POLARIS EUMW 2025

SPECIAL EDITION RESEARCH POSITIONS

polaris

EXPLORE YOUR FUTURE IN RF INNOVATION WITH POLARIS

Join a unique Dutch collaboration in breakthrough research

What is Polaris?

Polaris is a Dutch innovation program focused on **RF technologies** for MRI, radar, and communication. Funded by the **National Growth Fund,** it brings together top universities, research institutes, and tech companies to shape the future of wireless systems.
Polaris offers PhD candidates the opportunity to work on high-impact topics at the cutting edge of science and engineering — within an ecosystem that combines **fundamental research** and **real-world application.**

Why Join Polaris?

- **Tackle real-world challenges** in health, security, and connectivity
- **Work alongside experts** at TU Delft, TU/e, University of Twente, TNO, and CITC
- **Collaborate with leaders** like Philips, NXP, Thales, Neways, Altum RF, and Bronkhorst
- **Be part of a national ecosystem** with international reach
- Develop both **academically** and **professionally** in a multidisciplinary setting
- **Contribute with real-world impact** in e.g. the domains of security and health care

Who are we looking for?

- Master's graduates in **Electrical Engineering, Applied Physics, Computer Science, chemistry and materials or related fields**
- **Motivated** to work in a collaborative, cross-sector environment
- **Passionate** about **making impact** through research

LET'S BUILD THE FUTURE OF RF - TOGETHER

JOIN POLARIS!

Nationaal Groeifonds

Open PhD Positions

New PhD positions are opening across the Polaris program.
Look for new opportunities in:
TU Delft, University Twente ,TU Eindhoven

Visit us at the Dutch Pavilion, **booth C095 – EuMW 2025**
Or reach out via **www.polaris-ngf.nl**

CURRENT OPEN/SOON TO COME PHD POSITIONS

TU Eindhoven

1. **Modular multi-scale (hierarchical) modeling and simulation** Electromagnetic modeling for large RF systems subdivided into modules that can be fully electromagnetically characterized individually and pieced together afterwards into a full RF system.

   Supervisor: Martijn van Beurden (another supervisor to be added once the project starts).

2. **Optimizing the polarization purity of beamforming active array antennas.** This PhD position offers the opportunity to dive deep into the complexities of antenna polarization, focusing on developing novel methods and design strategies to optimize polarization purity in active array antennas. By addressing these challenges, the candidate will contribute to the next generation of high-performance, active antenna systems, with focus specifically on advanced radar. While the need for dual-polarization communication has been well established, current radar systems predominantly use a single polarization.

   Supervisors: Bart Smolders, Gabriele Federico

University of Twente

1. **PhD positions (3x) on RF/Microwave Gallium Nitride (GaN) MMIC design and test**. One of the many activities in the POLARIS programme addresses research on GaN Microwave Monolithic Integrated Circuits (MMICs); research on this will be performed in close co-operation between the University of Twente and TNO.
   Gallium Nitride: covering the entire chain from device modelling and characterisation, MMIC design up to phased-array implementations (3 vacancies)

   You will be investigating the design of GaN HEMT MMICs in one of three positions.

   Detailed information on University of Twente.