



Department of Life Science
Plant Molecular Biology section
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Name: Rita Vignani, PhD Environmental Science, Plant Molecular Biology area

Résumé

She earned a Bachelor degree in Biology at the University of Siena, Italy. She got a Ph. D. in Environmental Science at the same University in 1992. During this period she spent two short-term fellowships (three months each) at the University of Uppsala (Sweden) and Reading (United Kingdom), respectively, getting familiar with basic molecular biology techniques.

From 1993 to 1996 she was at the University of California at Davis, following projects concerning the development of molecular genotyping on grapevine (*Vitis vinifera* L.).

Currently she is senior scientist at the University of Siena and she has taught "Transgenic plants" for the Biology and Biotechnology courses at the Faculty of Science for ten years (2000-2010). Her main research interests are mostly on molecular biology of mediterranean crops, namely *V. vinifera* and *O. europaea*. She was under a Fulbright Scholarship program in Prof. Gelvin's laboratory at Purdue University (I, USA) from November 2008 until May 2009 working on the "Cytoskeletal role in *Agrobacterium* resistant lines of *A. thaliana*".

Since 2006 she is the scientific coordinator of the Agricultural Area at Serge-genomics, a spin-off company at the University of Siena.

APPLIED BIOLOGY EXPERTISE

- Wine and meat (CINTA SENESE) molecular traceability
- Molecular biology and biochemical expertise on plant biology. Genomic DNA and RNA isolation, gene cloning and gene expression techniques (Northern, Real-time PCR, cDNA-based array on chips)
 - Genotyping and molecular markers isolation (mostly out of mediterranean crops, such as grapevine (*Vitis vinifera*) and olive tree (*Olea europaea*))

- Developing functional markers in grapevine (Characterization of β 5 promoters)
- Developing reliable tests for molecular traceability of GMOs in plants and food (www.serge-genomics.it; a spin-off company from the University of Study).

BASE BIOLOGY

- Heavy-metals effect on eukaryotic animal cells and glutathione-dependent detoxification (PhD; 1988-1992)
- Reproductive biology of higher plants (mostly *Nicotiana tabacum*): the role of cytoskeleton in the male fertilization process
- Molecular and biochemical characterization of molecular motors (dyneins and kinesins in the pollen tube of tobacco).

PROJECTS participation as Scientific Coordinator

“Wine varietal authentication by use of DNA analysis”, 2009-2011 funded by TTB Alcohol and Tobacco Tax and Trade Bureau (USA)

“Wine varietal authentication by use of DNA analysis; acquiring phase II”, 2011-2013 funded by TTB Alcohol and Tobacco Tax and Trade Bureau (USA)

“Development of molecular tools for functional biodiversity assessment”, 1998-2001, funded by the European Union.

Languages spoken:

English, fluent, both written and spoken.

Her current address:

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mobile phone +393384407419

PUBLICATIONS (last 10 years):

VIGNANI R., SCALI M. Wine DNA fingerprinting (WDF) to assess varietal composition of commercial wines, *Acta Italus Hortus*, ATTI CONAVI 2016, in press.

BIGLIAZZI J., SCALI, M., PAOLUCCI, E. MAURO CRESTI, M., R. VIGNANI "DNA Extracted with Optimized Protocols Can Be Genotyped to Reconstruct the Varietal Composition of Monovarietal Wines". *American Journal of Enology and Viticulture* 63: 4 (2012).

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SCALI M., Paolucci Elisa, Bigliuzzi Jacopo, Cresti Mauro, Rita Vignani "Vineyards genetic monitoring and Vernaccia di San Gimignano wine molecular fingerprinting". *Advances in Bioscience and Biotechnology*, 5, 142-154 (2014).

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S. GRANDO, R. VIGNANI, M. SCALI, M. SORDO, E. PAOLUCCI, S. LORENZI, J. BIGLIAZZI, F. MOREIRA, R. VELASCO, M. CRESTI - 'Tracciabilità su base molecolare dell'intera filiera vitivinicola ' (2010), 59 - 70 Volume: *Atti Georgofili*, Casa Editrice: Firenze, FIRENZE, ITALIA

L. PECORARO, C. PERINI, E. SALERNI, F. FRIGNANI, R. VIGNANI, M. SCALI, V. DE DOMINICIS - 'Biodiversity and conservation in the Pigelleto, Mt Amiata (Italy) ' (2009), 433 - 436 Volume: *Proceedings of IV Balkan Botanical Congress*, In: Ivanova D. (ed), *Plant, fungal and habitat diversity investigation and conservation*, Casa Editrice: Ivanova D Ed., Sofia

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R. VIGNANI, E. PAOLUCCI, M. SCALI, J. BIGLIAZZI, M. CRESTI, V. ZORZI - 'Il "Progetto ArcheoVino" a Scansano: caratteri e genoma della vite silvestre in Maremma. ' (2009), 85 - 89 Volume: "Archeologia della Produzione e dei Sapori" - Nuovi percorsi di ricerca in Etruria a cura di Andrea Ciacci e Andrea Zifferero. I Taccuini del Laboratorio di Etruscologia e Antichità Italiane Università degli Studi di Siena, Casa Editrice: Nuova Immagine Editore, Siena.

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W. WANG, R. VIGNANI, M. SCALI, M. CRESTI - 'A universal and rapid protocol for protein extraction from recalcitrant plant tissues for proteomic analysis.' (2006) *ELECTROPHORESIS*, Vol.27, 2782 - 2786

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E. MASI , R. VIGNANI, E. SENSI , M. SCALI, M. BOSELLI - 'Microsatellite polymorphism analysis in interspecific hybrids of grapevine (Vitis vinifera L.).' (2004) VITIS, Vol.43, 69 - 73

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S. MAZZUCA , W. WANG, A. SPADAFORA , M. V. DE MARCO, M. SCALI, R. VIGNANI, M. CRESTI, Y. MINAMI - 'Immunological characterization and tissue-specific expression of olive (Olea europaea) Beta-glucosidase, an enzyme involved in defence responses mediated by oleuropein.' (abstract di convegno, 2003) , 10 - 10, 98° Congresso della Società Botanica Italiana, Catania (Italia) dal 24/9/2003 al 26/9/2003

M. SCALI, R. VIGNANI, A. MOSCATELLI, S. JELLBAUER, M. CRESTI - 'Molecular evidence for a cytoplasmic dynein heavy chain from *Nicotiana tabacum* L.' (2003) CELL BIOLOGY INTERNATIONAL, Vol.27, 261 - 262

W. WANG, M. SCALI, R. VIGNANI, A. SPADAFORA , E. SENSI , S. MAZZUCA , M. CRESTI - 'Protein extraction for two-dimensional electrophoresis from olive leaf, a plant tissue containing high levels of interfering compounds' (2003) ELECTROPHORESIS, Vol.24, 2369 - 2375

Signature: Rita Vignani

A handwritten signature in black ink, appearing to read 'Rita Vignani', written in a cursive style. The signature is positioned below the text 'Signature: Rita Vignani' and above a horizontal line.

Siena, April 19th, 2016.