

CAN I COMBINE SCIENCE AND BUSINESS IN A SINGLE JOB?

**YES.**

We'll show you how at Fraunhofer IIS.

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## Research Associate – Simulation and Implementation of 5G Communication Systems

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The Fraunhofer-Gesellschaft ([www.fraunhofer.com](http://www.fraunhofer.com)) currently operates 76 institutes and research institutions throughout Germany and is the world's leading applied research organization. Around 30 000 employees work with an annual research budget of 2.9 billion euros.

Our Broadband and Broadcast department is driving the development of new technologies for wireless communication systems and to this end is conducting very successful research in many areas of mobile broadband communications, the Internet of Things, Automotive and Artificial Intelligence. Our mission here is to bring new concepts from basic research to application. Our activities include system design and analysis, waveform design and algorithm development, implementation of realtime prototypes in hardware and software, protocol design, and validation of complete systems.

**Are you passionate about mobile communications systems and do you want to actively participate in the creation of future generations?**

**Then please read on...**

### What you will do

- You develop algorithms for novel communication systems such as 5G technology enhancements.
- You will simulate, implement and test 5G signal processing and data transmission in the OMNET++ framework in C++, mainly on RAN Layer 2 and 3.
- You will evaluate and interpret the simulation results and derive network optimizations from them, especially for V2X use cases.
- You will also apply Machine Learning (ML) and Artificial Intelligence (AI) methods to develop algorithms for novel messaging systems.

### What you bring to the table

- Completed scientific university studies in the field of communications engineering, communications technology or a comparable course of study
- Good knowledge of 4G and 5G mobile radio systems (protocol stack and system architecture)
- Good command of English

### Required Knowledge:

- C++ programming
- Embedded software development
- Linux knowledge
- Version control system (git, subversion)

### Desirable Knowledge:

- OMNET++
- Software Architecture

- Scripting languages Python, Shell and/or R
- 3GPP 5G NR or LTE

The position is also suitable **for career starters with relevant prior knowledge and experience from internships or student research projects or theses.**

### What you can expect

Fraunhofer is not only the largest organisation for applied research in Europe but also a top-rated employer. But why?

- Projects with a strong practical component motivate our employees to drive innovation.
- We value personal contact: Through our structured onboarding process, you easily become familiar with our institute and are able to extend your network successfully.
- We take your needs seriously and support your work-life-balance by offering flexible working hours and hybrid work.
- You will have ample opportunity to meet your colleagues in our community rooms, at sports courses (at the institute and online) and many other events.
- Our colleagues enjoy our positive work culture: We are open minded, help and trust each other.
- Top infrastructure at your work place: With our state-of-the-art technologies, we develop solutions to meet the challenges of present and future.
- Your goals and interests are important to us: We offer ongoing professional and personal seminars, coaching as well as language courses.

More information about our employer offers on our [website](#).

The weekly working time is 39 hours. The position can also be filled on a part-time basis. The position is initially limited to 2 years, with an extension being sought. We value and promote the diversity of our employees' skills and therefore welcome all applications - regardless of age, gender, nationality, ethnic and social origin, religion, ideology, disability, sexual orientation and identity. Severely disabled persons are given preference in the event of equal suitability. Appointment, remuneration and social security benefits based on the public-sector collective wage agreement (TVöD). Additionally Fraunhofer may grant performance-based variable remuneration components.

With its focus on developing key technologies that are vital for the future and enabling the commercial utilization of this work by business and industry, Fraunhofer plays a central role in the innovation process. As a pioneer and catalyst for groundbreaking developments and scientific excellence, Fraunhofer helps shape society now and in the future.

**Have we aroused your interest? Then apply [online](#) now with your application documents (cover letter, resume, references). We look forward to getting to know you!**

Ms. Meike Hillenbrand

Fraunhofer Institute for Integrated Circuits IIS

[www.iis.fraunhofer.de](http://www.iis.fraunhofer.de)

Requisition Number: 55064

Application Deadline: None

Location: Erlangen

