

SIMONA CASTALDI - CURRICULUM VITAE

PRESENT POSITION: ASSOCIATE PROFESSOR OF ECOLOGY – DIPARTIMENTO DI SCIENZE E TECNOLOGIE AMBIENTALI, BIOLOGICHE E FARMACEUTICHE (DISTABIF), UNIVERSITÀ DEGLI STUDI DELLA CAMPANIA “LUIGI VANVITELLI”, CASERTA, ITALIA.

Previous Job Positions

DECEMBER 1996 - OCTOBER 2015: **Permant position as Researcher of Ecology** at DIPARTIMENTO DI SCIENZE E TECNOLOGIE AMBIENTALI, BIOLOGICHE E FARMACEUTICHE, SECONDA UNIVERSITÀ DI NAPOLI

EDUCATION

- 1/11/1993 – 15/07/1997 – **Ph.D. degree at the University of Edinburgh**, Institute of Ecology and Resource Management (IERM), thesis in soil ecology entitled: "*Microbial processes involved in N₂O production in light textured Scottish soils*"
- 1989 - 1993 – **Undergraduate Degree in Biological Sciences**; experimental thesis in soil ecology: "Soil metabolism in Chestnut forests: influence of altitude and management". 110/110 cum laude.

AWARDS AND FELLOWSHIPS:

- 06/04/2017 – **Qualification as Full professor of Ecology – professore Ordinario - (BIO/07)** attributed by CV evaluation in the selection procedure "Abilitazione Scientifica Nazionale 2016" of Italian Ministry of Education and Research (MIUR).
- 1/11/93 – **Two month international Fellowship COMET TEC TRAIN** at the Soil Science Department of the University of Edinburgh
- 1994 -1995 - **Two years grant EU program Human Capital and Mobility** (today Marie Curie), project entitled *Exchanges of greenhouse gases between terrestrial ecosystems and the atmosphere*, at the Soil Science Department of the Scottish Agricultural College, University of Edinburgh, UK.

RESEARCH

MAIN RESEARCH FIELDS: Accounting and budget of greenhouse gases in natural and agricultural ecosystems, carbon and nitrogen footprint analysis of products and services, ecosystem services, sustainability of agro-productions and food chains. Biogeochemical cycles in terrestrial and aquatic environments

ROLE OF COORDINATION IN PROJECTS OR PROJECT UNITS

INTERNATIONAL PROJECTS

- **PROJECT COORDINATOR** – LIFE PROJECT **LIFE2016 Desert-Adapt** "Preparing desertification areas for increased climate change, 1/09/2017-1/09/2022 (4.06 M euro, 19 partners). PROJECT N°LIFE16 CCA/IT/000011 (www.desert-adapt.it).
- **UNIT COORDINATOR (PI) (DISTABIF)** - EU project **FP7-ENV-2011-4: GEOCARBON** – Operational Global Carbon Observing System.
- **UNIT COORDINATOR (PI) (DISTABIF)** - Subcontractor (UNITUS) EU project **FP7-ENV-2009-1-GHG EUROPE** - Greenhouse gas management in European land use systems.
- **UNIT COORDINATOR (co-PI) (DISTABIF)** - **FP6-2004-GLOBAL-3: NITROEUROPE**. The nitrogen cycle and its influence on the European greenhouse gas balance.

- **UNIT COORDINATOR (PI) (DISTABIF) - FP4-INCO-DC: SAVAFLUX.** Fluxes of energy, water and carbon over disturbed savanna ecosystems, and their application as indicators of sustainability and carbon sequestration
- **UNIT COORDINATOR (PI) (DISTABIF)** for a scientific collaboration with the **Istituto venezuelano de Investigazione Scientifica (IVIC) Caracas** for the determination of N₂O and CH₄ fluxes in the flooded savana of the Orinoco Basin (2009-2011)
- **UNIT COORDINATOR (PI) (DISTABIF)** for a scientific collaboration with the **Departamento de Engenharia Florestal, Instituto Superior de Agronomia, Lisboa, Portugal** for the measurement of GHGs from Mediterranean woodlands within EU FP6 project “*MIND: Mediterranean ecosystems and increasing drought* (EVK2-2001-00296) (2008-2009).
- **Grant tutor (DISTABIF) – EU Exchange program ACCENT-BIAFLUX with the Centre of Environmental and Hydrogeological Studies (CEH) of Edinburgh.** Project title “Pulses of NO_x/N₂O from soils of seasonally-dry ecosystems from tropical and Mediterranean areas” (2008).

ROLE AS COORDINATION OF PROJECTS AND PROJECT UNITS

NATIONAL PROJECTS

- **PROJECT COORDINATOR (Project PI) – PRIN Program 2007** (Research Projects of Relevant National Interest) financed by Italian Ministry of University and Research- Project title “Conversion of set-aside fields into biofuel crops: evaluation of the counteracting effect of the enhanced N₂O release resulting from fixed N input in fossil fuel-derived CO₂ “savings”.
- **UNIT COORDINATOR (PI) (DISTABIF): PRIN Program 2011** (Research Projects of Relevant National Interest) financed by Italian Ministry of University and Research- Project title CARBOTREE Climate change mitigation strategies in tree crops and forestry in Italy.
- **UNIT COORDINATOR (PI) (DISTABIF) - INGV (National Institute of Geophysics and Vulcanology) Funding framework scheme 2004-2006** – Project title: Diffuse Degassing in Italy
- **UNIT COORDINATOR (PI) (DISTABIF) - FISR (Fondo Integrativo Speciale per la Ricerca) 2001 Strategic program Sustainable development and Climate Changes:** Project CARBOITALY: Rete nazionale di misura dei sink forestali ed agricoli italiani e sviluppo di un sistema di previsione dell’assorbimento di gas serra.

ROLE AS PARTECIPANT TO INTERNATIONAL PROJECTS AS UNIT MEMBER

- 2015 - **EU FP7 project "Trees4Future"**, grant for access to FEM Sequencing and Genotyping Platform, Project title “Short-circuited N cycle in Mediterranean woodland (ShortN)”.
- 2010-2014 – Research Contract as “**activity PI**” (**GHG flux measurements**) in the **ERC Advanced Grant 2009 AdG_20090325: AFRICA-GHG:** The role of African tropical forests on the Greenhouse Gases balance of the atmosphere (Project PI prof. R. Valentini, CMCC-UNITUS).
- 2005-2006: Scientific collaboration with the National Center of Research (Italy) CNR-IBMET, Firenze, within the context of the **EU FP6 project “MIND: Mediterranean ecosystems and increasing drought** (EVK2-2001-00296).
- 2004-2005 – Unit member DISTABIF in the **USA-ITALY bilateral project CARBO-IUS:** Science and Technology of the Climatic Change.

ROLE AS PARTECIPANT TO NATIONAL PROJECTS AS UNIT MEMBER

- Unit member DISTABIF in the PRIN 2005 project on “Modelling simulation of the effects of species diversity on litter production and decomposition in a Mediterranean ecosystem”.
- Unit member DISTABIF in the PRIN 2003 project MIUR Modeling of C and N cycle in Mediterranean maquis: influence of spatial variability of plant cover.
- Unit member DISTABIF in the project Integrated study on soils polluted by irrigation water containing heavy metals: the case study Solofrana, CNR (National Center for Research) Agenzia 2000 fundings.
- Unit member DISTABIF in the PRIN 1999 project “Fire in Mediterranean environment: effects on plants and soil.

RESEARCH CONSULTING ACTIVITY FOR PUBLIC NATIONAL AND INTERNATIONAL BODIES

- July 2017-Jan 2018 – Responsible of the Research contract with the University of Tuscia, DIBAF Italy “Analyses of GHG gases from rice paddies in Pakistan”
- 19/07/2016-18/07/2017 – Contract of scientific collaboration with the **Far Eastern University (FEFU) of Vladivostok**, School of Natural Sciences, Russia.
- **Scientific co-direction** in the study commissioned by **WWF-Italia on FOOD WASTE – Environmental impacts of food waste and losses in Italy (2013)**. Leading author for the technical part of the **WWF Report Quanta Natura Sprechiamo**.
- **Technical Contribution** to the **WWF** initiative and platform “**Il carrello della Spesa**” (**The shopping cart**) <http://www.improntawwf.it/carrello/>
- 03/2012-12/2012 - Consulting for **ISMEA** (Institute of Services for Agriculture Food Market) Rete Rurale Nazionale 2007/2013 program , action 123, **project "Food Emissions, actions to define a tool for the calculation of the C footprint of agro goods"**.
- 2010-2011 - Consulting for **ISMEA** (Institute of Services for Agriculture Food Market) Rete Rurale Nazionale 2007/2013 program, action 122 – project 01 – contribution to the national **report “White Paper – Sfide ed opportunità dello sviluppo rurale per la mitigazione e l’adattamento ai cambiamenti climatici”**.
- 2010 - Consulting for **ISMEA** (Institute of Services for Agriculture Food Market) Rete Rurale Nazionale 2007/2013 program, action 2.1.3. – **Project B1.1 “Food Carbon”, creation of a benchmarking system for GHG emissions related to goods derived from agricultural sector with focus on farmgate**.
- 24/7/2007 –31/12/2007 – Consulting for **ISMEA** (Institute of Services for Agriculture Food Market) **AGRICARBON** project (Programma 2005 MC 6500) **Revision of the IPCC emission factors for N₂O from agricultural soils, and the estimate of the N₂O production from Italian agricultural ecosystems**.
- June 2005 – Consulting activity for the **Plant and Soil Science Department, University of Vermont, USA**, to set up a system for GHGs measurements from Reedbeds (*Phragmites australis*) for the treatment of animal farm sewage.

Participation as Italian delegate in International scientific initiatives

- **Italian delegate in the COST Action ES0804:** "Advancing the integrated monitoring of trace gas exchange between biosphere and atmosphere"
- **Italian delegate in the COST Action 729:** “Assessing and managing nitrogen fluxes in the biosphere-atmosphere system in Europe”.
- **Nominated expert** by the Italian Ministry of Environment (Ministero dell'Ambiente e della Tutela del Territorio e del Mare, Direzione per la Ricerca Ambientale e lo Sviluppo), in the **working group “GHG methodologies for Transport Biofuels”, Sustainable Development**

section of the **Global Bioenergy Partnership (GBEP) (2008)**.

TEACHING ACTIVITY

Official courses actually held for the Department

Applied Ecology (3d year of Bachelor in Environmental Science): Students gather information on the key concepts related to environmental resources and ecosystem services. They study ecosystem processes in ecosystems under anthropic pressure and examples of drivers-output relationships are given. The actual state of planetary resources is presented. The course also provides insight into the main methodological approaches which are used to analyse natural resources and their alterations and specific examples are given of approaches used for the quantification of environmental pressures and environmental footprints.

Ecotoxicology and Ecological Risk Assessment (2nd year first level Master degree in Science and Technologies for the Environment and Territory): The students learn how pollutants are distributed into the environment, through which routes and mechanisms they can enter in the biota and which effects they can have, analysing them at a level of increasing complexity, from cell biochemical interactions to the level of ecosystem community. The students learn how to include these notions into the context of the Ecological Risk Assessment (ERA) procedure, by studying the most relevant international guidelines of ERA.

Courses for external bodies

- **Lecture “Monitoring GHG emissions from soils”** at 3MUGIS SUMMER SCHOOL Monitoring, modeling and managing urban soils and green infrastructure, May 21 – 30, 2018 RUDN University, Moscow, Russia
- **Lecture “Sustainable land management: ecosystem services and environmental pressures of woodlands and agro-ecosystems** at Master in Sustainable Architecture and Landscape Design (Urban and Landscape Regeneration Studio), Politecnico di Milano, May 11th 2016, Polo territoriale di Piacenza, Padiglione Nicelli, Piacenza, Italy
- **Lecture “Environmental pressures generated by dairy farming: local and global impacts”** at Winter School 2014 “Precision farming for the sustainability of dairy cattle production”, at Università Cattolica di Bologna.
- **Course of “Sustainable development”** (36 hours) for the Master degree in Environmental Governance (“Governance Ambientale: *aspetti scientifici, giuridici e istituzionali*”) held by Università della Tuscia and Ministry of Environment (a.a. 2009/2010).

Supervising activities: include bachelor and master student experimental theses, PhD theses, co-tutoring:

3 PhD as tutor, 4 PhD as Co-tutor, 20 1st Level master degree as tutor, 22 bachelor degree as tutor.

REFEREEING ACTIVITY

FOR PEER REVIEWED JOURNALS: Nature, Global Change Biology, Biochemistry, Biogeosciences, Plant and Soil, Chemosphere, Plant Biosystems, Forest@, European Journal of Soil Science, Soil Science Society of America Journal, African Journal of Ecology, Agriculture Ecosystems and -Environment, Geoderma, Chemistry and Ecology, Journal of Biobased Materials and Bioenergy.

ASSOCIATED EDITOR for European Journal of Soil Science.

Invited Referee for PhD Thesis at the University of Melburn, Melbourne School of Graduate Research, candidate Hizbullah JAMALI, Title “Methane and carbon dioxide exchange in the tropical savannas of northern Australia: The role of termites.

Invited Referee for PhD Thesis Politecnico di Milano, PhD Program in Information Technology, candidate Francesca Recanati, title Sustainable design and management of agroecosystems.

Invited Referee for PhD Thesis University of Naples Federico II, Dipartimento di Agraria, Dottorato di Ricerca in SCIENZE AGRARIE E AGROALIMENTARI, candidate Tushar C. Sarker, title Organic matter quality defined by ¹³C NMR spectroscopy explains nitrogen mineralization and soil aggregation better than C/N ratio.

INVITED SEMINARS AND SYMPOSIUM ORGANIZATION

- 24-26 October 2017 - Conference "Climate Change Constraints and Opportunities in the Asia-Pacific Region: Human–Biosphere–Atmosphere interactions and Green Growth», Vladivostok, Russia, invited speaker: The interaction of plant derived charcoal with biogeochemical cycles in natural and agricultural ecosystems.
- 13-14 April 2016 Global Atmosphere Watch International workshop on Nitrogen Cycle University of York, UK.
- 24 September 2015 – Invited organizer of the symposium “Soil quality and health” at the European Ecological Federation Congress 2015 “Ecology at the Interface” , Rome, Italy.
- 28 July 2015 – Invited seminar at the Tree-Ring Summer Meeting "Mediterranean Ecology", WSL Swiss Federal Institute for Forest, Snow and Landscape Research, Birmensdorf, Switzerland
- 22 October 2013 – Invited seminar at University “Politecnico di Milano” Dipartimento di elettronica, informazione e bioingegneria on “The role of ecosystem services in the environmental certification of food products”
- 11 October 2013 – Invited presentation of the report “Quanta natura sprechiamo” at the University of Milan “Bocconi”, School of Management, round table on “*Ridurre lo spreco alimentare: una ricetta per salvare il pianeta*” within the i WWF initiative “*One Planet Food*”
- 28 January 2013 – Invited Lectureship on “Sampling Methodologies and analysis of greenhouse gases” at the Department of Ecology of the Russian Timiryazev State Agricultural University of Moscow.
- 8 June 2007 - Invited speaker at the workshop on Global Climate Change and Ecology of the next 10 years, at Domus Galileiana, CISSC University of Pisa, Italy.
- November 1999 – Invited seminar at Landwirtschaftliche Fakultät, Martin-Luther-Universität Halle-Wittenberg.
- 18 August 1995 – Invited seminar at University of Reading, Department of Soil Science, UK.
- 12 July 1995 - Invited seminar at the Department of Soil Science, University of Berkeley, California (USA).

ADDITIONAL FORMATION:

- 26/11/2012 to 4/12/2012 - Training courses and certification in “ArcGIS Desktop I”, “ArcGIS Desktop II” “ArcGIS Desktop III” ESRI ITALIA, Rome.
- 14/10/2005: Course on “Multi-Gas Monitor mod. 1312, Innova Air tech Instruments” by Airnova S.r.l. at SUN, Caserta.
- 18 – April 2004 - Course on “Introduction to toxicological risk and impact modelling for assessing

chemical emissions in LCA and comparative applications".14th Setac Europe Annual Meeting, Prague.

- 25 - 29 June 2001 – Course on “ Geographycal Information Systems”, SUN, Caserta.
- 15-20 March 1998 – Course in “Advanced Mass Spectrometry”, Certosa di Pontignano, Siena, organized by the Italian Society of Chemistry.
- August 1995 – Training at the University of Reading, Department of Soil Science, UK, on stable isotopic techniques to evaluate gross rates of soil microbial process involved in the N cycle.

SCIENTIFIC AFFILIATIONS

- From 2002 Member of Italian Society of Ecology
- 2009-2012 Member of the coordination board of Italian Society of Ecology
- 2003 – 2010 Member of Regional Center “AMRA” for “Analysys and monitoring of Environmental Risk” , Campania, Italy.
- Since 2010 affiliated scientist at CMCC (Euromediterranean Center for Climate Change) <http://www.cmcc.it/>

SCIENTIFIC PUBLICATIONS

72 publications

49 published in peer reviewed Journal (ISI)

7 published in book chapters

16 in Proceedings on International and National conferences

SCOPUS: H index: 24, Total citations: 1955

Google Scholar: H index 27, total citations 2949

Peer reviewed publication Metric updated to 20/07/2018

PEER REVIEWED ISI JOURNALS

1. Arianna Di Paola, Luca Caporaso, Francesco Di Paola, Ivan Vasenev, Olga Nesterova, **Simona Castaldi**, Riccardo Valentini. 2018. The expansion of Russian wheat thermal suitability in response to climate change. *Land Use Policy*. **Land Use Policy** 78, 70-77.
2. Dannenmann M., Diaz-Pines E, Kitzler B., Karhu K., Tejedor J., Ambus P, Parra A, Sanchez L., Resco de Dios V., Ramírez-Collantes D., Povoas-Guimaraes L, Willibald G, Gasche R, Zechmeister-Boltenstern S, Kraus D, **Castaldi S**, Vallejo A, Rubio A, Moreno J, Butterbach-Bahl K. 2018. Post-fire nitrogen balance of Mediterranean shrublands: direct combustion losses versus gaseous and leaching losses from the post-fire soil mineral nitrogen flush. **Global Change Biology** (doi: 10.1111/gcb.14388).
3. Massaccesi, Luisa; De Feudis, Mauro; Agnelli, Alessandro ; Nasini, Luigi; Regni, Luca; D'Ascoli, Rosaria; **Castaldi, Simona**; Proietti, Primo; Agnelli, Alberto. 2018. Organic carbon pools and storage in the soil of olive groves of different age. **European Journal of Soil Science** doi: 10.1111/ejss.12677.
4. Innangi M., Niro E., D'Ascoli R., Danise T. Proietti P., Nasini L., Regni L., **Castaldi S.**, Fioretto A. 2017. Effects of olive pomace amendment on soil enzyme activities. **Applied Soil Ecology** 119, 242-249
5. Variability and quasi-decadal changes in the methane budget over the period 2000-2012. Saunio, M., Bousquet, P., Poulter, B., (...), Zhang, Z., Zhu, Q. 2017. **Atmospheric Chemistry**

- and Physics** 17(18), 11135-11161.
6. Chiriaco, M.V., Grossi, G., **Castaldi, S.**, Valentini, R. 2017 The contribution to climate change of the organic versus conventional wheat farming: A case study on the carbon footprint of wholemeal bread production in Italy. **Journal of Cleaner Production** 153, 309-319.
 7. Saunio, M., Bousquet, P., Poulter, B., et al. 2016. The global methane budget 2000-2012. **Earth Syst. Sci. Data**, 8, 697-751.
 8. Niro E., Marzaioli R., De Crescenzo S., D'Abrosca B., **Castaldi S.**, Esposito A., Fiorentino A. 2016. Rutigliano F.A. Effects of the allelochemical coumarin on plants and soil microbial community. **Soil Biology and Biochemistry** 95, 30-39.
 9. Bertolini T., Flechard C.R., Fattore F., Nicolini G., Stefani P., Materia S., Valentini R., Vaglio Laurin G., **Castaldi S.** 2016. DRY and BULK atmospheric nitrogen deposition to a West-African humid forest exposed to terrestrial and oceanic sources. **Agricultural and Forest Meteorology** 218-219, 184-195.
 10. Sabbatini S., Arriga N., Bertolini T., **Castaldi S.**, Chiti T., Consalvo C., Njakou Djomo S., Gioli B., Matteucci G., Papale D. 2016. Greenhouse gas balance of cropland conversion to bioenergy poplar short-rotation coppice. **Biogeosciences** 13, 95-113.
 11. Altieri S., Mereu S., Cherubini P., **Castaldi S.**, Sirignano C., Lubritto C., Battipaglia G. 2015. Tree-ring carbon and oxygen isotopes indicate different water use strategies in three Mediterranean shrubs at Capo Caccia (Sardinia, Italy). **TREES-STRUCTURE AND FUNCTION** 29 (5), 1593-1603.
 12. Battipaglia G., Zalloni E., **Castaldi S.**, Marzaioli F., Cazzolla-Gatti R., Lasserre B., Tognetti R., Marchetti M., Valentini R. 2015. Long Tree-Ring Chronologies Provide Evidence of Recent Tree Growth Decrease in a Central African Tropical Forest. **PLOS ONE** 10 (3), e0120962.
 13. Ananyeva ND, **Castaldi S.**, Stolnikova EV, Kudeyarov VN & Valentini R. 2015. Fungi-to-bacteria ratio in soils of European Russia. **Archives of Agronomy and Soil Science** 61, 427-446.
 14. Cazzolla Gatti R., **Castaldi S.**, Lindsell J.A., Marchetti M., Maesano M., Di Paola A., Paparella F., Valentini R. 2014. The impact of selective logging and clearcutting on forest structure, tree diversity and above-ground biomass of African tropical forests. **Ecological Research**, online version. DOI 10.1007/s11284-014-1217-3.
 15. Fattore F., Bertolini T., Materia S., Gualdi S., Thongo M'Bou A., Nicolini G., Valentini R., De Grandcourt A., Tedesco D., and **Castaldi S.** 2014. Seasonal trends of dry and bulk concentration of nitrogen compounds over a rain forest in Ghana, **Biogeosciences**, 11, 3069 – 3081.
 16. Valentini R. , Arneth A. , Bombelli A. , **Castaldi S.** , Cazzolla Gatti R. , Chevallier F. , Ciais P. , Grieco E. , Hartmann J. , Henry M. , Houghton R. A. , Jung M. , Kutsch W. L. , Malhi Y. , Mayorga E. , Merbold L. , Murray-Tortarolo G. , Papale D. , Peylin P. , Poulter B. , Raymond P. A. , Santini M. , Sitch S. , Vaglio Laurin G. , van der Werf G. R. , Williams C. A. , Scholes R.J. 2014. A full greenhouse gases budget of Africa: synthesis, uncertainties, and vulnerabilities. **Biogeosciences**, 11, 381-407.
 17. Rutigliano F.A., M. Romano, R. Marzaioli, I. Baglivo, S. Baronti , F. Miglietta, **S. Castaldi**. 2014. Effect of biochar addition on soil microbial community in a wheat crop. **European Journal of Soil Biology** 60, 9-15.
 18. Kirschke S. ; Bousquet P.; Ciais P.; Saunio M.; Canadell J.; Dlugokencky E.; Bergamaschi P.; Bergmann D.; Blake D. ; Bruhwiler L.; Cameron-Smith P.; **Castaldi S.**; Chevallier F.; Feng L.; Fraser A.; Heimann M.; Hodson E.; Houweling S.; Josse B.; Fraser P.; Krummel P. ; Lamarque J.F. ; Lagenfelds R. ; Le Quéré C.; Naik V.; O'Doherty S.J.; Palmer P.; Pison I.; Plummer D.;

- Poulter B. ; Prinn R.; Rigby M.; Ringeval B.; Santini M.; Schmidt M.; Schindell D.; Simpson I.; Spahni R.; Steele P.; Strode S.; Sudo K.; Szopa S.; Van der Werf G.; Voulgarakis A.; van Weele M.; Weiss R.; Williams J.; Zeng G. 2013. Three decades of global methane sources and sinks. **Nature Geoscience**, vol 6, n°10, 813-823.
19. Nicolini G., **Castaldi S.**, Fratini G., Valentini R. 2013. A literature overview of micrometeorological CH₄ and N₂O flux measurements in terrestrial ecosystems. **Atmospheric Environment** 81, Pages 311–319.
 20. **Castaldi S.**, Bertolini T., Valente A., Chiti T., Valentini R. 2013. Nitrous oxide emissions from soil of an African rain forest in Ghana. **Biogeosciences**, 10, 4179-4187.
 21. R. M. Rees, J. Augustin, G. Alberti, B. C. Ball, P. Boeckx, A. Cantarel, **S. Castaldi**, N. Chirinda, B. Chojnicki, M. Giebels, H. Gordon, B. Grosz, L. Horvath, R. Juszczak, Å. K. Klemedtsson, L. Klemedtsson, S. Medinets, A. Machon, F. Mapanda, J. Nyamangara, J. Olesen, D. Reay, L. Sanchez, A. Sanz Cobena, K. A. Smith, A. Sowerby, M. Sommer, J. F. Soussana, M. Stenberg, C. F. E. Topp, O. van Cleemput, A. Vallejo, C. A. Watson, and M. Wuta. 2013. Nitrous oxide emissions from European agriculture; an analysis of variability and drivers of emissions from field experiments. **Biogeosciences**, 10, 2671-2682.
 22. Tandoh J B, F Marzaioli, G Battipaglia, M Capano, **S Castaldi**, B Lasserre, M Marchetti, I Passariello, F Terrasi, R Valentini. 2013. Biomass Growth Rate of Trees from Cameroon Based on 14C Analysis and Growth Models. **Radiocarbon** 55, 885–893.
 23. P. Gundersen, J. R. Christiansen, G. Alberti, N. Brüggemann, **S. Castaldi**, R. Gasche, B. Kitzler, L. Klemedtsson, R. Lobo-do-Vale, F. Moldan, T. Rütting, P. Schleppi, P. Weslien, and S. Zechmeister-Boltenstern. 2012 The response of methane and nitrous oxide fluxes to forest change in Europe. **Biogeosciences**, 9, 3999-4012.
 24. Ribaudou, C; Bartoli, M; Longhi, D ; **Castaldi, S**, Neubauer, SC; Viaroli, P. 2012 CO₂ and CH₄ fluxes across a Nuphar lutea (L.) Sm. Stand. **J. of Limnology**, 71, 200-210.
 25. **Castaldi S**, M. Riondino, S. Baronti, F.R. Esposito, R. Marzaioli, F.A. Rutigliano, F.P. Vaccari, F. Miglietta. 2011. Impact of biochar application to a Mediterranean wheat crop on soil microbial 3 activity and greenhouse gas fluxes. **Chemosphere** 85, 1464–1471.
 26. Shvaleva A, Lobo-do-Vale R, Cruz C, **Castaldi S**, Rosa A.P, Chaves M.M, Pereira J.S 2011. Soil-atmosphere greenhouse gases (CO₂, CH₄ and N₂O) exchange in evergreen oak woodland in southern Portugal. **Plant, Soil, Environ.** 57, 471-477.
 27. Fierro A, **Castaldi S**. 2011. Soil N₂O emissions in a Mediterranean shrubland disturbed by experimental fires. **International Journal of Wildland fire** 20, p. 847-855..
 28. Laini A., Bartoli M, **Castaldi S.**, Viaroli P., Capri E., Trevisan M. 2011) Greenhouse gases (CO₂, CH₄ and N₂O) in lowland springs within an agricultural impacted watershed (Po River Plain, northern Italy. **Chemistry in Ecology** 27, p. 177-187.
 29. Incerti G, Bonanomi G, Giannino F, Rutigliano F.A, Piermatteo D, **Castaldi S**, De Marco A, Fierro O A, Fioretto A, Maggi O, Papa S, Persiani A.M, Feoli E, Virzo De Santo A, Mazzoleni S (2011). Litter decomposition in Mediterranean ecosystems: Modelling the controlling role of climatic conditions and litter quality. **Applied Soil Ecology** 49, 148-157.
 30. Vaccari F., Baronti S., Lugato E, Genesio L, **Castaldi S**, Fornasier F, Miglietta F. 2011. Biochar as a strategy to sequester carbon and increase yield in durum wheat. **European J. Agronomy** 34, 231-238.
 31. Alberti G, Delle Vedove G, Zuliani M, Peressotti A, **Castaldi S**, Zerbi G (2010). Changes in CO₂ emissions after crop conversion from continuous maize to alfalfa. **Agriculture, Ecosystems & Environment** 136,139-147.

32. **Castaldi S**, De Grandcourt A, Rasile A, Skiba U, Valentini R (2010). CO₂, CH₄ and N₂O fluxes from soil of a burned grassland in Central Africa. **Biogeosciences** 7 (11),3459-3471.
33. Rutigliano FA, **Castaldi S**, D'Ascoli R, Papa S, Carfora A, Marzaioli R (2009). Soil activities related to nitrogen cycle under three plant cover types in Mediterranean environment. **Applied Soil Ecology** 43, 40-46.
34. Bombelli A, Henry M, **Castaldi S**, Adu-Bredu S, Arneeth A, De Grandcourt A, Grieco E, Kustch WL, Lehsten V, Rasile A, Reichstein M, Tansey K, Weber U, Valentini R (2009). An outlook on the Sub-Saharan Africa carbon balance **Biogeosciences**, 6 (10), 2193-2205.
35. **Castaldi S**, Carfora A, Fiorentino A, Natale A, Messere A, Miglietta F, Cotrufo MF (2009). Inhibition of net nitrification activity in a Mediterranean woodland: possible role of chemicals produced by *Arbutus unedo*. **Plant and Soil** 315, 273-283.
36. Rutigliano F.A, De Marco A, Dascoli R, **Castaldi S**, Gentile A, Virzo De Santo A (2007). Impact of fire on fungal abundance and microbial efficiency in C assimilation and mineralisation in a Mediterranean maquis soil. **Biology and Fertility of Soils**, 44, 377-381.
37. Fierro A, Rutigliano F.A, De Marco A, **Castaldi S** , Virzo De Santo A (2007). Post-fire stimulation of soil biogenic emission of CO₂ in a sandy soil of a Mediterranean shrubland. **The International Journal of Wildland fire** 16, 573-583.
38. Fiorentino A, **Castaldi S**, Dabrosca B, Natale A, Carfora A, Messere A, Monaco P (2007). Polyphenols from the hydroalcoholic extract of *Arbutus unedo* living in a monospecific Mediterranean woodland. **Biochemical Systematics and Ecology**, 35, 89-91.
39. **Castaldi S**, Costantini M, Cenciarelli P, Ciccioli P, Valentini R (2007). The methane sink associated to soils of natural and agricultural ecosystems in Italy. **Chemosphere** 66, 723-729.
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