

Ultrasound/Acoustic Metrology Researcher

INTRODUCTION

Nearfield Instruments (NFI) brings together the most creative minds in science and technology to develop a revolutionary high throughput atomic force microscopy system enabling atom-scale resolution 3D metrology at industry-level throughput, based on three pillars:

- Unrivaled measurement speed;
- Parallelization capability;
- Advanced measurement modes.

At NFI, we design, develop, integrate, market and service these advanced metrology machines, which enable our customers - the world's leading chipmakers – to increase the production yields, and thus, functionality of their microchips, which in turn leads to smaller, more powerful consumer electronics. We aim to develop leading edge metrology systems, to be installed at the customer site, within specifications, on time, with quality exceeding the customer's expectations.

WHAT WILL YOU BE DOING?

As an Ultrasound/Acoustic Metrology Researcher, you will be involved in the development of metrology concepts based on ultrasound/acoustic imaging and detection. By theoretical analysis and simulations (including wave propagation simulations in FEM and MATLAB), design and building working prototypes, you show how the Proof-of-Concept and address technical challenges of our customers.

You will also be involved in the research and development (R&D) of the next generation ultrasound imaging systems for metrology applications. Together with your colleagues you will analyze and predict customer needs, translate these to system requirements, create conceptual designs and build experimental setups to demonstrate key aspects, and realize and experimentally characterize prototypes. For this you will apply your experience and knowledge about the physics of wave interaction with matter, both in transmission and reflection, development of acoustic transducers, matching layers and acoustic clamps, signal processing and, if required, dedicated electronics design. You are also able to translate the customer needs in acoustic metrology.

Moreover, you perform research into high-resolution ultrasound/acoustic imaging devices and sensors and research in building experimental set-ups for proof-of-concept of acoustic metrology for the envisioned applications.

You will be trusted to recommend design changes or substitution of materials when appropriate. You will also advise users of appropriate actions to correct malfunctions and may recommend changes in user procedures. In this role you will travel for about 5 percent of your time. You will report directly to the CTO.

WHAT DO WE REQUIRE OF YOU?

The Ultrasound/Acoustic Metrology Researcher we seek ideally has at least 5 years of experience as an ultrasound expert in a working environment which, in terms of complexity, is in line with that of NFI. Experience in the field of semiconductor equipment is a plus. Furthermore, you need to recognize yourself in the profile as described below.

You have:

- A PhD in Mechanical Engineering, Mechatronics, Physics or Electrical Engineering with an emphasis on acoustic/ultrasound simulations and experiments;
- A second degree in Physics, Mathematics, or other relevant disciplines is preferred;
- A wide experience in acoustic metrology and imaging.
- Experience in building practical experimental set-ups based on acoustic metrology and imaging is highly preferred.
- An understanding of the semiconductor industry and the challenges this industry faces in the area of nano-metrology and nano-manufacturing.
- Prepared written technical reports on an independent basis;
- Experience in measurement analysis;
- Experience working in a multi-disciplinary engineering environment, with suppliers and co-developers, to ensure timely realization of competitive, high precision, complex components and assemblies;
- Be a demonstrated “team player” with strong interpersonal skills and a quality orientation;
- Be able to quickly acquire technical knowledge from documentation and on-the-job training, and be capable of thoroughly investigating technical issues (analytically and hands-on in a lab or cleanroom environment);
- Strong written and oral communication skills and a commitment to achieving results on time;
- You have a good command of the English language, both written and spoken.

HAS THIS VACANCY AROUSED YOUR INTEREST?

Then please feel free to apply on this vacancy! Nearfield Instruments offers an exciting, fast-paced working environment where you will be able to shape the system and the company.

For further questions don't hesitate to contact us.

Hiring manager: Hamed Sadeghian (CTO)

Email address: hamed.sadeghian@nearfieldinstruments.com

Phone number: +31(0)646966027

