

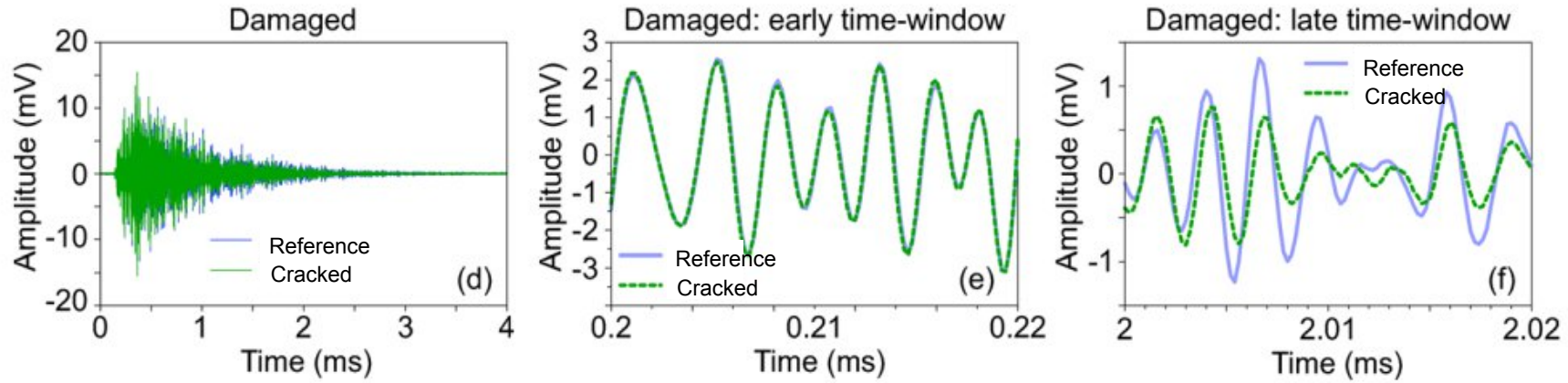


Nonlinear Coda Wave Interferometry imaging (NCWI) with active and passive pumps

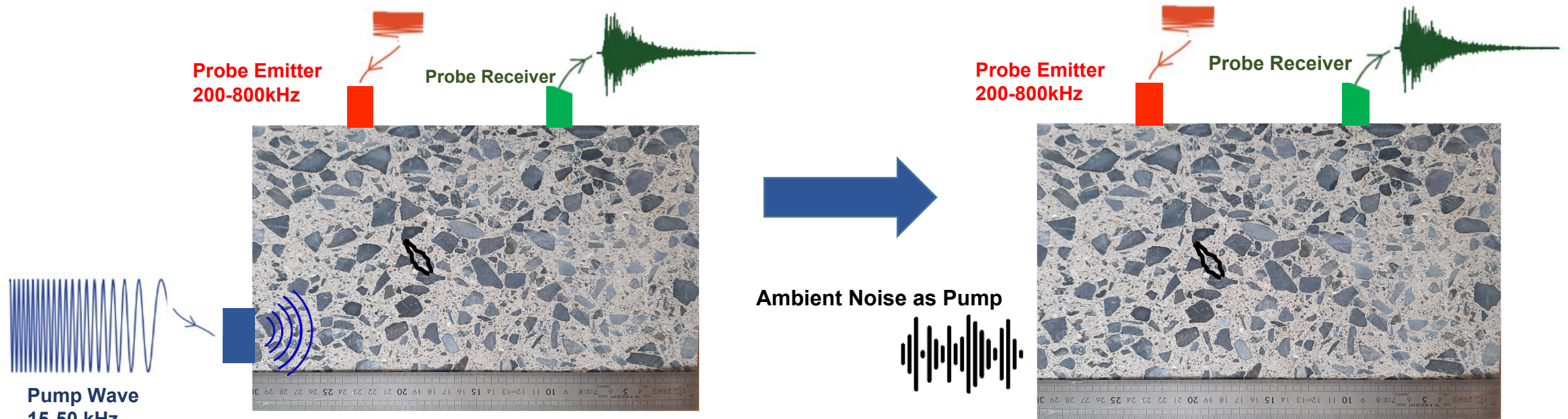
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Université Gustave Eiffel
DC07



What is the idea of my project?



Zhang et al., 2013 ;
J. Appl. Phys.



What are my project objectives?

My project objectives include developing a new imaging method based on NCWI with passive pump by:

Identifying the characteristics of ambient noise that potentially activate crack lips

Designing a lab test that uses simulated ambient noise instead of a pump for validation

Defining relevant inverse problems using NCWI observables

Developing numerical models for different media in conjunction with experimental validations

Validating the method through a controlled lab experiment and on-site case studies

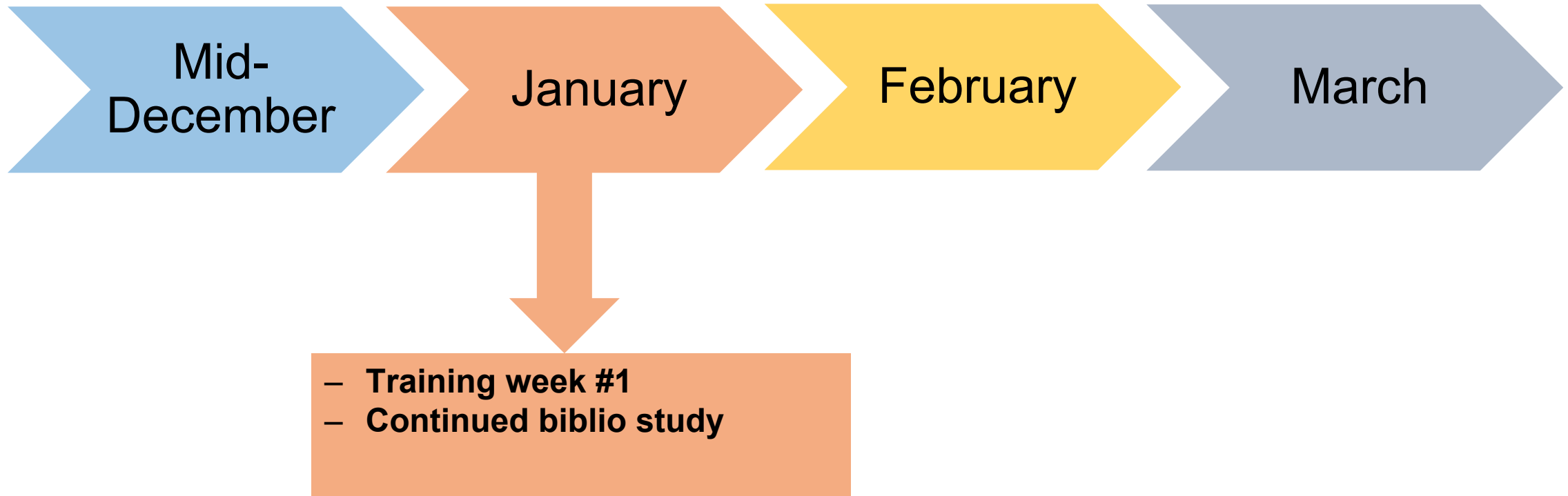
Optimizing the experimental set-ups that use embedded sensors (probe - source/receiver)

What have I done so far ?



- Got to know people
- Started bibliographical study

What have I done so far ?



What have I done so far ?

Mid-December

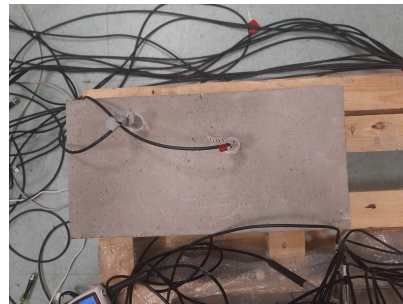
January

February

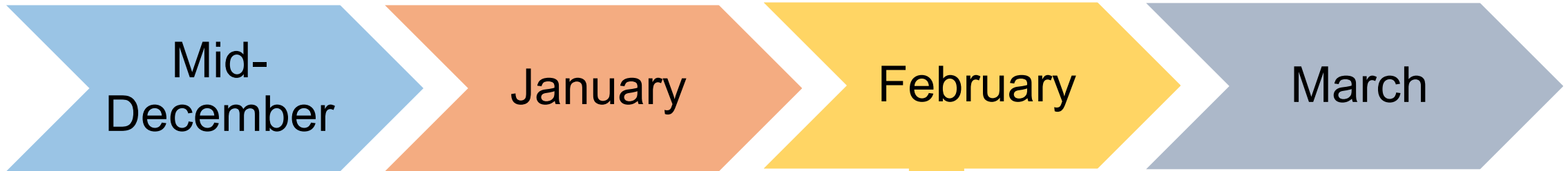
March



- Training week #1
- Continued biblio study
- Launched first experiment

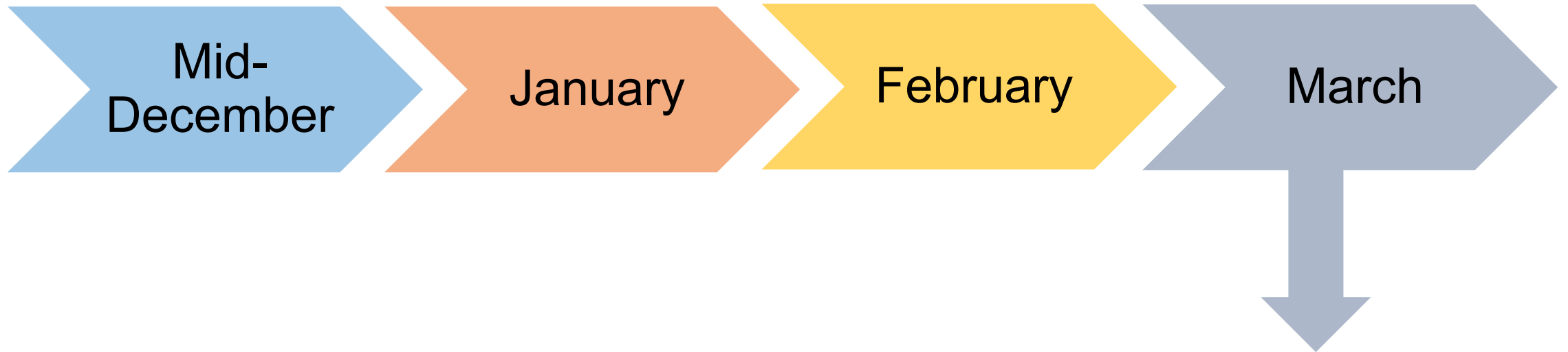


What have I done so far ?



- Analyzed data from experiment
- Continued bibliographical study
- Launched another experiment

What have I done so far ?

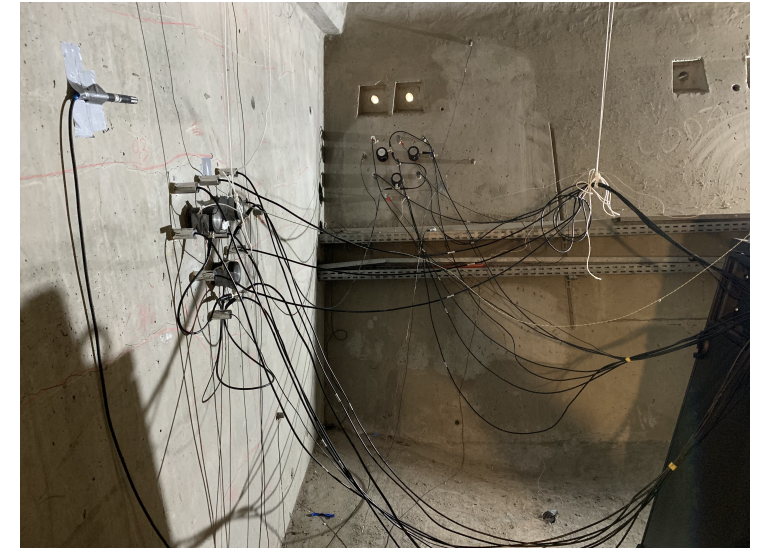
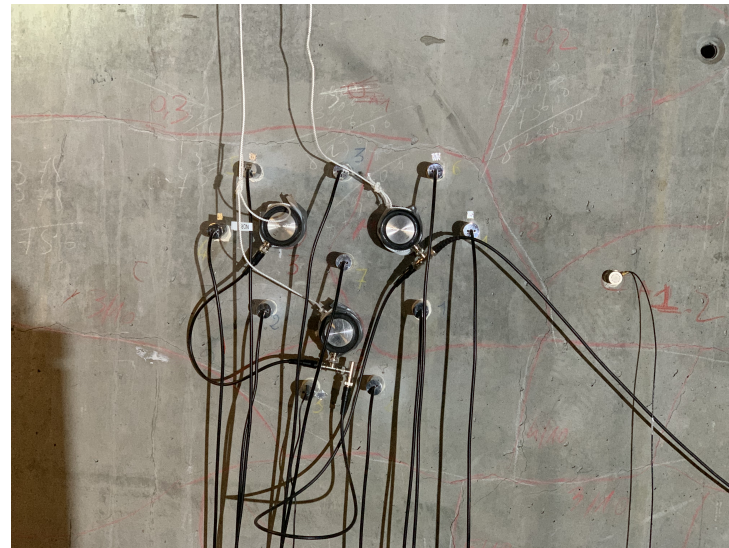


- **Attended first secondment**
- **Learned signal and noise processing**
- **Implemented what I learned on a data set for traffic noise on a bridge**

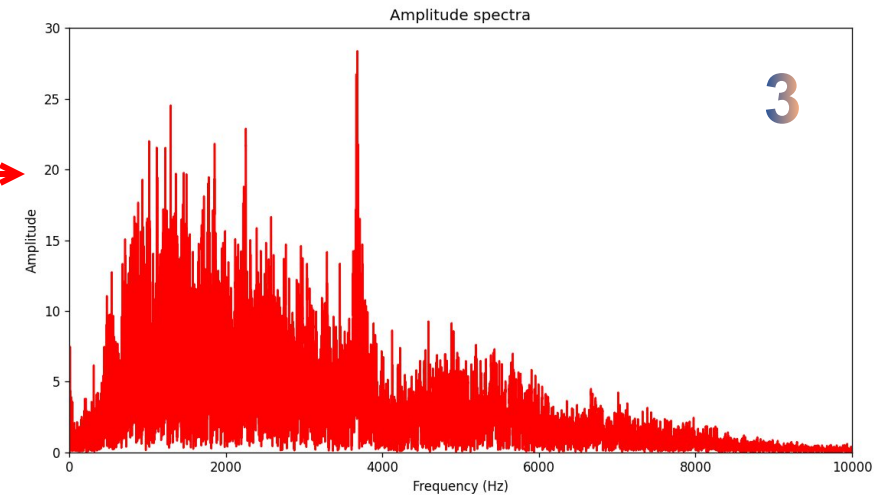
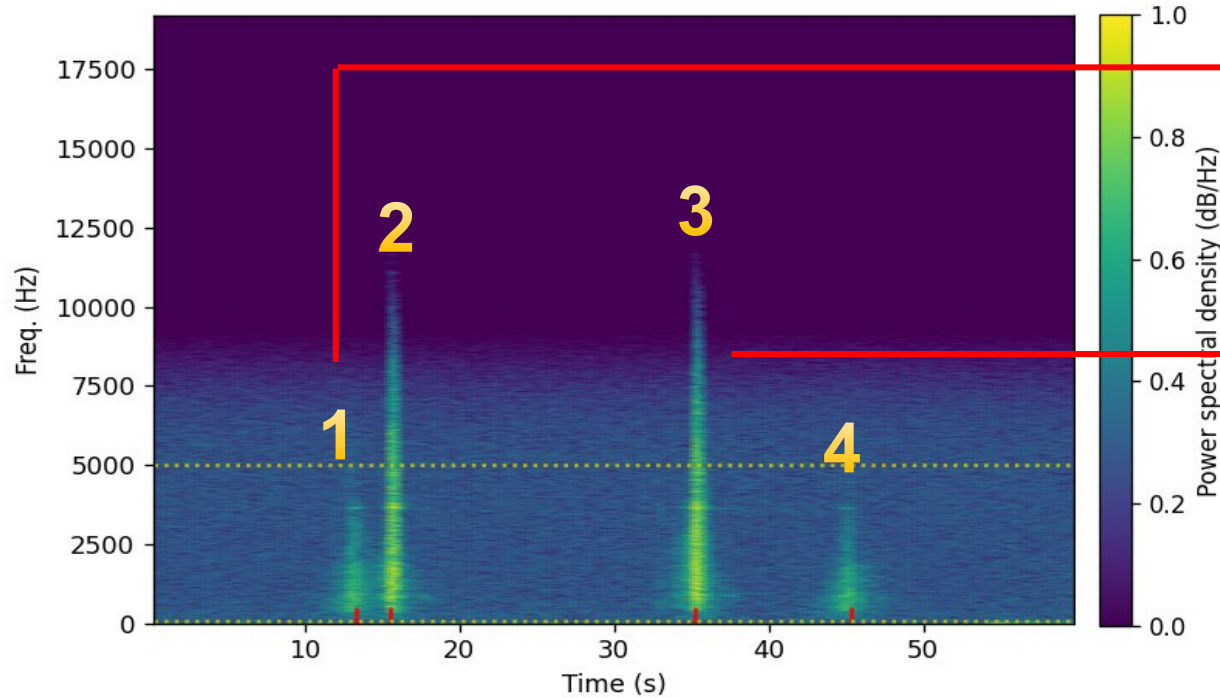
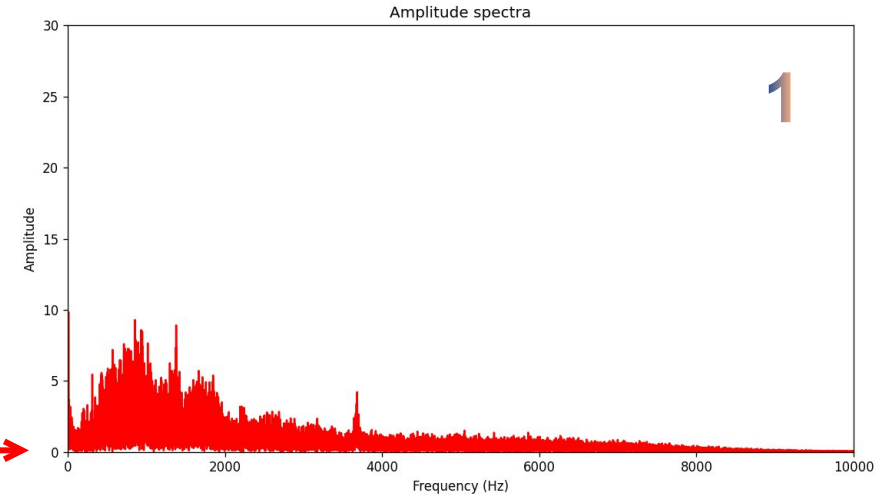
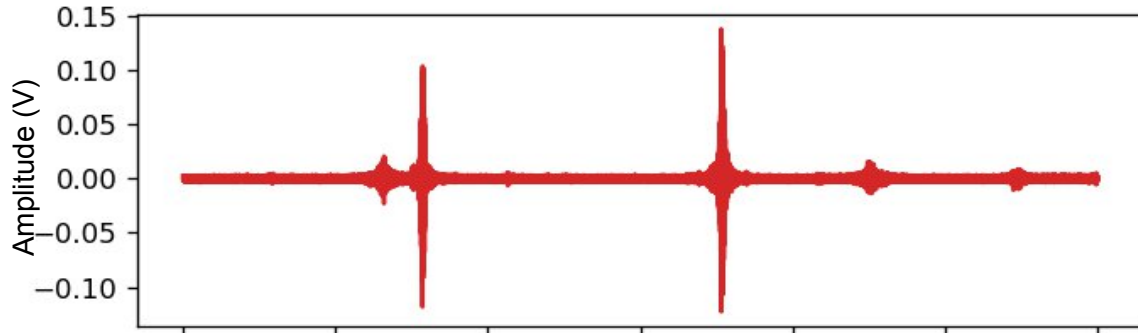
What I am currently working on :



Cheviré bridge - Bouguenais,
France



What I am currently working on :



What is my next step?

✓ Identifying the characteristics of ambient noise that potentially activate crack lips

➔ Designing a lab test that uses simulated ambient noise instead of a pump for validation

Thank you for your attention!

Thank you for your attention

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Beneficiaries and partners

