

PROFILE

Cristina Vettori, PhD

Nationality: Italy

Date of birth (Optional)

Participation in COST Action FP0905:

Chair of Action, Member of Steering Board, Member of MC, Member of STSM committee, Training school committee, Member of WG1, WG2, and WG4, Grant Holder Executive

ESR at the time of starting the Action: Yes / Not

Contact data:

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Institute web page: <http://www.igv.cnr.it/bis/igvbis.html>

Research area and species (key words):

Forest genetics, GMO Biosafety, functional genomics, *Populus* spp, *Fagus* spp., *Castanea* spp.

CURRICULUM VITAE

Present position

2001- Researcher at Plant Genetics Institute-UOS FI of CNR, Italy

Education/Professional Career

2003-2008 Referee of Marie Curie fellowships of the Sixth and Seventh RTD framework programme

1998-2001 Post Doc fellowship, Forest Tree Breeding Institute of CNR (Italy)

1999 Grant for a "Short-term mobility" from CNR for research, New York University (USA)

1998 PhD in Crop and Forest Genetics, University of Florence (Italy)

1997 Get the National qualification of the Biologist

1996 PhD research at the New York University (USA)

1994-1997 PhD studies in Mechanisms of Gene Transfer in Soil, University of Florence (Italy)

1993-1994 One year experimental training in Biology, University of Florence (Italy)

1993 Bachelor degree in Biology, with the experimental dissertation: "Gene Transfer in the Natural Environments: Transformation of *Bacillus subtilis* in Soil"

Others

2006 - Responsible for GMO at the IGV-UOS FI (CNR)

2006 - Member of scientific association: "Società Italiana di Biologia Evoluzionistica" (SIBE)

2004 - Scientific responsible of the Transfer Agreement between University of Ottawa (Canada) and IGV-CNR for the research activity on Transgenic Plants

2005 - Component of the council of the Electron Microscopy Center (CeME), Sesto Fiorentino, Florence (Italy)

2001 - Member of scientific association: "Società Italiana di Genetica Agraria" (SIGA)

Research Projects (relevant to Action)

2010 - 2013 *Project LIFE+: LIFE08 NAT/IT/000342 "Development of a quick monitoring index as a tool to assess environmental impacts of transgenic crops"; Coordinator: ARSIA-Regione Toscana*
Role: Scientific Responsible
The main objective of the project is to develop a quick monitoring index (QMI) to rapidly assess the potential risk generated by a selected range of transgenic crops in well determined ecosystems or biotopes. The index will take into account: i) the level of risk

posed by a range of transgenic crops potentially used in the study areas, and ii) the potential interactions of these GMPs with some relevant biological, physical and climatic parameters that will be collected and studied in some sites of the study areas (web site:).

National Project "CNR Agenzia 2000 Giovani" "Inquinamento genetico in ecosistemi agroforestali conseguente al rilascio di microrganismi esogeni: interazione tra DNA ed acidi umici"; cooperation with New York University (USA)

Role: Coordinator and Scientific responsible

2001

Selected Publications and Communications (relevant to Action)

Donnarumma F., Paffetti D., Stotzky G., Giannini R., **Vettori C.*** (2010). Potential gene exchange between *Bacillus thuringiensis subsp. kurstaki* and *Bacillus* spp. in soil *in situ*. *Soil Biology & Biochemistry*, doi:10.1016/j.soilbio.2010.03.014.

Donnarumma F., Fladung M., Giannini R., Altosaar I., Biricolti S., **Vettori C.** (2007). Risks analyses in cry transgenic poplar. Invited speaker at the meeting on "Ecofisiologia, Biologia e genetica del pioppo: stato della ricerca in Italia" (Area della Ricerca CNR, Sesto Fiorentino, Italy, 25 Maggio 2007). (http://www.sisef.it/forest@/pdf/Giannini_479.pdf)

Vettori C., Paffetti D., Saxena D., Stotzky G., Giannini R. (2003). Persistence of toxins and cells of *Bacillus thuringiensis* subsp. *kurstaki* introduced to Sardinia soils in sprays. *Soil Biology & Biochemistry* 35: 1635-1642.

Vettori C. (2003). Invited speaker at the Meeting on "The impact of genetically modified plants (GMPs) on microbial communities" (Tromso, Norway, 24-28 May, 2003; Organiser: Prof. Kaare M. Nielsen).

Vettori C.*, Gallori E., and Stotzky G. (2000). Clay minerals protect bacteriophage PBS1 of *Bacillus subtilis* against inactivation and loss of transducing ability by UV radiation. *Canadian Journal of Microbiology* 46: 770-773.

Franchi M., **Vettori C.**, and Gallori E. (2000). Transformation and transduction in soil by clay-adsorbed genetic material. In: *Biotechnology of soil: Monitoring, conservation and remediation. Proceedings of the Cost Action 831 joint working groups meeting* (A. Benedetti, Tittarelli F., de Bertoldi S., F. Pinzari, Eds.) EUR 19548. Pp. 207-216

Vettori C., Stotzky G., Yoder M. and Gallori E. (1999). Interaction between bacteriophage PBS1 and clay minerals and transduction of *Bacillus subtilis* by clay-phage complexes. *Environmental Microbiology* 1: 347-355.

Gallori E., Franchi M., Rinaldi L., **Vettori C.** (1998). Interspecific transformation of *Bacillus subtilis* by clay-bound DNA in non-sterile soil. *Symbiosis* 25: 311-322.

Pietramellara G., Dal Canto L., **Vettori C.**, Gallori E. and Nannipieri P. (1997). Effects of air-drying and wetting cycles on the transforming ability of DNA bound on clay minerals. *Soil Biology and Biochemistry* 29: 55-61.

Vettori C., Paffetti D., Pietramellara G., Stotzky G., Gallori E. (1996). Amplification of bacterial DNA bound on clay minerals by the random amplified polymorphic DNA (RAPD) technique. *FEMS Microbiology Ecology* 20: 251-260.

Gallori E., Bazzicalupo M., Dal Canto L., Fani R., Nannipieri P., **Vettori C.**, Stotzky G., (1994). Transformation of *Bacillus subtilis* by DNA bound on clay in non-sterile soil. *FEMS Microbiology Ecology* 15: 119-126.

RESEARCH INSTITUTE

Description

The IGV-UOS of Florence was formed in 2001 by the suppression of the Institute of Forest Tree Breeding (IMGPF). The IMGPF was established in 1982 with the aim to focus the research activity in the Forest Tree Genetics and Forest Tree Breeding fields. This Institute saw the light of day in Florence which can be considered the cradle of the scientific knowledge in these fields.

The main research activities are concerned on the following topics.

Analysis of the genetic structure and the variability within and between populations of forest tree species. The Institute can be now considered one of the leaders at National and International level as it has been one of the first to set up and use the new biotechnologies to develop a lot of different biochemical and DNA markers. The Institute has given a fundamental and sometimes original contribution to the increase of the knowledge in forest topics (i) defining the level and the distribution of the genetic resources; (ii) exploring the phylogenetic relationships between different species; (iii) studying mechanisms involved in the maintenance of the genetic variability and potential adaptability.

Research into genetic ecology and ecophysiology of forest trees is carried out for the purpose of better understanding the mechanisms involved in the physiological response to environmental stresses and the links between physiological response, genetic variability and ecological adaptation; Research into the biology of propagation of forest trees focusing on solving some fundamental problems relating to micropropagation, dormancy and germination; Management and care of some experimental plots which were created in order to preserve particularly valuable genotypes and to carry out provenance and progeny tests

The IGV-UOS of Florence has participated in numerous EU/international projects (i.e., UE BIO4-CT1996-0706, UE FAIRCT1995-0097, UE FAIR3-CT1996-1464, UE IC18-CT1997-0200, USDA 23-99-20-CA, UE QLK5-CT1999- 01159, UE EVK2-CT1999-00036, UE QLK3-CT2000-30227, UE QLK5-CT1999-01210, Evoltree-6th FP; UE Novel-tree, LIFE+: LIFE08 NAT/IT/000342). This has facilitated the establishment of many collaboration with prestigious International Universities and Research Institutes (more than 50 in total).

Infrastructure

The IGV laboratories are well equipped, and include growth chambers and greenhouses; ultracentrifuge; thermal cycles; capillary sequencer (Applied 310); robotic workstations; Real Time PCR machines (Chromo 4); horizontal and vertical agarose and acrylamide gel electrophoresis apparatus (for nucleic acids and proteins); gel scanner, metabolite quantification and identification system, and instruments for the computerised analysis of the data. The institute is associated with the Electron Microscopy Centre, located on the same site, and has access to its facilities (TEM, SEM, ESEM, cryo-technique, and bifocal fluorescent microscope). In addition the Institute is located in the "Area di Ricerca di Firenze" together with all the CNR Institutes of Florence. This permits to have access to the facilities of the other Institutes and to the common one as Congress Centre, Conference rooms, etc. equipped with all the modern facilities.