# Design, modelling and micromachining of advanced ultrasound probes

Record number : OPR-354

## Overview


**RESEARCH DIRECTION**

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**INFORMATION**

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**RESEARCH CO-DIRECTION**

Patrice Masson, Directeur de département - Department of Mechanical Engineering

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**ADMINISTRATIVE UNIT(S)**

Faculté de génie
Département de génie électrique et de génie informatique
Département de génie mécanique

**LEVEL(S)**

2e cycle
3e cycle

**LOCATION(S)**

GAUS - Groupe d'Acoustique de l'Université de Sherbrooke

## Project Description

The GAUS ultrasound team is looking for a master's or PhD candidate around issues related to the following fields of application:

- Multi-physics numerical simulation (FEM) for the design of new generations of ultrasonic probes;
- Signal processing and embedded electronics for medical imaging.

We are looking for a wide variety of profiles who may have a strong taste or expertise in one or more of the following areas:

- Acoustics and vibrations (theoretical);
- Digital signal processing and simulation (MATLAB);
- Multi-physics system modeling (COMSOL);
- Mechanical physics and wave propagation in general;
- Micromachining and transducer assembly.

The student will be integrated into the GAUS ultrasound team, which includes 3 professors and an infrastructure unique in Canada (3D scanning vibrometer, ultrasound imaging systems, rapid prototyping, air-coupled probes). Stimulating environment guaranteed!

## Discipline(s) by sector

### Sciences naturelles et génie

Génie électrique et génie électronique,
Génie mécanique

## Funding offered

Yes

The last update was on 23 October 2025. The University reserves the right to modify its projects without notice.