Allegato B

Diego Piacentini
Curriculum Vitae

Rome, 10/07/2024

Part I – General Information

Full Name	Diego Piacentini
Date of Birth	
Place of Birth	
Citizenship	
Permanent Address	
Mobile Phone Number	
E-mail	
Spoken Languages	Italian, English

Part II – Education

Type	Year	Institution	Notes (Degree, Experience,…)
PhD	2020	Sapienza University of Rome	Ph.D. Course in Environmental and Evolutionary Biology (Doctor Europaeus). *Final grade*: excellent with honors. *PhD project title*: "Auxin-nitric oxide cross-talk and role of peroxisomes during *Oryza sativa* L. root development after Cadmium or Arsenic treatments"
University graduation	2014	Sapienza University of Rome	MSc Environmental Analysis and Monitoring. *Final grade*: 110/110 cum laude. *Master's thesis*: "Heavy metals and metalloids affect root development by altering both auxin accumulation and distribution in plants"
University graduation	2012	Sapienza University of Rome	BSc Environmental Science. *Final grade*: 108/110

Part III – Appointments

IIIA – Academic Appointments

Start	End	Institution	Position
2023	2034	Ministry of University and Research	National Scientific Qualification for the role of Associate Professor in the field of GSD 05/BIOS-01
01/03/2022	28/02/2025	Sapienza University of Rome	Presently Type A- Temporary researcher (RTDA) in the Scientific Disciplinary Sector BIOS-01/A (ex BIO/01 – Botanica generale). Title of the research project "Study of the interaction between signal molecules (phytohormones) during plant development and response to abiotic stresses."
01/08/2021	28/02/2022	Sapienza University of Rome	Post-Doc Researcher type II in the Scientific Disciplinary Sector BIOS-01/A (exBIO/01–Botanica generale). Title of the research project "Adventitious rooting vs xylary development: the integration of jasmonates and brassinosteroids into cell reprogramming in response to heavy metals and metalloids in the model planta Arabidopsis and rice"
03/06/2021	02/08/2021	Sapienza University of Rome	Self-employment contract for the project PLS 2021-2021 regarding laboratory activities for Environmental Science MSc students and for PCTO programs
01/06/2020	31/05/2021	Sapienza University of Rome	Post-Doc Researcher type II in the Scientific Disciplinary Sector BIOS-01/A (ex BIO/01 – Botanica generale). Title of the research project "Interaction auxin-jasmonate and lipid peroxidation in developmental response of Oryza sativa root system to cadmium and/or arsenic exposure"
03/2019	06/2019	Consejo Superior de Investigaciones Científicas (CSIC), Granada, Spain	Host PhD student. Research activities related to the PhD project conducted using CLSM techniques and the use of *A.thaliana* transgenic lines

03/2019	06/2019	Sapienza University of Rome	PhD abroad joint research Project Funding
04/2018	06/2018	Sapienza University of Rome	Tutoring service for Botany courses of the Facoltà di SMFN of Sapienza University
04/2018	06/2018	Sapienza University of Rome	Botany Tutor Fellowship for Facoltà di SMFN students
03/2017	12/2017	Sapienza University of Rome	Tutoring service for Botany courses of the Facoltà di SMFN of Sapienza University
03/2017	12/2017	Sapienza University of Rome	Botany Tutor Fellowship Facoltà di SMFN students
2017	2018	Sapienza University of Rome	Member as PhD student representative on the Department Council of the Dipartimento di Biologia Ambientale for the 2017-2018 academic biennium
11/2016	02/2020	Sapienza University of Rome	Doctor of Philosophy (Ph.D.) in Environmental and Evolutionary Biology (Biologia Ambientale ed Evoluzionistica - Botany curriculum).
11/2016	02/2020	Sapienza University of Rome	Three-year PhD Fellowship funded by the Department of Environmental Botany
10/2015	04/2016	University College Dublin - Centre for Plant Science	Fellowship student. Planning and implementing a research project about the effects of high atmospheric CO_2 concentrations and toxic metals on the growth of *Selaginella kraussiana* and *Arabidopsis thaliana*. *Supervisor*: Prof. J. McElwain
10/2015	04/2016	Sapienza University of Rome	6-months post graduate abroad research fellowship

Part IV – Teaching experience

Academic Yr.	Institution	Lecture/Course
AY 2023-2024	Sapienza University of Rome	Professor of General Botany for BSc in Natural Science (9 CFU, Scientific Disciplinary Sector BIOS-01/A)
AY 2023-2024	Sapienza University of Rome	"Plants from the Microscopic to the Macroscopic"- PCTO programs for high school students

AY 2022-2023	Sapienza University of Rome	Professor of General Botany for BSc in Natural Science (4 CFU, Scientific Disciplinary Sector BIOS-01/A)
AY 2022-2023	Sapienza University of Rome	"Plants from the Microscopic to the Macroscopic" - PCTO programs for Transversal Skills and Orientation for high school students
AY 2021-2022	Sapienza University of Rome	Professor of General Botany for BSc in Natural Science (4 CFU, Scientific Disciplinary Sector BIOS-01/A)
AY 2020-2021	Sapienza University of Rome	Seminar titled "Role of peroxisomes and nitric oxide in the plant response to toxic metals" for MSc in Environmental Analysis and Monitoring
AY 2020-2021	Sapienza University of Rome	"Understand the Environment to protect it" - PCTO programs for Transversal Skills and Orientation for high school students

Part V - Society memberships, Awards and Honors

Year	Title
2023	Best oral presentation award for the following communication: "Insights on nitric oxide interaction with phytohormones in rice root system response to metal stress" International Conference on Crop Sciences and Plant Morphology, Online January 23-24, 2023

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

Year	Title	Program	Grant value
2023	"Glyphosate mycoremediation of agricultural soils: a broad spectrum of nature-based solutions"	Sapienza University of Rome medium-scale research project	Investigator (I) -
2022	"Brassinosteroids-auxin interaction as possible response to mitigate arsenic toxicity in the rice root-system"	Sapienza University of Rome medium-scale research project	Principal investigator (PI)
2020	"Role of peroxisomes in the responses of the root system architecture to different cadmium concentrations in Arabidopsis thaliana"	Sapienza University of Rome type II-initial research project	Principal investigator (PI)
2019	"Plant root system plasticity: the developmental switching between rhizogenesis and xylogenesis"	Sapienza University of Rome medium-scale research project	Investigator (I) -

2018	"Study of the interaction between auxin and nitric oxide during Oryza sativa plant response to toxic metal stress"	Sapienza University of Rome type I-initial research project	Principal investigator (PI)
2017	"Plant defence strategies against toxic metals involve auxin-nitric oxide interaction and change in thiols metabolism"	Sapienza University of Rome large-scale research project	Investigator (I) -

Part VII – Research Activities

Keywords	Brief Description
Plant abiotic stress responses Root morphology Root anatomy Plant development Cyto-histological and biochemical analyses	Characterization of the effects of abiotic stresses on seedlings and root systems of both monocot and dicot model plants, with particular emphasis on stresses caused by toxic metals, highlighting mechanisms of stress tolerance. This is achieved mainly through morphological, cytological, histological and molecular analyses, as well as the detection of stress markers (e.g., ROS/RNS) in root cells, mainly using optical, epifluorescence and structured illumination fluorescence microscopy. Study of the effects of pollutants on the root antioxidant system also through enzyme activity assays and the analysis of the expression of genes involved in the biosynthesis of phytohormones (e.g., auxin, brassinosteroids, jasmonates) or in abiotic stress responses using real-time PCR technique.

Part VIII – Editorial Activities

Period	Title	Journal	Editor
2020-	Recognized Reviewer for international peer reviewed journals	Plant Physiol. Biochem. (ISSN: 0981-9428); J. Haz. Mat. (ISSN: 0304-3894); Plant Biosyst. (ISSN 1724-5575); Stoten (ISSN: 0048-9697); Planta (ISSN: 0032-0935); J. Soil Sci. Plant Nutr. (ISSN: 0718-9516)	Elsevier,Springer, Taylor & Francis
2021-2023	Guest editor for the special issue: "New Insights for Health and Environmental Impact Assessment of PM Released by Outdoor and Indoor Sources"	Atmosphere (ISSN 2073-4433)	MDPI
2021-2022	Guest editor for the special issue: "Root: From Signaling to Morphogenesis"	Plants (ISSN:2223-7747)	MDPI
2020-2021	Guest editor for the special issue: "Advances in improving Crop adaptation in a changing climate"	Atmosphere (ISSN 2073-4433)	MDPI

Part IX – COURSES

Year	Institution	Course
2020	R Programming: Advanced Analytics In R For Data Science	Udemy online course (6 hrs.)
2020	R Programming A-ZTM: R for Data Science	Udemy online course (10.5 hrs.)
2019	Summer School on Plant Phenotyping	ALSIA-Metapontum Agrobios (Metaponto, Italy); organised by the Società Botanica Italiana
2019	Introduction to R for Data Science	Sapienza University of Rome

Part X – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Papers [international]	17	Scopus (accessed on 08 july 2024)	2017	2024

Total Impact factor	90,4
Total Citations	544
Average Citations per Product	32
Hirsch (H) index	12
Normalized H index*	1,2

*H index divided by the academic seniority.

Part XI– Selected Publications

1) **Piacentini D.**, Bellini C., Peduzzi A., Casentini B., Tiraboschi C., Cacciotti A., Altamura M.M., Falasca G., Della Rovere F. (2024). Arsenite and arsenate stress differently affect auxin distribution in rice roots and brassinosteroids restore it sustaining root system plasticity. *Plant Stress* (Q1), Volume 11, article number 100418. https://doi.org/10.1016/j.stress.2024.100418. IF = 6.8, citations = 1
2) **Piacentini D.**, Della Rovere F., Lanni F., Cittadini M., Palombi M., Fattorini L., Cecchetti V., Altamura M.M., Falasca G. (2023). Brassinosteroids interact with nitric oxide in the response of rice root systems to arsenic stress. *Environmental and Experimental Botany* (Q1), Volume 209, article number 105287. https://doi.org/10.1016/j.envexpbot.2023.105287. IF = 4.5, citations = 11
3) **Piacentini D.**, Della Rovere F., D'Angeli S., Fattorini L., Falasca G., Betti C., Altamura M.M., (2022). Convergence between development and stress: ectopic xylem formation in Arabidopsis hypocotyl in response to 24-epibrassinolide and cadmium. *Plants-Basel* (Q1), Volume 11, Pages 3278 – 3291. ; https://doi.org/10.3390/plants11233278. IF = 4.5, citations = 1
4) **Piacentini D.**, Della Rovere F., Bertoldi I., Massimi L., Sofo A., Altamura M.M., Falasca G (2021). Peroxisomal PEX7 receptor affects cadmium-induced ROS and auxin homeostasis in Arabidopsis root system. *Antioxidants* (Q1), Volume 10(9), article number 1494. https://doi.org/10.3390/antiox10091494. IF = 7.7, citations = 10

5) **Piacentini D.**, Della Rovere F., Sofo A., Fattorini L., Falasca G., Altamura M.M. (2020). Nitric oxide cooperates with auxin to mitigate the alterations in the root system caused by cadmium and arsenic. *Frontiers in Plant Science* (Q1), Volume 11, article number 1182. https://doi.org/10.3389/fpls.2020.01182. IF = 5.7, citations = 51
6) **Piacentini D.**, Ronzan M., Fattorini L., Della Rovere F., Massimi L., Altamura M.M., Falasca G. (2020). Nitric oxide alleviates cadmium- but not arsenic-induced damages in rice roots. *Plant Physiology and Biochemistry* (Q1), Volume 151, Pages 729-742. https://doi.org/10.1016/j.plaphy.2020.04.004. IF = 4.3, citations = 40
7) **Piacentini D.**, Corpas F.J., D'Angeli S., Altamura M.M., Falasca G. (2020). Cadmium and arsenic-induced-stress differentially modulates Arabidopsis root architecture, peroxisome distribution, enzymatic activities and their nitric oxide content. *Plant Physiology and Biochemistry* (Q1), Volume 148, Pages 312-323. https://doi.org/10.1016/j.plaphy.2020.01.026. IF = 4.2, citations = 65
8) **Piacentini D.**, Falasca G., Canepari S., Massimi L. (2019). Potential of PM-selected components to induce oxidative stress and root system alteration in a plant model organism. *Environment International* (Q1), Volume 132, article number 105094. https://doi.org/10.1016/j.envint.2019.105094. IF = 7.6, citations = 23
9) Della Rovere F., **Piacentini D.**, Fattorini L., Girardi N., Bellanima D., Falasca G., Altamura M.M., Betti C. (2022). Brassinosteroids mitigate cadmium effects in Arabidopsis root system without any cooperation with nitric oxide. *International Journal of Molecular Sciences* (Q1), Volume 23, Page 825. https://doi.org/10.3390/ijms23020825. IF = 5.6, citations = 15
10) Ronzan M., **Piacentini D.**, Fattorini L., Della Rovere F., Caboni E., Eiche E., Ziegler J., Hause B., Riemann M., Betti C., Altamura M.M., Falasca G. (2019). Auxin-jasmonate crosstalk in *Oryza sativa* L. root system formation after cadmium and/or arsenic exposure. *Environmental and Experimental Botany* (Q1), Volume 165, Pages 59-69. https://doi.org/10.1016/j.envexpbot.2019.05.013. IF = 4.0, citations = 39
11) Ronzan M., **Piacentini D.**, Fattorini L., Della Rovere F., Riemann M., Altamura M.M., Falasca G. (2018). Cadmium and arsenic affect root development in Oryza sativa L. negatively interacting with auxin. *Environmental and Experimental Botany* (Q1), Volume 151, Pages 64-75. https://doi.org/10.1016/j.envexpbot.2018.04.008. IF = 3.7, citations = 114
12) 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. *Environmental and Experimental Botany* (Q1), Volume 144, Pages 37-48. https://doi.org/10.1016/j.envexpbot.2017.10.005. IF = 3.7, citations = 71

Part XII– Non-Selected Publications

1) Peduzzi, A., **Piacentini, D.**, Brasili, E., Della Rovere, F., Patriarca, A., D'Angeli, S., Altamura M.M. & Falasca, G. (2024). Salt stress alters root meristem definition, vascular differentiation and metabolome in Sorghum bicolor (L.) genotypes. *Environmental and Experimental Botany* (Q1), article number 105876. https://doi.org/10.1016/j.envexpbot.2024.105876 (In Press, Journal Pre-proof). IF = 4.5, citations = 0
2) Vaccarella E., **Piacentini D.**, Falasca G., Canepari S., Massimi L. (2023). In-vivo exposure of a plant model organism for the assessment of the ability of PM samples to induce oxidative stress. *Science of The Total Environment* (Q1), Volume 900, article number 165694. https://doi.org/10.1016/j.scitotenv.2023.165694. IF = 8.2, citations = 1
3) Fattorini L., Hause B., Gutierrez L., Veloccia A., Della Rovere F., **Piacentini D.**, Falasca G., Altamura M.M. (2018). Jasmonate promotes auxin-induced adventitious rooting in dark-grown *Arabidopsis thaliana* seedlings and stem thin cell layers by a cross-talk with ethylene signalling and a modulation of xylogenesis. *BMC Plant Biology* (Q1), Volume 18, article number 182. https://doi.org/10.1186/s12870-018-1392-4. IF = 3.7, citations = 45
4) Altamura, M. M., **Piacentini, D.**, Della Rovere, F., Fattorini, L., Valletta, A., & Falasca, G. (2024). Plastid dynamism integrates development and environment. *Plant Physiology and Biochemistry* (Q1), article number 108813. https://doi.org/10.1016/j.plaphy.2024.108813. IF = 6.1, citations = 0

5) Altamura, M. M., **Piacentini, D.**, Della Rovere, F., Fattorini, L., Valletta, A., & Falasca, G. (2024). Transition dynamics in plastid interconversion in land plants. *Plant Biosystems* (Q1), Article ID: TPLB 2375333. https://doi.org/10.1080/11263504.2024.2375333 (In Press). IF = 1.6, citations = 0
6) Altamura, M. M., **Piacentini, D.**, Della Rovere, F., Fattorini, L., Falasca, G., & Betti, C. (2023). New paradigms in brassinosteroids, strigolactones, sphingolipids, and nitric oxide interaction in the control of lateral and adventitious root formation. *Plants-Basel* (Q1), Volume 12(2), article number 413. https://doi.org/10.3390/plants12020413. IF = 4.0, citations = 13
7) Betti, C., Della Rovere, F., **Piacentini, D.**, Fattorini, L., Falasca, G., & Altamura, M. M. (2021). Jasmonates, ethylene and brassinosteroids control adventitious and lateral rooting as stress avoidance responses to heavy metals and metalloids. *Biomolecules* (Q1), Volume 11(1), article number 77. https://doi.org/10.3390/biom11010077. IF = 6.1, citations = 44

Part XIII– Oral or poster presentation in national and international conferences

- Oral Presentation: "The *Arabidopsis thaliana cat2* mutation is hidden by cadmium treatment and reveals an important role for CATALASE in root development" **Piacentini D.**, Della Rovere F., Lanni F., Calonzi G., Fedeli M., Fattorini L., Altamura M.M., Falasca G. ***Riunione annuale dei gruppi di lavoro SBI*** [Verona (IT), 12/06/2024-14/06/2024]
- Oral Presentation: "Root system plasticity is essential to overcome as toxicity in rice: the role of brassinosteroids" **Piacentini D.**, Della Rovere F., Lanni F., Peduzzi A., Fattorini L., Altamura M.M., Falasca G. ***XIV International Scientific Agriculture Symposium "AGROSYM 2023"*** [Online 05/10/2023-07/10/2023]
- Oral Presentation: "Nitric oxide and phytohormones interaction in the response of the rice root to toxic metals". **Piacentini D.**, Della Rovere F., Fattorini L., Lanni F., Cittadini M., Altamura M.M., Falasca G. ***COST EPI-CATCH Conference: Epigenetic mechanisms in plant responses to environmental Stresses*** [Parma (IT) 02/05/2023 – 03/05/2023]
- Oral Presentation: "Insights on nitric oxide interaction with phytohormones in rice root system response to metal stress" **Piacentini D.**, Della Rovere F., Fattorini L., Lanni F., Cittadini M., Altamura M.M., Falasca G. ***ICCSPM 2023: XVII. International Conference on Crop Sciences and Plant Morphology*** [Online, 23/01/2023 – 24/01/2023]
- Oral Presentation: "Root peroxisomal responses in Arabidopsis plants exposed to cadmium toxicity". **Piacentini D.**, Della Rovere F., Sofo A., Bertoldi I., Altamura M.M., Falasca G. ***8th plant nitric oxide international meeting*** [Online, 07/07/2021 – 09/07/2021]
- Oral Presentation: "Root peroxisomes responses in Arabidopsis plants exposed to cadmium toxicity" **Piacentini D.**, Corpas F.J., Stellmach H., Scherr-Henning A., Altamura, M.M., Falasca G. ***Riunione annuale dei gruppi di lavoro SBI*** [Online, 16/06/2021 – 18/06/2021]
- Oral Presentation: "Role of nitric oxide in cadmium and arsenic toxicity in *Oryza sativa* L. root system". **Piacentini D.**, Ronzan M., Massimi L., Altamura M.M., Falasca G. ***5th International Rice Congress*** [Singapore (SG), 15/10/2018 – 17/10/2018]
- Oral Presentation: "Cadmium and Arsenic alter auxin homeostasis during adventitious root formation in *Arabidopsis thaliana* L. (Heynh)" **Piacentini D.**, Ronzan M., Fattorini L., Della Rovere F., Sofo A., Altamura M.M., Falasca G. ***Riunione annuale dei gruppi di lavoro SBI*** [Milan (IT), 14/06/2017 – 16/06/2017]
- Poster Presentation: "Nitric oxide and phytohormones interaction in the response of the rice root system to Cadmium or Arsenic". **Piacentini D.**, Della Rovere F., Fattorini L., Lanni F., Cittadini M., Altamura M.M., Falasca G. ***VIB Conference series: Translational Research in Crops*** [Ghent, (BELG), 22/06/2023 – 23/06/2023]
- Poster Presentation: "Arabidopsis root peroxisomes are involved in cadmium responses". **Piacentini D.**, Corpas F.J., Stellmach H., Scherr-Henning A., Altamura M.M., Falasca G. ***11th symposium of the International Society of Root Research*** [Online, 24/05/2021 – 28/05/2021]
- Poster Presentation: "Exogenous Nitric oxide enhances Cd tolerance in the rice root system by interacting with auxin". **Piacentini D.**, Della Rovere F., Fattorini L., Ronzan M., Falasca G., Massimi L.,

Sofo A., Altamura M.M. ***VII International Plant Science Conference (IPSC), 115th of the Italian Botanical Society*** [Online, 09/09/2020 – 11/09/2020]

- Poster Presentation: "Analysis of the peroxisomal nitric oxide content and root architecture in Arabidopsis seedlings grown under cadmium-induced stress". **Piacentini D**., Falasca G., Altamura M.M., Corpas F.J. ***XII GEIRLI Meeting*** [Barcelona (Esp), 04/07/2019 – 05/07/2019]

Rome, 10/07/2024 Signature