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## AgreenSkills Fellowship Testimony

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**Marine Lacoste**  
***AgreenSkills Fellowship Testimony***

UR SOLS, INRA, 45075 Orléans, France



2006-2009: Engineering school of Agronomy (Bordeaux Sciences Agro, France)

2009-2012: PhD thesis (UMR SAS, France)

➤ *High resolution modelling of soil evolution at the landscape scale (erosion, carbon)*



Zion National Park (USA)

2013: Post-doctoral position (US INFOSOL, France)

➤ *Digital Soil Mapping (GlobalSoilMap program)*



University of Sydney

2014 -2018: Soil researcher – permanent position (UR SOLS, INRA, France)

➤ *Soil structure quantification and modelling*



ETH Zürich / STEP group – Dani Or

➤ October 2016-June 2017

Soil structure

“Macroscopic organization of soil aggregates and pores” (Dexter, 1988)

## Which tools to monitor soil structure dynamics?

Field practices

Compaction

Mic

Organic

Fragmentation

Aggregation

Climate

Cracking

Macro-organisms

Cracking

Aggregation

Perforation

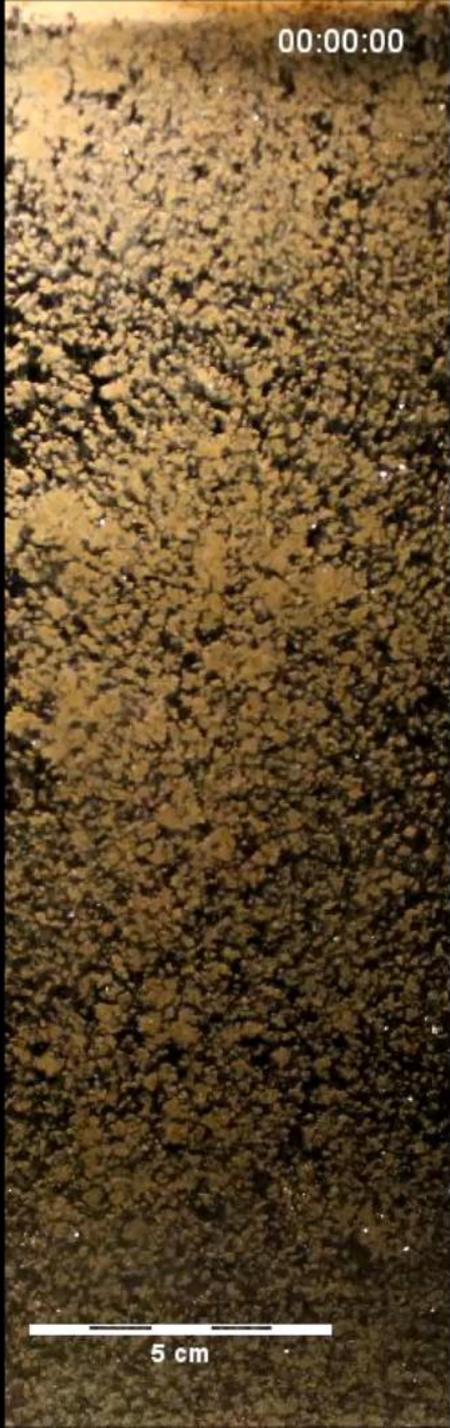


# Let's listen to the soil !

Passive acoustic emission to monitor soil structure dynamics

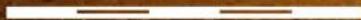


00:00:00



5 cm

00:00:00



5 cm



- ❑ Exploration of an innovative method to monitor soil structure dynamics
  - *Lacoste, M., Ruiz, S., Or., D. Listening to earthworms burrowing and roots growing - acoustic signatures of soil biological activity. Scientific Report (minor revisions)*
  
- ❑ Rich professional experience in a foreign laboratory
  
- ❑ Helpful people and easy/light administrative requirements



5<sup>th</sup> AgreenSkills Annual meeting - 11-14 June 2018 - Edinburgh