

Driving decarbonization and digitalization. Together.



Master Thesis: SiC based Quantum Sensing (f/m/div)

Job description

You are close to finishing your Master studies in Physics or a related field and you are looking for a topic for your Master's thesis? Infineon Power & Sensor Systems (PSS) delivers future-oriented solutions to provide cutting-edge data transport and to make tools and systems smarter, smaller, lighter and more energy-efficient. Our team in Villach is looking forward to receiving your application!

Quantum systems

exhibit by nature strong dependence on external quantities. This can be exploited to realize **sensor solutions**, which greatly exceed current approaches in sensitivity as well as behavior such as **linearity** or **dynamic range**, enabling a broad new range of applications ranging from brain neuro-imaging to material analysis. Infineon is exploring this new and rapidly developing field of **quantum sensing**. More precisely, research is focused on **silicon carbide (SiC) color-center-defect** based **magnetometer technology**, due to the mature and cost-efficient fabrication technologies of SiC and the ability to operate at room temperature. This **master thesis** will introduce the student to the interesting world of **quantum modelling & simulation** for the **next generation of cutting-edge sensor solutions**.

In your new role you will therefore:

- **Quantum mechanical modelling**
- **Implementation of efficient read-out model/algorithm** in order to extract sensor information out of physically measured quantities
- **Support measurements** in quantum sensing lab
- **Support the fabrication of new prototypes** in a professional clean room at Infineon's research site in Villach

This thesis has to be written in cooperation with an university.

Further Information

Type of employment: Temporary / Full-time (flexible working hours from Monday to Friday between 6 a.m. and 7 p.m.)

Duration: min. 6 months

Profile

You successfully meet the requirements, if you are a motivated and committed master student from the field of **Physics** or similar. You are best equipped for this task if you additionally offer:

- **Independent way of working**

At a glance

Location: **Villach (Austria)**
Job ID: **HRC0863306**
Start date: **as soon as possible**
Entry level: **0-1 year**
Type: **Full time**
Contract: **Temporary**

Apply to this position online by following the URL and entering the Job ID in our job search. Alternatively, you can also scan the QR code with your smartphone:

Job ID: **HRC0863306**
www.infineon.com/jobs



Contact

Sabrina Nindler
Recruiter



- Having an **experience** in **executing simulations**
- **Knowledge** in **quantum mechanics, photonics** and **electrodynamics** is a big plus
- Fluent in **English** (spoken and written), German is a plus

Please attach the following documents (German or English) to your application:

- Motivation letter
- CV
- Certificate of matriculation at a university
- Latest Transcript of records (not older than 6 months)
- Highest completed educational certificate (Bachelor certificate for Master students)
- Reference letter (optional)

This position is subject to the collective agreement for workers and employees in the electrical and electronics industry (full-time), employment group D for master students (<https://www.feei.at/wp-content/uploads/2023/05/minimum-salaries-white-collar-workers-2024.pdf>).

Benefits

- **Villach:** Möglichkeit für Coaching, Mentoring & Netzwerken; Trainingsangebot & strukturierte Entwicklungsplanung; Möglichkeit zur internationalen Entsendung; Verschiedene Karrierepfade: Project Management, Technical Ladder, Management & Individual Contributor; Flexible Arbeitszeit: Vertrauensgleitzeit; Möglichkeit zum Home Office; Offenheit für Teilzeit (auch in der Elternzeit); Sabbatical; Kindergarten am Standort Villach & Klagenfurt; Sozialberatung & Betriebsarzt; Gesundheits- & Vorsorgeprogramme; Kantine; Versicherungsangebot zu attraktiven Konditionen; Lohnfortzahlung im Krankheitsfall; Arbeitgeberfinanzierte betriebliche Altersvorsorge; Offenheit für flexiblen Übergang in die Altersrente; Erfolgsbonus; Barrierefreiheit am gesamten Standort

Why Us

Driving decarbonization and digitalization. Together.

Infineon designs, develops, manufactures, and markets a broad range of semiconductors and semiconductor-based solutions, focusing on key markets in the automotive, industrial, and consumer sectors. Its products range from standard components to special components for digital, analog, and mixed-signal applications to customer-specific solutions together with the appropriate software.

– Power & Sensor Systems (PSS) drives leading-edge power management, sensing and data transfer capabilities –

Infineon **PSS** semiconductors play a vital role in enabling intelligent power management, smart sensitivity as well as fast and reliable data processing in an increasingly digitalized world. Our leading-edge power devices make chargers, adapters, power tools and lighting systems smarter, smaller, lighter and more energy-efficient. Our trusted sensors increase the context sensitivity of “things” and systems such as HMI, and our RF chips power fast and reliable data communication.

We are on a journey to create the best Infineon for everyone.

This means we embrace diversity and inclusion and welcome everyone for who they are. At Infineon, we offer a working environment characterized by trust, openness, respect and tolerance and are committed to give all applicants and employees equal opportunities. We base our recruiting decisions on the applicant’s experience and skills.

We look forward to receiving your resume, even if you do not entirely meet all the requirements of the job posting.
Please let your recruiter know if they need to pay special attention to something in



order to enable your participation in the interview process.
[Click here](#) for more information about Diversity & Inclusion at Infineon.

Infineon Hub - Connect. Create. Challenge.

The iHub at TU Wien represents an inspiring tech platform, networking area and event location, connecting Infineon Austria with tech experts, science specialists and young professionals.

Check out our upcoming events:

[Infineon iHub](#)

