

## Alexandre Pedrinho

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### EDUCATION

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#### University of Thessaly

*PhD student in Biochemistry and Biotechnology*

Larissa, Greece

July 2021 - current

**Research topic:** Assess if bio-pesticides are non-toxic, or less toxic, than synthetic pesticides to soil microorganisms, especially to AOM and AMF. **Supervisor:** Dr. Dimitrios G. Karpouzas.

#### Center of Nuclear Energy in Agriculture (CENA/USP)

*Master's in Science*

Piracicaba-SP, Brazil

March 2016 - December 2018

**Research topic:** Understand how land-use change, mainly forest-to-pasture conversion, affects soil microbial communities and nutrient cycling. **Supervisor:** Dr<sup>a</sup>. Tsai Siu Mui.

#### Activities:

- Field trips to the Amazon (municipality of Belterra, state of Pará / municipality of Ariquemes, state of Rondonia, Brazil);
- Soil and GHG sampling;
- Soil DNA extraction;
- qPCR analyses;
- Metagenome / Amplicon sequencing analyses;
- Softwares: CANOCO, PAST4.04, STAMPs and R;
- Soil enzymes ( $\beta$ -glucosidase and Acid phosphatase).

#### Sao Paulo State University (UNESP)

*Bachelor of Science in Agronomy*

**GPA:** 8.15/10.0

Ilha Solteira-SP, Brazil

February 2011 - March 2016

**Research topic:** Understand how cover crops and nitrogen fertilization improve common bean yields. **Supervisor:** Dr. Marco Eustáquio de Sá.

#### Activities:

- Soil and plant material sampling;
- Assessment of yield parameters of common bean (plant height, number of pods per plant, number of seeds per plant, and 100-seed weigh);
- Common bean seed quality measurements.

**University of Illinois at Urbana-Champaign (UIUC)**  
*Exchange program / Internship*

Urbana Champaign-IL, USA  
September 2014 - August 2015

**Research topic:** Understand the impacts of soil tillage and crop residue on corn / soybean yields and N<sub>2</sub>O emissions. **Advisor:** Cameron Pittelkow.

**Activities:**

- Soil and plant material sampling;
- Assessment of yield parameters of corn / soybean (plant height, number of cobs / pods per plant, number of seeds per plant, and 100-seed weigh);
- Sampling and Measurement of GHG.

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**PUBLICATIONS**

LEMOS, L.N.; **PEDRINHO, A.**; VASCONCELOS, A.T.R.; TSAI, S.M.; MENDES, L.W. (2021). Amazon deforestation enriches antibiotic resistance genes. *Soil Biology and Biochemistry*, 153: 108110. <https://doi.org/10.1016/j.soilbio.2020.108110>

**PEDRINHO, A.**; MENDES, L.W.; MERLOTI, L.F.; ANDREOTE, F.D; TSAI, S.M. (2020). The natural recovery of soil microbial community and nitrogen functions after pasture abandonment in the Amazon region. *FEMS Microbiology Ecology*, 96: fiaa149. <https://doi.org/10.1093/femsec/fiaa149>

MERLOTI, L.F.; MENDES, L.W.; **PEDRINHO, A.**; SOUZA, L.F.; FERRARI, B.M.; TSAI, S.M. (2019). Forest-to-agriculture conversion in Amazon drives soil microbial communities and N-cycle. *Soil Biology and Biochemistry*, 137: 107567. <https://doi.org/10.1016/j.soilbio.2019.107567>

**PEDRINHO, A.**; MENDES, L.W.; MERLOTI, L.F.; FONSECA, M.C.; CANNAVAN, F.S.; TSAI, S.M. (2019). Forest-to-pasture conversion and recovery based on assessment of microbial communities in Eastern Amazon rainforest. *FEMS Microbiology Ecology*, 95: fiy236. <https://doi.org/10.1093/femsec/fiy236>

**PEDRINHO, A.**; MARIANO, E.; MERLOTI, L.F.; SÁ, M.E. (2019). Common bean seed quality as affected by cover crop mixtures and nitrogen fertilization. *Australian Journal of Crop Science*, 13: 300-308. <https://doi.org/10.21475/ajcs.19.13.02.p1466>

**PEDRINHO, A.**; MARIANO, E.; MERLOTI, L.F.; DANIELSON, R.E.; SÁ, M.E. (2018). Common bean response to cover crop straw and topdressing nitrogen fertilization. *Australian Journal of Crop Science*, 12: 1129-1138. <https://doi.org/10.21475/ajcs.18.12.07.PNE1062>

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#### **MANUSCRIPTS IN REVIEW**

MAY, A.; FONTES, L.; **PEDRINHO, A.**; BATISTA, B.D.; MENDES, L.W.; MENDES, R.; MORANDI, M.A.B.; BARTH, G.; VIANA, R.S.; VILELA, E.S.D. The use of indigenous bacterial community as inoculant for plant growth promotion in soybean cultivation. *Archives of Agronomy and Soil Science*. In review.

MARIANO, E.; BOSCHIERO, B.N.; MERLOTI, L.F.; **PEDRINHO, A.**; CHAVES, M.G.; TSAI, S.M.; TRIVELIN, P.C.O. Nitrogen rate and nitrification inhibitor DCD affecting the fate of 15N fertilizer and microbial functional genes in sugarcane soil: a laboratory study. *Applied Soil Ecology*. In review.

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#### **EVENTS**

21<sup>st</sup> World Congress of Soil Science.

**PEDRINHO, A.**; CANNAVAN, F.S.; MENDES, L.W.; ANDREOTE, F.D.; RODRIGUES, J.L.M.; TSAI, S.M. Land use change and soil moisture alter the methanogenesis process in the Amazon Rainforest. 21<sup>st</sup> World Congress of Soil Science, Rio de Janeiro, Brazil, 2018.

13<sup>th</sup> Annual DOE Joint Genome Institute Genomics of Energy & Environment Meeting.

**PEDRINHO, A.**; MEREDITH, L.K.; NÜSSLEIN, K.; BOHANNAN, B.; TSAI, S.M.; RODRIGUES, J.L.M. Land use change alters the denitrification process in the Amazon Rainforest. 13<sup>th</sup> Annual DOE Joint Genome Institute Genomics of Energy & Environment Meeting, San Francisco, USA, 2018.