**Curriculum Vitæ WERTHER GUIDI NISSIM**

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**RESEARCH**

My research interest is in multifunctional use of plants for phytoremediation, an environmentally friendly technique used to decontaminate polluted soils and waters of heavy metals, organic contaminants and mineral nutrients using plants.

In the last few years my research is focused on phytoremediation as an active component of urban landscaping process in degraded areas. I am particularly interested in the additional environmental (i.e., beyond soil cleansing) and social benefits associated with this technology, including the technical constraints and knowledge gaps that should be further addressed to make this technique efficient on a larger scale.

The use of trees for the reclamation of brownfields shows several benefits in addition to depollution. Most tree species used for phytoremediation may actively reduce the volume of stormwater runoff and mitigate the risk of local flooding events. They can actively contribute to CO2 sequestration and function as highly aesthetic living barriers for noise and air pollution attenuation. Some uncertainties associated with the use of this reclamation technique in urban areas (i.e., BVOC emission, pollen production) still need to be addressed. Nevertheless, within the large family of green technologies, phytoremediation has huge potential to be used as an effective tool for the cleanup of contaminated urban brownfields, thus contributing to the development of more sustainable modern towns.

**EDUCATION**

2003 - 2006 Ph.D. Agricultural Sciences (Energy Crops), Sant'Anna School of University Studies and Doctoral Research, Pisa (Italy). Ph.D. thesis: “*Water requirements of willow and poplar SRIC used as vegetation filters*”

1995 – 2001 Bachelor of Science, Forestry, Department of Plant Biology - University of Florence (Italy) Dissertation: “*Relationships between leaf anatomy and ozone sensitivity of European ash (Fraxinus excelsior* L*.)*”

**PROFESSIONAL BACKGROUND**

Apr 2022 – present Assistant Professor- Department of Biotechnology and Biosciences,

University of Milano-Bicocca. Milan (Italy)

Jan 2020- Feb 2022 R&D PNAT s.r.l ([www.pnat.net](http://www.pnat.net))

Jan 2014 – Dec 2019 Postdoctoral Research,

Department of Agriculture, Food, Environment and Forestry- University of Florence (Italy).

Supervisor: Prof. Stefano Mancuso

Apr 2010 – Nov 2013 Postdoctoral Research,

Plant Biology Research Institute - University of Montreal (Canada). Research topic “*Using willows for phytoremediation of contaminated soils and waters”*.

Supervisor: Prof. Michel Labrecque

Nov 2008 – Mar 2010 Postdoctoral Research,

Sant'Anna School of University Studies and Doctoral Research, Pisa (Italy). “*Woody energy crops potential in Central Italy”.*

Supervisor: Prof. Enrico Bonari

Apr 2006 - Jul 2007 Postdoctoral Research,

Plant Biology Research Institute - University of Montreal (Canada). Research topic “*Physiological effects of high water supply on poplar and willow SRIC for remediation of aquaculture effluents”*.

Supervisors: Prof. Michel Labrecque and Prof. Sébastien Sauvé

Oct 2004 – Mar 2005 Visiting Academic, School of Plant Biology – The University of Western Australia - Perth (Australia). Research topic: “*Water relations of natural Eucalyptus ecosystems threaten by climate change*”.

Supervisor: Prof. Hans Lambers, Prof. Erik Veneklaas

**TEACHING / LECTURING EXPERIENCE**

Sept 2019 Mendel University in Brno (Czech Republic) - Erasmus+ Staff Mobility for Lecturers (STA). Guest scientist. The goal of this mobility was to exchange of scientific and technical expertise regarding the field of phytotechnologies with a special emphasis on phytoremediation.

Sep 2018 –Apr 2020 University of Florence (Italy). Undergraduate course “*Botany and wood anatomy and identification*”(48h). The course introduces basic tree growth and wood formation, detailing both the macroscopic and microscopic anatomy of hardwoods and softwoods. The laboratories cover the macroscopic and microscopic identification of the main Italian hardwoods and softwoods.

Jan 2014-present I am regularly giving seminars on “*Phytoremediation*” at the University of Florence (Italy).

Feb 2013 Seminar: “*Phytoremediation*” organized by the School of Landscape Architecture, University of Montreal (Dr. Danielle Dagenais).

Dec 2012 Seminar (2 hours): “*Phytotechnologies*” organized by the School of Horticulture of Montreal.

Feb – Apr 2011/12 Seminar series (10): “*Phytotechnologies*”, within the “*Green Solutions to Urban Challenges*” program organized by The Montreal Botanical Garden and aimed at helping high-school students to understand how plant science and technology contribute to building sustainable communities in urban areas.

Oct 2009 I held several seminars on “*Bioenergy crops*” (20 hours) within the training course “*Managements of bioenergy plants*” organised by So&Co -Training Agency (Italy), aimed at introducing the main agricultural and forest biomass sources to managers of bioenergy plants.

**TRAINING COURSES**

Nov 2018 – Nov 2024 Successful awarded the Italian qualification (Abilitazione Scientifica Nazionale) as associate professor in the sector 07/B2 *“Science and technology of arboricultural and forest systems”*.

Jul 2013-present Successful participation to the European Union test *“Call for expressions of interest for contract agents EPSO/CAST/S/5/2013 - Researcher (FG IV) Agricultural, Environmental and Earth Sciences”* with marks 29/30 points (passmark: 15 points).

Oct 2009 “*International Training Course on Trends in Measurements and Estimation of Crop Water Requirements”* 5th - 9thOctober, Catania (Italy).

Oct 2003“*Curso Internacional de Proyectos de Cambio Climático en los sectores forestal y energía*” Centro Agronomico Tropical de Investigaciòn y Enseñanza (CATIE), Turrialba- Costa Rica.

**LANGUAGES**

Italian (native speaker); English (professional working proficiency); French (C1-C2; TCF-Quebec); Spanish (basic)

**COMPUTATIONAL SKILLS**

Proficient in many Microsoft Office packages (Word, Excel, etc.), Mac OS10 operating systems, in the use of statistical (SPSS, R, Statgraph, CoHort) and biological/agro-ecological (WinRhizo, Cropwat, CO2Fix) packages.

**RESEARCH PROJECTS**

I was involved in the following research projects:

* 2018-2021 Ministère de l’Économie, de la Science et de l’Innovation du Québec. *Création d'une boucle ''économico-environnementale'' pour le déploiement d'une plateforme de production intégrée économiquement viable de biocarburant et de produits biosourcés à haute valeur ajoutée à partir de biomasses issues de la phytoremediation.* PSR-SIIRI 2017-2018 (Canada, Italy and China)
* 2017-present: IPER “*Innovative Plant-based Environmental Remediation*”. University of Florence (Italy) funded by the Italian Ministry of Defence.
* 2014-present: VESPA “*Vegetation Systems for Pollution Avoidance*”. University of Florence (Italy) funded by the Italian Ministry of Defence.
* 2011-2013: Genome Canada. “*GenoRem: improving bioremediation of polluted soils through environmental genomics*” (Canada). <http://www.irbv.umontreal.ca/recherche/initiatives-majeures/genorem?lang=en>
* 2010-2012: City of Montreal. *“Willow short-rotation coppice for treatment of polluted groundwater at the Parc d’entreprises de la Pointe Saint-Charles”* (Canada).
* 2010-2013: Ministère du Développement durable, de l’Environnement et de la Lutte contre les changements climatiques du Québec. “*Système écologique intégré à base de saule pour la décontamination des eaux usées, la valorisation des boues d’épuration et le chauffage à l’énergie renouvelable d’un édifice public*”, (Canada).
* 2010-2012: Canadian Federal Interdepartmental Program on Energy Research and Development (PERD) “*Short rotation intensive culture of willow in various regions of Eastern Canada*” (Canada).
* 2010-2011: Petromont and Co LP “*Using willow for phytoremediation on a former oil refinery*”. (Canada).
* 2008-2009: Grosseto Chamber of Commerce (Italy) “*Pilot project: estimation of biomass potential for bioenergy use in the Grosseto province –Italy”* (Italy).
* 2008-2009: Fondazione Banca del Monte di Lucca (Italy) “*Assessing the potential for bioenergy chains implementation in Lucca region*”, (Italy).
* 2003-2004: Italian Ministry of Agricultural, Food and Forestry Policies “*The Bioenergy Farm Project : the use of dedicated crop to produce clean energy”*, (Italy).

**MAJOR ACCOMPLISHMENTS IN SCIENTIFIC RESEARCH**

**Phytoremediation.** The uptake of trace elements and the degradation of organic pollutants by plants have been my main research topics since the beginning of my first postdoctoral fellowship in Canada. I was involved in research projects aimed to develop green approaches to decontaminate polluted sites using plants. I assessed low cost solutions to restore the lost ecological integrity to these sites. By choosing species adapted to the harsh conditions that characterize these sites, I have completed several projects that simultaneously "green" and rehabilitate a site, following decontamination. Collaborations with several companies (refineries and civil engineering companies) and municipalities in Canada and recently in Italy were established over the last few years.

**Energy crops**. Another aspect of my research activities focuses on the use of fast-growing woody plants to address issues related to the production of biomass for bioenergy. Over the last ten years, studies were conducted to implement technology in the production of woody crops by maximising yield, enhancing feedstock quality and reducing production costs. This research has had significant impacts upon the development of new commercial activities in Italy and Canada. Based on my last research activities carried out at the Michel Labrecque’s Lab – University of Montreal, several private companies (willow suppliers for instance) were created over the last years in Québec (Agro Energie, Sauletech, Envirosaule, etc.).

**Living structures**. Besides my main research activities, I was also involved in projects on living noise barrier implementation in Canada. I worked with municipal partners to establish such structures and provided scientific follow-up in order to evaluate the pertinence and sustainability of these green walls. To date, several kilometres of living walls have been established in the Quebec municipalities and this contributes to the development of a new sector of activities in respect of sustainable development.

**PUBLICATIONS**

**Peer Reviewed Journals**

1. Vita F., Sabbatini L., Sillo F., Ghignone S., Vergine M., **Guidi Nissim W**., Fortunato S., Salzano A.M., Scaloni A., Luvisi A., Balestrini R., De Bellis L, Mancuso S., (2022) “*Salt stress in olive tree shapes resident endophytic microbiota*”. Frontiers in Plant Science, *accepted.*
2. Palm E, **Guidi Nissim W**., Gagnon-Fee, D., Labrecque, M., (2022) “*Photosynthetic patterns during autumn in three different Salix cultivars grown on a brownfield site*”. Photosynthesis Research, *accepted.*
3. Capuana M., **Guidi Nissim W**., Klein J.D., (2022) “*Protocol for In Vitro Propagation of* Salix acmophylla *(Boiss.). Studies on Three Ecotypes*”. Forests, *in press*.
4. **Guidi Nissim W**., Labrecque, M., (2022) “*Field assessment of trace element phytoextraction by different Populus clones established on brownfields in southern Quebec (Canada*)”. International Journal of Phytoremediation, in press.
5. Palm E., Klein J.D., Mancuso S., **Guidi Nissim W**. (2022) “*The physiological response of different brook willow (Salix acmophylla Boiss.) ecotypes to salinity*”. Plants, 11, 739
6. Panzeri. D., **Guidi Nissim W.,** Labra M., Grassi F., (2022) “*Revisiting the domestication process of African Vigna species (Fabaceae): background, perspectives and challenges*.” Plants, 11(4), 532
7. Palm E., **Guidi Nissim W.,** Adamcová D., Podlasek A., Jakimiuk A., Vaverková M.D., (2021) “*Sinapis alba L. and Triticum aestivum L. as biotest model species for evaluating municipal solid waste leachate toxicity*”, Journal of Environmental Management, Accepted
8. Masi M., **Guidi Nissim W**., Pandolfi C., Azzarello E., Mancuso S., (2022) “*Modelling botanical biofiltration of indoor air streams contaminated by volatile organic compounds”.* Journal of Hazardous Materials, 422, 126875.
9. **Guidi Nissim W.,** Labrecque, M., (2021) “*Reclamation of urban brownfields through phytoremediation: implications for building sustainable and resilient towns*” Urban Forestry & Urban Greening, 65, 127364.
10. **Guidi Nissim W.,** Palm E., Pandolfi, C., Mancuso S., Azzarello E. (2021) “*Relationship between Leachate Pollution Index and growth response of two willow and poplar hybrids: Implications for phyto-treatment applications*” Waste Management, 136:162-173.
11. **Guidi Nissim W**., Masi E., Pandolfi C., Mancuso S., Atzori G. (2021) “*The response of halophyte (Tetragonia tetragonioides (Pallas) Kuntz) and glycophyte* (Lactuca sativa L.) *crops to diluted seawater and NaCl solutions: a comparison between two salinity stress types*”. Applied Sciences, 11(14), 6336
12. Palm E., **Guidi Nissim W**., Mancuso S., Azzarello E. (2021) “*Split-root investigation of the physiological response to heterogeneous elevated Zn exposure in poplar and willow*” Environmental and Experimental Botany,183:104347
13. **Guidi Nissim W.,** Palm E., Pandolfi, C., Mancuso S., Azzarello E. (2021) “*Willow and poplar for the phyto-treatment of landfill leachate in Mediterranean climate*” Journal of Environmental Management, 277:111454.
14. Riccioli F., **Guidi Nissim W.,** Masi M., Palm E., Mancuso S., Azzarello E. (2020). “*Modeling the Ecosystem Services Related to Phytoextraction: Carbon Sequestration Potential Using Willow and Poplar*”, Applied Sciences, *10* (22), 8011.
15. Atzori, G., **Guidi Nissim W**., Niccolai, A., Rodolfi., L., Biondi, N., Mancuso, S., Tredici, M.R. (2020) “*Algae and Bioguano as promising source of organic fertilizers*” Journal of Applied Phycology, , 32:3971–3981
16. Atzori, G., **Guidi Nissim W**., Macchiavelli, T., Vita F., Azzarello E., Pandolfi C., Masi E., Mancuso S. (2020) “*Tetragonia tetragonioides (Pallas) Kuntz. as promising salt-tolerant crop in a saline” agricultural context*” Agricultural Water Management, 240: 106261
17. Desrochers V., Frenette-Dussault C., **Guidi Nissim W**., Brisson J., Labrecque M., (2020) “*Willow microcuttings for ecological restoration: An alternative method for establishing dense plant covers in power line rights-of way*”, Ecological Engineering , 151: 105859
18. **Guidi Nissim W.,** Palm E., Mancuso S., Azzarello E. (2019) “*Trace element partitioning in a poplar phytoextraction stand in relation to stem size*” Journal of Environmental Management, 247: 688-697
19. Atzori, G., **Guidi Nissim W**., Caparrotta, S., Santantoni, F., Masi E. (2019) “*Seawater and water footprint in different cropping systems: a chicory (Cichorium intybus L.) case study* Agricultural Water Management, 211: 172-177
20. **Guidi Nissim W**., Lafleur B., Labrecque M. (2018). “*The performance of five willow cultivars under different pedoclimatic conditions during the second rotation*”, Forests 9, 349;
21. **Guidi Nissim W**., Martellini T., Cincinelli A., Alvisi L. Palm E., Mancuso S., Azzarello E. (2018). “*Phytoremediation of sewage sludge contaminated by trace elements and organic compounds*”. Environmental Research, 164:356–366.
22. Pray TJ., **Guidi Nissim W**., St-Arnaud M., Labrecque M., (2018). “*Investigating the Effect of a Mixed Mycorrhizal Inoculum on the Productivity of Biomass Plantation Willows Grown on Marginal Farm Land*”. Forests, 9(4), 185;
23. **Guidi Nissim W.,** Palm E., Mancuso S., Azzarello E. (2018) “*Trace element phytoextraction from contaminated soil: a case study under Mediterranean climate*”. Environmental Science and Pollution Research, 25: 9114–9131
24. Gonzalez E., Pitre F.E, Pagé A.P., Marleau J., **Guidi Nissim W**., St-Arnaud M., Labrecque M., Joly S., Yergeau E., Brereton N.J.B. (2018). *“Trees, Fungi and Bacteria: Tripartite Metatranscriptomics of a Root Microbiome Responding to Soil Contamination.”* Microbiome, 6:53
25. Bibbiani S., Colzi I., Taiti C., **Guidi Nissim W.,** Papini A., Mancuso S, Gonnelli C. (2018). “Smelling the metal: volatile organic compound emission under Zn excess in the mint *Tetradenia riparia”*. Plant Science, 271:1-8
26. Palm E., **Guidi Nissim W**., Mancuso S., Giordani C., Azzarello E., (2017). “*Root potassium and hydrogen flux rates as potential indicators of plant response to zinc, copper and nickel stress*”. Environmental and Experimental Botany, 143:38-50
27. Sassoli M., Taiti C., **Guidi Nissim W.**, Costa C., Mancuso S., Menesatti P., Fioravanti M. (2017). Characterization of VOC emission profile of different wood species during moisture cycles. iForest, 10: 576-584
28. Taiti C., Costa C., **Guidi Nissim W**., Bibbiani S., Azzarello E., Masi E., Pandolfi C.,Pallottino F., Menesatti P., Mancuso S. (2017). “*Assessing VOC emission by different wood cores using the PTR-ToF-MStechnology*”. Wood Science and Technology, 51(2): 273–295
29. **Guidi Nissim W**, Labrecque M., (2016). *"Planting microcuttings: an innovative method for establishing a willow vegetation cover"*. Ecological Engineering, 91(1): 472–476
30. Brereton N., Gonzalez E., Marleau J., **Guidi Nissim W**., Labrecque M., Joly S., Pitre F. (2016). *“Comparative transcriptomic approaches exploring contamination stress tolerance in Salix sp. reveal the importance for a metaorganismal de novo assembly approach for non-model plants”.* Plant Physiology, 171: 3-24
31. Atzori, G., **Guidi Nissim W**., Caparrotta S., Vignolini P., Masi E., Azzarello E., Pandolfi C., Gonnelli C., Mancuso S. (2016). *“Potential and constraints of different seawater and freshwater blends as growing media for three vegetable crops”,* Agricultural Water Management*,* 176: 255-262
32. Bazihizina, N., C. Taiti, N. Serre, C. Nocci, F. Spinelli, **Guidi Nissim W**., E. Azzarello, L. Marti, M. Redwan, C. Gonnelli and S. Mancuso, (2016). “*Awaiting better times: A quiescence response and adventitious root primordia formation prolong survival under cadmium stress in Tetradenia riparia (Hochst.) Codd”*. Environmental and Experimental Botany 130: 1-10.
33. Desjardins D., Pitre F. E., **Guidi Nissim W**., Labrecque M. (2016). “*Differential uptake of silver, copper and zinc suggests complementary species-specific phytoextraction potential”* International Journal of Phytoremediation, 18 (6): 598-604.
34. **Guidi Nissim W**., Hasbroucq S., Kadri H, Pitre F.E., Labrecque M. (2015). *“Potential of selected Canadian plant species for phytoextraction of trace elements from selenium-rich soil contaminated by industrial activity”*. International Journal of Phytoremediation, 17(8): 745-752
35. Gonzalez E., Brereton N.J.B., Marleau J., **Guidi Nissim W**., Labrecque M*.,* Pitre F.E., Joly S. (2015). “*Meta-transcriptomics indicates biotic cross-tolerance in willow trees cultivated on petroleum hydrocarbon contaminated soil”.* BMC Plant Biology, 15: 246-264.
36. **Guidi Nissim W**., Jerbi A., Lafleur B., Fluet R., Labrecque M. (2015). *“Willows for the treatment of municipal wastewater: long-term performance under different irrigation rates”*.Ecological Engineering 81: 395-404.
37. Grenier V., Pitre, F.E., **Guidi Nissim W**., Labrecque M. (2015). *“Genotypic differences explain most of the response of willow cultivars to petroleum-contaminated soil”.* Trees - Structure and Function, 29(3): 871-881*.*
38. Jerbi A., **Guidi Nissim W**., Fluet R., Labrecque M. (2015). *“Willow root development and morphology changes under different irrigation and fertilization regimes in a vegetation filter”* BioEnergy Research, 8(2): 775–787
39. Pitre F.E., Cooke J.E.K., Caron S., Al Kayal W., Ouellet M., K. W. Lam, **Guidi Nissim** **W**, MacKay J.J. (2014). *“Identification of Short Term Nitrogen-Responsive Genes in Poplar Roots”*. Plant Roots. 8: 42-54
40. Desjardins D., **Guidi Nissim W**., Pitre F.E., Naud A., Labrecque M. (2014). “*Distribution patterns of spontaneous vegetation and pollution at a former decantation basin in southern Québec, Canada*”. Ecological Engineering 64: 385–390.
41. **Guidi Nissim W**., Pitre F.E., Kadri H., Desjardins D., Labrecque M. (2014). *“Early response of willow to increasing silver concentration exposure”*. International Journal of Phytoremediation, 16:(7-8) 660-670
42. **Guidi Nissim W**., Voicu A., Labrecque M. (2014). “*Willow short-rotation coppice for treatment of polluted groundwater”.* Ecological Engineering, 62:102-114
43. **Guidi Nissim W**., Pitre F.E., Teodorescu T.I., Labrecque M. (2013). *“Long-term biomass productivity of bioenergy plantations maintained in southern Quebec, Canada*”. Biomass and Bioenergy, 56(1):361–369
44. Lockwell J., **Guidi W**., Labrecque M. (2012). *“Soil carbon sequestration potential of willows in short-rotation coppice established on abandoned farm lands”*. Plant and Soil, 360(1):299-318
45. **Guidi W**., Kadri H., Labrecque L. (2012). *“Establishment techniques to using willow for phytoremediation on a former oil refinery in southern-Quebec: achievements and constraints”*. Chemistry and Ecology, 28(1):49-64.
46. Teodorescu T.I., **Guidi W**., Labrecque M. (2011). *“The use of non-dormant rods as planting material: a new approach to establishing willow for environmental applications”*. Ecological Engineering, 37 (9):1430-1433.
47. Fillion M., Brisson J., **Guidi W**., Labrecque M. (2011). *“Increasing phosphorus removal in willow and poplar vegetation filters using arbuscular mycorrhizal fungi”.* Ecological Engineering, 37 (2): 199-205.
48. Nassi o Di Nasso N., **Guidi W**., Ragaglini G., Tozzini C., Bonari E. (2010). *“Biomass production and energy balance of a twelve-year-old short-rotation coppice poplar stand under different cutting cycles”.* Global Change Biology Bioenergy, 2 (2):89–97.
49. **Guidi W**., Labrecque M. (2010). *“Effects of high water supply on growth, water use and nutrient allocation in willow and poplar grown in a one-year pot trial”*. Water, Air, and Soil Pollution, 207 (1-4):85-101
50. **Guidi W**., Tozzini C., Bonari E. (2009). “*Estimation of chemical traits in poplar short-rotation coppice at stand level”.* Biomass and Bioenergy, 33 (12):1703-1709
51. Pistocchi C., **Guidi W**., Piccioni E., Bonari E. (2009). *"Water requirements of poplar and willow vegetation filters grown in lysimeters under Mediterranean conditions. Results of the second rotation”*. Desalination, 246 (1):138-147.
52. **Guidi W**., Piccioni E., Bonari E. (2008). “*Evapotranspiration and crop coefficient of poplar and willow short-rotation coppice used as vegetation filter*”. Bioresource Technology, 99 (11):4832-4840.
53. **Guidi W**., Piccioni E., Ginanni M. Bonari E., (2008). “*Bark content estimation in poplar (Populus deltoides L.) short-rotation coppice in Central Italy*”. Biomass and Bioenergy, 32 (6):518-524.

**Peer Reviewed Journals – Submitted/ In preparation**

1. **Guidi Nissim W.**, Tozzini C., Bonari E., Ragaglini G. “*The response of three poplar short-rotation coppice cultivars along a gradient of soil properties*”, in preparation

**Book Chapters**

1. **Guidi W**, Pitre F.E, Labrecque M. (2013) *“Short-rotation coppice of willows for the production of biomass in Eastern Canada”*. In: Matovic M.D. (Eds), Biomass Now - Sustainable Growth and Use. pp 421-448. InTech ISBN 978-953-51-1105-4.

**Popular science articles**

1. **Guidi Nissim W.** (2021) “*Alberi che depurano: i cedui a turno breve nel fitorimedio*” – Pillole di Scienze Forestali – SISEF (in Italian)
2. **Guidi Nissim W.** (2017) “*Piante per la bonifica dell’ambiente: il fitorimedio*”. Sherwood, 229 :21-25 (in Italian)
3. Pitre F.E., **Guidi Nissim W**., (2015) “*Potager an eau salée*”. Quatre Temps 39(4) (in French)
4. **Guidi Nissim W**., “*L’uso delle piante nella lotta al degrado ambientale: le fitotecnologie*” (2015). Quaderni delle Campora, 7:21-28 (in Italian)
5. **Guidi Nissim W.,** Labrecque M.(2012) “Le potenzialità del salice nel controllo del degrado ambientale. L’esperienza canadese nell’ambito delle fitotecnologie”. Sherwood, 184 :40-45 (in Italian).
6. **Guidi W.,** Bonari E. (2008) “*Cedui a turno breve e fitodepurazione.Un’opzione per incrementare i benefici ambientali delle colture da biomassa*”., Sherwood, 145: 31-35 (in Italian)
7. Bonari E., Picchi G., **Guidi W.**, Piccioni E., Fraga A., Villani R., Ginanni M., (2004) “*Le colture da energia*” in: “Le colture dedicate ad uso energetico: il progetto Bioenergy Farm”. AAVV, Quaderno ARSIA 6, Firenze: 29-78 (in Italian)

**Invited talk**

1. **Guidi Nissim W**., Emily Palm, Camilla Pandolfi, Stefano Mancuso, and Elisa Azzarello (2021) “*Willow and poplar filters for the treatment of landfill leachate under Mediterranean climate*” 26th Session International Poplar Commission. FAO 5 – 8 October 2021 Rome (Italy).
2. **Guidi Nissim W.,** Emily Palm, Stefano Mancuso, and Elisa Azzarello (2021) “*Fast-growing trees for the extraction of trace elements on military sites: two case studies in Southern and Northern Italy”* 26th Session International Poplar Commission. FAO 5 – 8 October 2021 Rome (Italy).
3. **Guidi Nissim W.**, E. Azzarello, E. Palm, S. Mancuso. (2017) “The performance of four selected species for phytoextraction of trace elements under Mediterranean conditions”. 4th International Phytotechnologies Conference (International Phytotechnology Society), September 25 to 29 2017, Montreal (Canada).
4. **Guidi Nissim W**. (2016) ”*Cleaning-up the environment with Salicaceae: the Canadian experience*”. Workshop soil and water bioremediation, Scuola Superiore Sant’Anna, 9th-10th June 2016 Pisa (Italy).

**Conference Proceedings (selection)**

1. Pitre, F., E. Sas, **W. Guidi Nissim**, N.J.B. Brereton, K. Shan, S. Mancuso, P. Benoist, G. Vincent & M. Labrecque. (2018). *The potential of economically viable integrated platform for biofuel and bioproducts phytoremediation, in Canada, Italy and China*. 15th International Phytotechnologies Conference. 1-5 October 2018. Novi Sad, Serbia.
2. Santini G., **Guidi Nissim W**., Palm E.R., Biondi N., Tredici M., Rodolfi L.“*Effect of foliar application of an Arthrospira sp. based extract on hydroponically grown lettuce (Lactuca sativa L. var. capitata)* ” Algaeurope 2018 International Conference 4-6 December 2018 Park Plaza Amsterdam Airport Hotel (The Netherlands).
3. **Guidi Nissim W**., (2016). “*Cleaning-up the environment with plants: phytoremediation*”, Botanical Society of Beijing 15th March 2016. XiJiao Hotel. Beijing (China).
4. Labrecque M., **Guidi Nissim, W**., Bélanger N., Fontana M., Lafleur B. (2014) “*Two decades of research on short rotation willow crop in Quebec Canada*”. International Poplar Symposium VI 20th-24th July 2014, Vancouver, B.C. (Canada).
5. **Guidi Nissim W**., Hasbroucq S., Kadri H., Pitre F.E, Labrecque M., (2013) *“Screening of different plant species for phytoextraction of trace elements from the soil of a copper refinery”*. 10th International Phytotechnology Society Conference. 1-4 October 2013, Syracuse, NY (USA).
6. Cloutier-Hurteau B., Turmel M.C, St-Arnaud M., **Guidi W**., Courchesne F*.* (2013*) “Trace elements in the rhizosphere of willow – implications for phytoremediation”* 12th International Conference on the Biogeochemistry of Trace Elements June 16-20, Athens, Georgia, USA.
7. Jerbi A., Fluet R., **Guidi W**., Labrecque M. (2012). *“Root development in a willow vegetation filter under different irrigation and fertilization regimes”*. 9th Biennial Short Rotation Woody Crops Operations Working Group Conference. November 5-8, 2012. Oak Ridge, TN, USA.
8. Pitre F.E., Kadri H., **Guidi W.,** Labrecque M. (2012) *“Comparisons of different plant species and soil additions for the vegetalization of highly disturbed soils”*. 9th International Phytotechnology Society (IPS) Conference, September 11th- 14th, Hasselt, Belgium.
9. **Guidi W**., Pitre F.E., Kadri H. Desjardins D., Labrecque M. (2012) *“Early response of willows to high silver concentration”*. 9th International Phytotechnology Society (IPS) Conference, September 11th- 14th, Hasselt, Belgium.
10. Giulietti V., Roncucci N., Nassi o di Nasso N.,Tozzini C., Ragaglini G.,**Guidi W**., Taccini F.,Bonari E. (2011) “*Suitability of Eucalyptus Short Rotation Coppice in the Mediterranean environment: preliminary results”.* Aspects of Applied Biology 112, Biomass and Energy Crops IV, pp. 279−283.
11. **Guidi W**., Kadri H., Labrecque M. (2010) *“Effects of aeration and water table depth on rooting habit of willow”.* “*Environmental Application of Poplar and Willow Working Party*” – Workshop meeting. 17th – 18th September 2010 Institute of Agro-environment and Forest Biology (IBAF) National Research Council, Montelibretti – Rome, Italy.
12. **Guidi W**., Tozzini C.,Taccini, F.,Triana F., Ragaglini G.,Bonari E. (2009) *“Growth and productivity of four poplar clones in short-rotation forestry: results of the first rotation”.* 17th European Biomass Conference and Exhibition From Research to Industry and Markets 29 June - 3 July, Hamburg, Germany.
13. Ragaglini G., Villani, R., **Guidi W**., Bonari E. (2008) *“Bioenergy production assessment at regional level under different scenarios of resources exploitation”*. Biomass and Energy Crops III. December 10-12th Defra's Central Science Laboratory, Sand Hutton, York, UK.
14. **Guidi W**., Labrecque M., Teodorescu T. and Fillion M. (2007). “*Growth and productivity responses of willow and poplar in SRIC for treatment of aquaculture effluents in southern Quebec: preliminary results*” Environmental Application of Poplar and Willow Working Party – Workshop meeting 5th – 8th June Montreal, Qc, Canada.
15. **Guidi W**., Bonari E., Bertolacci M. (2005). “*Water consumption of poplar and willow short-rotation coppice used as vegetation filter: preliminary results*” ICID 21st European Regional Conference Integrated Land and Water Resources Management: Towards Sustainable Rural Development 15th –19th May, Frankfurt (Oder), Germany.
16. Bonari E., Picchi G., Fraga A., **Guidi W**., Ginanni M. (2004). “*Poplar short- rotation coppice behaviour under different harvesting treatments*” 2nd World Conference and Technology Exhibition on Biomass for Energy, Industry and Climate Protection 10th-14th May, Rome, Italy.
17. Bonari E., Picchi G., Fraga A., Ginanni M., **Guidi W**.,Piccioni E. (2004). “*Comparison of three coppice intervals on a nine years poplar biomass production*” 22nd Session International Poplar Commission: The contribution of poplars and willows to sustainable forestry and rural development, 28th November - 2nd December, Santiago, Chile.

**EDITORIAL ACTIVITIES**

**Editorial Board Membership**

* Co-Editor, *iForest - Biogeosciences and Forestry* ([www.sisef.it/iforest/static/?id=board](http://www.sisef.it/iforest/static/?id=board))
* Coordinating Editor, *Restoration Ecology,* (<https://onlinelibrary.wiley.com/page/journal/1526100x/homepage/editorialboard.html>)
* Editorial Board, *International Journal of Phytoremediation* ([www.tandfonline.com/toc/bijp20/current](http://www.tandfonline.com/toc/bijp20/current))
* Editorial Board, *Applies Sciences* ([www.mdpi.com/journal/applsci/editors](http://www.mdpi.com/journal/applsci/editors))
* Guest Editor, "*Phytotechnologies: Lessons from the Field on the Use of Plants to Improve Polluted Environments*"- *Applies Sciences* (<https://www.mdpi.com/journal/applsci/special_issues/phytotechnologies>)

**Peer Review Activities**

I reviewed several papers for the following scientific journals:

*Advances in Horticultural Science, Agricultural and Forest Meteorology, Agricultural Water Management, Applied Sciences, BioEnergy Research, Biomass and Bioenergy, Canadian Journal of Forest Research,* *Chemosphere, Diversity, Ecological Engineering, Ecological Indicators, Ecosystem Health and Sustainability, Environmental Pollution, Forests, Environmental Science and Pollution Research, European Journal of Forest Research, Forest Products Journal, Frontiers in Plant Science, Industrial Crops and products, International Journal of Phytoremediation, Journal of Geochemical Exploration, Journal of Hazardous Materials, Journal of King Saud University – Science, Pedosphere, Plant Growth Regulation, Plant Signaling & Behavior, The Science of the Total Environment, Scientific Reports, Journal of Environmental Management.*

**Reviewer activity for book proposals**

“*Phytomanagement of Fly Ash*” (current title “*Phytomanagement of Polluted Sites*”). Elsevier (2018) ISBN: 9780128139127. Editor Dr. Vimal Chandra Pandey

“Appraisal of Metal(oids) in the Ecosystem”. Elsevier (2020) proposed by Dr. Vinod Kumar, Anket Sharma e Raj Setia in press.

**ORGANISATION OF SCIENTIFIC MEETINGS**

Member of the International Scientific Committee of the “14th International Phytotechnologies Conference (IPC)” - Montreal Sept 25th - 29th, 2017 ([www.ipc2017.org/en/committees-0](http://www.ipc2017.org/en/committees-0))

**AFFILIATIONS**

- *The International Union for Conservation of Nature*

- *Italian Society of Silviculture and Forest Ecology (SISEF)*

*- Siena Academy of Science (Accademia dei Fisiocritici)*

- *Short Rotation Woody Crops Operations Working Group*

- *Société Québécoise de Phytotechnologie*

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