

Falasca Giuseppina Curriculum Vitae

Place, Rome
Date February 14, 2018

Part I – General Information

Full Name	Falasca Giuseppina
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Part II – Education

Type	Year	Institution	Notes (Degree, Experience)
University graduation	1989	"La Sapienza" University of Rome	Degree in Biology
Post-graduate studies	1990	"La Sapienza" University of Rome	Training school in Biological methods for (Metodologie Biologiche per laboratoristi)
	1990	Regione Lazio	Expert in Environmental Impact Assessment (Esperto in Valutazione di Impatto Ambientale)
PhD	2000	"La Sapienza" University of Rome	PhD in Botanical Sciences
Pre-doctorate training	1994-1996	Italian National Research Council	Scholarship
Doctorate training	1996-1999	"La Sapienza" University of Rome	Scholarship (3 years) for doctorate training

Part III – Appointments

IIIA – Academic Appointments [Years, Institutions, Positions]

Start	End	Institution	Position
2009	2010	"Sapienza" University of Rome	Member of "Collegio docenti del Dottorato in Scienze Botaniche"
2011	2012	"Sapienza" University of Rome	Member of "Collegio docenti del dottorato in Biologia Ambientale"
2012-	to present	"Sapienza" University of Rome	Member of "Collegio docenti del dottorato in Biologia Ambientale ed Evoluzionistica"
May 2013	April 2016	"Sapienza" University of Rome	Member of "Comitato di Monitoraggio della Facoltà di SMFN"
2013	2016	"Sapienza" University of Rome	Member of "Giunta della Facoltà di SMFN"
2013	2015	"Sapienza" University of Rome	Member of "Giunta del Dipartimento di Biologia Ambientale"
2015	To present	"Sapienza" University of Rome	Member of "Consiglio del Museo Orto Botanico di Roma"

01/01/2000	31/10/2000	"Sapienza" University of Rome	Temporary Research Contract – 10 months (Contratto di ricerca)
01/11/2000	31/10/2001	"Sapienza" University of Rome	Temporary Research Contract
01/11/2001	October 2003	"Sapienza" University of Rome	Temporary Research fellowship
01/11/2003	October 2004	"Sapienza" University of Rome	Temporary Research Contract
1March 2005	February 2006	"Sapienza" University of Rome	Temporary Research fellowship
1March 2006	26/12 2012	"Sapienza" University of Rome	Universitary Researcher
27 December 2012	To present	"Sapienza" University of Rome	Associate Professor

IIIB – Other Appointments

Start	End	Institution	Position
July 1992	February 1994	Fruit Trees Researcher Center CRA- FRU-CREA)	Temporary Research Contract
March 1994	February 1996	National Research Council	Scholarship
2011	2017		Member of Scientific Committee of the Annual Symposium of the Biotechnology and Differentiation Group (Section of the Italian Botanical Society)
2016			Member of the Scientific Organizing Committee of the III International Plant Science Conference (Congress of the Italian Botanical Society) - Roma 21-23 september
2005	to date	"Plant Cell Tissue and Organ Culture", "Plant Biosystems", "Botanic", "Plant Physiology and Biochemistry", "Environ. Exp. Bot.", "Int. J. of Phytoremediation", "Planta", "Physiol. Mol. Biol. of Plants", "Annali di Botanica" Journals	Referee of scientific paper

Part IV – Teaching experience

Year	Institution	Course
2005-2006 2006-2007 2007-2008 2008-2009 2009-2010 2010-2011 2011-2012	"Sapienza" University of Rome	Course of "Plant Anatomy, histology and organogenesis" for bachelor students in Biology, Environmental Science and Natural Science (CFU 6)
2006-2007 2007-2008 2008-2009	"Sapienza" University of Rome	Course of "Differentiation, embryogenesis and organogenesis <i>in planta</i> and in <i>in vitro</i> systems" for Master degree students in Applied Cellular Biology

2009-2010		(CFU 6)
2010-2011		
2008-2009	"Sapienza" University of Rome	Course of "Experimental botany" for Master degree students in Environmental Monitoring and Recovery (CFU 6)
2009-2010		
2010-2011		
2011-2012		
2012-2013		
2013-2014		
2014-2015		
2015-2016		
2016-2017		
2017-2018		
2011-2012	"Sapienza" University of Rome	Course of "Botany" for bachelor students in Agro-Industrial Biotechnologies (CFU 9)
2012-2013		
2013-2014		
2014-2015		
2015-2016		
2016-2017		
2017-2018		

- Tutor of Bachelor, Master Degree and PhD Theses

Bachelor Theses:

- "Le variazioni cito-istologiche indotte dal cadmio nelle fronde di *Pteris vittata* L.". Laurea in Scienze Ambientali, Student Marilena Ronzan, a.a. 2009-2010;
- "Analisi istologica della radice di *Nicotiana tabacum* L. trattata con cadmio e arsenico". Laurea in Scienze Ambientali, Student Aurora Gitto, a.a. 2010-2011;
- "Effetti di cadmio e arsenico sull'ipocotile di *Arabidopsis thaliana* (L.) Heynh". Laurea in Scienze Ambientali, Student Federico Bortolotto, a.a. 2014-2015.
- "Analisi degli effetti dell'arsenico sulla distribuzione dell'auxina nelle radici di *Oryza sativa* L.". Laurea in Biotecnologie Agro-Industriali, Student Maurizio Mariorenzi, a.a. 2015-2016.
- "Ruolo dei giasmonati nello sviluppo dell'apparato radicale di piante di *Oryza sativa* L. esposte a metalli tossici". Laurea in Biotecnologie Agro-Industriali, Student Marco Giuseppe Palladino, a.a. 2016-2017.
- "Analisi degli effetti dell'arsenico sullo sviluppo dell'apparato radicale in piante di *Oryza sativa* L.". Laurea in Biotecnologie Agro-Industriali, Student Ilario D'Agrosa, a.a. 2016-2017.
- "Risposta della pianta a *Arabidopsis thaliana* a trattamenti con Zinco". Laurea in Biotecnologie Agro-Industriali, student Christopher Riccardi, a.a. 2016-2017.

Master Degree Theses:

- "Le risposte di *Pteris vittata* L. a trattamenti con cadmio e arsenico". LM in Monitoraggio e Riqualificazione Ambientale, Dr.ssa Marilena Ronzan, a.a. 2011-2012 .
- "Effetti del cadmio e dell'arsenico sull'organizzazione e sviluppo dell'apparato radicale di *Arabidopsis thaliana* (L.) Heynh.". LM in Monitoraggio e Riqualificazione Ambientale, Dr.ssa Ilaria Buran, a.a. 2012-2013.
- "Analisi cito-istologiche in radice, fusto e foglia di *Phragmites australis* (Cav.) Trin. ex Steud. prelevate dalla zona umida del lago di Vico" LM in Monitoraggio e Riqualificazione Ambientale, Dr.ssa Aurora Gitto, a.a. 2013-2014.
- "I metalli pesanti ed i metalloidi alterano lo sviluppo radicale influenzando la distribuzione dell'ormone auxina". LM in Monitoraggio e Riqualificazione Ambientale, Dr. Diego Piancentini, a.a. 2013-2014.

- "Evoluzione di un 'tool-box' per il fitorisanamento assistito da batteri nel sito minerario di Ingurtosu (Sardegna)". LM in Monitoraggio e Riqualificazione Ambientale, Dr.ssa Ilaria Luongo, a.a. 2014-2015.
- "Effetti del Cadmio sullo sviluppo dell'apparato radicale di *Oryza sativa* L.". LM in Monitoraggio e Riqualificazione Ambientale, Dr.ssa Samanta Conte, a.a. 2015-2016.
- "Distribuzione dei metalli potenzialmente tossici nelle piante di *Phragmites australis* (Cav.) Trin. ex Steud. Della riserva regionale naturale di Nazzano Tevere-Farfa". LM in Monitoraggio e Riqualificazione Ambientale, Dr.ssa Daria Gorozhankina, a.a. 2016-2017.

PhD Theses:

- "Risposte delle specie modello *Arabidopsis thaliana* (L.) Heynh e *Nicotiana tabacum* a cadmio ed arsenico". Dottorato di Ricerca in Scienze Botaniche (XXIII ciclo), Università "Sapienza" di Roma, Dr.ssa Letizia Zanella.
- "Interactions among auxin, jasmonates and lipidic peroxidation during lateral and adventitious root formation and development in *Arabidopsis thaliana* (L.) Heynh and *Oryza sativa* L. exposed to cadmium and arsenic - Curriculum Botanica (XXX ciclo), Università "Sapienza" di Roma, Dr.ssa Marilena Ronzan.

Part V - Society memberships, Awards and Honours

Year	Title
From 2005 To date	Member of Italian Society of Botany
From 2005 to 2011	National Secretary of Biotechnology and Differentiation, Section of the Italian Society of Botany
From 2011 to 2017	National Coordinator of Biotechnology and Differentiation, Section of the Italian Society of Botany

Part VI - Funding Information [grants as PI-principal investigator or I-investigator]

Year	Title, function [PI or I]	Funding Agency/Program	Grant value
2005	I in "Lo sviluppo dei vegetali ed i fattori di controllo" Project	"Sapienza" University; "Progetti di ricerca di Ateneo"	25,600 Euros
2006	I in "Fattori di controllo nella biologia dello sviluppo delle piante e nelle risposte agli stress biotici e abiotici" Project	"Sapienza" University; "Progetti di ricerca di Ateneo"	38,600 Euros
2007	PI in "Analisi dell'accumulo di metalli pesanti e metalloidi (Cd e As) nelle piante modello <i>Nicotiana tabacum</i> e <i>Arabidopsis thaliana</i> e nell'iperaccumulatrice <i>Pteris vittata</i> " Project	AST; "Ricerche di Ateneo Federato di Scienza e della Tecnologia AST"	1,800 euros
2008	PI in " Effetti della sovraespressione di AtPCS1 (fitochelatina sintasi) sull'accumulo di cadmio e Arsenico in <i>Nicotiana tabacum</i> e <i>Arabidopsis thaliana</i> " Project	AST; "Ricerche di Ateneo Federato di Scienza e della Tecnologia AST"	1,200 Euros
2008-2010	PI in "Effects of AtPCS1 (phytochelatin synthase, CmAAO (ascorbic oxidase) and AtMRP3 (vacuolar transporter) overexpression on cadmium and arsenic tolerance and accumulation in the model plant <i>Nicotiana tabacum</i> . Analyses of	MIUR; PRIN 2007	40,000 Euros

	response to cadmium and arsenic in this plant in comparison with the natural arsenic hyperaccumulator <i>Pteris vittata</i> " Project		
2009	I in "Sviluppo dell'apparato radicale di <i>Arabidopsis thaliana</i> " Project	"Sapienza" University; "Ricerche Universitarie"	11,000 Euros
2011	I in "Boschi misti planniziali costieri della regione Lazio: Implicazioni idrogeologiche, geochemiche e botaniche" Project	"Sapienza" University; "Ricerche Universitarie"	11,000 Euros
2013	PI in "Analisi di accumulo e tolleranza al cadmio ed arsenico in piante di <i>Nicotiana tabacum</i> wild type e sovraesprimenti il gene AtPCS1" Project	"Sapienza" University; "Ricerche Universitarie"	34,946 Euros
2014	PI Crosstalk between reactive Oxygen Species, jasmonates and lipid peroxidation during root formation and development in response to heavy metals, metalloids and fungus infection	"Sapienza" University; "Ricerche Universitarie"	45,000 Euros
2015	I Olive tree adaptative responses to abiotic and biotic stresses: detection of tolerance determinants	"Sapienza" University; "Ricerche Universitarie"	43,450 Euros
2016	PI Meccanismi cellulari attivati nelle radici di piante tolleranti ed iperaccumulatrici in risposta a cadmio ed arsenico	"Sapienza" University; "Ricerche Universitarie"	4,200 Euros
2017	PI Plant defence strategies against toxic metals involve auxin- nitric oxide interaction and change in thiols metabolism. The case study of rice root system.	"Sapienza" University; "Ricerche Universitarie"	63,750 Euros
2017	I Microscopia ad illuminazione strutturata per lo studio a livello tissutale, cellulare e molecolare di processi di segnalazione, regolazione, sviluppo e difesa in sistemi vegetali	"Sapienza" University; "Ricerche Universitarie"	79,700 Euros

Part VII – Research Activities

Keywords Brief Description

Plant development under abiotic stresses
Phytoremediation
Genetic control of plant development
Plant cyto-histology
Plant organogenesis
Plant reproduction
Plant biotechnology

The main research fields are detailed below, and the related results are reported in the selected publications (publication number according to the list in attachment):

- Phytoremediation: accumulation and tolerance of cadmium and arsenic in *Nicotiana tabacum*, *Arabidopsis thaliana*, *Pteris vittata* and *Daucus carota* in relation to phytochelatin synthase gene activity. This topic was investigated in collaboration with Prof. J. Feldmann of Aberdeen University (UK), Prof. S. Lindberger of Stockholm University (Sweden), Prof. J. Vangronsveld, and Prof. T. Remans T, of the Hasselt University, (Belgium). (Pub. N. 2,3,6,11,12)
- Effects of cadmium and arsenic on root system architecture and interaction with auxin homeostasis, jasmonates and nitric oxide. For this topic Prof. Falasca is collaborating with Prof. M. Riemann of the Karlsruhe Institute of Technology (Germany), Prof. B. Hause of Leibniz Institute of Plant Biochemistry (Germany) and Dr. J.F. Corpas of the Spanish National Research Council (Spain). (N. 1,7)
- Factors controlling the development in vascular plants, i.e. effects of hormones, genes, proline and oligogalacturonides during organ formation. (Pub. n. 4, 5, 9, 10, 14,16)

- Involvement of hormones, polyamines and carbohydrates in microsporogenesis, micro-gametogenesis, and androsterility, in *Actinidia deliciosa*. Hormonal and genetic control of stamen differentiation and anther dehiscence in *Arabidopsis thaliana*. (Pub. n. 8,13, 15)

Part VIII – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Papers [international]	46	Scopus	1991	2017
Papers [national]	9	Scopus	1990	1997
Books [scientific]	6	Scopus – Google Scholar- U-GOV	1990	2016
Total Impact factor		138,6 (Scopus)		
Total Citations		1010 (Scopus)		
Average Citations per Product		7.71 (Scopus)		
Hirsch (H) index		19 (Scopus)		
Normalized H index*		0,678		

*H index divided by the academic seniority.

Papers	30	Scopus	2007	2017
Hirsch (H) index	16	Scopus	2003	2017
Total Citations	789	Scopus	2003	2017

Part IX – Selected Publication

List of the publications selected for the evaluation (maximum No. 16). For each publication it has been reported: authors, title, reference data, journal IF relating to the publication year, citations.

From 1990 to 2017, Prof. Falasca published 55 papers, among which 46 papers in extenso published in international journals and 9 short papers published in national journals. Six chapters in international scientific books completed the production. Prof. Falasca is also author of 75 communications in international and national congresses.

In the last 10 years (2008-2017) she has published 30 papers in international journal, among them 28 with IF (database: Scopus).

Below is reported the list of the selected publications for this announcement. The papers from 1 to 9 are related to the last 5 years (2013-2017).

All the selected papers are enclosed in PLANT SCIENCE category (database: Scopus) (Citations are from Scopus). The total IF of the selected papers is **68,525**.

- 1) Fattorini L., Ronzan M., Piacentini D., Della Rovere F., De Virgilio C., Sofo A., Altamura M.M., **Falasca G.** (2017) Cadmium and arsenic affect quiescent centre formation and maintenance in *Arabidopsis thaliana* post-embryonic roots disrupting auxin biosynthesis and transport. *Environ. Exp. Bot.* 144:37-48. **IF 4,369**
- 2) Ronzan M., Zanella L., Fattorini L., Della Rovere F., Urgast D., Cantamessa S., Nigro A., Barbieri M., Sanità di Toppi L., Berta G., Feldmann J., Altamura M.M., **Falasca G.** (2017) The morphogenic responses and phytochelatin complexes induced by arsenic in *Pteris vittata* change in the presence of cadmium. *Environ. Exp. Bot.* 133: 176-187. **Citations: 2; IF 4,369**
- 3) Zanella L., Fattorini L., Brunetti P., Roccotiello E., Cornara L., D'Angeli S., Della Rovere F., Cardarelli M., Barbieri M., Sanità di Toppi L., Degola F., Lindberg S., Altamura M.M., **Falasca G.** (2016) Overexpression of *AtPCS1* in tobacco increases arsenic and arsenic plus cadmium accumulation and detoxification. *Planta* 243:605-622. **Citations: 9; IF 3,361**
- 4) Velocchia A., Fattorini L., Della Rovere F., Sofo A., D'Angeli S., Betti C., **Falasca G.**, Altamura M.M. (2016) Ethylene and auxin interaction in the control of adventitious rooting in *Arabidopsis thaliana*. *J. Exp. Bot.* 67: 6445–6458. **Citations: 2; IF 5,830**

- 5) Della Rovere F., Fattorini L., D'Angeli S., Velocchia A., Del Duca S., Cai G., **Falasca G.**, Altamura M.M. (2015) Arabidopsis SHR and SCR transcription factors and AUX1 auxin influx carrier control the switch between adventitious rooting and xylogenesis *in planta* and in *in vitro* cultured thin cell layers. *Annals of Botany* 115, 617–628. **Citations: 16; IF 3,982**
- 6) Brunetti P., Zanella L., De Paolis A., Di Litta D., Cecchetti V., **Falasca G.**, Barbieri M., Altamura M.M., Costantino P., Cardarelli M. (2015) Cadmium-inducible expression of the ABC-type transporter AtABCC3 increases phytochelatin-mediated cadmium tolerance in Arabidopsis. *J. Exp. Bot.* 66, 3815–3829. **Citations: 30; IF 5,677**
- 7) Sofo A., Vitti A., Nuzzaci M., Tataranni G., Scopa A., Vangronsveld J., Remans T., **Falasca G.**, Altamura M.M., Degola F., Sanità di Toppi L. (2013) Correlation between hormonal homeostasis and morphogenic responses in *Arabidopsis thaliana* seedlings growing in a Cd/Cu/Zn multi-pollution context. *Physiol. Plant.* 149, 487–498. **Citations: 20; IF 3,262**
- 8) **Falasca G.**, D'Angeli S., Biasi R., Fattorini L., Matteucci M., Canini A., Altamura M.M. (2013) Tapetum and middle layer control male fertility in *Actinidia deliciosa*. *Annals of Botany* 112: 1045-1055. **Citations: 8; IF 3,295**
- 9) Della Rovere F., Fattorini L., D'Angeli S., Velocchia A., **Falasca G.**, Altamura M.M. (2013) Auxin and cytokinin control formation of the quiescent centre in the adventitious root apex of Arabidopsis. *Ann. Bot.* 112, 1395–1407. **Citations: 42; IF 3,295**
- 10) Savona M., Mattioli R., Nigro S., **Falasca G.**, Della Rovere F., Costantino P., De Vries S., Ruffoni B., Trovato M., Altamura M.M. (2012). Two SERK genes are markers of pluripotency in *Cyclamen persicum* Mill. *J. Exp. Bot.*, Vol. 63, No. 1, pp. 471–488, 2012. **Citations: 23; IF 5,242**
- 11) Brunetti P., Zanella L., Proia A., De Paolis A., **Falasca G.**, Altamura M.M., Sanità di Toppi L., P., Cardarelli M. (2011) Cadmium tolerance and phytochelatin content of *Arabidopsis* seedlings overexpressing the phytochelatin synthase gene *AtPCS1*. *J. Exp. Bot.*, 62: 5509-5519. **Citations: 51; IF 5,364.**
- 12) Vurro E., Ruotolo R., Ottonello S., Elviri L., Maffini M., **Falasca G.**, Zanella L., Altamura M.M., Sanità di Toppi L. (2011) Phytochelatin govern zinc/copper homeostasis and cadmium detoxification in *Cuscuta campestris* parasitizing *Daucus carota*. *Environ. Exp. Bot.*, 72: 26-33. **Citations: 13; IF 2,985.**
- 13) **Falasca G.**, Franceschetti M., Bagni N., Altamura M.M., Biasi R. (2010) Polyamine biosynthesis and control of the development of functional pollen in kiwifruit. *Plant Physiol. Biochem.* 48: 565-573. **Citations: 30; IF 2,402.**
- 14) Mattioli R., **Falasca G.**, Sabatini S., Altamura M.M., Costantino P., Trovato M. (2009) The proline biosynthetic genes *P5CS1* and *P5CS2* play overlapping roles in Arabidopsis flower transition but not in embryo development. *Physiol. Plant.* 137: 72-85. **Citations: 47; IF 2,708.**
- 15) Cecchetti V., Altamura M.M., **Falasca G.**, Costantino P., Cardarelli M. (2008) Auxin regulates Arabidopsis anther dehiscence, pollen maturation and filament elongation. *Plant Cell* 20:1760-1774. **Citations: 136; IF 9,296.**
- 16) **Falasca G.**, F Capitani F., Della Rovere F., Zaghi D., Franchin C., Biondi S., Altamura M.M. (2008) Oligogalacturonides enhance cytokinin-induced vegetative shoot formation in tobacco explants, inhibit polyamine biosynthetic gene expression, and promote long-term remobilisation of cell calcium. *Planta*, 227: 835-852. **Citations: 19; IF 3,088.**

Signature

