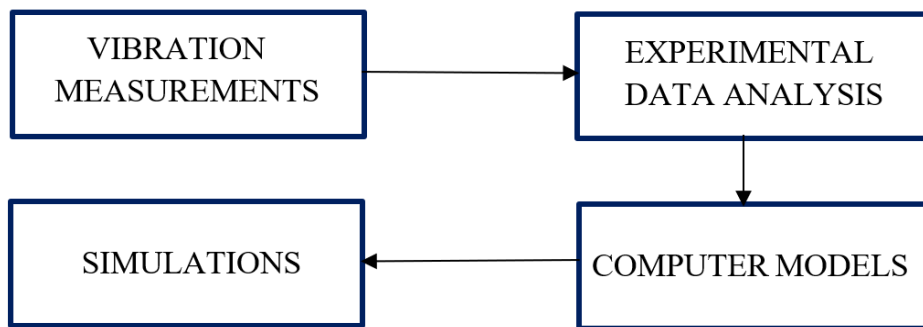


# VIBRATION MEASUREMENTS IN ULTRASONIC SYSTEMS TO IMPROVE COMPUTER MODELS

## Background

Ultrasound has different applications in Water Technology, such as non-destructive testing (NDT) of water mains and particle separation from suspensions. Recently, different ultrasonic techniques are being researched upon in both the applications and we are in particular, utilizing acoustic wave mixing methods <sup>[1,2]</sup>. Computer simulations and experimental measurements provide valuable insights regarding the credibility of this technique. We aim to use vibration measurements from different components of the system in order to gain more understanding of this technique and improve its current computer models and experimental methods.



## Your Profile

- ❖ Background in Acoustics, Mechanical, Aerospace, Electronics or Chemical engineering.
- ❖ Aptitude for modelling and carrying out experiments in the lab.
- ❖ Good writing and communication skills in English.

## Your Tasks

- ❖ Carrying out vibration measurements using laser vibrometer.
- ❖ Analyzing and reporting results.
- ❖ Using vibrations measurement data in computer models for further analysis.
- ❖ Improvement/update of the current computer models based on vibration measurement data

## How to Apply

The offer is open to all Dutch students, EU students and non-EU students enrolled in a Dutch University. Candidates interested in the project can contact Nandini Chidambaram ([Nandini.Chidambaram@wetsus.nl](mailto:Nandini.Chidambaram@wetsus.nl)). Please send in your CV, transcript and motivation letter (max 1 A4 page).

## Our Profile

Wetsus, European centre of excellence for sustainable water technology, is a facilitating intermediary for trendsetting know-how development. Wetsus' scientific research program is defined by the private and public water sector and conducted by leading universities.

## Our Offer

- ❖ Working in an international and multidisciplinary environment.
- ❖ Monthly allowance for living expenses of €350/month.
- ❖ Opportunity to develop your analytical and experimental skills.
- ❖ Duration- Atleast 6 months

[1] Hernandez Delgado, Hector & Loendersloot, Richard & Yntema, Doekle & Tinga, Tiedo & Akkerman, Remko. (2018). Experimental Validation of Non-Collinear Wave Mixing Model in a PVC Specimen. 1-9. 10.1109/ULTSYM.2018.8579750.

[2] Kandemir, Mehmet Hakan & Wagterveld, Martijn & R. Yntema, D & J. Keesman, K. (2019). Selective Particle Filtering in a Large Acoustophoretic Serpentine Channel. Scientific Reports. 9. 10.1038/s41598-019-43711-8.