



ABEL MACHADO

Environmental Fate & Ecotoxicology

EXPERIENCE

Current position | 2019: Researcher in the Leibniz- Institute of Freshwater Ecology and Inland Fisheries. Topic: Microplastics.

Scientific production: Sixteen published studies about the fate and the effects of metals, pesticides, and other pollutants in various aquatic and terrestrial systems. One policy report edited by the German Academy of Sciences Leopoldina. Two conference book chapters on coastal pollution, restoration, and environmental change.

Media communication: Two documentaries on microplastics and multiple mentions in media channels of broad circulation, such as UN Environment News, Science news, Deutsche Presse Agentur, Die Welt, Spiegel, Spektrum, and others.

Teaching & Supervisions: Lecturer of "Global Change & Pollution Science. One BSc. Environmental Toxicology; One MSc. Engineering; Four MSc. Biology.

Event organization: Scientific board of YOUMARES6 and YOUMARES7 (~130 participants each, 4 days). Organizer of the workshop on river restoration at Queen Mary, University of London (2 days, ~20 participants).

EDUCATION

Ph.D. River Science | 2013 - 2016: Joint degree corresponding to qualification of Dr. Rer. Nat. by Freie Universität Berlin and Ph.D. in Physical Geography by Queen Mary, University of London. Thesis: Coastal pollution and metal fate in aquatic systems.

MSc. Biological Oceanography | 2010 - 2012: Federal University of Rio Grande (Brazil), with one year at McMaster University (Canada). Thesis: Biomarkers of aquatic pollution.

BSc. Oceanology | 2006 - 2010: Federal University of Rio Grande (Brazil). Monography: Effects of metals on a marine copepoda.

Soft skills: Intelligent leadership, Media training, Project Management, Scientific communication, Handling difficult questions, Intercultural group dynamics.

LANGUAGE

COMPUTER

English	Excellent	R programming	Advanced
Spanish	Excellent	MS Office	Advanced
Portuguese	Native	Delf3D suite	Advanced
German	Intermediate	Visual MinteQ	Advanced

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PROFILE

I am constantly driven to enhance human well-being and environmental sustainability by a great curiosity about solutions for issues regarding chemical fate and effects. These motives advanced my skills on the effective communication of complex problems and made me experienced with conceptual and experimental models for testing and monitoring effects of chemical, physical, and biological entities in both aquatic and terrestrial systems. It also motivated me to engage actively with SETAC meetings and international interest groups since 2010.

SKILLS

Science Communication	●●●●●
Environmental Fate	●●●●●
Multidisciplinary	●●●●○
Project Management	●●●●○
Data Interpretation	●●●●○
Hydrology - Soil Science	●●●○○
Ecotoxicology	●●●●●

INTERESTS



Music



Cooking



Nature

Awards & Achievements

Grant | 2017: DRS - HONORS Fellowship for completing Ph.D. within 3 years and elaborating relevant future research project.

Grant | 2013 - 2016: Highly competitive EACEA Erasmus Mundus Joint Ph.D. grant.

Grant | 2011: International Development Research Centre (IDRC - Canada).

Achievement | 2010: Completed bachelor studies one year in advance of regular time.

Award | 2008: Best Undergraduate Student Project of Federal University of Rio Grande.

Scientific reviewer for

Nature- Scientific Reports
Global Change Biology
Science of the Total Environment
Chemosphere
Environmental Pollution

Developed Skills

Environmental Fate ●●●●●
Science Communication ●●●●●

Sediment Geochemistry ●●●●●
Contaminant Modeling ●●●●○

Environmental Change ●●●●○
Soil Science ●●●●○

Aquatic Ecotoxicology ●●●●●
Standard toxicity test ●●●●●
Pesticide Exposure ●●●●○

Knowledge Synthesis ●●●●●
Scientific Argumentation ●●●●●

Environmental Fate ●●●●●
Hydrology - Hydrodynamics ●●●○○
Multidisciplinary ●●●●○

Aquatic Ecotoxicology ●●●●●
Environmental Exposure ●●●○○
Multivariate Statistics ●●●●○

Contaminant Mixtures ●●●●●
Environmental Monitoring ●●●●○
Multivariate Statistics ●●●○○

Toxicity Mechanisms ●●●●●
Project Management ●●●●○
Organic Toxic Exposure ●●●○○

Microalgae Physiology ●●●●○
Metal Exposure ●●●●○
Photosynthesis ●●●○○

Fish Physiology ●●●●●
Toxicity modeling ●●●●○
Metal Exposure ●●●●○

Professional & International Experiences

More than 50 scientific presentations at international conferences.

Guest Researcher at Leibniz Institute of Freshwater Ecology and Inland Fisheries | 2013 - current (Germany).

Science Policy Report | 2017- Perspectives on water management in urban regions: German Academy of Sciences Leopoldina, Brazilian Academy of Sciences, Centre for Water and Environmental Research.

Metal Pollution Modeller at Deltares | 2015 - Delft (The Netherlands).

Guest Researcher at Water Research Contaminants Division | 2011 (Environment Canada, Burlington ON, Canada).

Professional interest

Environmental Geochemistry	Microorganisms
Trace Elements	Terrestrial Ecotoxicology
Chemical Speciation	Aquatic Ecotoxicology
Biomarkers of Pollution	Toxicity mechanism

Most relevant scientific publications

MACHADO, A. A. S., et al. Microplastics as an emerging threat to terrestrial biodiversity. *Global Change Biology*. 2018

MACHADO, A. A. S., et al. Unravelling metal mobility under complex contaminant signatures. *Science of the Total Environment*. 2018

MACHADO, A. A. S. et al. Impacts of microplastics on the soil biophysical environment. *Environmental Science and Technology*. 2018

MACHADO, A. A. S., et al. Low dose effects: Nonmonotonic dose-response for the toxicity of a *Bacillus thuringiensis* pesticide to *Daphnia magna*. *Environmental Science and Technology*. 2017

MACHADO, A. A. S., et al. Potential Environmental Impacts of an "Underground Revolution". *Trends in Ecology and Evolution*. 2017

MACHADO, A. A. S., et al. Metal fate and effects in estuaries: A review and conceptual model for better understanding of toxicity. *Science of the Total Environment*. 2016

Jasinska, E. J., et al. Assessment of biomarkers for contaminant of emerging concern on aquatic organisms downstream of a municipal wastewater discharge. *Science of the Total Environment*. 2015

MACHADO, A. A. S., et al. Responses of biomarkers in wild freshwater mussels chronically exposed to complex contaminant mixtures. *Ecotoxicology*. 2014.

MACHADO, A. A. S., et al. Oxidative stress and DNA damage responses to phenanthrene exposure in the estuarine guppy *Poecilia vivipara*. *Marine Environmental Research*. 2014.

MACHADO, A. A. S., et al. Effects of zinc on in vivo fluorescence, chlorophyll a and growth of the diatom *Corticriba weissflogii* (Thalassiosirales, Thalassiosiraceae). *PANAMJAS*. 2014

MACHADO, A. A. S. et al. Biomarkers of waterborne copper exposure in the guppy *Poecilia vivipara* acclimated to salt water. *Aquatic Toxicology*. 2013.