nova Science Publishers, Inc. Hauppauge NY-11788-3619.
- Gioacchini P., Montecchio D., Francioso O. and **Ciavatta C.** (2008). Dynamics of total and humic Carbon in a long-term field experiment determined by ¹³C natural abundance. In *Soil Ecology Research Developments*. (Tian-Xian Liu Ed.), pp. 233-245, ISBN 1600219713, Nova Science Publishers, Inc. Hauppauge NY-11788-3619.
- Cavani L., Trubetskaya O.E., Grigatti M., Trubetskoj O.A. and **Ciavatta C.** (2008). Electrofocusing the compost organic matter obtained by coupling SEC-PAGE. *Biores. Technol.* 99(10): 4360-4367.
- Trubetskaya O., Richard C., Cavani L., **Ciavatta C.** and Trubetskoj O. (2008). Evaluation of photochemical properties of compost humic-like materials. *Biores. Technol.* 99(11): 5080-5093.
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- Malouki M.A., Cavani L., ter Halle A., **Ciavatta C.**, Richard C. (2009). Photosensitizing properties of formulation adjuvants. *J. Photochem. Photobiol. A: Chemistry* 203: 186–191. DOI:10.1016/j.jphotochem.2009.01.018
- Giovannini C., Garcia-Mina J., **Ciavatta C.**, Marzadori C. (2009). Ureic nitrogen transformation in multy-layer soil columns treated with urease and nitrification inhibitors. *J. Agric. Food Chem.* 57: 4883-4887. DOI:10.1021/jf900264m PubMed ID:19397374
- Giovannini C., Montecchio D., Gioacchini P., Francioso O., **Ciavatta C.** (2009). Characterizations of compost-based growing media used for ornamental plants growth. A Chemical, Thermal, Spectroscopic and Isotopic Approach. *Dynamic Soil, Dynamic Plant* 3(Special Issue 1): 86-92. ISSN: 1749-6500
- Cavani L., Alladja S., Ter Halle A., Guyot G., Corrado G., **Ciavatta C.**, Boulkamh A., Richard C. (2009). Relationship between photosensitizing and emission properties of peat humic acid fractions obtained by tangential ultrafiltration. *Environ. Sci. Technol.* 43 (12): 4348-4354. DOI:10.1021/es802964m PubMed ID:19603645
- Francioso O., Montecchio D., Gioacchini P., Cavani L., **Ciavatta C.**, Trubetskaya O., Trubetskaya O. (2009). [Structural differences of Chemozem soil humic acids SEC-PAGE fractions revealed by thermal \(TG-DTA\) and spectroscopic \(DRIFT\) analyses.](#) *Geoderma* 152 (3-4): 264-268. DOI:10.1016/j.geoderma.2009.06.01
- Grigatti M., Barbanti L., **Ciavatta C.** (2010). Soil Respiration and Nitrogen Mineralization Kinetics of Compost and Vinasse Fertilized Soil in an Aerobic Liquid-Based Incubation. *Environ. Engin. Sci.* 27(1):65-73. DOI:10.1089/ees.2009.0121
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