

## PERSONAL INFORMATION

Name: **Elodie Vandelle, PhD**

Scopus Author ID: 24465909900; ORCID Author ID: 0000-0002-4205-6331

Date of birth: 21<sup>st</sup> July 1978

E-mail: [elodiegenevieve.vandelle@univr.it](mailto:elodiegenevieve.vandelle@univr.it)

## CURRENT POSITION *Assistant Professor in Plant Pathology*

Department of Biotechnology

University of Verona, Italy

Strada Le Grazie 15, I-37034 Verona, Italy

## CAREER BREAKS

2012-2013 Maternity Leave, 7 months

2017- Maternity leave, 5 months

## PROFESSORSHIP HABILITATION

July 2018 Plant Pathology

Italian Ministry of University and Research

## EDUCATION

2005 Ph.D. in Life Sciences-Biochemistry, Molecular and Cellular Biology, University of Burgundy, France.

PhD thesis: "Mechanisms of activation of grapevine defense responses by the endopolygalacturonase 1 of *Botrytis cinerea*".

Ph.D. Defense Board : Prof. Serge Delrot (President), Prof. L.C. Van Loon, Dr. Serge Kauffmann, Prof. Raoul Ranjeva, Prof. Massimo Delledonne, Prof. Alain Pugin

2004 Master Degree in Biochemistry, Molecular and Cellular Biology, University of Burgundy, France.

M.Sc. thesis: The endopolygalacturonase 1 of *Botrytis cinerea* is an elicitor of grapevine defense responses.

University of Verona, Verona, Italy.

## PREVIOUS POSITIONS AND FELLOWSHIPS

March 2012 – February 2017

Temporary Professor Assistant

Plant Pathology

University of Verona, Italy.

February 2006 - February 20012

Post-doctoral fellowship

Genetic Biotechnoloy

University of Verona, Italy

## **SUPERVISION AND CO-SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS**

2006            3 Post Doc / 7 PhD students / 10 Master Students/ 10 Bachelor Students  
Department of Biotechnology, University of Verona, Italy

## **TEACHING ACTIVITIES**

2018-current Course of **Biotechnology in Plant Pathology** in the frame of the MSc's degree in **Agri-Food Biotechnology** - University of Verona - Italy

2016            Practical course in **Grapevine disease control** in the frame of the Bachelor's degree in **Viticulture and Enology** - University of Verona - Italy

2006-2009    Practical course in **Genetical Biotechnology** in the frame of the Bachelor's degree in Biotechnology - University of Verona - Italy

2003-2005    Practical course in **Biochemistry** in the frame of the MSc's degree in Biochemistry, Molecular and Cellular Biology - University of Burgundy - France

2002            Course of **Grapevine organography** (theoretical and practical course) in the frame of the MSc's degree in Grapevine Sciences - University Institute of Vine and Wine Jules Guyot - France

## **ORGANIZATION OF INTERNATIONAL CONGRESSES**

- X International Symposium "Grapevine Physiology and Biotechnology", Palazzo della Gran Guardia, Verona, Italy, 13 -18 June 2016  
**Member of the Local Organizing Committee**
- XII International Conference on Reactive Oxygen and Nitrogen Species in Plants: from model systems to field, Palazzo della Gran Guardia, Verona, Italy, 24-26 June 2015  
**Member of the Local Organizing Committee**

## **INSTITUTIONAL RESPONSIBILITIES**

2018-            Faculty member  
Department of Biotechnology, University of Verona, Italy

## **COORDINATION OR SCIENTIFIC RESPONSIBILITY OF GRANTED PROJECTS**

2019-            **Joint Project 2018** - University of Verona and Adriatica Srl - "Identification of new strategies for efficient and rational kiwifruit bacterial canker control and molecular

characterization of their mode of action” - (University of Verona) - **Project coordinator**, Project budget 140.000 €

- 2017- **ARIMNet2 (Coordination of Agricultural Research in the Mediterranean) / 7<sup>th</sup> framework program** - Italian Ministry of Agriculture - NANOBIOAGRI “Plant disease biocontrol by means of non-infectious biodegradable proteinaceous nanoparticles” – **International Coordinator**, Project budget 591.000 €
- 2016- **Joint Project 2015** - University of Verona and Vivai Righui - “Production and evaluation of proteinaceous nanobioparticles based on antimicrobial peptides for plant disease control” - (University of Verona) - **Project coordinator**, Project budget 95.500 €
- 2015-2017 **Joint Project 2014** - University of Verona and Istituto Di Ricerche Biotechnologiche S.P.A (Italy) - “Characterization of the regulation of plant secondary metabolism by NO and application for industrial production of plant active compounds” - **Project coordinator**, Project budget 27.300 €
- 2012-2015 **FIRB 2010 (Futuro in Ricerca)** - Italian Ministry of University and Research - “Cyclic nucleotides in plant response to biotic stress (RBF10S1LJ) -- **Unit scientific coordinator**, Project budget\_ 893.000 €

#### **PRIZES/AWARDS/ACADEMY MEMBERSHIPS.**

Poster Prize: “Analysis of nitric oxide production mechanisms in Arabidopsis thaliana during plant-pathogen interactions”,

1<sup>st</sup> Plant Nitric Oxide Group meeting, Verona, Italy, 28-29 August 2006

Member of the Italian Plant Pathology Society (Società italiana di Patologia Vegetale - SIPaV)  
September 2014 - Present

#### **PEER REVIEWING ACTIVITY**

Since 2006, she collaborated as referee with international scientific journals such as Environmental Science and Pollution Research, FEBS Letter, Free Radical Biology and Medicine, Frontiers in Microbiology, Frontiers in Plant Science, Functional Plant Biology, Journal of the American Chemical Society, Molecular Plant-Microbe Interactions, Nitric Oxide, Phytochemistry, Plant Biology, Plant Cell and Environment, Plant Physiology, Plant Physiology and Biochemistry, Plant Science, Plant Signaling and Behaviour, Phytochemistry, The Plant Journal, Scientific Reports

#### **EDITORIAL ACTIVITY**

2017- .. **Review Editor** for the section Plant-Microbe Interaction of the journals Frontiers in Plant Science and Frontiers in Microbiology

2017- . **Guest Associate Editor** for the topic “Applications of Next Generation Sequencing to Unravel Horticultural Crop Responses and Adaptation to Environmental Stresses” in the section Technical Advances in Plant Science and Crop and Product Physiology of the journal *Frontiers in Plant Science*

## RESEARCH MAIN TOPICS

The past and actual research activities of E.V. are focused on the study of plant defence mechanisms at molecular level on both cultured (grapevine, kiwifruit) and model (*Arabidopsis*, tobacco) plants.

In this context, E.V. has conducted researches aiming at the identification and the characterization of an elicitor from *Botrytis cinera* able to induce defence responses in grapevine cells, decrypting the signalling pathways triggered by this elicitor using a pharmacological approach.

Then, her research lines mainly focused on i) the role of peroxynitrite, formed by the reaction between nitric oxide and superoxide, and peroxynitrite-mediated tyrosine nitration of proteins during the hypersensitive response and ii) the study of cGMP as a key second messenger in nitric oxide-mediated signalling during defence responses.

Currently, E.V. is developing new research lines i) to identify genes involved in grapevine resistance to *Plasmopara viticola* and deciphering their functions in defense signal transduction and ii) to study the interaction between Actinidia (kiwifruit) and the causal agent of kiwifruit bacterial canker, *Pseudomonas syringae* pv. *actinidiae*, with a particular focus on the interkingdom communication between Psa and its host and deciphering bacteria virulence strategies related to the sensors controlling bacterial *quorum sensing*.

## PUBLICATIONS

Elodie Vandelle published 24 *in extenso* articles She has also participated to 26 Meetings (11 oral presentations) of which 17 International.

### A – Scientific publications in international, peer-reviewed journals:

1. Sabetta W, **Vandelle E\***, Locato V, Costa A, Cimini S, Bittencourt Moura A, Luoni L, Graf A, Viggiano L, De Gara L, Bellin D, Blanco E and de Pinto MC (2019) Genetic buffering of cyclic AMP in *Arabidopsis thaliana* compromises the plant immune response triggered by an avirulent strain of *Pseudomonas syringae* pv. *tomato*. *Plant J.*, doi: 10.1111/tpj.14275. *\*first co-author*
2. **Vandelle E**, Vannozzi A, Wong D, Danzi D, Digby AM, Dal Santo S and Astegno A (2018) Identification, characterization and expression analysis of calmodulin and calmodulin-like genes in grapevine (*Vitis vinifera*) reveal likely roles in stress responses. *Plant Physiol. Biochem.*, 129:221-237.

3. Wong DCJ, Ariani P, Castellarin S, Polverari A and **Vandelle E** (2018) Co-expression network analysis and cis-regulatory element enrichment determine putative functions and regulatory mechanisms of grapevine ATL E3 ubiquitin ligases. *Sci. Rep.*, 8(1):3151. *\*co-corresponding author*
4. Chen J, Bellin D and **Vandelle E\*** (2018) Measurement of cyclic GMP during plant hypersensitive disease resistance response. *Methods Mol. Biol.*, 1743:143-151. *\* corresponding author*
5. Imanifard Z, **Vandelle E** and Bellin D (2018) Measurement of hypersensitive cell death triggered by avirulent bacterial pathogens in Arabidopsis. *Methods Mol. Biol.*, 1743:39-50.
6. Ariani P, **Vandelle E\***, Wong D, Giorgetti A, Porceddu A, Camiolo S and Polverari A (2017) Comprehensive Workflow for the Genome-wide Identification and Expression Meta-analysis of the ATL E3 Ubiquitin Ligase Gene Family in Grapevine. *J. Vis. Exp.*, 130. doi: 10.3791/56626. *\*first co-author and co-corresponding author*
7. Ling T, Bellin D, **Vandelle E**, Imanifard Z and Delledonne M (2017) Host-Mediated S-Nitrosylation Disarms the Bacterial Effector HopA11 to Reestablish Immunity. *Plant Cell*, 29(11):2871-2881.
8. **Vandelle E\***, Puttilli MR, Chini A, Devescovi G, Venturi V and Polverari A. (2017) Application of chemical genomics to plant–bacteria communication: a high-throughput system to identify novel molecules modulating the induction of bacterial virulence genes by plant signal. *Methods Mol. Biol.*, 1610:297-314. *\*co-corresponding author*
9. Ariani P, Regaiolo A, Lovato A, Giorgetti A, Porceddu A, Camiolo S, Wong D, Castellarin S, **Vandelle E\*** and Polverari A. (2016) Genome-wide characterisation and expression profile of the grapevine ATL ubiquitin ligase family reveal biotic and abiotic stress-responsive and development-related members. *Sci Rep.*, 6:38260. doi: 10.1038/srep38260. *\*co-corresponding author*
10. Hussain J, Chen J, Locato V, Sabetta W, Behera S, Cimini S, Griggio F, Martínez-Jaime S, Graf A, Bouneb M, Pachiappan R, Fincato P, Blanco E, Costa A, De Gara L, Bellin D, de Pinto MC and **Vandelle E.\*** (2016) Constitutive cyclic GMP accumulation in Arabidopsis thaliana compromises systemic acquired resistance induced by an avirulent pathogen by modulating local signals. *Sci Rep.*, 6:36423. doi: 10.1038/srep36423. *\*co-corresponding author*
11. Bellin D, Delledonne M and **Vandelle E.\*** (2016) Detection of Peroxynitrite in Plants Exposed to Bacterial Infection. *Methods Mol. Biol.*, 1424:191-200. doi: 10.1007/978-1-4939-3600-7\_16. *\*corresponding author*
12. **Vandelle E**, Ling T, Imanifard Z, Liu R, Delledonne M and Bellin D (2016) Nitric oxide signaling during the hypersensitive disease resistance response. *Adv. Bot. Res.*, 77:219-243.

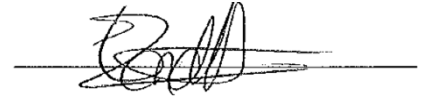
13. Chen J, **Vandelle E\***, Bellin D and Delledonne M. (2014) Detection and function of nitric oxide during the hypersensitive response in *Arabidopsis thaliana*: Where there's a will there's a way. *Nitric Oxide*. pii: S1089-8603(14)00253-5. doi: 10.1016/j.niox.2014.06.008. \*first co-author
14. **Vandelle E** and Delledonne M (2011) Peroxynitrite formation and function in plants. *Plant Science*, doi:10.1016/j.plantsci.2011.05.002.
15. Vatsa P, Chiltz A, Luini E, **Vandelle E**, Pugin A and Roblin G. (2011) Cytosolic calcium rises and related events in ergosterol-treated *Nicotiana* cells. *Plant Physiol. Biochem.*, 49:764-773.
16. Gaupels F, **Spiazzi-Vandelle E\***, Yang D and Delledonne M (2011) Detection of peroxynitrite accumulation in *Arabidopsis thaliana* during the hypersensitive defense response. *Nitric Oxide*, doi:10.1016/j.niox.2011.01.009. \*first co-author
17. Leitner M, **Vandelle E**, Bellin D, Gaupels F and Delledonne M (2009) NO signals in the haze: Nitric oxide signalling in plant defence. *Curr. Opin. Plant Biol.*, 12:1-8.
18. Cecconi D, Orzetti S, **Vandelle E**, Rinalducci S, Zolla L and Delledonne M (2009) Protein nitration during defense response in *Arabidopsis thaliana*. *Electrophoresis*, 30:1-9.
19. **Vandelle E** and Delledonne M (2008) Methods for nitric oxide detection during plant-pathogen interactions. *Meth. Enzymol.*, 437:575-94.
20. Romero-Puertas MC, Laxa M, Mattè A, Zaninotto F, Finkemeier I, Jones AME, Perazzolli M, **Vandelle E**, Dietz KJ and Delledonne M (2007) S-nitrosylation of peroxiredoxin II E promotes peroxynitrite-mediated tyrosine nitration. *The Plant Cell*, 19:4120-30.
21. Garcia-Brugger A, Lamotte O, **Vandelle E**, Bourque S, Lecourieux D, Poinssot B, Wendehenne D and Pugin A (2006) Signaling pathways activated by elicitors of plant defenses. *Mol. Plant Microbe Interact.*, 19:711-724.
22. Kunz C, **Vandelle E**, Rolland S, Poinssot B, Bruel C, Cimerman A, Zotti C, Moreau E, Vedel R, Pugin A and Boccara M (2006) Characterization of a new, non-pathogenic mutant in *Botrytis cinerea* with impaired plant colonisation capacity. *New Phytol.*, 170:537-550.
23. **Vandelle E**, Poinssot B, Wendehenne D, Bentéjac M and Pugin A (2006) Integrated signaling network involving calcium, nitric oxide, active oxygen species but not mitogen-activated protein kinases in BcPG1-elicited grapevine defenses. *Mol. Plant Microbe Interact.*, 19:429-440.
24. Poinssot B, **Vandelle E**, Bentéjac M, Adrian M, Levis C, Brygoo Y, Garin J, Sicilia F, Coutos-Thévenot P and Pugin A (2003) The endopolygalacturonase 1 from *Botrytis cinerea* activates grapevine defence reactions unrelated to its enzymatic activity. *Mol. Plant Microbe Interact.*, 16(6):553-64.

**B – Citations and Scientific production statistics:**

1226 citations with H-index=13 in Scopus.

*Verona, 28<sup>th</sup> March 2019*

**Elodie Vandelle, PhD**

A handwritten signature in black ink, appearing to read 'Elodie Vandelle', is written over a horizontal line.