POLYTECHNIQUE MONTRÉAL
LE GÉNIE EN PREMIÈRE CLASSE

Joan Dupuy, Ph.D.

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Education

- **University of Lorraine, Nancy, France** (2014)

Ph.D. Degree in Agronomy
Thesis: "Interactions between polycyclic aromatic hydrocarbons and vascular plants: uptake and toxic responses"
Laboratoire Sols et Environnement, UMR 1120, University of Lorraine/INRA.
Supervisors: Thibault Sterckeman (IR, INRA) and Stéphanie Ouvrard (CR1, INRA)."

- **University of Bordeaux, Bordeaux, France** (2011)

2nd year of M.Sc. Degree in Biotechnology and Plant Biology
Thesis: "Laboratory test of a confidential chemical product before field application to help landscape restoration"
Laboratoire Sols et Environnement, UMR 1120, University of Lorraine/INRA.
Supervisors : Stéphanie Ouvrard (LSE, Vandœuvre-Lès-Nancy, France) and Sophie Guimont (VALTERRA Environnement, Vandœuvre-Lès-Nancy, France).

- **University of Bordeaux, Bordeaux, France** (2010)

1st year of M.Sc. Degree in Ecology
Thesis: "Phenolic substances diffusion in water, producted by Zostera noltii, a sea grass, and environmental effects on their production."
Supervisor : Micheline Grignon-Dubois (Phyvalbio Laboratory, CNRS, Talence, France).

- **University of Pau and Pays de l'Adour, Pau, France** (2009)

B.Sc. Degree in Biology and Earth Sciences
2 semesters in Ecotoxicology at University College Cork (UCC), Cork, Ireland

Research Interests

- Environmental resources
- Ecotoxicology
- Phyto- and bioremediation
- Development of Renewable Energy Resources (Biomass/Waste Recycling and Valorization)
- Reduction of Polluting Emissions
- Development of Sustainable Processes
- Microwave Heating

Work Experience

- **Research Center in Process Engineering (CRIP)**, Postdoc 2016-…
  Polytechnique Montreal, Montreal, QC, Canada

• **Laboratoire Sols et Environnement,** University of Lorraine, Vandœuvre-Lès-Nancy, France	Research Assistant	2011-2014
• **Laboratoire Sols et Environnement,** University of Lorraine, Vandœuvre-Lès-Nancy, France	Trainee	1999

Expertise

- Plant physiology
- Soil fertility
- Histology
- Bacterial inoculation and cultures
- Plant cultivation in laboratory conditions
- Characterization and measurement techniques such as:
    - GC-MS, LC-MS, HPLC, ICP-AES, ionic chromatography, C-H-N-S elemental analyzer
- Process development in lab and pilot scales: experimental
- Experimental design and statistical analysis
- Project management in multi-disciplined teams
- Plan, prioritize and execute multiple concurrent activities

Research Background

- Ph.D. project. Main results: plant uptake and phytotoxic mechanisms of PAH, validation of measurement methods of PAH bioavaibility and new predictive model of PAH bioaccumulation in plants.
- IBRACS project: Integration of pollutants bioavaibility in risk assessement of contaminated soils in Europe. Supervisor: Dan Berggren Kleja (Swedish Geotechnical Institute, Sweden). European project involving Swedish, Norwegian, Belgian, Dutch and Slovak partners, both academic and non-specialist audiences
- STEFANIK project: Study of root structure and metabolism of vascular plants exposed to PAH. Supervisors: Professor Alexander Lux (Department of Plant Physiology, Comenius University, Bratislava, Slovakia) and Thibault Sterckeman (LSE, UL-INRA, Vandoeuvre-Lès-Nancy, France). 10-days staying in Bratislava (Slovakia).
- TRAB project: Study of effect and localization of PAH in maize roots with microscopy tools. Supervisors: Christian Mustin (LIEC, UMR CNRS 7360, Vandoeuvre-Lès-Nancy, France) and Pierre Leglize (LSE, Vandœuvre-Lès-Nancy, France).

Teaching Experience

• Soil and Society, ENSAIA, Vandoeuvre-Lès-Nancy, France	Instructor	2013

Journal Publications

- Dupuy, J., Leglize, P., Vincent, Q., Zelko, I., Mustin, C., Ouvrard, S., Sterckeman, T. 2016. Effect and localization of phenanthrene in maize roots. Chemosphere, 149, 130-136.
- Dupuy, J., Ouvrard, S., Leglize, P., Sterckeman, T. 2015. Morphological and physiological responses of maize (Zea mays) exposed to sand contaminated by phenanthrene. Chemosphere, 124, 110–115.
- Kleja, D. B., Enell, A., Pettersson, M., Kumpiene, J., Cornelissen, G., Arp, H. S., Dupuy, J., Leglize P., Ouvrard, S., Sterckeman T., Smolders, E., Hamels, F., Sonnet, P. 2015. IBRACS: Integrating Bioavailability in Risk Assessment of Contaminated Soils: opportunities and feasibilities. SNOWMAN NETWORK: Final Research Report (Project No. SN03-06).
- Dupuy, J., Ouvrard, S., Leglize, P., Sterckeman, T., Prediction of PAH Plant Uptake: Comparison of Passive Sampler and Tenax Extraction Methods. (*In preparation*).

Conference Publications

- Dupuy, J., Leglize, P., Ouvrard, S., Sterckeman, T. Symptômes d'intoxication du maïs exposé au phénanthrène. Séminaire de l'école doctorale RP2E, Nancy, France, January 13th 2013.
- Dupuy, J., Ouvrard, S., Leglize, P., Sterckeman, T. Symptoms of intoxication in maize exposed to phenanthrene. Phytotechnologies, Syracuse, USA, October 1st - 4th 2013.
- Dupuy, J., Ouvrard, S., Leglize, P., Sterckeman, T. Morphological and physiological responses of maize (Zea mays) exposed to formerly multicontaminated soils. Phytotechnologies, Heraklion, Greece, September 30th – October 3rd 2014.
- Dupuy, J., Ouvrard, S., Leglize, P., Sterckeman, T. Evaluation of availability tools for PAH plant uptake prediction. SETAC, Bruxelles, Belgium, October 14th and 15th 2014.
- Dupuy, J., Leglize, P., Vincent, Q., Zelko, I., Mustin, C., Ouvrard, S., Sterckeman, T., Effect of phenanthrene exposure on apoplastic barriers formation in maize. Rhizosphere 4, Maastricht, the Netherlands, 21st – 25th June 2015.

- Dupuy J., Ouvrard, S., Leglize, P., Sterckeman, T. 2012. Physiological responses of maIze to polycyclic aromatic hydrocarbons - preliminary results. Université Coménius, Bratislava, Slovaquie, October 4th 2012.
- Ouvrard, S., Leglize, P., Dupuy, J., Faure, P., Guimont, S., Pierron, C., Renat, J.-C. ORP-assisted phytoremediation of hydrocarbon contaminated sediments. AquaConsoil, Barcelona, Spain, April 16th - 19th 2013.
- Dupuy, J., Ouvrard, S., Leglize, P., Sterckeman, T. Intégration de la biodisponibilité dans l'évaluation du transfert sol/plante des hydrocarbures aromatiques polycycliques. Third national meeting of Researching on contaminated sites and soils, ADEME, Paris, France, Novembre 18th and 19th 2014.