Research Engineer (RF/Microwaves/mmWaves)

Greenerwave is a rapidly growing France-based deep tech startup developing products based on electronically reconfigurable metasurfaces and wavefront shaping, for satellite communications, 5G, automotive radars and IoT. The company brings innovative solutions to the market bridging fundamental research, applied engineering and industry. Greenerwave is a spin off from French CNRS and ESPCI Paris, and is supported by industrial partners and venture foundations. It has strong support from the leading telecommunication companies.

As a research engineer you will be a part of the strong team developing tunable metasurfaces for wave control applications, from the low frequency range of IoT to almost 100 GHz. This includes applications in satellite communications, 5G and others. You will be in charge of the whole process of metasurface engineering, from simulations to characterization and fabrication (components sourcing, relations with suppliers, etc, as well as integration of these into products).

The candidate must have a PhD in Physics or electrical engineering, a strong background in electromagnetism, and a very good knowledge of the concepts of metametarials and metasurfaces, preferably electronically reconfigurable or electronically reconfigurable antenna and antenna arrays.

MAJOR DUTIES:

1. Develop, design, simulate, fabricate and measure metasurfaces and antennas for a very large spectrum between the low frequencies of RFID (<1 GHz) and the higher ones of the millimeter wave domain (up to 80 GHz).
2. Liaise with others in the research team take part in antenna fabrication, measurement and characterization.
3. As part of a research team, take part of the design of the overall system either by planning, design, measurement or characterization.
4. Present regular progress reports to members of the research team and the industry partners.
5. Carry out if required, supervisions of the company interns/engineers.
6. Carry out administrative tasks associated with the research project to ensure that project is completed on time and within budget including organisation of project meetings and documentation, risk assessment of research activities, etc.
7. Keep abreast of new developments in own specialism and related research areas/disciplines.

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ESSENTIAL CRITERIAS:

1. Experience in RF/Microwave antenna and/or metasurfaces and reflectarray design.
2. Profound in numerical simulations tools such as CST or HFSS.
3. Hands-on Experience in conducting measurements and characterisation of RF/Microwave devices and circuits and antennas using measurement equipment such as vector network analysers, spectrum analysers, power meters, anechoic chamber etc.
4. Good knowledge of MATLAB or Python.
5. Sufficient breadth and depth of knowledge in microwave/electronic circuits theory and techniques.
6. Strong analytical and problem-solving skills.
7. Ability to communicate complex information clearly.
8. Fluent English.
9. Good communication skills, able to present effectively to the members of research team and customers.

DESIRABLE CRITERIA:

1. A PhD in an Electrical/Electronic engineering (RF/Microwave related subject area).
2. Knowledge of metamaterials and metasurfaces.
3. Component level RF/microwave and IF analogue circuit design.
4. Hands-on experience in sample prototyping (3D-printing, laser machining etc).
5. If from academia: a publication record in line with stage of career in prestigious leading journals and presentations at major international conferences.
6. If from industry: experience in similar projects.
7. Patents record.
8. Experience in writing reports and funding proposal.
9. Experience in managing a research project.
10. Experience in GIT, Linux.

Planning and Organizing Skills:

1. Plan independently details of research programs and carefully align them with the work packages carried out by the research team in order to achieve an effective and productive synergy.
2. Plan for the use of research resources, laboratories and workshops where appropriate, in order to ensure that facilities are available at required times.
3. Plan own day-to day activity within framework of the agreed research program.
4. Coordinate and liaise with other members of the research team over work progress.
5. Liaise on a regular basis with colleagues, and partners from academia.
6. Establish professional and good working relationships with technical and other support staff as well as the industry partners.

We offer:

1. Competitive salary.
2. Interesting tasks naturally combining research and engineering activities.
3. Availability of constant learning and improving knowledge, fast professional growth.
4. Working in a dynamic startup environment in a friendly team of young professionals and high-level experts.
5. Office in the center of Paris.
6. Coffee and snacks in the office.

The interested candidates are welcome to send CV and motivation letter to the geoffroy.lerosey@greenerwave.com or mikhail.odit@greenerwave.com.