

Ettore D'Andrea

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Profile

I have a Master Degree in Forestry and Environmental Sciences and a Ph.D. in Forest Ecology. My background concerns Forest Ecology, including the climate change and forest management impacts on tree physiology and Carbon Cycle. I am a researcher at Institute for Research Institute on Terrestrial Ecosystems of National Research Council (CNR).

Research position

March 2022

Researcher

National Research Council of Italy, Institute for Research Institute on Terrestrial Ecosystems, (CNR IRET), Porano (TR)

Sept.2019- Feb 2022

Temporary researcher(LIFE CLIMARK project and LIFE SPAN)

National Research Council of Italy, Institute for Agricultural and Forest Systems in the Mediterranean (CNR-ISAFOM), Ercolano.

Activities

Assessment of tree physiological response to forest management. Coordination of the action C.8 of CLIMARK (replicability and transferability)

Coordination of the action D2 of LIFE SPAN(deadwood monitoring)

02. Jan - 30 Apr. 2019

Professional collaboration (LIFE CLIMARK project)

National Research Council of Italy, Institute for Agricultural and Forest Systems in the Mediterranean (CNR-ISAFOM), Ercolano.

Activities

Evaluation of the principles and indicators established by the LIFE Climark project. Planning of the sampling protocol for the Cansiglio and Lorenzago di Cadore forest.

29.Apr.2016 – 05.Dec. 2018

Research fellowship (eLTER H2020 project)

National Research Council of Italy, Institute of Terrestrial Ecosystems Research of the National Research Council of Italy (CNR-IRET), Rome.

Activities

Monitoring activities at a LTER site

5.Dec. 2012 – 29.Apr. 2016

Research fellowship

National Research Council of Italy, institute of Terrestrial Ecosystems Research of the National Research Council of Italy (CNR-IRET), Rome.

Activities Coordination of field activities and data analysis of the Action forC, aimed at assessing the management effects on forest ecosystems.

Mar – Sept.2012

Professional collaboration

National Research Council of Italy, institute of Terrestrial Ecosystems Research of the National Research Council of Italy (CNR-IRET), Rome.

Activities

Field activities and data analysis within the Project ManFor C.BD project.

Work experiences

Jan.2009 – Apr.2017

Geoilex soc. Coop. Via Balilla 16 - 65121 Pescara (PE)

Activities

Agricultural and forestry consultancy. Collaboration for forest management plans. Tree selection for logging. PSR project.

Education

Jan.2009- Dec.2011

PhD. in Forest ecology. Carbon Stock and Net Primary Production in a Italian Network of Old-growth Beech Forests.

University of Tuscia, Viterbo, Italy

Thesis objective: was to compare carbon stock and productivity of old growth and managed beech forests to assess the effect of management on carbon cycle.

Jan. 2006- Sept.2008

M.Sc. in Forest and Environmental Sciences (Class 74/S). Assessment of Net Primary Production in a beech forest in the Apennine.

University of Tuscia, Viterbo, Italy

Score

110/110 cum Lode

Main topic of the course

Forest Ecology, Silviculture, Dendrometry, Botany, Silviculture, Forest economy, Entomology, Forest pathology

Sept. 2001- Dec.2005

B.Sc. in Forest and Environmental Sciences (Class 20). Analysis of Leaf Area Index in a beech forest.

University of Tuscia, Viterbo, Italy

Main topic of the course

Forest Ecology, Dendrometry, Botany, Silviculture, Zoology, Chemistry, Physics, Phatology

Score

110/110 cum Lode

Articles on peer review journal	
	Incorporating high-resolution climate, remote sensing and topographic data to map annual forest growth in central and

	eastern Europe Jevšenak J. et al., (2024) Science of The Total Environment https://doi.org/10.1016/j.scitotenv.2023.169692
	A synthesis of multi-taxa management experiments to guide forest biodiversity conservation in Europe , Tinya et al., (2023) Global Ecology and Conservation
	Words apart: Standardizing forestry terms and definitions across European biodiversity studies , Trentanovi et al., (2023), Forest Ecosystems
	Where are we now with European forest multi-taxon biodiversity and where can we head to? Burrascano et al., (2023) Biological Conservation
	Upside down and the game of C allocation N. Rezaie, E. D'Andrea, A. Scartazza, J. Gričar, P. Prislan, C. Calfapietra, A. Battistelli, S. Moscatello, S. Proietti, G. Matteucci, (2023) Tree Physiology, https://doi.org/10.1093/treephys/tpad034
	Simulating diverse forest management options in a changing climate on a Pinus nigra subsp. laricio plantation in Southern Italy R. Testolin, D. Dalmonech, G. Marano, M. Bagnara, E. D'Andrea, G. Matteucci, S. Noce, A. Collalti, (2023) Science of The Total Environment https://doi.org/10.1016/j.scitotenv.2022.159361 .
	Above- and belowground interplay: Canopy CO2 uptake, carbon and nitrogen allocation and isotope fractionation along the plant-ectomycorrhiza continuum Scartazza, A., Sbrana, C., D'Andrea, E., Matteucci, G., Rezaie, N. & Lauteri, M. (2023). Plant, Cell & Environment, 1– 12. https://doi.org/10.1111/pce.14519
	Accuracy, realism and general applicability of European forest models. Mahnken, M., Cailleret, M., Collalti, A., Trotta, C., Biondo, C., D'Andrea, E., Dalmonech, D., Marano, G., Mäkelä, A., Minunno, F., Peltoniemi, M., Trotsiuk, V., Nadal-Sala, D., Sabaté, S., Vallet, P., Aussenac, R., Cameron, D.R., Bohn, F.J., Grote, R., Augustynczyk, A.L.D., Yousefpour, R., Huber, N., Bugmann, H., Merganicova, K., Merganic, J., Valent, P., Lasch-Born, P., Hartig, F., Vega del Valle, I.D., Volkholz, J., Gutsch, M., Matteucci, G., Krejza, J., Ibrom, A., Meesenburg, H., Rötzer, T., van der Maaten-Theunissen, M., van der Maaten, E. and Reyer, C.P.O. (2022), Glob Change Biol. https://doi.org/10.1111/gcb.16384
	Handbook of field sampling for multi-taxon biodiversity studies in European forests S. Burrascano, G. Trentanovi, Y. Paillet, J. Heilmann-Clausen, P. Giordani, S. Bagella, A. Bravo-Oviedo, T. Campagnaro, A. Campanaro, F. Chianucci, P. De Smedt, I. García-Mijangos, D. Matošević, T. Sitzia, R. Aszalós, G. Brazaitis, A. Cutini, E. D'Andrea, I. Doerfler, J. Hofmeister, J. Hošek, P. Janssen, S. Kepfer Rojas, N. Korboulewsky, D. Kozák, T. Lachat, A. Löhmus, R. Lopez, A. Mårell, R. Matula, M. Mikoláš, S. Munzi, B. Nordén, M. Pärtel, J. Penner, K. Runnel, P. Schall, M. Svoboda, F. Tinya, M. Ujházyová, K. Vandekerckhove, K. Verheyen, F. Xystrakis, P. Ódor, Ecological Indicators, 2021, https://doi.org/10.1016/j.ecolind.2021.108266

	<p>Simulating tree growth response to climate change in structurally-diverse oak and beech forests. L. DE WERGIFOSSE, F. ANDRE, H. GOOSSE, A. BOCZON, S. CECCHINI, A. CICEU, A. COLLALTI, N. COOLS, E. D'ANDREA, B. DE VOS, R. HAMDI, M. INGERSLEV, M.A. KNUDSEN, A. KOWALSKA, S. LECA, G. MATTEUCCI, T. NORD-LARSEN, T. SANDERS, A. SCHMITZ, P. TERMONIA, E. VANGUELOVA, B. VAN SCHAEYBROECK, A. VERSTRAETEN, L. VESTERDAL, M. JONARD. Science of the Total Environment, 2022 https://doi.org/10.1016/j.scitotenv.2021.150422</p>
	<p>Unravelling resilience mechanisms in forests: role of non-structural carbohydrates in responding to extreme weather events. E. D'Andrea, A. Scartazza, A. Battistelli, A. Collalti, S. Proietti, N. Rezaie, G. Matteucci, S. Moscatello. Tree Physiology, 2021. https://doi.org/10.1093/treephys/tpab044</p>
	<p>Frost and drought: effects of extreme weather events on stem carbon dynamics in a Mediterranean beech forest. E. D'Andrea, N. Rezaie, P. Prislan, A. Collalti, J. Muhr, G. Matteucci, J. Gricar. Plant, Cell & Environment, 2020. https://doi.org/10.1111/pce.13858</p>
	<p>The FLUXNET2015 dataset and the ONEFlux processing pipeline for eddy covariance data. Pastorello et al., Scientific Data, 2020 https://doi.org/10.6084/m9.figshare.12295910</p>
	<p>The PROFOUND database for evaluating vegetation models and simulating climate impacts on forests. Reyer et al., Earth System Science Data, 2020. https://doi.org/10.5194/essd-12-1295-2020</p>
	<p>Small-Scale Forest Structure Influences Spatial Variability of Belowground Carbon Fluxes in a Mature Mediterranean Beech Forest. E. D'Andrea, G. Guidolotti, A. Scartazza, P. De Angelis, G. Matteucci, Forests, 2020. https://doi.org/10.3390/f11030255</p>
	<p>Identifying priority sites for insect conservation in forest ecosystems at high resolution: the potential of LiDAR data. P. Bombi, V. Gnetti, E. D'Andrea, B. De Cinti, A. Vigna Taglianti, M. A. Bologna, G. Matteucci, Journal of Insect Conservation, 2019. https://doi.org/10.1007/s10841-019-00162-w</p>
	<p>Winter's bite: Beech trees survive complete defoliation due to spring late-frost damage by mobilizing old C reserves. E. D'Andrea, N. Rezaie, A. Battistelli, O. Gravichkova, I. Kuhlmann, G. Matteucci, S. Moscatello, S. Proietti, A. Scartazza, S. Trumbore, J. Muhr, New Phytologist, 2019. https://doi.org/10.1111/nph.16047</p>

		Do atmospheric CO2 concentration increase, climate and forest management affect iWUE of common beech? Evidences from carbon isotope analyses in tree rings. N. Rezaei, E. D'Andrea, A. Bräuning, G. Matteucci, M. Lauteri, Tree Physiology, 2018. DOI: 10.1093/treephys/tpy025
		Which Climate Change path are we following? Bad news from Scots Pine. Bombi P, D'Andrea E, Rezaei N, Cammarano M, Matteucci G. PLOS ONE, 2017. https://doi.org/10.1371/journal.pone.0189468
		Indicators of sustainable forest management: application and assessment. E. D'Andrea et al., Annals of Silvicultural Research 40 (1): 31-103, 2016. http://dx.doi.org/10.12899/asr-1214
		Community analysis at medium scales: focus on Carabids. P. Bombi, V. Gnetti, V. Muzzini, E. D'Andrea. In: De Cinti et al. (Eds). From the experience of LIFE+ ManFor C.BD. to the Manual of Best Practices in Sustainable Forest Management. Italian Journal of Agronomy, 11(s1). 2016. https://doi.org/10.4081/ija.2016.789
		Did ManFor C.BD forest treatments influence carbon stock and sequestration? E. D'Andrea, et al., In: De Cinti et al. (Eds). From the experience of LIFE+ ManFor C.BD. to the Manual of Best Practices in Sustainable Forest Management. Italian Journal of Agronomy, 11(s1) 2016. https://doi.org/10.4081/ija.2016.789
		Improving carbon sequestration and stocking as a function of forestry. D'Andrea E et al., In: De Cinti et al. (Eds). From the experience of LIFE+ ManFor C.BD. to the Manual of Best Practices in Sustainable Forest Management. Italian Journal of Agronomy, 11(s1), 2016. https://doi.org/10.4081/ija.2016.789
		Validation of 3D-CMCC Forest Ecosystem Model (v.5.1) against eddy covariance data for 10 European forest sites. A. Collalti, S. Marconi, A. Ibrom, C. Trotta, A. Anav, E. D'Andrea, G. Matteucci, L. Montagnani, B. Gielen, I. Mammarella, T. Grunwald, A.r Knohl, F. Berninger, Y. Zhao, R. Valentini, M. Santini. Geoscientific Model Development https://doi.org/10.5194/gmd-9-479-2016
		Temporal dynamic of a ground beetle community of Eastern Alps (Coleoptera Carabidae). V.Gnetti, P. Bombi, A. Vigna Taglianti, M. Alberto Bologna, E. D'Andrea, M. Cammarano, M.Bascietto, B. De Cinti, G. Matteucci. Bulletin of Insectology 12/2015; 68(2):299-309

	<p>Soil C:N stoichiometry controls carbon sink partitioning between above-ground tree biomass and soil organic matter in high fertility forests. G. Alberti, S. Vicca, I. Inglima, L. Belelli-Marchesini, L. Genesio, F. Miglietta, H. Marjanovic, C. Martinez, G. Matteucci, E. D'Andrea, A. Peressotti, F. Petrella, M. Rodeghiero, Mf. Cotrufo. iForest - Biogeosciences and Forestry, 2014. DOI: 10.3832/for1196-008</p>
	<p>Effect of environmental variables and stand structure on ecosystem respiration components in a Mediterranean beech forest. G. Guidolotti, A. Rey, E. D'Andrea, G. Matteucci, P. De Angelis, Tree Physiology, 2013. https://doi.org/10.1093/treephys/tpt065</p>
	<p>Can decision rules simulate carbon allocation for years with contrasting and extreme weather conditions? A case study for three temperate beech forests. M. Campioli, H. Verbeeck, J. Van den Bossche, J Wu, A. Ibrom, E. D'Andrea, G. Matteucci, R. Samson, K. Steppe, A. Granier, Ecological Modelling 263 42–55, 2013. https://doi.org/10.1016/j.ecolmodel.2013.04.012</p>
	<p>Old-growth attributes in a network of Apennines (Italy) beech forests: Disentangling the role of past human interferences and biogeoclimate. E. Ziaco, A. Di Filippo, A. Alessandrini, M. Baliva, E. D'Andrea, & G. Piovesan, Plant Biosystems, 2012. https://doi.org/10.1080/11263504.2011.650729</p>
	<p>Structural patterns, growth processes, carbon stocks in an Italian network of old growth beech forests. G. Piovesan, A. Alessandrini, M. Baliva, T. Chiti, E. D'Andrea, B. De Cinti, A. Di Filippo, L. Hermanin, M. Lauteri, G. Scarascia Mugnozza, B. Schirone, E. Ziaco, G. Matteucci. Italian Journal of Forest and Mountain Environments 65 (5): 557-590, 2010. doi: 10.4129/ifm.2010.5.07</p>
Reviewer and editor activities	
	<p>Guest editor of Annals of Silvicultural Research Guest editor of Forests Reviewer for Forests, iForest, European Journal of Forest Research, Frontiers in Ecology and Evolution, Journal of Ecology</p>
Poster and oral presentation	
	<p>Produttività primaria e ciclo del carbonio di una faggeta dell'Italia</p>

	<p>Centro Meridionale: ruolo delle componenti a rapido turn-over. E. D'Andrea, A. Masci, G. Matteucci. SISEF Conference, Pesche, Italy. 1 October 2009.</p> <p>Dendroecological analysis in old growth beech forest. G. Piovesan, A. Alessandrini, M. Baliva, T. Chiti, E. D'Andrea, B. De Cinti, A. Di Filippo, L. Hermanin, M. Lauteri, G. Scarascia Mugnozza, B. Schirone, E. Ziaco, G. Matteucci. National conference old growth forest, Identification, characterization, management. Prati di Tivo, Pietracamela (Teramo), Italy. 25-26 June 2010</p> <p>Productivity, carbon balance and eco-physiological aspects in old growth forest. G. Matteucci, E. D'Andrea, B. De Cinti, M. Lauteri., T. Chiti, A. Di Filippo, A. Alessandrini, G. Scarascia Mugnozza, G. Piovesan. National conference old growth forest, Identification, characterization, management, Prati di Tivo, Pietracamela (Teramo), Italy. 25-26 June 2010.</p> <p>Forest structure and biomass carbon stocks in a network of Italian old-growth and managed beech forests. A. Alessandrini, E. D'Andrea, B. De Cinti, A. Di Filippo, G. Matteucci, E. Ziaco, G. Piovesan. Northern Primeval Forests, Ecology, Conservation & Management, Sundsvall, Sweden. 9 - 13 Agosto 2010.</p> <p>Assessing canopy fluxes in heterogenous landscapes: installation and use of a mobile eddy covariance system in a forest chronosequence. A. Oriani, G. Matteucci, T. Altea, M. Consalvo, E. D'Andrea, G. Manca, L. Sammarone, G. Santarelli, G. Scarascia Mugnozza. GHG-Europe Annual Meeting, Braunschweig, Germany. 28-31 March 2011.</p> <p>Comparison between soils of old and managed beech forests, along a latitudinal and altitudinal gradient. E. D'Andrea, T. Chiti, B. De Cinti, E. Ziaco, G. Matteucci. SISEF Conference, Rende, Italy, 4-7 Oct 2011.</p> <p>Carbon Stock and Net Primary Production in an Italian Network of Old-growth Beech Forests. E. D'Andrea; B. De Cinti; T. Chiti; A. Di Filippo; A. Alessandrini; G. Piovesan; M. Bascietto; G. Matteucci. Primeval Beech Forests International Conference, L'viv (Ucraina), 2-9 June 2013.</p> <p>Assessing the Role of Biogeoclimate and Past Human Interferences in Selecting a Set of Indicators to Describe the Old-growthness Degree Within a Network of Beech Forests in Italy A. Di Filippo; M. Baliva; E. D'Andrea; E. Ziaco; G. Piovesan. Primeval Beech Forests International Conference, L'viv (Ucraina), 2-9 June 2013.</p> <p>Thinnings in beech stands: a multi- approach analysis to unravel positive and negative effects. B. De Cinti, M. Bascietto, E. D'Andrea, M. Cammarano, G. Fabbio, P. Cantiani, F. Ferretti, U. Di</p>
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	<p>Salvatore, P. Primonic, M. Ferlan, G. Matteucci. IX Congresso SISEF, Bolzano, 16-19 September 2013.</p> <p>Sviluppo e parametrizzazione di un simulatore forestale. Applicazioni relative al design sperimentale e all'ottimizzazione della gestione. M. Cammarano, M. Bascietto, E. D'Andrea, G. Matteucci. IX Congresso SISEF, Bolzano, 16-19 September 2013.</p> <p>The effect of forest management practices on forest multifunctionality: first results of the LIFE project ManFor C.BD. G. Matteucci, G. Fabbio, P. Cantiani, F. Ferretti, M. Marchetti, F. Lombardi, G. Carraro, N. Pavone, P. Simoncic, M. Panella, T. Altea, M. Posillico, F. Mason, E. D'Andrea, B. De Cinti, V. Garfi. IX Congresso SISEF, Bolzano, 16-19 September 2013.</p> <p>Climatic analysis of pointer years in beech tree-ring chronologies from Mediterranean mountains in Italy to temperate Germany. N. Rezaie, A. Brauning, E.D'Andrea, P.Bombi, M.Cammarano, G. Matteucci. Orléans, France, 18-19 November, 2014.</p> <p>Manipulating carbon source-sink balance in a Mediterranean beech forest: effects of girdling on photosynthesis, growth, non-structural carbohydrates, plant mycorrhizal status and C and N stable isotope fractionations. A. Scartazza, A. Battistelli, M. Cammarano, E. D'Andrea, M. Giovannetti, M. Lauteri, S. Mocatello, S. Proietti, C. Sbrana, G. Matteucci. X Congresso SISEF, Firenze, 15-18 September 2015.</p> <p>Gestione forestale, multifunzionalità del bosco e servizi ecosistemici: l'esperienza del progetto LIFE ManFor C.BD. G. Matteucci, G. Fabbio, F. Ferretti, P. Cantiani, N.Pavone , V. Garfi, M. Marchetti, F. Lombardi, G. Carraro, P. Simončic , L. Kutnar, M. Posillico, T. Altea, F. Mason, M. Panella, E. D'Andrea, P. Bombi, B. De Cinti. X Congresso SISEF, Firenze, 15-18 September 2015.</p> <p>Effects of forest management on the carbon cycle, E. D'Andrea, M. Cammarano, M. Micali, F. Sicuriello, B. De Cinti, M. Ferlan, A. Marinšek , M. Cater, P. Simončic, G. Matteucci. X Congresso SISEF, Firenze, Italy. 15-18 September 2015.</p> <p>Factors controlling wood formation dynamic in a Mediterranean beech forest. N. Rezaei, E. D'Andrea, J. Gricar, G. Matteucci. EuroDendro, Antalya, Turkey. 18-23 October 2015.</p> <p>Effect of late frost on C stem dynamic in a Mediterranean Beech Forest. N. Rezaei, E. D'Andrea, A. Scartazza, S. Moscatello, S. Proietti, A. Battistelli, J. Gričar, P. Prislan, G. Matteucci. Eurodendro, Tartu, Estonia. 6-10 September 2017.</p> <p>Interaction between forest structure and belowground C fluxes inside a mature Mediterranean beech forest. E. D'Andrea, G. Guidolotti, A. Scartazza, P. De Angelis, G. Matteucci. XI Congresso</p>
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	<p>SISEF, Rome, Italy. 10-13 October 2017.</p> <p>Effects of simulated nitrogen deposition on soil N cycling in two Italian beech forests exposed to different climate conditions. G. Marcolini, D. Ravaioli, E. Mezzini, P. Gioacchini, M. Mazzon, E. Muzzi, F. Mazzenga, E. D'Andrea, G. Matteucci, F. Magnani. XI Congresso SISEF, Rome, Italy. 10-13 October 2017.</p> <p>Responses of beech forests to N fertilization: C to N ratio, C and N isotope composition, structural and biochemical traits along the canopy vertical profile. A. Scartazza, D. Di Baccio, B. De Cinti, M. Cammarano, D. Ravaioli, G. Marcolini, E. D'Andrea, F. Mazzenga, P. Bombi, F. Sicuriello, G. Matteucci. XI Congresso SISEF, Rome, Italy. 10-13 October 2017.</p> <p>Effects of nitrogen fertilization on labile carbon and nitrogen pools in the soil of a beech forest. P. Satta, S. Marinari, P. De Angelis, E. D'Andrea, G. Matteucci, M. Cammarano, P. Bombi, F. Sicuriello, F. Mazzenga. XI Congresso SISEF, Rome, Italy. 10-13 October 2017.</p> <p>Sustainable forest management of beech: lessons from coupled analysis of old growth and mature forests. E. D'Andrea, M. Cammarano, T. Chiti, B. De Cinti, A. Di Filippo, G. Piovesan, E. Ziaco, G. Matteucci. 11th International Beech Symposium: Natural and Managed Beech Forests as Reference Ecosystems for the Sustainable Management of Forest Resources and the Conservation of Biodiversity, Viterbo, Italy. 18-21 September 2018.</p> <p>Effect of extreme climatic events on wood formation in a Mediterranean beech forest. N. Rezaei, E. D'Andrea, J. Gričar, P. Prislan, G. Matteucci. 11th International Beech Symposium: Natural and Managed Beech Forests as Reference Ecosystems for the Sustainable Management of Forest Resources and the Conservation of Biodiversity; Viterbo 18-21 September 2018.</p>
Projects	
	<p>LIFE CLIMARK (LIFE16 CCM/ES/000065) The objective of the project was the promotion of forest management for climate change mitigation through the design of a local market of climatic credits Role: Italian referent</p> <p>Climate Changes (CNR DTA.AD003.474) The project has the aim of assessing the impacts of climate change and extreme events on the structure, functionality and productivity of forest ecosystems, at the level of species and forest populations. Role: Scientific Referent – CLIMA FORESTE</p> <p>Green&CircularEconomy – GECE (CNR DBA.AD003.139) The objective of this project is to contribute to increase the use of</p>

	<p>biological resources in the daily life. In the particular, the action in which I am involved want to promote sustainable forest management to provide woody and cellulosic material for productive chain.</p> <p>Role: Scientific Referent WP6</p>
Participation to other project	
	<p>Climate Change and Forests - Dendroecological and Ecophysiological Responses, Productivity and Carbon Balance in a National Network of Old Beech Forests PRIN 2007 - prot. 2007AZFFAK.</p> <p>The final project objective was to define the response capacity of old beech forests to climate change.</p> <p>Effects of global change on productivity and radiative forcing of Italian forests: innovative methods of retrospective, experimental and prognostic analysis. PRIN prot. 2012E3F3LK.</p> <p>The objective of the project was to assess the role of nitrogen deposition in beech forests. In particular, I focused on tree growth and soil respiration.</p> <p>Progetto LIFE 09/NAT/IT/000160 Arctos.</p> <p>In the project I was involved in the study of the ecology and management of “Ramnus Alpina”, one of the main bear food.</p> <p>Climate change on tree growth (CC-Imp, FT27) inside ExpeER project.</p> <p>The objective of the project was to evaluate the role of climatic conditions on the tree growth.</p> <p>GHG Europe.</p> <p>The project was finalized to assess the carbon cycle in Europe. I was involved in the diachronical analysis to estimate the land use change in the Viterbo Province (Italy).</p>
Visiting researcher	
8-28.Feb.2015	Laboratory for Wood Anatomy of the Slovenian Forestry Institute, Ljubljana, Slovenia.

14 Mar-14 Apr. 2018	Max Planck Institute for biogeochemistry in Jena, Germany.
1-31. May. 2018	Laboratory for Wood Anatomy of the Slovenian Forestry Institute, Ljubljana, Slovenia.
Technical Skills	<p>Good use of tools to:</p> <p>Good skills in using software for data elaboration (R, SigmaPlot) and for GIS analysis (ArcGis, Qgis).</p> <p>Good skills in using software for dendrochronology and wood anatomy (TSap, COFECHA, Roxas, ImageJ).</p> <p>Measure gas exchange (CO₂ and H₂O) from soil and plant: EGM-4, LICOR 7000, LICOR6400.</p> <p>Monitor microclimatic variables (for example Decagon, TDR fieldscout).</p> <p>Perform dendrometric sampling and field activities (Vertex, Telemeter, GPS).</p> <p>Measure tree ring (LINTAB)</p>
Professional registers	Registry of Agronomist and Foresters of L'Aquila (AQ146) since 2009
Formation	
20-24. May. 2013	2nd ExpeER Training week, sampling Protocols for Ecosystem Research (SAPER). Italian National Research Council, Montelibretti, Italy.
12-17. September. 2012	Eddy Covariance techniques, Todi (PG), Italy.
27-31. August. 2012	1st EXPEER Training week: testing and refining sampling Protocols for Ecosystem Research. Italian National Research Council, Montelibretti, Italy.
27-28. June. 2011	Forest Simulation Models, University of Bolzano, Italy.
11– 16 April 2011	VII advanced training course for forestry PhD students, CSALP, Trento, Italy.
16-18 February 2011	How to publish in peer-reviewed journals. Italian National Research Council, Montelibretti, Italy.
22 – 27 Mar 2010	VI advanced training course for forestry PhD students, CSALP, Trento, Italy.
11-14. May 2009	Lab training quantitative wood anatomy from sample to data, TESAF and WSL, Centre of studies of Alpine environment, San Vito di Cadore, Italy.
30 Mar – 04 Apr. 2009	V advanced training course for forestry PhD students, CSALP, Trento, Italy.
3 Feb – 3 Mar. 2009	Scientific communication course, University of Tuscia, Italy.