



## CURRICULUM VITAE ET STUDIORUM

**Silvia Farinati**



### GENERAL AND PERSONAL INFORMATION

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NAME AND SURNAME Silvia Farinati  
HOME ADDRESS Via Caval, 11, San Martino Buon Albergo, 37036 (VR), Italy  
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MAIL [silvia.farinati@unipd.it](mailto:silvia.farinati@unipd.it)  
[silvia.farinati@pec.it](mailto:silvia.farinati@pec.it)  
NATIONALITY Italian  
SEX Female  
PLACE OF BIRTH Tregnago, VR  
DATE OF BIRTH May 22<sup>nd</sup>, 1981  
MARITAL STATUS Married  
NUMBER OF CHILDREN 1 (year of birth, 2014)  
WORK ADDRESS University of Padua  
Department of Agronomy Food Natural resources Animals Environment  
Viale dell'Università, 16, Legnaro, 35020 (PD), Italy  
Fax. 0039 049 827 2839  
ORCID Author ID <http://orcid.org/0000-0002-3295-8809>

### EDUCATION

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- 2006 – 2008 **Ph.D in Molecular, Industrial and Environmental Biotechnologies (XXI ciclo)**  
University of Verona, Department of Biotechnology  
"Identification of genes involved in heavy metals tolerance and hyperaccumulation in *Arabidopsis halleri* and characterisation of a bZIP transcription factor responsible for Cd uptake and translocation to the shoot in *Arabidopsis thaliana*".  
Supervisor: Prof.ssa Antonella Furini
- 2000 – 2005 **Master Degree in Agro-Industrial Biotechnology, 110/110 cum laude**  
University of Verona, Department of Biotechnology  
"Study of the transcriptional factor GBF5 of *Arabidopsis thaliana* induced by cadmium".  
Supervisor: Prof.ssa Antonella Furini
- 1995 – 2000 **High school graduation 100/100**  
Chemistry and Microbiology Technical Assistant, IPSIA "E. Fermi" – (VR)

### PROFESSIONAL QUALIFICATION

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- July 2020 **Professional qualification as a biologist with score 50/50**  
University of Padova, Department of Biology

### PERSONAL SKILLS

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NATIVE LANGUAGE Italian  
SECOND LANGUAGE English  
Reading skills Very Good  
Writing skills Very Good  
Verbal skills Very Good

## SOCIAL SKILLS

Good integration with the working environment. Good teamwork ability. Hard-work and will power to get the expected outcome.

## RESEARCH EXPERIENCES

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- January 2022- *in progress*  
**RTDa**  
Programma Operativo Nazionale Ricerca e Innovazione 2014-2020\_DM 1062 del 10/08/2021, Azione IV.4 (Dottorati e contratti di ricerca su tematiche dell'innovazione, Azione IV.6 - Contratti di ricerca su tematiche Green)  
**Istitution:** DAFNAE, Viale dell'Università, 16 35020, Legnaro (PD) - Italy  
**Supervisor:** Prof. Gianni Barcaccia
- July 2021-December 2021  
**Co.Co.Oc**  
"Messa a punto di una metodica Gene-Tech per il controllo di *Amaranthus* spp. Basata sulla tecnologia dell'RNAi tramite lo sviluppo e l'inserimento di un dsRNA nelle piante".  
**Istitution:** IPSP, Sede Secondaria di Legnaro, CNR, PD  
**Supervisor:** Dr. Laura Scarabel
- May 2021-June 2021  
**Co.Co.Oc**  
"ESCinterfere: vaccinazione della vite contro il mal dell'esca"; Cod. Intervento: 2105/10259808-003/231/DEC/20; Titolo dell'intervento: "Diffusione dei risultati ottenuti ad un pubblico di tecnici e futuri tecnici viticoli – **Living labs:** sperimentazione e validazione di nuovi prodotti e servizi per sostenere la generazione di soluzioni innovative e problemi specifici"  
**Istitution:** DAFNAE, Viale dell'Università, 16 35020, Legnaro (PD) - Italy  
**Supervisor:** Prof.ssa Serena Varotto
- March 2021-April 2021  
**Scholarship for post-graduate research activities**  
Borsa di animazione territoriale per la promozione dei risultati della ricerca". Nell'ambito del progetto ESC interfere: vaccinazione della vite contro il mal d'esca.  
**Prot. n. 332 del 28/01/2021**  
**Istitution:** DAFNAE, Viale dell'Università, 16 35020, Legnaro (PD) - Italy  
**Supervisor:** Prof.ssa Serena Varotto
- June 2019-January 2021  
**Research Associate Fellowship**  
"RELIUM- Herbicide resistant *Lolium* spp. in climatically and agronomically diverse European countries: from developing quick and reliable detection tools to devising sustainable control strategies". ERA-NET C-IPM.  
**Prot. n. IPSP 041 2019 PD**  
**Istitution:** IPSP, Sede Secondaria di Legnaro, CNR, PD  
**Supervisor:** Dr. Maurizio Sattin
- August 2018-December 2018  
**Scholarship for post-graduate research activities**  
"Caratterizzazione di geni coinvolti nella risposta al brassinolide in mais"  
**Prot n. 1909/2018**  
**Istitution:** DAFNAE, Viale dell'Università, 16 35020, Legnaro (PD) - Italy  
**Supervisor:** Prof.ssa Serena Varotto
- May 2018-June 2018  
**Co.Co.Oc**  
"Elaborazione dei dati analisi di contaminati in barbatelle di vite e ricerche bibliografiche"  
**Prot. n. 920 del 23-04-2018**  
**Istitution:** DAFNAE, Viale dell'Università, 16 35020, Legnaro (PD) - Italy  
**Supervisor:** Prof. Claudio Bonghi
- July 2017-December2017  
**Scholarship for post-graduate research activities**  
"Regolazione epigenetica dello sviluppo del frutto"  
**Prot. n. 1328/2017**  
**Istitution:** DAFNAE, Viale dell'Università, 16 35020, Legnaro (PD) - Italy  
**Supervisor:** Prof.ssa Serena Varotto

- July 2015-June 2017

**Research Associate Fellowship**  
 “Controllo epigenetico della maturazione in frutti climaterici e non climaterici”  
**Prot. n. 881 del 08-05-2015**  
**Istitution:** DAFNAE, Viale dell’Università, 16 35020, Legnaro (PD) - Italy  
**Supervisor:** Prof. Claudio Bonghi
- June 2014-June 2015

**Research Associate Fellowship**  
 “Analisi delle modifiche epigenetiche in geni di mais indotti dalla carenza idrica”  
**Prot. n. 750 del 29-05-2014**  
**Istitution:** DAFNAE, Viale dell’Università, 16 35020, Legnaro (PD) - Italy  
**Supervisor:** Prof.ssa Serena Varotto
- June 2013-May 2014

**Research Associate Fellowship**  
 “Analisi degli stati della cromatina mediante ChIP-seq in foglia di piante di mais allevate in condizioni di stress”  
**Prot. n. 705 del 30-05-2013**  
**Istitution:** DAFNAE, Viale dell’Università, 16 35020, Legnaro (PD) - Italy  
**Supervisor:** Prof.ssa Serena Varotto
- June 2012-May 2013

**Research Associate Fellowship**  
 “Approccio multidisciplinare per lo studio della regolazione epigenetica nello sviluppo del seme in arabidopsis e mais”  
**Prot. n. 388 del 25-05-2012**  
**Istitution:** DAFNAE, Viale dell’Università, 16 35020, Legnaro (PD) - Italy  
**Supervisor:** Prof.ssa Serena Varotto
- May 2010-April 2012

**Research Associate Fellowship**  
 “Studio dei meccanismi genetici ed epigenetici coinvolti nella risposta alla vernalizzazione in *C. intybus*”  
**Prot. n. 33182 del 01-06-2010**  
**Istitution:** Department of Environmental Agronomy & Plant Production, Viale dell’Università, 16 35020, Legnaro (PD) - Italy  
**Supervisor:** Prof.ssa Serena Varotto
- July 2009-April 2010

**Research Associate Fellowship**  
 “Caratterizzazione di geni indotti da metalli pesanti nella specie *Arabidopsis halleri*”  
**Prot. n. 29155 del 30-06-2009**  
**Istitution:** Department of Biotechnology, Strada le Grazie, 15, 37134, (VR) - Italy  
**Supervisor:** Prof.ssa Antonella Furini
- January 2006-December 2008

**Ph.D Fellowship**  
 “Identification of genes involved in heavy metals tolerance and hyperaccumulation in *Arabidopsis halleri* and characterisation of a bZIP transcription factor responsible for Cd uptake and translocation to the shoot in *Arabidopsis thaliana*”  
**Istitution:** Department of Biotechnology, Strada le Grazie, 15, 37134, (VR) - Italy  
**Supervisor:** Prof.ssa Antonella Furini

## RELEVANT SCIENTIFIC TECHNIQUE ACQUIRED AND COMPETENCES

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- Nucleic acids and protein extraction, purification and quantification;
- Molecular biology-based techniques: DNA/RNA electrophoresis, Southern blot (non-radioactive), western blot, northern blot, PCR, cloning, fusion and expression vectors preparation, 2D-PAGE;
- cDNA amplification by RT-PCR and RACE;
- *In vitro* dsRNA synthesis;
- Gene expression analysis by Semiquantitative RT-PCR and Quantitative Real Time PCR techniques;
- *In situ* hybridization;
- Protein immunolocalization
- Chromatin immunoprecipitation (ChIP) assays;
- *E. coli* and *Agrobacterium* sp. transformation and cultures;
- Cell and plant *in vitro* cultures;



## PERIOD OF TRAINING IN NATIONAL RESEARCH INSTITUTIONS

- May 2013 – June 2013                      CREA -Centro di ricerca Cerealicoltura e colture Industriali  
Via Stezzano, 24, 24126 Bergamo BG  
**Supervisor:** Dr. Vincenzo Rossi

## POSTERS PRESENTED AT NATIONAL AND INTERNATIONAL CONFERENCES

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**Farinati S**, Betto A, Barcaccia G (2023) "How much is enough? Considerations on the use of microsatellite for genotyping ornamental plants" XXVII International Eucarpia Symposium from nature to culture: breeding ornamentals for sustainability (Genova Italy - 2/5 July 2023)

**Farinati S**, Soria Garcia A.F, Betto A, Palumbo F, Vannozi A, Barcaccia G (2023) "Implementation of precision breeding strategies for male sterility induction in *Solanaceae* model species" Proceedings of The 66<sup>th</sup> Italian Society Of Agricultural Genetics Annual Congress (Bari, Italy - 5/8 September, 2023)  
ISBN: 978-88-944843-4-2

Betto A, Palumbo F, **Farinati S**, Barcaccia G (2023) "Use of single sequence repeats, single nucleotide polymorphisms and ploidy analysis in genotyping *Lantana camara* breeding clonal lines" Proceedings of The 66<sup>th</sup> Italian Society Of Agricultural Genetics Annual Congress (Bari, Italy - 5/8 September, 2023)  
ISBN: 978-88-944843-4-2

Devillars A, Bertini E, Fattorini C, **Farinati S**, Rizzato S, Soria Garcia A.F, Zenoni S, Vannozi A (2023) "Developing a protocol to isolate transcription factors bound to a specific DNA locus from the extracted chromatin of grapevine protoplasts using CRISPR-dCas9 system" Proceedings of The 66<sup>th</sup> Italian Society Of Agricultural Genetics Annual Congress (Bari, Italy - 5/8 September, 2023)  
ISBN: 978-88-944843-4-2

Draga S, Palumbo F, Magon G, Gabelli G, Soria Garcia F, Vannozi A, **Farinati S**, Scariolo F, Lucchin M, Barcaccia G (2023) "MIK2 is the candidate female determinant of the sporophytic self incompatibility (ssi) locus in chicory *Cichorium intybus*, Asteraceae" Proceedings of The 66<sup>th</sup> Italian Society Of Agricultural Genetics Annual Congress (Bari, Italy - 5/8 September, 2023)  
ISBN: 978-88-944843-4-2

Fattorini C, Licursi V, Foresti C, **Farinati S**, Magris G, Pezzotti M, Zenoni S (2023) "Decoding gene regulation: NAC family investigation in grapevine" Proceedings of The 66<sup>th</sup> Italian Society Of Agricultural Genetics Annual Congress (Bari, Italy - 5/8 September, 2023)  
ISBN: 978-88-944843-4-2

Betto A, **Farinati S**, Scariolo F, Barcaccia G (2022) "Genetic improvement programs aimed at the establishment of new varieties of flowering ornamental species using molecular selection methods" Proceedings of The 65<sup>th</sup> Italian Society Of Agricultural Genetics Annual Congress (Piacenza, Italy - 6/9 September, 2022)  
ISBN: 978-88-944843-3-5

Bordignon S, Panozzo S, **Farinati S**, Milani A, Scarabel L, Scapin D, Braido T E, Petrusa E, Varotto S (2022) "Development of a non-chemical mAI-based strategy for *Amaranthus hybridus* L. weed management" Proceedings of The 65<sup>th</sup> Italian Society Of Agricultural Genetics Annual Congress (Piacenza, Italy - 6/9 September, 2022)  
ISBN: 978-88-944843-3-5

**Farinati S**, Canton M, Bonghi C, Varotto S (2019) "Epigenetic regulation of peach fruit growth" Proceedings of The 63<sup>rd</sup> Italian Society Of Agricultural Genetics Annual Congress (Napoli, Italy - 10/13 September, 2019)  
ISBN: 978-88-904570-9-8

Forestan C, **Farinati S**, Pavesi G, Rossi V, Varotto S (2019) "Dynamic response to extended drought and recovery involve epigenetic control in stress adaptation and flowering regulation, providing insights into epigenetic memory in maize" – 61<sup>st</sup> Annual Maize Conference (St. Louis, Missouri, USA - 14/17 March, 2019)

Forestan C, **Farinati S**, Pavesi G, Rossi V, Varotto S (2019) "Drought stress and recovery period indicate critical epigenetic control points in stress adaptation and flowering regulation, providing insights into epigenetic memory in *Zea mays*" - INDEPTH COST Meeting (Prague, Czech Republic - 25/27 February 2019)

Forestan C, **Farinati S**, Pavesi G, Rossi V, Varotto S (2018) "Discovering the epigenetic memory of stress response in maize." 60<sup>th</sup> Annual Maize Conference (Saint-Malo, France - 22/25 March, 2018)

- Farinati S**, Galla G, Rasori A, Varotto S, Bonghi C (2017) "Epigenetic regulation of endoreduplication process: a key role for a correct peach fruit size and ripening timing" Proceedings of The 61<sup>th</sup> Italian Society Of Agricultural Genetics Annual Congress (Pisa, Italy - 19/22 September, 2017)  
ISBN: 978-88-904570-7-4
- Forestan C, **Farinati S**, Aiese Cigliano R, Vicelli B, Pavesi G, Rossi V, Varotto S (2017) "Bringing to light the epigenetic memory of stress response in maize." Proceedings of the Joint Congress SIBV-SIGA (Pisa, Italy - 19/22 September, 2017)  
ISBN: 978-88-904570-7-4
- Forestan C, **Farinati S**, Rouster J, Vicelli B, Lauria M, Varotto S (2017) "Histone deacetylation, maize development and epigenome regulation." Proceedings of the Joint Congress SIBV-SIGA (Pisa, Italy - 19/22 September, 2017)  
ISBN: 978-88-904570-7-4
- Forestan C, **Farinati S**, Aiese Cigliano R, Vicelli B, Pinosio S, Marroni F, Rossi V, Pavesi G, Varotto S (2017) "Discovering the epigenetic memory of stress response in Maize" European Molecular Maize meeting 2017 (Ghent, Belgium - 3/5 May, 2017)
- Forestan C, **Farinati S**, Aiese Cigliano R, Sanseverino W, Lunardon A, Varotto S (2016) "Stress-induced and epigenetic-mediated transcriptional regulation and memory in maize" Proceedings Of The 60<sup>th</sup> Italian Society Of Agricultural Genetics Annual Congress (Catania, Italy - 13/16 September, 2016)  
ISBN: 978-88-904570-6-7
- Forestan C, **Farinati S**, Lunardon A, Aiese Cigliano R, Rossi, Pavesi G, Varotto S (2016) "Exploring the stress-induced epigenetic-regulated genome stability and epigenomic variability in maize" 58<sup>th</sup> Annual Maize Conference (Jacksonville, Florida, USA - 17/20 March, 2016)
- Farinati S**, Forestan C, Lunardon A, Lauria M, Varotto S. (2015) "Exploring epigenetic pathways in mutant maize plants." Proceedings Of The 59<sup>th</sup> Italian Society Of Agricultural Genetics Annual Congress (Milano, Italy - 8/11 September, 2015)  
ISBN: 978-88-904570-5-0
- Forestan C, **Farinati S**, Aiese Cigliano R, Sanseverino W, Pavesi G, Rossi V, Lunardon A, Varotto S (2015) "Genetic and epigenetic regulation of maize transcriptome and genome stability under stress conditions: from chromatin modification to lncRNAs and beyond." 57<sup>th</sup> Annual Maize Conference (St. Charles, Illinois, USA - 12/15 March, 2015)
- Forestan C, **Farinati S**, Aiese Cigliano R, Sanseverino W, Pavesi G, Rossi V, Lunardon A, Varotto S (2014) "Stress-induced genetic and epigenetic regulation of maize transcriptome and genome stability: from chromatin modification to lncRNAs and beyond." Proceedings Of The 58<sup>th</sup> Italian Society Of Agricultural Genetics Annual Congress (Alghero, Italy - 15/18 September, 2014)  
ISBN: 978-88-904570-4-3
- Lunardon A, **Farinati S**, Forestan C, Axtell M.J, Varotto S (2014) "Exploring small interfering RNAs effects on gene expression regulation in maize leaves." Proceedings Of The 58<sup>th</sup> Italian Society Of Agricultural Genetics Annual Congress (Alghero, Italy - 15/18 September, 2014)  
ISBN: 978-88-904570-4-3
- Farinati S**, Forestan C, Rouster J, Lassagne H, Lauria M, Dal Ferro M, Varotto S (2014) "Maize HDA108 has an active role both in controlling maize vegetative and reproductive development and setting the histone code." Proceedings Of The 58<sup>th</sup> Italian Society Of Agricultural Genetics Annual Congress (Alghero, Italy - 15/18 September, 2014)  
ISBN: 978-88-904570-4-3
- Farinati S**, Forestan C, Rossi V, Pavesi G, Lunardon A, Varotto S (2014) "Genetic and epigenetic regulation of response to drought and salt stress in maize" 56<sup>th</sup> Annual Maize Conference (Pechino, China – 13/16 March, 2014)
- Forestan C, **Farinati S**, Lunardon A, Aiese Cigliano R, Sanseverino W, Varotto S (2014) "Epigenetics regulation of maize transcriptome: from coding, via TEs, to long non coding RNAs and beyond" 56<sup>th</sup> Annual Maize Conference (Pechino, China - 13/16 March, 2014)
- Lunardon A, **Farinati S**, Forestan C, De Paoli E, Axtell M, Varotto S (2014) "De novo small RNA loci annotation in maize leaves and their expression changes in response to environmental stresses" (Pechino, China - 13/16 March, 2014)
- Farinati S**, Forestan C, Rouster J, Varotto S (2013) "Characterization of mutants for maize epiregulators" Proceedings of the 57<sup>th</sup> Italian Society of Agricultural Genetics Annual Congress (Foggia, Italy - 16/19 September, 2013)  
ISBN: 978-88-904570-3-6

- Verna M, **Farinati S**, Varotto S, Lucchin M (2013) "Contribution of chromatin to the regulation of genome activity in response to environmental stress in grapevine rootstocks" Proceedings of the 57<sup>th</sup> Italian Society of Agricultural Genetics Annual Congress (Foggia, Italy - 16/19 September, 2013)  
ISBN: 978-88-904570-3-6
- Forestan C, Del Fabbro C, **Farinati S**, Lunardon A, Varotto S (2013) "Monitoring stress-induced genetic and epigenetic changes in the transcriptome of *Zea mays*" Proceedings of the 57<sup>th</sup> Italian Society of Agricultural Genetics Annual Congress (Foggia, Italy - 16/19 September, 2013)  
ISBN: 978-88-904570-3-6
- Forestan C, **Farinati S**, Lunardon A, Varotto S (2013) "Epigenetic regulation of maize transcriptome and TEs activity in response to environmental stresses" 55<sup>th</sup> Annual Maize Conference (St. Charles, Illinois, USA - 14/17 March, 2013)
- Forestan C, **Farinati S**, Lunardon A, Lauria M, Varotto S (2012) Transcriptome deep sequencing in maize response to different stresses: from coding genes to the dark matter of the genome." COLD SPRING HARBOR ASIA CONFERENCES: Plant Epigenetics, Stress and Evolution (Suzhou, China - 29 October/2 November, 2012)
- Verna M, **Farinati S**, Varotto S, Lucchin M (2012) "Development of a method suitable for chromatin immunoprecipitation in grapevine rootstocks" Proceedings of the 56<sup>th</sup> Italian Society of Agricultural Genetics Annual Congress (Perugia, Italy - 17/20 September, 2012)  
ISBN: 978-88-904570-1-2
- Forestan C, De Paoli E, Lunardon E, **Farinati S**, Varotto S (2012) "Functions of micro and small interfering RNAs in maize stress response." Proceedings of the 56<sup>th</sup> Italian Society of Agricultural Genetics Annual Congress (Perugia, Italy - 17/20 September, 2012)  
ISBN: 978-88-904570-1-2
- Farinati S**, Lunardon A, Forestan C, De Paoli E, Varotto S (2012) "Maize transcriptome deep sequencing: from coding genes to the dark matter of the genome." Proceedings of the 56<sup>th</sup> Italian Society of Agricultural Genetics Annual Congress (Perugia, Italy - 17/20 September, 2012)  
ISBN: 978-88-904570-1-2
- Forestan C, **Farinati S**, Lunardon A, Rouster J, Varotto S (2012) "Epigenetic mechanisms and environmental stresses in maize: a multiple approach to study epiallele formation and inheritance." EMBO Conference Series PLANT DEVELOPMENT AND ENVIRONMENTAL INTERACTION (Matera, Italy - 27/30 May, 2012)
- Forestan C, **Farinati S**, Lunardon A, Rouster J, Varotto S (2012) "Epigenetic mechanisms and environmental stresses in maize: a multiple approach to study epiallele formation and inheritance." 54<sup>th</sup> Annual Maize Conference (Portland, Oregon, USA - 15/18 March, 2012)
- Forestan C, **Farinati S**, Varotto S (2012) "Closing the gap: the maize PIN gene family of auxin transporters." 54<sup>th</sup> Annual Maize Conference (Portland, Oregon, USA - 15/18 March, 2012)
- Forestan C, **Farinati S**, Becker C, Rossi V, Weigel D, Varotto S (2011) "A multiple approach to study environmental stress-induced epiallele formation and inheritance in *Zea mays*." Proceedings of the 55<sup>th</sup> Italian Society of Agricultural Genetics Annual Congress (Assisi, Italy - 19/22 September, 2011)  
ISBN: 978-88-904570-2-9
- Farinati S**, Forestan C, Varotto S (2011) "Auxin efflux transporters in maize: phylogenetic analysis and gene expression studies" Proceedings of the 55<sup>th</sup> Italian Society of Agricultural Genetics Annual Congress (Assisi, Italy - 19/22 September, 2011)  
ISBN: 978-88-904570-2-9
- Forestan C, **Farinati S**, Ceccato L, Varotto S (2011) "The PIN-FORMED family of auxin efflux carriers mediates auxin transport and accumulation shaping maize development." 53<sup>rd</sup> Annual Maize Conference (St. Charles, Illinois, USA - 17/20 March, 2011)
- Forestan C, **Farinati S**, Varotto S (2010) "The PIN auxin efflux carriers family in *Zea mays*: phylogenetic analysis, expression patterns and subcellular localization" Proceedings of the 54<sup>th</sup> Italian Society of Agricultural Genetics Annual Congress (Matera, Italy - 27/30 September, 2010)  
ISBN: 978-88-904570-0-5
- Farinati S**, DalCorso G, Bona E, Furini A (2009) "Characterization of a bZIP transcription factor responsible for Cd uptake and translocation to the shoot in transgenic plants and identification of genes involved in heavy metals tolerance and hyperaccumulation in *Arabidopsis halleri*" Phyto 2009- COST Action 859 Final Conference (Ascona, Switzerland - 11/16 October, 2009)

**Farinati S**, DalCorso G, Bona E, Berta G, Furini A (2009) “*Arabidopsis halleri* response to heavy metals and rhizosphere microorganisms: a proteomic approach” COST Action 859 (Viterbo, Italy - 5/6 May, 2009)

**Farinati S**, DalCorso G, Bona E, Furini A (2009) “Proteomic analysis of *Arabidopsis halleri* shoots in response to the heavy metals cadmium and zinc and rhizosphere microorganisms” COST Action 859 (Szeged, Hungary - 16/17 April, 2009)

**Farinati S**, Corbella M, DalCorso G, Furini A (2008) “Identification of genes and proteins induced by heavy metals in hyperaccumulator plants under the influence of rhizobacteria” 52<sup>nd</sup> SIGA Annual Congress (Padova, Italy - 15/17 September, 2008)  
ISBN: 978-88-900622-8-5

**Farinati S**, DalCorso G, Micheletto L, Furini A (2007) “The Brassica juncea transcription factor BjCdR15 enhances cadmium tolerance, accumulation and transport to the shoot in transgenic plants” 51<sup>st</sup> SIGA Annual Congress (Riva del Garda, Italy - 23/26 September, 2007)  
ISBN: 978-88-900622-7-8

**Farinati S**, DalCorso G, Micheletto L, Borgato L, Furini A (2006) “Expression of a Brassica juncea bZIP transcription factor in Arabidopsis and tobacco enhances resistance to and decreases uptake of cadmium” 50<sup>th</sup> SIGA Annual Congress (Ischia, Italy - 10/14 September, 2006)  
ISBN: 88-900622-7-4

#### **AUTHOR AND CO-AUTHOR IN ORAL COMMUNICATIONS**

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**Farinati S**. (2023) Seminar for preparatory modules for newly-enrolled students in Sustainable Agriculture master course “Sustainable Agriculture: Basics - Genetic module” - DAFNAE, Padova, 12 September, 2023

**Farinati S**. (2023) Seminar at “CROPINNO Workshop: Introduction to Epigenetics- Chromatin extraction in plants DAFNAE, Padova, 24 February, 2023

**Bordignon S**, **Farinati S**, Milani A, Panozzo S, Scarabel L, Varotto S (2021) “New insights into an exogenous RNAi-based approach for endogenous genes silencing in plants” 64<sup>th</sup> Italian Society Of Agricultural Genetics Annual Virtual Congress (14/16 September, 2021)

**Forestan C**, **Farinati S**, Rouster J, Lassagne H, Lauria M, Varotto S (2017) “Maize HISTONE DEACETYLASE 108 modulates gene expression controlling vegetative and reproductive development” European Molecular Maize meeting 2017 (Ghent, Belgium - 3/5 May, 2017)

**Farinati S**, Rasori A, Varotto S, Botton A, Bonghi C (2016) “(Epi)genetic control of fruit patterning and development in peach” 60<sup>th</sup> Italian Society Of Agricultural Genetics Annual Congress (Catania, Italy - 13/16 September, 2016)

**Forestan C**, **Farinati S**, Aiese Cigliano R, Sanseverino W, Pavesi G, Rossi, Varotto S (2016) “Dissecting the epigenetic memory of stress response in maize” 60<sup>th</sup> Italian Society Of Agricultural Genetics Annual Congress (Catania, Italy - 13/16 September, 2016)

**Forestan C**, **Farinati S**, Rouster J, Lassagne H, Lauria M, Varotto S (2014) “ZmHDA108 has an active role both in setting the histone code and controlling plant vegetative and reproductive development of maize” 56<sup>th</sup> Annual Maize Conference (Pechino, China – 13/16 March, 2014)

**Lunardon A**, DelFabbro C, De Paoli E, Hardcastl T, Forestan C, **Farinati S**, Varotto S (2013) “Analysis of small RNA populations of maize leaves following abiotic stress treatments” 57<sup>th</sup> Italian Society of Agricultural Genetics Annual Congress (Foggia, Italy – 16/19 September, 2013)

**Rossi V**, Mainieri D, Forestan C, Mascheretti I, **Farinati S**, Lauria M, Varotto S (2011) “Environmental epigenetics in maize: advances from a European initiative” 55<sup>th</sup> Italian Society of Agricultural Genetics Annual Congress (Assisi, Italy - 19/22 September, 2011)

**Farinati S**, DalCorso G, Furini A (2009) “Plant microbe interactions: effects on heavy metals uptake and accumulation in *Arabidopsis halleri*” 53<sup>rd</sup> SIGA Annual Congress (Torino, Italy - 16/19 September, 2009)

**Farinati S**, Corbella M, Maistri S, DalCorso G, Livorno G, Pavoni A, Zerminiani A, Furini A (2008) “Identification of proteins induced by Cd and Zn in *Arabidopsis halleri* in the presence of rhizobacteria” COST Action 859 (Verona, Italy – 5/6 June, 2008)

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## THOR AND CO-AUTHOR IN AWARDS AND ACKNOWLEDGMENTS

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**Farinati S**, Canton M, Bonghi C, Varotto S (2019) "Epigenetic regulation of peach fruit growth" Proceedings of The 63<sup>rd</sup> Italian Society Of Agricultural Genetics Annual Congress (Napoli, Italy - 10/13 September, 2019)

ISBN: 978-88-904570-9-8

**VINCITORE DEL PREMIO SIGA 2019 per la MIGLIORE PRESENTAZIONE POSTER**

**Farinati S**, Galla G, Rasori A, Varotto S, Bonghi C (2017) "Epigenetic regulation of endoreduplication process: a key role for a correct peach fruit size and ripening timing" Proceedings of The 61<sup>th</sup> Italian Society Of Agricultural Genetics Annual Congress (Pisa, Italy - 19/22 September, 2017)

ISBN: 978-88-904570-7-4

**VINCITORE DEL PREMIO SIGA 2017 per la MIGLIORE PRESENTAZIONE POSTER**

Forestan C, **Farinati S**, Aiese Cigliano R, Sanseverino W, Lunardon A, Varotto S (2016) "Stress-induced and epigenetic-mediated transcriptional regulation and memory in maize" Proceedings Of The 60<sup>th</sup> Italian Society Of Agricultural Genetics Annual Congress (Catania, Italy - 13/16 September, 2016)

ISBN: 978-88-904570-6-7

**VINCITORE DEL PREMIO SIGA 2016 per la MIGLIORE PRESENTAZIONE POSTER**

Forestan C, **Farinati S**, Aiese Cigliano R, Sanseverino W, Pavese G, Rossi V, Lunardon A, Varotto S (2014) "Stress-induced genetic and epigenetic regulation of maize transcriptome and genome stability: from chromatin modification to lncRNAs and beyond." Proceedings Of The 58<sup>th</sup> Italian Society Of Agricultural Genetics Annual Congress (Alghero, Italy - 15/18 September, 2014)

ISBN: 978-88-904570-4-3

**VINCITORE DEL PREMIO SIGA 2014 per la MIGLIORE PRESENTAZIONE POSTER**

Lunardon A, **Farinati S**, Forestan C, Axtell M.J, Varotto S (2014) "Exploring small interfering RNAs effects on gene expression regulation in maize leaves." Proceedings Of The 58<sup>th</sup> Italian Society Of Agricultural Genetics Annual Congress (Alghero, Italy - 15/18 September, 2014)

ISBN: 978-88-904570-4-3

**VINCITORE DEL PREMIO SIGA 2014 per la MIGLIORE PRESENTAZIONE POSTER**

**Farinati S**, Forestan C, Rouster J and Varotto S (2013) "Characterization of mutants for maize epiregulators" Proceedings of the 57<sup>th</sup> Italian Society of Agricultural Genetics Annual Congress (Foggia, Italy – 16/19 September, 2013)

ISBN: 978-88-904570-3-6

**VINCITORE DEL PREMIO SIGA 2013 per la MIGLIORE PRESENTAZIONE POSTER**

Forestan C, De Paoli E, Lunardon E, **Farinati S** and Varotto S (2012) "Functions of micro and small interfering RNAs in maize stress response." Proceedings of the 56<sup>th</sup> Italian Society of Agricultural Genetics Annual Congress (Perugia, Italy – 17/20 September, 2012)

ISBN: 978-88-904570-1-2

**VINCITORE DEL PREMIO SIGA 2012 per la MIGLIORE PRESENTAZIONE POSTER**

**Farinati S**, Lunardon A, Forestan C, De Paoli E and Varotto S (2012) "Maize transcriptome deep sequencing: from coding genes to the dark matter of the genome." Proceedings of the 56<sup>th</sup> Italian Society of Agricultural Genetics Annual Congress (Perugia, Italy – 17/20 September, 2012)

ISBN: 978-88-904570-1-2

**VINCITORE DEL PREMIO SIGA 2012 per la MIGLIORE PRESENTAZIONE POSTER**

Forestan C, **Farinati S** and Varotto S (2010) "The PIN auxin efflux carriers family in *Zea mays*: phylogenetic analysis, expression patterns and subcellular localization" Proceedings of the 54<sup>th</sup> Italian Society of Agricultural Genetics Annual Congress (Matera, Italy - 27/30 September, 2010)

ISBN: 978-88-904570-0-5

**VINCITORE DEL PREMIO SIGA 2010 per la MIGLIORE PRESENTAZIONE POSTER**

**Farinati S**, DalCorso G, Micheletto L, Furini A (2007) "The *Brassica juncea* transcription factor BjCdR15 enhances cadmium tolerance, accumulation and transport to the shoot in transgenic plants" 51<sup>st</sup> SIGA Annual Congress (Riva del Garda, Italy – 23/26 September, 2007)

ISBN: 978-88-900622-7-8

**VINCITORE DEL PREMIO SIGA 2007 per la MIGLIORE PRESENTAZIONE POSTER**

## SUPPLEMENTARY TEACHING ACTIVITY

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- March 2009 - June 2009      **Attività didattiche integrative in laboratorio nell'ambito del corso di Tecniche e colture cellulari (mod. Vegetale)**, (Tot. 30 ore)  
**Istitution:** Department of Biotechnology, Università di Verona, Strada le Grazie, 15, 37134, (VR) - Italy
- May 2021 – June 2021      **Didattica integrativa all'insegnamento di Biotecnologie applicate alle piante di interesse agro-alimentare per il Corso di Laurea in Biotecnologie** (Ord. 2011) (Tot 16 ore)  
**Istitution:** Department of Biology, Scuola di scienze, Università di Padova, Viale Giuseppe Colombo, 35131 Padova PD- Italy

## ACADEMIC TEACHING ACTIVITIES

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Teacher 2 CFU of the “**Plant Breeding**” course delivered in vehicular language as part of the Master's Degree course in Sustainable Agriculture at the University of Padua - Academic year 2021/2022 and 2022/2023;

Teacher of 2 CFU (16 hours) of the “**Miglioramento genetico**” course delivered in vehicular language as part of the Master's Degree course in Agricultural Sciences and Technologies (STAg) at the University of Padua - Academic year 2022/2023 and 2023/2024.

## CO-SUPERVISOR ACTIVITIES

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Dr. Farinati has coordinated several undergraduate students in their laboratory activities and in thesis drawing up, resulting co-supervisor or supervisor in final defence:

- Studio dell'induzione del fattore di trascrizione *BjCdR15* di *Brassica juncea* in seguito a stress – Matilde Merlin – aa 2006/2007 – Corso di Laurea in Biotecnologie Agro-Industriali, Università di Verona (co-supervisor)
- Effetto dell'esposizione a zinco e cadmio sull'espressione proteica di *Arabidopsis halleri* in presenza di una microflora batterica resistente ai metalli – Michela Corbella – aa 2006/2007 – Corso di Laurea Specialistica in Biotecnologie Agro-industriali, Università di Verona (co-supervisor)
- Studio di geni betaCA1 e At5g22580 potenzialmente coinvolti nell'accumulo di cadmio in *Arabidopsis thaliana* e nella specie iperaccumulatrice *Arabidopsis halleri* – Giulia Livorno – aa 2007/2008 – Corso di Laurea Specialistica in Biotecnologie Agro-Industriali, Università di Verona (co-supervisor)
- Comparazione bioinformatico-molecolare tra promotori di *A. thaliana* e *A. halleri* per lo studio dell'espressione genica – Andrea Zerminiani – aa 2007/2008 – Corso di Laurea Specialistica in Biotecnologie Agro-Industriali, Università di Verona (co-supervisor)
- Regolazione del fattore di trascrizione *TGA3* in *Arabidopsis thaliana* in seguito a trattamento con il cadmio – Valeria Pontelli – aa 2008/2009 – Corso di Laurea in Biotecnologie Agro-Industriali, Università di Verona (co-supervisor)
- Analisi di proteine indotte da cadmio in *Pseudomonas putida* – Martina Nogara – aa 2008/2009 – Corso di Laurea in Biotecnologie Agro-Industriali, Università di Verona (co-supervisor)
- Espressione della proteina Abc1like (at3g07700) di *A. thaliana* in *E. coli* e messa a punto di un protocollo per l'estrazione di proteine di membrana da radici di *A. halleri* per analisi proteomica – Agnese Lai – aa 2009/2010 – Corso di Laurea in Biotecnologie Agro-Industriali, Università di Verona (co-supervisor)
- Caratterizzazione di geni PIN-like in mais – Alessia Tiengo – 2011/2012 - Corso di Laurea in Biotecnologie Agrarie, Università di Padova (co-supervisor)
- Osservazioni sul trasporto polare dell'auxina nel mutante *br2* di mais – Nicole Zordan – aa 2011/2012 - Corso di Laurea in Biotecnologie Agrarie; Università di Padova (co-supervisor)
- Cromatina, epialleli e variabilità genetica del mais – Letizia Abis – 2012-2013 - Corso di Laurea in Biotecnologie Agrarie, Università di Padova (co-supervisor)

- Il gene *HDA108* controlla l'architettura della pianta di mais – Silvia Zecchin – aa 2013/2014 – Corso di Laurea in Biotecnologie Agrarie, Università di Padova (co-supervisor)
- dsRNAs applications for endogenous gene silencing in *Amaranthus hybridus* – Veronica Buson – aa 2020/2021 – Corso di Laurea in Biotecnologie, Università di Padova (co-supervisor)
- Applicazione di dsRNAs per il silenziamento del gene ALS in *Amaranthus hybridus* – Camilla Andreella - aa 2020/2021 – Corso di Laurea in Biotecnologie, Università di Padova (co-supervisor)
- First insights to SolycMYB80 candidate gene for the induction of male sterility in tomato through new precision breeding techniques - Soria Garcia Adriana Fernanda – aa 2022/2023 – Corso di Laurea magistrale in Sustainable Agriculture, Università di Padova (supervisor)
- Messa a punto di un protocollo con basi molecolari atto all'identificazione degli elementi cis- e trans-regolatori in vite - Samuele Rizzato – aa 2022/2023 – Corso di Laurea magistrale in Biotecnologie per l'alimentazione, Università di Padova (co-supervisor)
- Caratterizzazione in pomodoro del gene candidato MYB80 per l'induzione di sterilità maschile – Elena Mura - Samuele Rizzato – aa 2022/2023 – Corso di Laurea in Scienze e Tecnologie Agrarie, Università di Padova (supervisor)

## **PUBLICATIONS IN PEER REVIEWED JOURNALS**

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1472 Citations by 1338 documents (from Scopus Database, at 2023)

13 h-index (from Scopus Database, at 2023)

**Farinati S**, Scariolo F, Palumbo F, Vannozzi A, Barcaccia G and Lucchin M (2023) "Heterosis in horticultural crop breeding: combining old theoretical bases with modern genomic views" *Frontiers in Horticulture*  
doi:10.3389/fhort.2023.1250875

**Farinati S**, Draga S, Betto A, Palumbo F, Vannozzi A, Lucchin, M, Barcaccia G (2023) "Current insights and advances into plant male sterility: new precision breeding technology based on genome editing applications" *Frontiers in Plant Science*  
doi:10.3389/fpls.2023.1223861

Palumbo F, Draga S, Magon G, Gabelli G, Vannozzi A, **Farinati S**, Scariolo F, Lucchin M and Barcaccia G (2023) MIK2 is a candidate gene of the S-locus for sporophytic self-incompatibility in chicory (*Cichorium intybus*, Asteraceae). *Frontiers in Plant Science*.  
doi:10.3389/fpls.2023.1204538

Scariolo F, Palumbo F, **Farinati S**, Barcaccia G (2023) "Pipeline to Design Inbred Lines and F1 Hybrids of Leaf Chicory (Radicchio) Using Male Sterility and Genotyping-by-Sequencing" *Plants*  
doi:10.3390/plants12061242

\*Panozzo S, \***Farinati S**, Sattin M, Scarabel L. (2023) "Can Allele-Specific Loop-Mediated Isothermal Amplification be used for rapid detection of target-site herbicide resistance in *Lolium* spp.?" *Plant Methods*  
doi:10.1186/s13007-023-00989-0  
\*the authors contributed equally

Pirrello C, Magon G, Palumbo F, **Farinati S**, Lucchin M, Barcaccia G, Vannozzi A (2022) "Past, present and future of genetic strategies to control tolerance to the main fungal pathogens in grapevine" *Journal of Experimental Botany*  
doi:10.1093/jxb/erac487

\*Canton M, \***Farinati S**, Forestan C, Joseph J, Bonghi C, Varotto S (2022). An efficient chromatin immunoprecipitation (ChIP) protocol for studying histone modifications in peach reproductive tissues. *Plant Methods*  
doi:10.1186/s13007-022-00876-0  
\*the authors contributed equally

\***Farinati S**, \*Betto A, Palumbo F, Scariolo F, Vannozzi A, & Barcaccia G (2022) "The new green challenge in urban planning: The right genetics in the right place. *Horticulturae*  
doi:10.3390/horticulturae8090761  
\*the authors contributed equally

Vannozi A, Perin C, Palumbo F, Sandri M, Zuccolotto P, Zenoni S, **Farinati S**, Barcaccia G, Pindo M, Sonogo P, Cestaro A, Lucchin M (2022) "Dissecting the effect of soil on berry transcriptional plasticity in two Italian grapevine varieties (*V. vinifera* L.). *Horticulture Research*

doi: 10.1093/hr/uhad056

Milani A, Panozzo S, **Farinati S**, Iamónico D, Sattin M, Loddo D, Scarabel, L (2021) "Recent discovery of *Amaranthus palmeri* s. Watson in Italy: Characterization of ALS-resistant populations and sensitivity to alternative herbicides" *Sustainability (Switzerland)*

doi.org/10.3390/su13137003

**Farinati S**, Forestan C, Canton M, Galla G, Bonghi C, Varotto S (2021) "Regulation of Fruit Growth in a Peach Slow Ripening Phenotype". *Genes*

doi.org/10.3390/genes12040482

Canton M, Forestan C, **Farinati S**, Bonghi, C, Varotto S (2021) "Epigenetic mechanisms controlling peach bud dormancy and its release: preliminary results". *Acta Hort.* 1307, ISBN 9789462613065

doi: 10.17660/ActaHortic.2021.1307.38

Loddo D, Imperatore G, Milani A, Panozzo S, **Farinati S**, Sattin M, Zanin G (2020) "First report of glyphosate-resistant biotype of *Eleusine indica* in Europe" *Agronomy*

doi:10.3390/agronomy10111692

Scarabel L, **Farinati S**, Sattin M (2020) "Occurrence of Resistance to ALS Inhibitors in European *Cyperus esculentus* L.: Characterisation and Implications for Management" *Agronomy*

doi:10.3390/agronomy10081133

Forestan C, **Farinati S**, Zambelli F, Pavesi G, Rossi V, Varotto S (2020) "Epigenetic signatures of stress adaptation and flowering regulation in response to extended drought and recovery in *Zea mays*." *Plant, Cell Environment*

doi: 10.1111/pce.13660

Forestan C, **Farinati S**, Rouster J, Lassagne H, Lauria M, Dal Ferro N, Varotto S. (2018) "Control of maize vegetative and reproductive development, fertility and rRNAs silencing by Histone Deacetylase 108" *Genetics*

doi: 10.1534/genetics.117.300625

**Farinati S**, Rasori A, Varotto S, Bonghi C (2017) "Rosaceae fruit development, ripening and postharvest: an epigenetic perspective" *Frontiers in Plant Sciences*

doi: 10.3389/fpls.2017.01247

Forestan C, **Farinati S**, Aiese Cigliano R, Lunardon A, Sanseverino W, Varotto S (2017) "Maize RNA PolIV affects the expression of genes with nearby TE insertions and has a genome-wide repressive impact on transcription" *BMC Plant Biology*

doi: 10.1186/s12870-017-1108-1

Forestan C, Aiese Cigliano R, **Farinati S**, Lunardon A, Sanseverino W, Varotto S (2016) "Stress-induced and epigenetic-mediated maize transcriptome regulation study by means of transcriptome reannotation and differential expression analysis" *Scientific Reports*

doi: 10.1038/srep30446

Lunardon A, Forestan C, **Farinati S**, Axtell MJ, Varotto S (2016) "Genome-Wide Characterization of Maize Small RNA Loci and Their Regulation in the required to maintain repression6-1 (rnr6-1) Mutant and Long-Term Abiotic Stresses" *Plant Physiology*

doi: 10.1104/pp.15.01205

Morari F, Meggio F, Lunardon A, Scudiero E, Forestan C, **Farinati S**, Varotto S (2015) "Time course of biochemical, physiological and molecular responses to field-mimicked conditions of drought, salinity and recovery in two maize lines" *Frontiers in Plant Sciences*

doi: 10.3389/fpls.2015.00314

Forestan C, **Farinati S**, Varotto S (2012) "The maize PIN gene family of auxin transporters" *Frontiers in Plant Sciences*

doi: 10.3389/fpls.2012.00016

Manara A, DalCorso G, Baliardini C, **Farinati S**, Cecconi D, Furini A (2012) "*Pseudomonas putida* response to cadmium: changes in membrane and cytosolic proteomes" *Journal of Proteome Research*

doi: 10.1021/pr300281f

**Farinati S**, DalCorso G, Panigati M, Furini A (2011) "Interaction between selected bacterial strains and *Arabidopsis halleri* modulates shoot proteome and cadmium and zinc accumulation" *The Journal of Experimental Botany*  
**doi: 10.1093/jxb/err015**

DalCorso G, **Farinati S**, Furini A (2010) "Regulatory networks of cadmium stress in plants" *Plant Signalling and Behaviour*

**Farinati S**, DalCorso G, Varotto S, Furini A (2010) "The Brassica juncea *BjCdR15*, an ortholog of *Arabidopsis TGA3*, is a regulator of cadmium uptake, transport and accumulation in shoots and confers cadmium tolerance in transgenic plants" *New Phytologist*  
**doi: 10.1111/j.1469-8137.2009.03132.x**

**Farinati S**, DalCorso G, Bona E, Corbella M, Lampis S, Cecconi D, Polati R, Berta G, Vallini G, Furini A (2009) "Proteomic analysis of *Arabidopsis halleri* shoots in response to the heavy metals cadmium and zinc and rhizosphere microorganisms" *Proteomics*  
**doi: 10.1002/pmic.200900036**

DalCorso G, **Farinati S**, Maistri S, Furini A (2008) "How plants cope with Cadmium: staking all on metabolism and gene expression" *Journal of Integrative Plant Biology*  
**doi: 10.1111/j.1744-7909.2008.00737.x**

### CONTRIBUTION TO BOOK CHAPTERS

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**Farinati S\***, Forestan C\*, Canton M, Varotto S, Bonghi C (2020) "microRNA Regulation of Fruit Development". In: Miguel C., Dalmay T., Chaves I. (eds) *Plant microRNAs. Concepts and Strategies in Plant Sciences*. Springer, Cham.

[https://doi.org/10.1007/978-3-030-35772-6\\_5](https://doi.org/10.1007/978-3-030-35772-6_5)

\*the authors contributed equally

Lunardon A\*, Forestan C\*, **Farinati S**, Varotto S (2018) "De Novo Identification of sRNA Loci and Non-coding RNAs by High-Throughput Sequencing" In: Bemer M., Baroux C. (eds) *Plant Chromatin Dynamics. Methods in Molecular Biology*, vol 1675. Humana Press, New York, NY.

**doi: 10.1007/978-1-4939-7318-7\_17**

\*the authors contributed equally

### PARTICIPATION / COMPONENT IN RESEARCH PROJECTS FINANCED ON COMPETITIVE NOTICES

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**Project:** PROGETTO DI RICERCA FINANZIABILE CON FONDI DOR Ricerca Scientifica fondi DOR - Bando 2022  
"Programmi di miglioramento genetico finalizzati alla costituzione di varietà resilienti di specie orto-floricole e ornamentali"  
**Position:** Researcher PARTICIPANT

**Project:** Progetto ESC interfare: vaccinazione della vite contro il mal d'esca. VAR\_RIFSE20\_AR20\_01. COD PROGETTO 2105-0061-1463-2019  
**Position:** Post-Doc COMPONENT IN RESEARCH UNIT

**Project:** European founded project RELIUM - Herbicide resistant *Lolium* spp. in climatically and agronomically diverse European countries: from developing quick and reliable detection tools to devising sustainable control strategies".

ERA-NET C-IPM. DM n. 15048 del 30/05/2017 – Mipaaf

**Position:** Post-Doc COMPONENT IN RESEARCH UNIT

**Project:** FP7 European founded project AENEAS (FP7 Project KBBE 2009 226477 – "AENEAS": Acquired Environmental Epigenetics Advances: from *Arabidopsis* to maize)

**Position:** Post-Doc COMPONENT IN RESEARCH UNIT

**Project:** Italian Consiglio Nazionale delle Ricerche (CNR) Flagship project "Progetto Bandiera Epigenomica (EPIGEN)".

**Position:** Post-Doc COMPONENT IN RESEARCH UNIT

**Project:** Research Programme "GEO-RISKS: Geological, Morphological and Hydrological Processes: Monitoring, Modeling and Impact in the North-Eastern Italy," WP4, the University of Padua

**Position:** Post-Doc PARTICIPANT

**Project:** Joint-Project-2008, University of Verona.

**Position:** Post-Doc PARTICIPANT

## EDITORIAL AND PEER REVIEW SUPPORT ACTIVITIES

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- Guest Editor of Special Issue "A Decade of Research towards to Horticultural Crop from Omics to Biotechnology" - *Horticulturae*;
- Section Board Member - *Horticulturae*;
- Editorial Board Member - *Horticulturae*;
- Reviewer of scientific articles - *BMC Plant Biology*, *Agronomy*, *Horticulturae*.

## THIRD MISSION ACTIVITIES

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As a member of the Italian Society of Agricultural Genetics, I joined the group "La SIGA per la Scuola", created with the aim of carrying out dissemination activities on the issues of genetic improvement and genome editing towards secondary school teachers second level, obviously as a means for the training and scientific culture of future citizen students.

Membership of the working group on genome editing (WG GeneEd) within Plants for the Future ETP (European Technology Platform): a multi-stakeholder platform that represents the plant sector from research to the production and distribution of agricultural crops.

## COLLABORATION WITH NATIONAL AND INTERNATIONAL RESEARCH TEAMS & RESEARCH ACTIVITY DESCRIPTION

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During doctoral and postdoctoral activities, Dr. Silvia Farinati had the opportunity to acquire various skills in molecular biology research applied to model and crop species (e.g. *Arabidopsis thaliana*, *Zea mays*, *Prunus persica*...) in relation to plant environment interaction and in response to abiotic stresses. Her research activity took place at the University of Verona, University of Padova and at the CNR institute (sede secondaria Legnaro, PD), where Dr. Farinati has participated in numerous calls for research grants, scholarships and collaboration contracts to which she was the winner.

After obtaining the PhD degree in 2009, she was employed as a postdoctoral researcher in the lab of Molecular Genetics and Plant Tissue Culture, Verona University (2009-2010) coordinated by Prof.ssa Antonella Furini. Dr. Farinati was the main responsible to carry out the research activity concerning the study of molecular mechanisms involved in plant response to heavy metal exposition and accumulation. The functional characterization of genes coding specific transcription factors was performed through the achievement of over-expressing or silencing transgenic *Arabidopsis* and tobacco lines mediating stable transformation by *Agrobacterium tumefaciens*. In addition, the role of rhizosphere microorganisms in heavy metal tolerance/hyperaccumulation was investigated in *Brassicaceae* sp. (i.e. *Arabidopsis halleri*), with the aim to identify the differentially expressed plant genes and involved in these processes. In this period, Dr. Farinati established a close cooperation with the microbiology research group coordinated by Prof. Giovanni Vallini and proteomic research group coordinated by Prof. Daniela Cecconi, Department of Biotechnology. Thanks to these collaborations Dr. Farinati acquired specific notions and practices in preparation and maintenance of bacterial cultures, in particular the isolation in pure culture of bacterial strains from soil matrices, the molecular characterization by 16S sequence investigation, the inoculation practices under bioaccumulation conditions on plant system. Moreover, through a proteomic based approach and 2D-PAGE analyses, several physiological and molecular aspects on role of rhizosphere microorganisms in relation to metal hyperaccumulation and tolerance in plants were highlighted, testified by the scientific contributions produced, in which Dr. Farinati results both first investigator and co-author.

Since 2010 Dr. Farinati was assistant Research Scientist in the Department of Agronomy Food Natural resources Animals Environment (DAFNAE), University of Padova, in the group coordinated by Prof. Serena Varotto. In current position, Dr. Farinati was firstly involved in a project focused on the identification and characterization of PIN genes and Polar Auxin Transport in maize and successively she was involved in several international cooperations with research groups working on epigenetic traits and their environmental-regulation within the FP7 European founded project AENEAS (Acquired Environmental Epigenetics Advances: from *Arabidopsis* to maize, Coordinator Prof.ssa Serena Varotto), which aimed to "explore" environmentally-induced epigenetic changes as the "new frontier" of natural and artificial variability (<http://www.aeneas-a2m.eu/>). Dr. Farinati was employed in AENEAS project with the characterization of maize mutants for epiregulators (and their relative epitarget) and analyzing the effects of environmental stresses on epialleles formation and their heritable maintenance in maize. In AENEAS context, the cooperation with a French biotech company (BIOGEMMA) allowed the production of a maize mutant collection for many genes belonging to different epigenetic pathways. International collaborations, the availability of a mutant dataset and the development of new technologies have been important and useful tools to better understand the complicated epigenetic puzzle in maize.

Simultaneously, Dr. Farinati was engaged in the CNR Progetto Bandiera EPIGEN ([www.epigen.it](http://www.epigen.it)), an Italian network for the study of epigenomics in different species. In this framework she focused her attention and research activity on the study of maize different chromatin states and their involvement in plant development and stress responses, acquiring more tools and knowledge on these epigenetic regulation mechanisms. To better improve the knowledge on involvement of chromatin remodeling in maize genetics and correlated assays, a collaboration was established with the Italian group coordinated by Dr. Vincenzo Rossi at Agricultural Research Council (CREA)-Unit of Maize Research – Bergamo. Thanks to a period spent at the CREA institute (BG) (November 2012 and May 2013), Dr. Farinati acquired more knowledge and practice in the chromatin immunoprecipitation technology (ChIP assay) applied to epigenetic studies to determine the role of histone mark deposition in gene expression in relation to water stress. Furthermore, within EPIGEN project, Dr. Farinati had the opportunity to participate directly in a close collaboration with the group coordinated by Prof. Giulio Pavesi, University of Milano, for the analysis of ChIP data set obtained from the research activity during the project.

In 2015 Dr. Farinati was employed as assistant Research Scientist in the Department of Agronomy Food Natural resources

Animals Environment (DAFNAE), Padua University, in the group coordinated by Prof. Claudio Bonghi. She was directly responsible for the implementation of epigenetic studies also in arboriculture sector, translating the knowledge acquired in cereal crop into fruit crop science, resulting first investigator and co-author in scientific contributions related to the specific topics.

Since 2019, Dr. Farinati is assistant Research Scientist at Institute for Sustainable Plant Protection - CNR (Sede secondaria Legnaro, PD), in the group coordinated by Dr. Maurizio Sattin, participant as co-author in publications. She was employed in RELIUM project (DM n. 15048 del 30/05/2017 – Mipaaf) that aimed at monitoring, mapping, developing innovative detection tools and characterizing (patterns, levels and resistance mechanisms) selected resistant populations as well as devising resistance management strategies for *Lolium* in various agronomic situations. Each participating country (Italy -coordinator, Dr. Maurizio Sattin-, Greece, Denmark) focused on specific tasks and complement each other to devise novel weed management strategies in climatically and agronomically diverse European countries. In this period, Dr. Farinati has developed analytical quick and reliable detection tools for devising sustainable control strategies for a rapid Target Site Resistance (TSR) diagnosis: with this purpose a Loop-mediated isothermal amplification (LAMP) assay was set for the detection of target-site mutations causing herbicide resistance in weed species like *Lolium* spp. and *Amaranthus* spp. Moreover, Dr. Farinati is committed to the development of a Gene- technology based on the application of dsRNA molecules for endogenous plant gene silencing, as a potentially support for improvement of non-chemical weed control based on RNAi technology for managing invasive weeds.

In 2022 Dr. Farinati begins to work as a researcher RTDa in the Department of Agronomy Food Natural resources Animals Environment (DAFNAE), Padua University, in the group coordinated by Prof. Gianni Barcaccia, focusing her research activity on implementation of male sterility (MS) trait in horticultural crops and ornamental species, through employment the emerging TEA (Technologies of Assisted Evolution) approaches. Incorporating MS into plant breeding programs is a critical task to reduce the cost of hybrid seed production and ensure high varietal purity for the production of F1 hybrids in many horticultural crops. On the contrary, in ornamental plants, this aspect has not been deeply investigated to date, even if the production of male-sterile ornamental plants could be of great interest for many purposes, in addition to hybrid seed production, as eliminating pollen allergens (i.e., gene escape), reduce the need for deadheading to extend the flowering period, and increase flower longevity and self-life. The recent developments in genome editing (GE) technology have opened a new era to study gene function and develop new plant cultivars suitable for any condition. The latest version of the GE technology, based on CRISPR/Cas9 methodology, provides a potential method for producing MS lines in several major species. Starting from these assumptions, the final goal of research of Dr. Farinati is the generation of CRISPR/Cas-edited DNA-free plant material mediating transient protoplast transfection system, by direct delivery of a ribonucleoprotein (RNP) preassembled complex consisting of purified Cas9 protein and in vitro synthesized single guide RNA molecules (sgRNA).

**I declare that the information in this *Curriculum Vitae* is correct, true and documentable.**

**I authorize the use of these personal data for the purposes of review of my qualifications for any post or position for which I have applied, according to Italian Law 196/2003, and for no other purpose.**

December 4<sup>th</sup>, 2023

Silvia Farinati