

Curriculum vitae

PERSONAL INFORMATION

Family name, First name: Di Baccio Daniela

Researcher unique identifier (ORCID): <http://orcid.org/0000-0001-6270-0270>

Nationality: Italian citizenship

URL for web site: <https://www.cnr.it/people/daniela.dibaccio>

• CURRENT POSITION(S)

2020 – present Senior Researcher Scientist (II level)

Research Institute on Terrestrial Ecosystems (IRET), National Research Council (CNR) - Italy

2011 – 2020 Permanent Researcher (III level)

Institute of Agro-environmental and Forest Biology (IBAF), now: Research Institute on Terrestrial Ecosystems (IRET), CNR – Italy.

• EDUCATION

2001 – 2004 PhD in the area: “Valorisation and protection of plant resources in agricultural and environmental systems” – Sector of Agricultural Sciences. (100/100 *cum laude*)

Sant’Anna School of Advances Studies, Pisa University, Italy

1998 – 1999 Degree thesis in Agricultural Sciences (110/110 *cum laude*)

University of Pisa, Italy

2018 – present National Scientific Qualification for teaching (II level Professor, University) in Plant Physiology (05/A2) - MIUR

2013 – present National Scientific Qualification for teaching (II level Professor, University) in Agricultural Chemistry, Genetics and Soil science (07/E1) - MIUR

• PREVIOUS POSITIONS

2010 – 2011 Research Assistant position - Sant’Anna School of Advanced Studies, Pisa University, Italy
Sector of Agricultural Sciences, Biological Sciences-Environmental and Applied Botany (BIO/03)

2009 Research Assistant position - Sant’Anna School of Advanced Studies, Pisa University, Italy
Sector of Industrial Engineering (ING-IND/34)

2004 – 2008 Post-doctoral position

Sant’Anna School of Advanced Studies – Pisa University, Italy
Sector of Agricultural Sciences (AGR/03)

• FELLOWSHIPS

2009 Award received from Elsevier Editorial Office (Redarweg 29, 1043 NX Amsterdam - The Netherland, www.elsevier.com) as valued reviewer of impacted scientific Journals in Environmental Sciences and Ecology

2003 – 2004 Coordinator (with bursary) of the “Young Researchers” Project (MURST) “Two poplar genotype response to Zn excessive doses: physiological and biochemical implications and potential phytoremediation applications”- St’Anna School of Advanced Studies-Pisa

2004 Bursary (910 \$+290 \$ for registration fee) by the 12th International *New Phytologist* Symposium “Functional genomics of environmental adaptation in *Populus*”. Gatlinburg, Tennessee, USA. Registered Charity no. 313570

2000 – 2001 Coordinator (with bursary) of the “Young Researchers” Project (MURST) “Sea water use for irrigation: development of a method for lipoic and dehydrolipoic acid determination in plant cells”- Agricultural Chemistry and Biotechnologies Department, University of Pisa-Italy

2002 Bursary (400 \$) by the 9th International *New Phytologist* Symposium: “Heavy metals and plants: from ecosystems to biomolecules”. Merchant 7300 4000000 001, 17th October 2002, University of Pennsylvania, Philadelphia, PA 19104, USA

2000 Collaboration contract on “Plant early indicators to ozone stress”
Agricultural Chemistry and Biotechnologies Department, University of Pisa-Italy

1998 – 1999 stage on chemical, physical analyses in plant and soil matrices - “Istituto di Chimica del Terreno” (CNR) and MERISTEMA S.r.l. – Italy.

• SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

2004 – 2012 Supervisor or co-tutor of three PhD, two undergraduate and about five stage students
Sant’Anna School of Advances Studies, Pisa University, Italy.

- **TEACHING ACTIVITIES (if applicable)**

- 2019 – 2020 Teaching assistant in “Plant Bio-factories”, degree course “Plant Microbial and Biotechnology” (WBV-LM), University of Pisa - Italy
- 2018 – 2019 co-professor in “Plant Bio-factories”, degree course “Plant Microbial and Biotechnology” (WBV-LM), University of Pisa – Italy
- 2015/16-2017/18 Lectures on “Phytoremediation” in the degree course “Plant Physiology”, Agricultural Sciences (AGR-L), University of Pisa – Italy
- 2004/05-2009/10 Assistant Professor in the course “Advanced laboratory techniques”, Sant’Anna School of Advanced Studies, Pisa
- 2001 – 2004 Lectures on “Physiological and biochemical aspects of plant responses to heavy metal contaminations”, Sant’Anna School of Advanced Studies (SSSUP)-Pisa, Italy, and “Institut für Forstbotanik und Baumphysiologie” – Università di Friburgo (Germany).

- **INSTITUTIONAL RESPONSIBILITIES (if applicable)**

- 2015 – 2018 Responsible (Legislative Decree 81/08) of the Molecular Biology Laboratory Institute of Agro-environmental and Forest Biology (IBAF), now: Research Institute on Terrestrial Ecosystems (IRET), National Research Council (CNR) – Italy.
- 2016 Member of the Committee for the recruitment of technologist position (call n. IBAFRM012016), IBAF-CNR, Rome - Italy
- 2012 Member of the Committee for the recruitment of technician position (call n. IBAFRM012012), IBAF-CNR, Rome – Italy
- 2012-2016 Member of several Scientific Committees for the recruitment of research assistants and fellow shippers, National Research Council, Italy

- **REVIEWING ACTIVITIES (if applicable)**

- 2003 – present Referee of many international ISI journals in the areas: Plant physiology, biochemistry and molecular biology, Botany, Agricultural chemistry, Forestry Sciences, Ecology, Environmental Pollution, Phytoremediation
- 2019 – 2012 Member as reviewer of the “International panel” for the evaluation of Portuguese Projects of national interest - FCT (Portuguese Science and Technology Foundation, www.fct.mctes.pt)
- 2009 Reviewer and “chairman” of the COST Action 859: “Phytotechnologies to promote sustainable land use and improve food safety”, Final Conference, Ascona (Switzerland), 12th-16th October 2009. SESSION 3: “Phyto-treatment of waters, soils, brownfields and sediments”.
- 2006 Reviewer, Second International seminar on “Biotechnology and Quality of Olive Tree Products around the Mediterranean Basin”, Marsala–Mazara del Vallo, Italy, 5th-10th November 2006.

- **MEMBERSHIPS OF SCIENTIFIC SOCIETIES (if applicable)**

- 2010 – present Member of Italian Society of Silviculture and Forest Ecology (SISEF)
- 2000 – present Member of Italian Society of Agricultural Chemistry (SICA)
- 2004 – 2009 Member of COST European Cooperation in Science and Technology (Action 859)

- **MAJOR COLLABORATIONS (if applicable)**

- Sant’Anna School of Advanced Studies, Pisa University, Italy
- Department of Agricultural, Food and Agro-Environmental Sciences, University of Pisa, Italy
- “Institut für Forstbotanik und Baumphysiologie”, Albert-Ludwigs-University, Freiburg, Germany
- Department of Plant Physiology, Faculty of Natural Sciences, Comenius University, Bratislava, SK-84215 Bratislava

Main publications

- Ciurli, A., Di Baccio, D., Scartazza, A., Grifoni, M., Pezzarossa, B., Chiellini, C., Mariotti, L., Pardossi, A. (2021). Influence of zinc and manganese enrichments on growth, biosorption and photosynthetic efficiency of *Chlorella* sp. *Environmental Science and Pollution Research*, 28(7), 8539-8555.
- Scartazza, A., Mancini, M. L., Proietti, S., Moscatello, S., Mattioni, C., Costantini, F., Di Baccio, D., Villanic, F., Massacci, A. (2020). Caring local biodiversity in a healing garden: Therapeutic benefits in young subjects with autism. *Urban Forestry & Urban Greening*, 47, 126511.
- Grenni, P., Patrolecco, L., Rauseo, J., Spataro, F., Di Lenola, M., Aimola, G., Zacchini, M., Pietrini, F., Di Baccio, D., Stantoni, I.C., Gazed, W.H., Caracciolo, A. B. (2019). Sulfamethoxazole persistence in a river water ecosystem and its effects on the natural microbial community and *Lemna minor* plant. *Microchemical Journal*, 149, 103999.
- Nestola, E., Scartazza, A., Di Baccio, D., Castagna, A., Ranieri, A., Cammarano, M., Mazzenga, F., Matteucci, G., Calfapietra, C. (2018). Are optical indices good proxies of seasonal changes in carbon fluxes and stress-related physiological status in a beech forest?. *Science of The Total Environment*, 612: 1030-1041.
- Pietrini, F., Di Baccio, D., Iori, V., Veliksar, S., Lemanova, N., Juškaitė, L., Maruška, A., Zacchini, M. (2017). Investigation on metal tolerance and phytoremoval activity in the poplar hybrid clone "Monviso" under Cu-spiked water: potential use for wastewater treatment. *Science of the Total Environment*, 592: 412-418.
- Di Baccio, D., Pietrini, F., Bertolotto, P., Pérez, S., Barceló, D., Zacchini, M., Donati, E. (2017). Response of *Lemna gibba* L. to high and environmentally relevant concentrations of ibuprofen: Removal, metabolism and morpho-physiological traits for biomonitoring of emerging contaminants. *Science of the Total Environment*, 584: 363-373.
- Scartazza, A., Di Baccio, D., Bertolotto, P., Gavrichkova, O., Matteucci, G. (2016). Investigating the European beech (*Fagus sylvatica* L.) leaf characteristics along the vertical canopy profile: leaf structure, photosynthetic capacity, light energy dissipation and photoprotection mechanisms. *Tree Physiology*, 36(9): 1060-1076.
- Pietrini, F., Di Baccio, D., Aceña, J., Pérez, S., Barceló, D., Zacchini, M. (2015). Ibuprofen exposure in *Lemna gibba* L.: Evaluation of growth and phytotoxic indicators, detection of ibuprofen and identification of its metabolites in plant and in the medium. *Journal of Hazardous Materials*, 300: 189-193.
- Ariani, A., Di Baccio, D., Romeo, S., Lombardi, L., Andreucci, A., Lux, A., Horner, D. S., Sebastiani, L. (2015). RNA Sequencing of *Populus x canadensis* Roots Identifies Key Molecular Mechanisms Underlying Physiological Adaptation to Excess Zinc. *PloS one* 10(2), e0117571.
- Castagna, A., Di Baccio, D., Ranieri, A., Sebastiani, L., Tognetti, R. (2015). Effects of combined ozone and cadmium stresses on leaf traits in two poplar clones. *Environmental Science and Pollution Research*, 22(3), 2064-2075.
- Di Baccio, D., Castagna, A., Tognetti, R., Ranieri, A., Sebastiani, L. (2014). Early responses of two poplar clones that differ in stress tolerance. *Journal of Plant Physiology*, 171(18): 1693-1705.
- Castagna, A., Di Baccio, D., Tognetti, R., Ranieri, A., Sebastiani, L. (2013). Differential ozone sensitivity interferes with cadmium stress in poplar clones. *Biologia Plantarum*, 57(2): 313-324.
- Di Baccio, D., Ederli, L., Marabottini, R., Badiani, M., Francini, A., Nali, C., Antonelli, M., Santangelo, E., Sebastiani, L., Pasqualini, S. (2012). Similar foliar lesions but opposite hormonal patterns in a tomato mutant impaired in ethylene perception and its near isogenic wild type challenged with ozone. *Environmental and Experimental Botany*, 75: 286-297.
- Di Baccio D., Minnocci A., Sebastiani L., Carraro V., Grani F., Anfodillo T., Tognetti R. (2012). Sap flow measurements for the evaluation of poplar clone performance in remediation of soil polluted with olive mill wastewater. *Acta Horticulturae*, 951: 175 -182. ISSN: 0567-7572.
- Stoláriková M., Vaculík M., Lux A., Di Baccio D., Minnocci A., Andreucci A., Sebastiani, L. (2012). Anatomical differences of poplar (*Populus x euramericana* clone I-214) roots exposed to zinc excess. *Biologia* 67(3), 483-489, section Botany.

- Di Baccio, D., Galla, G., Bracci, T., Andreucci, A., Barcaccia, G., Tognetti, R., Sebastiani, L. (2011). Transcriptome analyses of *Populus x euramericana* clone I-214 leaves exposed to excess zinc. *Tree Physiology*, 31(12): 1293-1308.
- Sebastiani, L., Di Baccio, D., Minnocci, A., Andreucci, A., Bracci, T., Tognetti, R. (2010). *Populus* spp. strategies to counteract Zn excess: Phytoremediation perspectives. *Journal of Biotechnology*, 150S, p. S121.
- Di Baccio D., Minnocci A., Sebastiani L. (2010). Leaf structural modifications in *Populus deltoides* x *P. nigra* (*Populus x euramericana*) clone I-214 subjected to zinc excess. *Biologia Plantarum*, 54(3): 502-508.
- Di Baccio D., Tognetti R., Minnocci A., Sebastiani L. (2009). Responses of the *Populus x euramericana* clone I-214 to excess zinc: Carbon assimilation, structural modifications, metal distribution and cellular localization. *Environmental and Experimental Botany*, 67(1): 153-163.
- Sebastiani L., Bracci T., Di Baccio D., Borghi M., Martinelli F., Ghelardi C., Monteforti G., Minnocci A. (2009). Micropropagation as tool for biological research: the experience of the BioLabs laboratories. *Italus Hortus*, 16(2): 171-174. ISSN: 1127-3496.
- Di Baccio D., Castagna A., Paoletti E., Sebastiani L., Ranieri A. (2008). Could the differences in O₃ sensitivity between two poplar clones be related to a difference in antioxidant defense and secondary metabolic response to O₃ influx? *Tree Physiology*, 28(12): 1761-1772.
- Antonelli M., Di Baccio D., Ederli L., Francini A., Marabottini R., Pellegrini E., Ciaffi M., Lorenzini G., Nali C., Pasqualini S., Santangelo E., Sebastiani L., Soressi G.P., Badiani M. (2008). Ozone as a tool for studying stress responses in tomato: signalling and defence in normal and mutant lines. *Acta Horticulturae*, 789:159-166. ISSN: 0567-7572.
- Di Baccio D., Kopriva S., Sebastiani L., Rennenberg H. (2005). Does glutathione metabolism have a role in the defence of poplar against zinc excess? *New Phytologist*, 167(1): 73-80.
- Di Baccio D., Navari-Izzo F., Izzo R. (2004). Seawater irrigation: antioxidant defence responses in leaves and roots of a sunflower (*Helianthus annuus* L.) ecotype. *Journal of Plant Physiology*, 161(12): 1359-1366.
- Moro I., Dalla Vecchia F., La Rocca N., Navari-Izzo F., Quartacci M. F., Di Baccio D., Rüdiger W., Rascio N. (2004). Impaired carotenogenesis can affect organization and functionality of etioplast membranes. *Physiologia Plantarum*, 122(1): 123-132.
- Di Baccio D., Tognetti R., Sebastiani L., Vitagliano C. (2003). Responses of *Populus deltoides* x *Populus nigra* (*Populus x euramericana*) clone I-214 to high zinc concentrations. *New Phytologist*, 159(2): 443-452.
- Di Baccio D., Quartacci M. F., Dalla Vecchia F., La Rocca N., Rascio N., Navari-Izzo F. (2002). Bleaching herbicide effects on plastids of dark-grown plants: lipid composition of etioplasts in amitrole and norflurazon-treated barley leaves. *Journal of Experimental Botany*, 53 (376): 1857-1865.