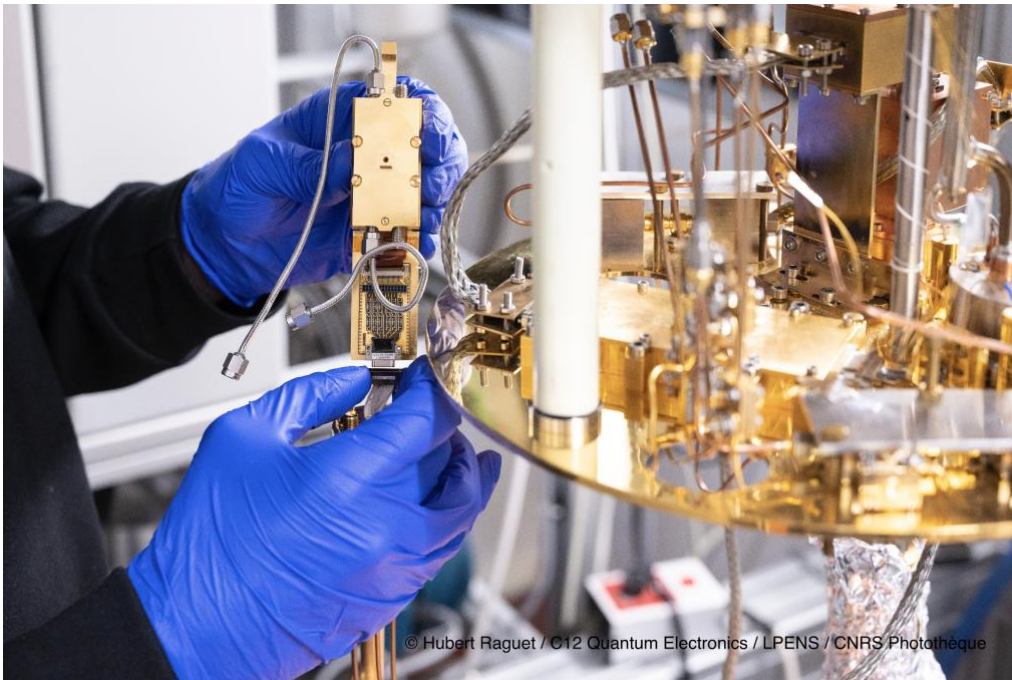




C12 Quantum Electronics, a deeptech startup developing quantum computers is looking for a ...

## RF Engineer for Quantum Hardware

Permanent contract – January 2022 - Paris



C12 Quantum Electronics develops reliable & application-specific quantum computers, to solve highly complex computing tasks, currently out of reach of even most powerful supercomputers.

Building a quantum computer still needs **innovators** ready to tackle exciting challenges. C12 founders are convinced that only **a new material** for the qubit will bring a technological breakthrough.

C12 Quantum Electronics uniquely uses **carbon nanotubes** as the fundamental building blocks of its quantum processor. This **high-purity material minimizes errors**, radically improves performance and reduces hardware overhead for fault-tolerant computing. Combined with well-established semiconductor techniques, **carbon nanotubes will help scale quantum computing, just as silicon revolutionized classical computing.**

Founded in 2020, C12 Quantum Electronics is a fast-growing start-up, having raised a seed round of USD 10 million in June 2021 and building its **own lab space** in the center of Paris.

## Your role in C12 Quantum Electronics

Your main responsibility will be contributing to the **design & optimization of passive on-chip distributed RF circuits for qubit control** and performing & analyzing microwave **simulations**

- Developing, with research scientists and other hardware engineers, microwave simulations for the on-chip RF circuits and its 3D packaging
- Identifying cross-talks and loss mechanisms in RF circuits
- Investigating discrepancies between simulated and achieved performance of fabricated devices
- Develop a scalable architecture for routing the microwave signal (very low power) towards and between >100 qubits
- Contributing to the continuous improvement of our simulation tools and their integration with Python-based custom layout/design tools

## About you

- Minimum **5+ years experience as an RF engineer**
- Experience developing electromagnetic simulations using industry standard tools such as HFSS, Maxwell, Comsol, or Cadence
- Experience with designing and integrating microwave components and subsystems
- Experience with high-frequency (RF, microwave or mm-wave), IC or PCB design
- Experience with design/development in Python
- Good communication in English (verbal and written)
- Experience in designing superconducting resonator is seen as an advantage
- Knowledge of semiconductor device physics and microfabrication processes is seen as an advantage
- Knowledge of fabrication principles and the constraints they impose on physical device parameters is seen as an advantage

### You should join us if

- You want to contribute to achieve **landmark results in quantum computing**, making a difference in the emerging quantum technologies
- You want to work within an **18-people team** with various backgrounds in **nanofabrication, quantum electronics, and carbon nanotube science** to materialize the vision of a revolutionary quantum computing processor
- You want to thrive in a exceptional scientific environment with several **industrial and academic partners**
- You relate to our values (excellence, scientific integrity, diversity, curiosity, and care) and want to help us define our product-focus **culture and ambition to accelerate**

### C12 Quantum Electronics' unique technology

At C12 Quantum Electronics, a qubit, the fundamental functional unit of a quantum computer, is built from an isotopically ultra-pure  $^{12}\text{C}$  nanotube suspended above a silicon chip containing control electrodes and a quantum communication bus. Our spin qubits hold great promises in terms of individual control and manipulation as well as for the circuit architecture. A suspended isotopically pure  $^{12}\text{C}$  nanotube holds great promises in terms of stability, as it reduces all sources of decoherence (charge noise, nuclear spin noise, phonon relaxation).

C12 Quantum Electronics encourages all who feel qualified to apply. Recruitment decisions are based solely on qualifications, skills, knowledge and experience. Applications from women are particularly welcomed.

Join the quantum race and contact: [careers@c12qe.com](mailto:careers@c12qe.com)

C12 Quantum Electronics - Connecting quantum power to reality