

NSG Student Spotlight

[Guillaume Blanchy](#) is a 4th year PhD Candidate in the Lancaster Environment Centre at Lancaster University (UK). His PhD focuses on using resistivity and electromagnetic methods to monitor the soil moisture dynamics under different wheat varieties at the field scale. This work is in partnership with scientists at Rothamsted Research. Guillaume also works with the Rothamsted phenotyping team in order to incorporate geophysical measurements within the [Scanalyzer](#), a unique high-throughput phenotyping platform.



Guillaume holds a master degree in bio-engineering specialising in environmental sciences and technologies from the University of Liège (Belgium). It was during his masters thesis that Guillaume was first exposed to geophysics. The project involved geoelectrical monitoring of multiple soil columns in a controlled environment to observed the dynamics of root water uptake. It encouraged him to apply near-surface geophysical methods to larger scale plant-related experiments.

In 2018, Guillaume participated at the EGU in Vienna and did a PICO presentation on “Quantifying the sensitivity of electrical geophysical methods to root traits of winter wheat”. He will attending AGU in December 2019, where he will give the paper “Building the whole-plant phenotype: coupling geophysically based below-ground measurements with above-ground data” in the NS002 session on Agricultural Geophysics.

Guillaume has been involved in other geophysics project beyond his PhD at Lancaster. He has been leading archaeological investigations around Lancaster Castle which was once the place of a Roman settlement. Detailed ERT, EMI and 3D GPR surveys have helped locate archaeological features and target unexplored areas.

In parallel to his PhD, Guillaume has also been developing (with Sina Saneiyani, Jimmy Boyd and Paul McLachlan) the [ResIPy](#) software. ResIPy is an intuitive graphical interface around the family of R2/3 codes written by Andrew Binley. ResIPy allows the user to walk through the inversion process in a modern tabbed interface, ideal for teaching purposes.

For more information about his research, please get in touch with [Guillaume](#) or meet him at AGU in December.