

CURRICULUM VITAE

FORMATO EUROPEO/EUROPEAN
FORMAT

Informazioni personali/ Personal information

Nome, Cognome/Name, Surname	Francesca Bagnoli
Indirizzo/Address	
Via, numero civico, c.a.p., città, nazione/ House number, street name, postcode, city, country	
Telefono/Telephone	+39 055 5225721
E-mail	francesca.bagnoli@ibbr.cnr.it
Sito web/Website	www.ibbr.cnr.it
Nazionalità/Nationality	Italiana/Italian
Luogo e data di nascita/ Place and Date of birth	

Esperienza professionale /Work experience

In ordine di data/Dates (from- to)	From October 1, 2014 to today
• Nome e indirizzo del datore di lavoro/ Name and address of employer	Institute of Biosciences and Bioresources - CNR via Madonna del Piano 10, 50019, Sesto Fiorentino (FI)
• Tipo di azienda o settore/ Type of business or sector	Public research institution
• Funzione o posto occupato / Occupation or position held	Researcher, 3rd level
• Principali mansioni e responsabilità/ Main activities and responsibilities	forest genetics; Research activity in the field of the conservation of forest tree genetic resources, and of the tree population genetics. The research focus on the development and application of molecular markers for assessing genetic variation in forest tree populations, and on the study of genetics of forest woody species through the application of the main methods of Bayesian statistics.

In ordine di data/Dates (from- to)	From November 2, 2011 to September 30, 2014
---------------------------------------	--

<ul style="list-style-type: none"> • Nome e indirizzo del datore di lavoro/ Name and address of employer • Tipo di azienda o settore/ Type of business or sector • Funzione o posto occupato / Occupation or position held <ul style="list-style-type: none"> • Principali mansioni e responsabilità/ Main activities and responsibilities 	<p>Plant Protection Institute - CNR via Madonna del Piano 10, 50019, Sesto Fiorentino (FI)</p> <p>Public research institution</p> <p>Researcher, 3rd level</p> <p>forest genetics;</p> <p>Research activity in the field of the conservation of forest tree genetic resources, and of the tree population genetics. The research focus on the development and application of molecular markers for assessing genetic variation in forest tree populations, and on the study of genetics of forest woody species through the application of the main methods of Bayesian statistics.</p>
<p>In ordine di data/Dates (from-to)</p> <ul style="list-style-type: none"> • Nome e indirizzo del datore di lavoro/ Name and address of employer • Tipo di azienda o settore/ Type of business or sector • Funzione o posto occupato / Occupation or position held <ul style="list-style-type: none"> • Principali mansioni e responsabilità/ Main activities and responsibilities 	<p>2006-2011</p> <p>Plant Protection Institute - CNR via Madonna del Piano 10, 50019, Sesto Fiorentino (FI)</p> <p>Public research institution</p> <p>Postdoc research position</p> <p>Research on "Genetic improvement of cypress for resistance to Seiridium cardinale"</p>
<p>In ordine di data/Dates (from-to)</p> <ul style="list-style-type: none"> • Nome e indirizzo del datore di lavoro/ Name and address of employer • Tipo di azienda o settore/ Type of business or sector • Funzione o posto occupato / Occupation or position held <ul style="list-style-type: none"> • Principali mansioni e responsabilità/ Main activities and responsibilities 	<p>2002-2004</p> <p>Department of Agricultural Biotechnology- University of Florence, Via Maragliano 77, 50144, Firenze</p> <p>Academic</p> <p>Postdoc research position</p> <p>Research on "Functional genomics in plants of agricultural interest"</p>
<p>In ordine di data/Dates (from-to)</p> <ul style="list-style-type: none"> • Nome e indirizzo del datore di lavoro/ Name and address of employer • Tipo di azienda o settore/ Type of business or sector • Funzione o posto occupato / Occupation or position held 	<p>2001</p> <p>Department of Agricultural Biotechnology- University of Florence, Via Maragliano 77, 50144, Firenze</p> <p>Academic</p> <p>Postdoc research position</p>

<ul style="list-style-type: none"> • Principali mansioni e responsabilità/ Main activities and responsibilities 	<p>Award of CNR Project Agency 2000 - cod. CNRG000AA1 entitled "Abiotic stress defence mechanisms: isolation and molecular characterization of genes coding for enzymes catalase and superoxidedismutase in Pinus pinea"</p>
<p>In ordine di data/Dates (from-to)</p>	<p>1996-1998</p>
<ul style="list-style-type: none"> • Nome e indirizzo del datore di lavoro/ Name and address of employer • Tipo di azienda o settore/ Type of business or sector • Funzione o posto occupato / Occupation or position held 	<p>Department of Agricultural Biotechnology- University of Florence, Via Maragliano 77, 50144, Firenze</p> <p>Academic</p> <p>Coordinated and continued collaboration</p>
<ul style="list-style-type: none"> • Principali mansioni e responsabilità/ Main activities and responsibilities 	<p>Coordinated and continued collaboration on the project of the European Community PL No. 1496-45 entitled "Development, validation and application of molecular, morphological and physiological markers for juvenile and mature state characterization in woody plant species".</p>
<p>In ordine di data/Dates (from-to)</p>	<p>1994-1995</p>
<ul style="list-style-type: none"> • Nome e indirizzo del datore di lavoro/ Name and address of employer • Tipo di azienda o settore/ Type of business or sector • Funzione o posto occupato / Occupation or position held 	<p>Overseas Agronomic Institute of the Ministry of Foreign Affairs, Via Cocchi, Firenze.</p> <p>Public Institution</p> <p>Fellowship</p>
<ul style="list-style-type: none"> • Principali mansioni e responsabilità/ Main activities and responsibilities 	<p>A two year fellowship on "Valuation of south American maize populations for the tolerance to abiotic stress with particular attention to UV radiation".</p>
<p>Istruzione e formazione / Education and training</p>	
<p>In ordine di data/Dates (from-to)</p>	<p>2002</p>
<ul style="list-style-type: none"> • Nome e tipo d'istituto di istruzione o formazione / Name and type of organisation providing education and training • Principali materie e competenze professionali apprese / Principal subjects occupational skills covered 	<p>University of Florence</p> <p>Agricultural and Forest Genetics</p>

- Certificato o diploma ottenuto /Title of qualification awarded

Ph.D. in Agricultural and Forest Genetics at the University of Florence, discussing a thesis about: "Isolation and molecular characterization of genes coding antioxidant enzymes in trees: *Prunus persica* and *Pinus pinea*".

In ordine di data/Dates (from-to)

1992

- Nome e tipo d'istituto di istruzione o formazione / Name and type of organisation providing education and training
- Principali materie e competenze professionali apprese / Principal subjects occupational skills covered
- Certificato o diploma ottenuto /Title of qualification awarded

University of Florence

Biological Sciences

Degree in Biological Sciences at the University of Florence

Attività di ricerca / Research activities

- Attuali campi di ricerca / Research sectors

- population genetics of forest trees
- conservation genetics of forest trees
- phylogeography of forest tree species
- identification and characterisation of molecular markers in forest trees (SSRs, SNPs)
- use of molecular markers in forest genetics and breeding
- molecular basis of adaptation

- Pubblicazioni/ Books and Articles

Postolache D., Oddou-Muratorio S., Vajana E., Bagnoli F., Guichoux E., Hampe A., Le Provost G., Lesur I., Popescu F., Scotti I., Piotti A., Vendramin G.G. (2021). Genetic signatures of divergent selection in European beech (*Fagus sylvatica* L.) are associated with the variation in temperature and precipitation across its distribution range. *Molecular Ecology* doi: 10.1111/mec.16115

Monnet A., Cillerios K., Médail F., Cheikh Albassatneh M., Arroyo J., Bacchetta G., Bagnoli F., Barina Z., Cartereau M., Casajus N., Dimopoulos P., Domina G., Doxa A., Escudero M., Fady B., Hampe A., Matevski V., Misfud S., Nikolic T., Pavon D., Roig A., Santos Barea E., Spanu I., Strid A., Vendramin G.G., Leriche A. (2021). WOODIV, a database of occurrences, functional traits, and phylogenetic data for all Euro-Mediterranean trees. *Scientific Data* 8:89 |doi.org/10.1038/s41597-021-00873-3

Opgenoorth L., Dauphin B., Benavides R., Heer K., Alizoti P., Martínez-Sancho E., et al. (2021). The GenTree Platform: growth traits and tree-level environmental data in 12 European forest tree species. *GigaScience*, Volume 10, Issue 3, March 2021, giab010, doi.org/10.1093/gigascience/giab010

Tóth E.G., Bagnoli F., Vendramin G.G., György Z., Spanu I., Höhn M. (2021). Imprints of selection in peripheral and ecologically marginal central-eastern European Scots pine populations. *Gene* 779 (2021) 145509 doi.org/10.1016/j.gene.2021.145509

Benavides R., Carvalho B., Bastias C.C., López-Quiroga D., Mas A., Cavers S., et al. (2021). The GenTree Leaf Collection: Inter- and intraspecific leaf variation in seven forest tree species in Europe. *Global Ecology and Biogeography*, 30: 590-597

Cheikh Albassatneh M., Escudero M., Monnet A., Arroyo J., Bacchetta G., Bagnoli F., Dimopoulos P., Hampe A., Leriche A., Médail F., Nikolic T., Ponger L., Vendramin G.G., Fady B. (2021). Spatial patterns of genus-level phylogenetic endemism in the tree flora of Mediterranean Europe. *Diversity and Distribution* doi.org/10.1111/ddi.13241

Jaramillo-Correa J.P., Bagnoli F., Grivet D., Fady B., Aravanopoulos F.A., Vendramin G.G., González-Martínez S.C. (2020). Evolutionary rate and genetic load in an emblematic Mediterranean tree following an ancient and prolonged population collapse. *Molecular Ecology* 00:1–15. <https://doi.org/10.1111/mec.15684>

Bagnoli F., Della Rocca G., Spanu I., Vendramin G.G. (2020). The origin of the Afro-Mediterranean cypresses: Evidence from genetic analysis. *Perspectives in Plant Ecology, Evolution and Systematics* 46, 125564 doi.org/10.1016/j.ppees.2020.125564

Dias A., Giovannelli G., Fady B., Spanu I., Vendramin G.G., Bagnoli F., Carvalho A., Silva M.E., Lima-Brito J., Lousada J.L., Gaspar M.J. (2020). Portuguese *Pinus nigra* JF Arnold populations: genetic diversity, structure and relationships inferred by SSR markers. *Annals of forest science* 77, 64 DOI: 10.1007/s13595-020-00967-9

Martínez-Sancho E., Slámová L., Morganti S., Grefen C., Carvalho B., Dauphin B., et al. (2020). The GenTree Dendroecological Collection, tree-ring and wood density data from seven tree species across Europe *Scientific Data* 7 (1): 1-7 DOI: 10.1038/s41597-019-0340-y

Mutke S., Vendramin G.G., Fady B., Bagnoli F., González-Martínez S.C. (2019). Molecular and Quantitative Genetics of Stone Pine (*Pinus pinea*) In: Nandwani D. (eds) *Genetic Diversity in Horticultural Plants. Sustainable Development and Biodiversity*, vol 22. Springer, Cham DOI: 10.1007/978-3-319-96454-6_3.

Cheikh Albassatneh M., Escudero M., Ponger L., Monnet A.C., Arroyo J., Nikolic T., Bacchetta G., Bagnoli F., Dimopoulos P., Leriche A., Médail F., Roig A., Spanu I., Vendramin G.G., Hampe A., Fady B. (2019). A comprehensive, genus-level time-calibrated phylogeny of the tree flora of Mediterranean Europe and an assessment of its vulnerability. *Botany Letters*, doi: 10.1080/23818107.2019.1684360

Erichsen E.O., Budde K.B., Sagheb-Talebi Kh., Bagnoli F., Vendramin G.G., Hansen O.K. (2018). Hyrcanian Forest – stable rear-edge populations harboring high genetic diversity of *Fraxinus excelsior*, a common European tree species. *Diversity and Distributions* DOI: 10.1111/ddi.12783

Tóth E.G., Vendramin G.G., Bagnoli F., Cseke C., Höhn M (2017). High genetic diversity and distinct origin of recently fragmented Scots pine (*Pinus sylvestris* L.) populations along the Carpathians and the Pannonian Basin. *Tree Genetics & Genomes* 13 (2): 223

Mousavi S., Mariotti R., Bagnoli F., Costantini L., Cultrera N.G.M., Arzani K., Pandolfi, S. Vendramin G.G., Torkzaban B., Hosseini-Mazinani M., Baldoni L., (2017). The eastern part of the Fertile Crescent concealed an unexpected route of olive (*Olea europaea* L.) differentiation. *Annals of Botany* 119 (8): 1305-1318.

Plomion C, Bartholomé J, Lesur I, Boury C, Rodríguez-Quilón I, Lagravelle H, Ehrenmann F, Bouffier L, Gion JM, Grivet D, de Miguel M, de María N, Cervera M, Bagnoli F, Isik F, Vendramin GG, Gonzalez-Martinez SC (2016) High-density SNP assay development for genetic analysis in maritime pine (*Pinus pinaster*). *Mol Ecol Res* 16(2):574-587.

Bagnoli F., Tsuda Y., Fineschi S., Bruschi P., Magri D., Zhelev P., Paule L., Simeone M.C., González-Martínez S.C. & Vendramin G.G. (2016) Combining molecular and fossil data to infer demographic history of *Quercus cerris*: insights on European eastern glacial refugia. *Journal of Biogeography*, 43, 679-690.

Mayol, M., Riba, M., González-Martínez, S., Bagnoli, F., de Beaulieu, J.L., Berganzo, E., Burgarella, C., Dubreuil, M., Krajmerova, D., Paule, L., Romsakova, I., Vettori, C., Vincenot, L., Vendramin, G. (2015) Adapting through glacial cycles: insights from a long-lived tree (*Taxus baccata* L.) *New Phytologist* 208: 973-986.

Soliani C., Tsuda Y., Bagnoli F., Gallo L.A., Vendramin G.G., Marchelli P. (2015) Halfway encounters: meeting points of colonization routes among the southern beeches *Nothofagus pumilio* and *N. antarctica*. *Molecular Phylogenetics and Evolution* DOI: 10.1016/j.ympev.2015.01.006

Pinosio S, González-Martínez S.C., Bagnoli F., Cattonaro F., Grivet D., Marroni F., Lorenzo Z., Pausas J.G., Verdú M., Vendramin G.G. (2014) First insights into the transcriptome and development of new genomic tools of a widespread circum-Mediterranean tree species, *Pinus halepensis* Mill. *Molecular Ecology Resources* DOI: 10.1111/1755-0998.12232

U. Lagercrantz, F. Bagnoli, T. Källman, G.G. Vendramin (2013) Genetics: Next generation sequencing: opportunities and challenges for forest genetics and breeding. *Congresso sulla biodiversità delle foreste mediterranee Novel Tree Breeding*

Loreto F, Bagnoli F, Calfapietra C, Cafasso D, De Lillis M, Filibeck G, Fineschi S, Guidolotti G, Sramkó G, Tökölly J, Ricotta C (2013) Isoprenoid emission in hygrophite and xerophyte European woody flora: ecological and evolutionary implications. *Global Ecology and Biogeography* DOI: 10.1111/geb.12124

Bruschi P, Angeletti C., González O., Signorini M.A., Bagnoli F. (2013) Genetic and morphological variation of *Rhizophora mangle* (red mangrove) along the northern Pacific coast of Nicaragua. *Nordic Journal Of Botany* Article first published online : 27 AUG 2013, DOI: 10.1111/j.1756-1051.2013.00138.x

Gatto A., De Paola D., Bagnoli F., Vendramin G.G., Sonnante G. (2013) Population structure of *Cynara cardunculus* L. complex and the origin of the conspecific crops artichoke and cardoon. *Annals of Botany* 112 (5): 855-865 doi:10.1093/aob/mct150

Catherine Bodénès, Emilie Chancerel, Oliver Gailing, Giovanni G Vendramin, Francesca Bagnoli, Jerome Durand, Pablo G Goicoechea, Carolina Soliani, Fiorella Villani, Claudia Mattioni, Hans Peter Koelewijn, Florent Murat, Jerome Salse, Guy Roussel, Christophe Boury, Florian Alberto, Antoine Kremer and Christophe Plomion (2012) Comparative mapping in the Fagaceae and beyond with EST-SSRs. *BMC Plant Biology* 2012, 12:153 doi:10.1186/1471-2229-12-153 Published: 29 August 2012

Bagnoli F., Fineschi S., and Loreto F. (2012) Volatile isoprenoids and abiotic stresses. In: Glenn R. Iason, Marcel Dicke and Susan E. Hartley (Eds) *The Ecology of Plant Secondary Metabolites: From Genes to Global Processes*. Published by Cambridge University Press © British Ecological Society, pp 101-119

Bagnoli F, Fady B., Fineschi S., Oddou-Muratorio S., Piotti A., Sebastiani F., and Vendramin G.G. (2011) Neutral pattern of genetic variation and applications to conservation in conifer species. In: Plomion C., Bousquet J., and Koe C. (Eds) *Genetics, genomics and breeding of conifer*. Science Publisher, New Hampshire, USA, pp. 141-195.

Ferreira R.C., Piredda R., Bagnoli F., Bellarosa R., Attimonelli M., Fineschi S., Schirone B, Simeone M.C. (2011). Phylogeography and conservation perspectives of an endangered macaronesian endemic: *Picconia azorica* (Tutin) Knobl. (Oleaceae). *European Journal of Forest Research* 130:181-195.

Loreto F., Bagnoli F. and Fineschi S. (2009). One species, many terpenes: matching chemical and biological diversity. *Trends in Plant Science*, 14 (8): 416-420.

Bagnoli F., Vendramin G.G., Buonomici A., Doulis A.G., González-Martínez S.C., La Porta N., Magri D., Raddi P., Sebastiani F. and Fineschi S. (2009). Is *Cupressus sempervirens* native in Italy? An answer from genetic and palaeobotanical data. *Molecular Ecology*, 18 (10): 2276-2286.

Bagnoli F., Danti S., Magherini V., Cozza R., Innocenti A.M. and Racchi M.L., (2004). Molecular cloning, characterisation and expression of two catalase genes from peach. *Functional Plant Biology*, 31 (4):349-357

Bagnoli F., Giannino D., Caparrini S., Camussi A., Mariotti D. and Racchi M. L., (2002). Molecular cloning, characterisation and expression of a manganese superoxide dismutase gene from peach (*Prunus persica* [L.] Batsch). *Molecular Genetics and Genomics*, 267 (3): 321-328

Racchi M.L., Bagnoli F., Danti S. (2001) Are Antioxidant Enzymes Convenient markers to study development phase change in woody species? EC-Cost 822-3 Progress in Understanding Phase Change in woody plants. Vol.1 pp59-83

Racchi M.L., Bagnoli F., I. Balla, Danti S., (2001). Differential activity of catalase and superoxide dismutase in seedlings and in vitro micro-propagated oak (*Quercus robur* L.). *Plant Cell Reports* 20:169-174

Danti S., Bagnoli F., Racchi M.L., (1999): "Catalase and Manganese Superoxide dismutase are differentially expressed during development in woody species", *Proceedings of Biofor99, International Congress "Application of biotechnology to forest Genetics"*, Vitoria-Gasteiz, Spain, pp. 465-474

Bagnoli F., Capuana, M., and Racchi, M.L. (1998). Developmental changes of catalase and superoxide dismutase isoenzymes in zygotic and somatic embryos of horse chestnut. *Australian Journal of Plant Physiology* 25: 909-913

Racchi M.L., A.P. Chiusi., F Bagnoli., L.A. Manzocchi (1996) Characterization of maize defective kernels (dek) mutants affecting seed germination. *Maydica* 41: 271-277

Progetti/Projects

2021-2025 EU Project H2020 Forgenius "Improving access to FORest GENetic resources Information and services for end-USers". Project leader: Dr. Ivan Scotti, INRAE Avignon (France).

2020-2022- Regione Lombardia "ResQ - Deperimento della quercia nei boschi planiziali: studio multidisciplinare per la selezione di risorse genetiche resistenti", Project leader Paola Nola - Univ Pavia

2019-2021- ERSAF Lombardia "Assistenza tecnica in ambito forestale per la definizione di criteri e linee guida nella gestione dei querceti lombardi - Progetto LIFE IP Gestire 2020 – Azione A.18 e C.14", Project leader Silvia Assini - Univ Pavia

2019-2020- Progetto Bilaterale Italia-Montenegro "Adaptive capacity of *Fagus sylvatica* along altitudinal transects in the Appenine and the Balkans". Project leaders Dott. Giovanni Giuseppe Vendramin – IBBR/CNR, Dr. Jelena Lazarevic – University of Montenegro
Ruolo svolto: analisi dati e campionamento

2018- 2021- Progetto "Ambiente 2018" Fondazione con il Sud "L'ultima foresta incantata", Project Leader Remo Bartolomei – Centro Studi Appennino Lucano

2018-2022- EU project H2020 B4EST "Adaptive BREEDING for productive, sustainable and resilient FORESTs under climate change". Project leader: Dr. Catherine Bastien - Amélioration, Génétique et Physiologie Forestières (AGPF), Inra, Orleans

2017-2018- Bilateral Project Italy/Montenegro "Adaptive responses to drought in *Pinus heldreichii* along altitudinal transects in the Appenines and the Balkans". Project leaders Dott. Giovanni Giuseppe Vendramin – IBBR/CNR, Dr. Jelena Lazarevic – University of Montenegro
Ruolo svolto: analisi dati

2016-2020- EU project H2020 GenTree "Optimising the management and sustainable use of forest genetic resources in Europe". Project leader Dr. Bruno Fady – Ecologie des Forêts Méditerranéennes (URFM), Inra, Avignon. (protocollo CNR/IBBR n. 0006139 07/07/2016)
Ruolo svolto: campionamento, analisi dati.

2015-2018- Fondation pour la Recherche sur la Biodiversité- WOODIV "Origin and congruence of taxonomic, phylogenetic, functional and paleoecological diversity patterns: the model of European-Mediterranean woody plant biodiversity". Project leader Dr. Agathe Leriche - UMA, IMBE Université d'Aix-Marseille (France).

Ruolo svolto: raccolta e analisi dati.

2015-2016- Bilateral Project Italy/Montenegro "Tree fragmented populations from refugial areas: the anfiadriatic connection". Project leaders Dott. Giovanni Giuseppe Vendramin – IBBR/CNR, Dr. Jelena Lazarevic – University of Montenegro

Ruolo svolto: analisi dati

2013-2016- Regione Sardegna - bando "Invito a presentare progetti di ricerca fondamentale o di base annualità 2012". Progetto dal titolo "Tortrix viridana & Quercus: indagini genetiche sull'associazione lepidottero-querce in Sardegna". Project leader Giuseppe Serra CNR Istituto per lo studio degli ecosistemi, Sassari (Italy).

Ruolo svolto: attività di laboratorio, analisi dati

2012-2017- EU project 7 FP KBBE Programme: WATBIO "Development of improved perennial non-food biomass and bioproduct crops for water stressed environments". Project leader Prof. Gail Taylor – University of Southampton (UK).

Ruolo svolto: attività di laboratorio, analisi dati

2011-2013- European Science Foundation project EuroVOL- MOMEVIP "Molecular and metabolic bases of volatile isoprenoid-induced resistance to stresses". Project leader Dr. Silvia Fineschi – CNR/Istituto per la Protezione delle Piante (Italy).

Ruolo svolto: attività di laboratorio, analisi dati

2010-2011 – PRIN (Ministero dell'università e della Ricerca): "Analisi di SNPs in geni candidati associati alla tolleranza allo stress idrico in popolazioni di conifere mediterranee" U.O. nell'ambito del progetto "Adattamento a cambiamenti climatici in specie forestali mediterranee: un approccio di genomica di popolazioni". Project leader Prof. Giorgio Binelli – Università dell'Insubria Varese-Como (protocollo 2008HTEJY8). Ruolo svolto: analisi dati

2007-2009- Progetto 'Monitoraggio dello stato sanitario e della variabilità genetica di popolamenti di sughera situati nelle aree protette (A.N.P.I.L.) comune di San Giuliano Terme (PI). Project leader: Dr. Silvia Fineschi - CNR/Istituto per la Protezione delle Piante (Italy).

Ruolo svolto: raccolta materiale, attività di laboratorio, analisi dati

1997-2000- E.U. Fair 96-1445 "Development, validation and application of molecular, morphological and physiological markers for juvenile and mature state characterization in woody plant species".

Ruolo svolto: attività laboratorio, analisi dati

1996- Progetto MRAAF "Biotecnologie vegetali" Area 8-Biologia dello sviluppo. Programma: Morfogenesi e differenziamento in specie arboree: approcci molecolari allo studio del "phase change" (cambiamento di fase giovanile/adulta) per la propagazione di genotipi superiori. Project leader Dr. Milvia Luisa Racchi, Istituto di Selvicoltura Università degli Studi di Firenze.

Ruolo svolto: attività di laboratorio, analisi dati

