

Fraunhofer Institute for Integrated Circuits IIS, Germany
Department: Locating and Communication Systems

To expand our team we are offering:

3 to 6 Months Internship

(Bachelor/Master Thesis also possible)

Topic: Wireless Power and Data Transmission for FRP Composites Applications

Supervisor: Dr. Iker Mayordomo

Composite structures are increasingly used as high-grade construction materials in high-demanding applications such as in the aerospace, infrastructures (e.g. bridges and buildings) and the automotive industries.

In the European project SmartFiber scientists are developing a fully embeddable system for a continuous structural monitoring of composite structures. The main objective of SmartFiber is to develop a smart miniaturized system for continuous health monitoring of composites which will integrate optical fiber sensor technology, nanophotonic chip technology and low-power wireless technology.

With its long term experience in wireless communication systems, Fraunhofer IIS is responsible for the wireless data and power transmission link that will allow the SmartFiber system to work while being fully embedded. Specially challenging is to cope with the influence of the FRP materials on the system performance. In the context of this project, different possibilities for a Bachelor/Master Thesis or Internship exist. Depending on the qualifications of the applicant a specific task in this area will be assigned to the student.

The student should have knowledge related to some of these areas: HW design, microcontroller programming, LF/HF RFID systems, wireless power transmission, etc. Please send your formal application including CV, motivation letter, latest grades report, and the date of your earliest possible start to:

Nail Akar, PhD.

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About the Institute's department "Locating and Communication Systems":

Fraunhofer IIS has a long experience in the field of research and design of RFID systems. The projects deal with the reliable wireless communication link, wireless power transmission and inductive coupled sensor technology. Our competencies include the design of systems up to production level, the verification in field tests as well as the development of subsystems and modules. Fraunhofer IIS has the necessary measurement instruments for system technical testing in a laboratory environment or even in an application-oriented environment in collaboration with industrial partners.

For further information please visit our website: www.iis.fraunhofer.de