

ANTONELLA FURINI
Professor of Plant Genetics

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EDUCATION

- 1991-1995 **PhD in Molecular Genetics**, Max-Planck Institute/University of Cologne (Germany), Dissertation title: T-DNA Tagging and Analysis of Desiccation- and ABA-Induced Genes of the Resurrection Plant *Craterostigma plantagineum* (Hochst.) by *Agrobacterium*-Mediated Transformation. Thesis advisors: Prof. F. Salamini, Prof. D. Bartels.
- 1985-1986 **Master of Science in Plant Physiology**, University of California, Davis. Thesis title: *In Vitro* Propagation of *Eucalyptus viminalis* Labill. Thesis Advisor: Prof. R. M. Sachs.
- 1982/1983 **Laurea in Scienze Agrarie** (110/110), University of Padua. Thesis title: Growth analysis in Peach Cultivars Characterized by Different Ripening Times. Thesis Advisor: Prof. A. Ramina.

EMPLOYMENT

- 2016-present Full professor of Plant Genetics at the Department of Biotechnology of the University of Verona.
- 2005-2015 Associate Professor of Plant Genetics at the Department of Biotechnology of the University of Verona.
- 1999-2004 Assistant Professor of Plant Genetics at the Department of Biotechnology of the University of Verona.
- 1996-1998 Scientific Consultant for Genetic transformation of ornamental crops, Minoprio Foundation (Como, Italy).
- 1991-1995 Researcher, Max-Planck Institute, Cologne (Germany).
- 1988-1991 Appointed as FAO Associate Expert at CIMMYT (International Centre for Maize and Wheat Improvement) in Mexico.
- 1983-1986 Researcher in Plant Physiology, University of California, Davis (CA, USA).

EXPERIENCES ABROAD

- 1983-1986 Department of Environmental Horticulture, University of California, Davis (CA-USA)
- 1988-1991 International Centre for Maize and Wheat improvement (CIMMYT) Mexico.
- 1991-1995 Department of Plant Breeding and Molecular Genetics, Max-Planck Institute für Züchtungsforschung, Cologne (Germany).

VISITING SCIENTIST

06-1999	DNA Plant Technology Corporation, Cinnaminson (NJ-USA)
10-1993	Department of Genetics University of Bochum (Germany)
06-1998	Department of Plant Science University of Wageningen (The Netherlands)
09-1998	Max-Planck Institute, Cologne (Germany)
02-1999	Max-Planck Institute, Cologne (Germany)
09-1999	Max-Planck Institute, Cologne (Germany)
09-2000	Max-Planck Institute, Cologne (Germany)
05-2001	Department of Soil, Plant and Environment Science, University of Naple (Italy),

EDITORIAL ACTIVITY

Referee for the following International Scientific Journals:

Annals of Botany, BMC-Genomics, Chemosphere, Environmental and Experimental Botany, Environmental Science and Pollution Research, Genetica, Journal of Experimental Botany, Journal of Hazardous Materials, Journal of Integrative Plant Biology, Molecular and General Genetics, New Phytologist, Plant and Soil, Plant Cell Reports, Plant Journal, Plant Physiology, Plant Science, Plant Signaling & Behavior, Plant Systematic and Evolution, Planta, PlosOne, Proteomics, Theoretical and Applied Genetics.

2012	Plants and Heavy Metals (ed. Furini A.) Springer Brief in Molecular Science. Biometals. Springer. pp 86.
2015	Associate Editor for Frontiers in Plant Science – Research Topic: Environmental phytoremediation: Plants and Microorganisms at Work.
2015-present	Editor of Frontiers in Plant Science – Section Plant Biotechnology
2019-present	Editor of Plants – MDPI Journal

SCIENTIFIC ACTIVITY

The research interest is mainly focused on plant-environment interaction and the evolution of adaptive traits to abiotic stresses. In this respect *i) resurrection plants*, adapted to arid and waterless environments, are studied to get insight on the molecular mechanisms responsible for desiccation tolerance with the aim of identifying useful genes for the genetic improvement of crop species; *ii) metal hyperaccumulators* adapted to metal rich soils are of central interest for their natural capacity of accumulating trace elements primarily in the shoot maintaining low concentration in roots. Furthermore, low metal bioavailability responsible for reducing crop productivity, and metal toxic causing agricultural and environmental problems are also investigated. In this contest plant homeostasis network regulating metal uptake, distribution, intracellular traffic, chelation and sequestration is investigated. In addition, the molecular mechanisms responsible for metal accumulation and tolerance and possibly useful for biotechnological application in the reclamation of contaminated soils (*phytoremediation*) are explored. Regarding essential metals, their variation and enhancement in plant tissues is considered to obtain crop species enriched in these metals (*biofortification*).

SCIENTIFIC COLLABORATIONS

- University of Padua (Prof. S. Varotto) Characterization of ALS (acetolactate synthase) mutants in *Scirpus mucronatus*, target of herbicides known as ALS inhibitors. (Prof. B. Baldan) Characterization of ABC1K protein family
- University of Bonn, Germany (Prof. D. Bartels) Molecular characterization of genes identified in resurrection plants (*Craterostigma plantagineum*, *Lindernia brevidens*) and induced by water stress and abscisic acid.
- University of Verona (Profs G. Vallini and S. Lampis) Effects of plant-microorganism interactions on heavy metal accumulation and tolerance.
- Edmund Mach Foundation, S. Michele all'Adige TN (Drs C. Varotto and M. Li) Bioinformatic analysis of different species (*Brassicaceae*) and analysis of regulatory regions in DNA.
- University of Munich Germany/ Copenhagen Plant Science Centre (Prof. D. Leister) Characterization of chloroplast proteins.
- University of Parma (Dr. G. Visioli) Molecular mechanisms responsible for the hyperaccumulation of heavy metals.
- Produttori Sementi Bologna (Dr. M. Bellotti) Molecular characterization of durum wheat genotypes for the accumulation of cadmium.
- University of Milan (Prof. A. Costa) Characterization of genes involved in calcium homeostasis and signal in plants.
- OpenFields s.r.l. Analysis of ancient wheat varieties for gluten sensitivity.
- BioSoil Expert s.r.l. Study of plant species suitable for the phytoremediation of polluted soils.

FINANCED PROJECTS ON COMPETITIVE FUNDING

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| PRIN 2000 | Somatic hybridization between eggplant (<i>Solanum melongena</i>) and incompatible arboreous species of <i>Solanum</i> . |
| PRIN 2002 | Regeneration and analysis of somatic hybrids between eggplant (<i>Solanum melongena</i>) and arboreous <i>Solanum</i> species. |
| FIRB 2002-06 | Molecular systems for the identification and analysis of genetic determinants relevant to agro-industry, livestock and environment. |
| PRIN 2006 | Characterization of Myb59 transcription factor in <i>Arabidopsis thaliana</i> expressed at earlier stages of flower development. (41.577 €). |
| Joint Project 2008 | Characterization and identification of molecular markers associated with low cadmium accumulation in durum wheat seeds (91.000 €). |
| Joint Project 2011 | Establishment of an efficient protocol for the micropropagation of the resurrection plant <i>Craterostigma plantagineum</i> : optimization of dehydration/rehydration and conservation (100.000 €). |
| Joint Project 2011 | Produzione di colture cellulari totipotenti di <i>resurrection plants</i> per applicazioni nell'industria cosmetica (50.000 €). |

Joint Project 2012	Molecular strategies PRO improved wheat-based safe food suitable for Gluten-Sensitive people (153.000 €).
FSE 2012	(European Social Fund) Establishment of a method of plant cell culture for applications in phytocosmetic (24.000 €).
FSE 2013	Reclamation of soils contaminated with heavy metals: Feasibility and sustainability of different strategies of phytoremediation: 1) phytoextraction, 2) phytostabilization, 3) analysis of the accumulation of heavy metals in plants. (76.860 €)
Joint Project 2015	Phytoremediation of landfill leachate: a clean transition from laboratory to green environment (100.000 €).
FSE 2016	SMART VEGETABLE: Development of new horticultural crops enriched with minerals and vitamins (24.000 €).
FSE 2017	FOOD and HEALTH: Biofortification of horticultural crops (24.000 €)
Joint Project 2017	Well-Being from plants: Potential of Resurrection Plants for Phyto-Cosmetic and Phyto-Pharmaceutical applications (158.000 €).
FSE 2019	SMARTWHEAT: Improving the nutritional quality of flours through the mineral biofortification of common wheat (57.600 €).

TEACHING

From a. y. 1997-98 course in “Plant Tissue Culture”, “Plant Molecular Genetics”, “Plant Biotechnology: Phytoremediation”, “Methodologies in Genetics” at the University of Verona.

From a. y. 2013-14 course in “Potential of transgenic plant for the phytoremediation of polluted soils” in Master II level on - Characterization and reclamation of polluted sites- University of Venice Ca’ Foscari (Italy).

THESIS SUPERVISOR

Supervision of 30 Master students (Graduate in Plant and Food Biotechnology), and 30 diploma students (in Biotechnology).

PHD TUTOR

1. Identification of genes involved in heavy metals tolerance and hyperaccumulation in *Arabidopsis halleri* and characterization of a bZIP transcription factor responsible for Cd uptake and translocation to the shoot in *Arabidopsis thaliana*. PhD student: S. Farinati.
2. Characterization of the *Arabidopsis thaliana* Myb59 transcription factor. Dottoranda: S. Maistri.

3. PCP1 and AtOSA1: *Arabidopsis thaliana* Abc1-like proteins involved in responses to oxidative stress and iron distribution in chloroplasts and *Pseudomonas putida* response to cadmium: changes in membrane and cytosolic proteomes. PhD student: A. Manara
4. Modulating heavy metal accumulation in plants: overexpression of the *Pseudomonas putida* efflux complex CzcCBA. PhD student: A. Nesler.
5. Identification of regulatory elements responsible for metal hyperaccumulation in the Brassicaceae family and Functional analysis of the *Arabidopsis thaliana* MYB48 and MYB59 transcription factors. PhD student: E. Fasani.
6. Functional analysis of AtZIP4, AtZIP6 and AtZIP9 metal transporters of *Arabidopsis thaliana* and Expression of *Saccharomyces cerevisiae* ZRC1 in different plant species. PhD student: Flavio Martini.
7. Response mechanisms to heavy metals in hypertolerant and hyperaccumulator plants. PhD student: G. Zorzi.

FELLOWSHIP AWARDS

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| 1984 | Fellowship (12 months): University of California <i>Educational Abroad Program</i> (University of Davis, California USA). |
| 1987 | Selected as Junior Associate Expert United Nations Program. |
| 1991 | Fellowship (12 months), Max-Planck Institute, Cologne (Germany); |
| 1992 | Fellowship (24 months) European Commission – Biotechnology. Max-Planck Institute, Cologne (Germany). |
| 1994 | Fellowship (24 months) European Commission – Biotechnology. Max-Planck Institute, Cologne (Germany). 2013 Selected best 6 practices for the project: - Reclamation of soils polluted with heavy metals and metalloids. – presented at the European exhibition for research and innovation. Trieste (Italy) September 2013. |

LANGUAGES

Italian (mother tongue), English, Spanish and French

INVITED COMMUNICATIONS AT NATIONAL AND INTERNATIONAL CONFERENCES AND WORKSHOPS

Furini A*, Salamini F., Bartels D. T-DNA Tagging of a Gene Inducing Desiccation Tolerance in *Craterostigma plantagineum*. VIIIth International Congress of Plant Tissue and Cell Culture. Firenze, 12-17 giugno 1994.

Bartels D, **Furini A***, Bockel ., Frank W., Salamini F. Gene expression during dehydration stress in the resurrection plant *Craterostigma plantagineum*. Workshop on Gene and their products for tolerance to physical stresses in plants. Maratea 24-27 Settembre 1995.

Furini A*, Nuove strategie per il controllo dell'espressione di geni esogeni. Workshop: Strategie innovative per il trasferimento genico nei vegetali. Torino, Aprile 2002.

Furini A.*, Borgato L., Varotto S., Salamini F., Bartels D. Transcriptional activation of a retrotransposon-like element induces desiccation tolerance in callus tissue of *Craterostigma plantagineum*. Verona, Convegno SIGA 24-27 settembre 2003.

Furini A.*, Fusco N., Micheletto L., DalCorso G., Borgato L., (2005) Identification of cadmium-regulated genes by cDNA-AFLP analysis in the heavy metal accumulator *Brassica juncea* L. European Workshop: Phytotechnology to promote sustainable land use and improve food safety. Pisa, 14-16 giugno 2005.

Furini A.*, Farinati S., DalCorso G. (2007) The *Brassica juncea* Transcription Factor *BjCdR15* Enhances Cadmium Tolerance and Accumulation in Transgenic *Arabidopsis* and Tobacco. European Workshop: Fate of pollutants in the plant / rhizosphere system. Vilnius (Lithuania) 30 maggio -1 giugno 2007.

Furini A.*, Borgato L., Varotto S., Salamini F., Bartels D. (2006) The retrotransposon-like CDT-1 from the resurrection plant *Craterostigma plantagineum* induces dehydration tolerance through a siRNA mechanism. V Plant Genomics European Meetings. Venezia 11-14 ottobre, 2006.

Farinati S.*, Corbella M., Maistri S., DalCorso G., Zerminiani A., Furini A. Identification of proteins induced by Cd and Zn in *Arabidopsis halleri* in the presence of rhizobacteria. European Workshop: Genes and proteins involved in steps of phytoextraction and degradation of pollutants. Verona, 5-6 giugno, 2008.

Farinati S.*, DalCorso G. Furini A Plant-microbe interactions: effects on heavy metals uptake and accumulation in *Arabidopsis halleri*. Torino, Convegno SIGA 16-19 settembre, 2009.

Dal Corso G., Farinati S., Panigati M., **Furini A.***, Effects of selected bacterial strains on cadmium and zinc accumulation and on shoot proteome of the metal hyperaccumulator *Arabidopsis halleri*. International Phytotechnology Conference, Parma 26-29 settembre 2010.

Manara A.*, DalCorso G. Furini A. Characterization of an Abc1-like gene of *Arabidopsis thaliana*, Atti di "Società Italiana di Biologia Vegetale - II Annual Congress" , Roma , luglio 2010.

DalCorso G. Farinati S., Bona E., Berta G., **Furini A.***, Effects of Rhizosphere Bacteria on Shoot Proteome and Heavy Metal Accumulation in the Hyperaccumulator *Arabidopsis halleri*. 11th ICOBTE (Symposium): Plant and soil microbial community responses to trace element induced stress: information by 'omic' approaches. Florence 3-7 July 2011.

Manara A.*, DalCorso G. Furini A. PCP1 and ATOSA1: plastidial proteins involved in oxidative stress response and metal homeostasis in *Arabidopsis* chloroplast. Convegno SIGA-SIBV Assisi 19-22 September 2011.

Manara A.* DalCorso G. Furini A. PCP1 and AtOSA1: proteins involved in chloroplast iron homeostasis in *Arabidopsis*. How the knowledge on mineral nutrition of plants can improve human nutrition. Venice 23-26 November 2011.

Nesler A., DalCorso G. **Furini A.*** (2013) Controlling heavy metal accumulation in plants. Mineral improved crop production for healthy food and feed. Norwegian University of Life Sciences, Ås, Norway 9-13 June 2013.

Furini A.* Manara A, Fasani A, Piasentin S, DalCorso G (2014) Molecular tools to unravel the mechanisms of metal accumulation in plants. BioMetals Symposium, 13-17 July 2014 Duke University, Durham NC USA.

Furini A.* (2014) Towards water saving for crop cultivations: a biotechnological approach. Accademia Nazionale di Scienze, Lettere e arti di Modena. Simposium: Food-Environment-Energy: The next big challenges .

Fu Y., Poli M., Sablok G., Velikova V., Furini A., Liang Y., Loreto F., Li M., **Varotto C***. (2015) Early transcriptional responses to water stress in biomass crop *Arundo donax* L. by unigene-based RNA-Seq. SIGA-SIBV Milano 8-11 September 2015.

Fasani E*, DalCorso G, Furini A.(2015) The promoter of *Vacuolar Metal Transporter* in *Arabidopsis halleri*: an example of evolution for metal hypertolerance/hyperaccumulation. SIGA-SIBV Milano 8-11 September 2015.

Fasani E, DalCorso G, **Furini A.*** (2017) Analysis of a Myb transcription factor induced by cadmium and modulated by calcium. 14th International Conference on the Biogeochemistry of Trace Elements. Special Symposium on Metal Hyperaccumulators: extreme trace element biology and its application. ICOBTE 2017 16-20 July, ETH Zurich, Switzerland.

Fasani E*, DalCorso G., Zenoni S., Costa A., Furini A. (2017) A MYB transcription factor participates in Ca signaling in *Arabidopsis thaliana*. SIBV-SIGA Joint Congress "Sustainability of agricultural environment: contributions of plant genetics and physiology" Pisa 19-22 September 2017.

Fasani E., **Dal Corso G.**, Costa A., Zenoni S., Furini A. (2018) The *Arabidopsis thaliana* factor MYB59 regulates calcium signalling during plant growth and stress response. Verona 25-28 September 2018.

PUBLICATIONS IN INTERNATIONAL JOURNALS

Furini A. Jewell D.C. (1991) Somatic embryogenesis and plant regeneration of *Tripsacum dactyloides* L. *Euphytica* 55: 111-115.

Furini A., Jewell D.C. (1994) Somatic Embryogenesis and Plant Regeneration from Immature and Mature Embryos of Tropical and Subtropical *Zea mays* L. Genotypes. *Maydica* 39: 155-164.

Furini A., Koncz C., Salamini F., Bartels D. (1994) *Agrobacterium*-Mediated Transformation of the Desiccation-Tolerant Plant *Craterostigma plantagineum*. *Plant Cell Reports* 14: 102-106.

Michel D., **Furini A.**, Salamini F., Bartels D. (1994) Structure and Regulation of an ABA- and Desiccation-Responsive Gene from the Resurrection Plant *Craterostigma plantagineum*. *Plant Mol. Biol.* 24: 549-560.

Alamillo J.M., Roncarati R., Heino P., Velasco R., Nelson D., Elster R., Bernacchia G., **Furini A.**, Schwall G., Salamini F., Bartels D. (1994) Molecular Analysis of Desiccation Tolerance in Barley Embryo and in the Resurrection Plant *Craterostigma plantagineum*. *Agronomie* 2: 161-167.

Taylor J.E., Renwick K.F. Webb A.A.R., McAinsh M.R., **Furini A.**, Bartels D., Quatrano R.S., Marcotte W.R., Hetherington A.M. (1995) ABA-Regulated Promoter Activity in Stomatal Guard Cells. *Plant J.* 7: 129-134.

Furini A., Jewell D.C. (1995) Somatic Embryogenesis and Plant Regeneration of the Maize/*Tripsacum* Hybrids. *Maydica* 40: 205-210.

Furini A., Parcy F., Salamini F., Bartels D. (1996) Differential Regulation of Two ABA-Inducible Genes from *Craterostigma plantagineum* in Transgenic *Arabidopsis* Plants. *Plant Mol. Biol.* 30: 343-349.

Bartels D., **Furini A.**, Ingram J., Salamini F. (1996) Responses of Plants to Dehydration Stress: a Molecular Analysis. *Plant Growth Regulation* 20: 111-118.

- Furini A.**, Koncz C., Salamini F., Bartels D., (1997) High Level transcription of a Member of a Repeated Gene Family Confers Dehydration Tolerance to Callus Tissue of *Craterostigma plantagineum*. The EMBO J. 16: 3599-3608.
- Bartels D., Chandler J., Bockel C., Frank W., Klein M., Rodrigo M.J., Phillips J., Mariaux J-B., **Furini A.**, Salamini F. (1997) Investigating the Molecular Basis of desiccation Tolerance Using the Resurrection Plant *Craterostigma plantagineum* as an Experimental System. Acta Physiologiae Plantarum 19: 399-403.
- Giulini A.P., Busti E., Consonni G., Dolfini A., **Furini A.**, MacCabe A.P., Gavazzi G. (1998) Maize Mutants Defective in Embryogenesis. Maize Genetics Cooperation Newsletter 72:58-60.
- Tosca A., Bionda A., **Furini A.**, Frangi P. (1999) Shoot Regeneration from Leaf Explant in *Nipponanthemum nipponicum*. Advances in Horticultural Science 13: 32-35.
- Tosca A., Delledonne M., **Furini A.**, Belenghi B., Fogher C., Frangi P. (2000) Transformation of Korean chrysanthemum (*Dendranthema zawadskii* x *grandiflorum*) and insertion of the maize autonomous element Ac using *Agrobacterium tumefaciens*. Journal of Genetics and Breeding 54: 19-24.
- Rasori A., Bertolasi B., **Furini A.**, Bonghi C., Tonutti P., Ramina A. (2003) Functional analysis of peach ACC-oxidase promoters in transgenic tomato and in ripening peach fruit. Plant Science 165: 523-530.
- Furini A.**, Wunder J. (2004) Analysis of Eggplant (*Solanum melongena*)-Related Germplasm: Morphological and AFLP Data Contribute to Phylogenetic Interpretations and Germplasm Utilization. Theor. Appl. Genet. 108:197-208.
- Bernacchia, G., **Furini, A.**, (2004) Biochemical and molecular responses to water stress in resurrection plants. Physiol. Plant 121:175-181.
- Dal Corso G., Borgato L., **Furini A.** (2005) *In vitro* plant regeneration of the heavy metal tolerant and hyperaccumulator *Arabidopsis halleri* (*Brassicaceae*). Plant Cell Tiss Organ Cult 82: 267-270.
- Fusco N., Micheletto L., Dal Corso G., Borgato L., **Furini A.** (2005) Identification of Cadmium-regulated genes by cDNA-AFLP in the heavy metal accumulator *Brassica juncea* L. J. of Exp. Botany 56:3017-3027.
- Borgato L, Pisani F., **Furini A.** (2006) Plant regeneration from leaf protoplasts of *Solanum virginianum* L. (*Solanaceae*). Plant Cell Tiss Organ Cult 88:247-252.
- Borgato L, Conicella C., Pisani F., **Furini A.** (2007) Production and characterization of arboreous and fertile *Solanum melongena* + *Solanum marginatum* somatic hybrid plants. Planta 226:961-969.
- Hilbricht T, Varotto S, Sgaramella V, Bartels D, Salamini F, **Furini A.** (2008) Retrotransposons and siRNA have a role in the evolution of desiccation tolerance leading to resurrection of the plant *Craterostigma plantagineum* New Phytologist 179: 877-887.
- 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 50: 1268-1280.
- Furini A.** (2008) CDT retroelement: the stratagem to survive extreme vegetative dehydration. Plant Signaling and Behavior 3: 1-3.
- Gazzani S, Li M, Maistri S, Scarponi E, Graziola M, Barbaro E, Wunder J, **Furini A.**, Saedler H, Varotto C (2009) Evolution of *MIR168* paralogs in *Brassicaceae*. BMC Evolutionary Biology 9: 62.
- Pesaresi P, Scharfenberg M, Weigel M, Granlund I, Schröder W, Finazzi G, Rappaport F, Masiero S, **Furini A.**, Leister D (2009) Mutants, overexpressors, and interactors of Arabidopsis plastocyanin

isoforms: revised role of plastocyanin in photosynthetic electron flow and thylakoid redox state. *Molecular Plant* 2: 236-248.

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* 9: 4837-4850.

Scarabel L, Locascio A, **Furini A**, Sattin M, Varotto S. (2010) Acetolactate synthase mutations in ALS-inhibitor resistance in *Schoenoplectus mucronatus*. *Pest Management Science* 66: 337-344.

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* 185: 964-978.

DalCorso G. Farinati S. **Furini A.** (2010) Regulatory networks of cadmium stress in plants. *Plant Signaling and Behavior* 6: 1-5.

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. *Journal of Experimental Botany* 62: 3433-3447.

Maistri S. DalCorso G. Vicentini V. **Furini A.** (2011) Cadmium affects the expression of *ELF4*, a circadian clock gene in *Arabidopsis*. *Environmental and Experimental Botany* 72: 15-22.

Manara A. DalCorso G. Baliardini C. Farinati S. Cecconi D. **Furini A.** (2012) *Pseudomonas putida* response to cadmium: changes in membrane and cytosolic proteome. *Journal of Proteome Research* 11: 4169-79.

DalCorso G. Manara A. **Furini A.** (2013) An overview of heavy metals challenge plants: from roots to shoots. *Metallomics* DOI: 10.1039/c3mt00038a.

DalCorso G. Fasani E. **Furini A.** (2013) Recent advances in the analysis of metal hyperaccumulation and hypertolerance in plants using proteomics. *Frontiers in Plant Science* doi: 10.3389/fpls.2013.00280.

Manara A. DalCorso G. Leister D. Jahns P. Baldan B. **Furini A** (2014) AtSIA1 and AtOSA1: two ABC1 proteins involved in oxidative stress responses and iron distribution within chloroplasts. *New Phytologist* 201: 452–465 DOI: 10.1111/nph.12533.

DalCorso G. Manara A. Piasentin S. **Furini A.** (2014) Nutrient Metal Elements in plants. *Metallomics* DOI: 10.1039/C4MT00173G.

Manara A. DalCorso G. Guzzo F. **Furini A** (2015) Loss of the atypical kinases ABC1K7 and ABC1K8 changes the lipid composition of the chloroplast membrane *Plant & Cell Physiol.* 56: 1193–1204.

Furini A. Manara A. DalCorso G. (2015) Environmental phytoremediation: plants and microorganisms at work. *Frontiers in Plant Science* doi: 10.3389/fpls.2015.00520.

Manara A. DalCorso G. **Furini A.** (2016) The role of the atypical kinases ABC1K7 and ABC1K8 in abscisic acid responses. *Front. Plant Sci* 7:366.doi: 10.3389/fpls.2016.00366.

Nesler A. DalCorso G. Fasani E. Manara A. Di Sansebastiano GP. Argese E. **Furini A.** (2017) Functional components of the bacterial CzcCBA efflux system reduce cadmium uptake and accumulation in transgenic tobacco plants. *New Biotechnology* 10.1016/j.nbt.2016.11.006.

Fasani E. DalCorso G. Varotto C. Li M. Visioli G. Mattarozzi M. **Furini A.** (2017) The MTP1 promoters from *Arabidopsis halleri* reveal cis-regulating elements for the evolution of metal tolerance. *New Phytologist* 214: 1614-1630 DOI: 10.1111/nph.14529.

Fasani E., Manara A., Martini F., **Furini A.**, DalCorso G. (2018) The potential of genetic engineering of plants for the remediation of soils contaminated with heavy metals. *Plant Cell & Environment* DOI: 10.1111/pce.12963.

Fasani, E., DalCorso, G., Zerminiani, A., Ferrarese A., Campostrini, P., **Furini, A.** (2019) Phytoremediatory efficiency of *Chrysopogon zizanioides* in the treatment of landfill leachate: a case study. *Environmental Science and Pollution Research* 26(10), pp. 10057-10069 DOI: 10.1007/s11356-019-04505-7.

Fasani, E., DalCorso, G., Costa, A., Zenoni, S., **Furini, A.** (2019) The Arabidopsis thaliana transcription factor MYB59 regulates calcium signalling during plant growth and stress response. *Plant Molecular Biology* 99(6), pp. 517-534 DOI: 10.1007/s11103-019-00833-x.

DalCorso G., Fasani E., Manara A., Visioli G., **Furini A.** (2019) Heavy Metal Pollutions: State of the Art and Innovation in Phytoremediation. *Int. J. Mol. Sci.* 2019, 20, 3412. DOI:10.3390/ijms20143412.

Fasani E., DalCorso G., Furini A. (2019) Combining Folate and Zinc Biofortification in Fennel *Journal of Food Science and Nutrition* 5:047 DOI: 10.24966/FSN-1076/10004.

Manara A., Fasani E., Molesini B., DalCorso G., Pennisi F., Pandolfini T., Furini A. (2020) The Tomato Metalloprotease Inhibitor I, which Interacts with a Heavy Metal-Associated Isoprenylated Protein, Is Implicated in Plant Response to Cadmium. *MDPI: Molecules* 2020, 25, 700; doi:10.3390/molecules25030700.

De Caroli M., Furini A., DalCorso G., Rojas M., Di Sansebastiano GP. (2020) Endomembrane reorganization induced by heavy metals. *MDPI: Plants* 2020, 9, 482; doi:10.3390/plants9040482.

BOOK CHAPTERS

Bartels D., Heino P., Nelson D., Michel D., **Furini A.**, Bernacchia G., Velasco R., Roncarati R., Elster R., Schwall G., Alamillo J.M. (1994) Analysis and Regulation of Gene Expression in the Resurrection Plant *Craterostigma plantagineum*. In : Coruzzi G. And Puigdomenech P. (eds.) NATO ASI Series, Vol. H 81 *Plant Molecular Biology*, Springer-Verlag Berlin Heidelberg, pp 267-275.

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Verona, 20/05/2020

Antonio Furini

Ai sensi e per gli effetti del DPR 445/2000, essendo consapevole delle conseguenze civili e penali per coloro che rilasciano dichiarazioni false o mendaci, sotto la mia responsabilità dichiaro che quanto sopra esposto è veritiero.