

We look for a Carbon Quality Intern

Spark is a young start-up developing clean hydrogen production units, with zero-CO₂ emission and 5x less electrical power than electrolyzers. We developed a unique nanopulsed **plasmalysis** process: non-thermal plasmas ("lightning in a box"!) extract hydrogen from (bio)methane, with solid carbon as a co-product. In the past two years, we have developed an elementary nanopulsed plasmalysis module operating continuously. This year, we are deploying a pre-industrial Demonstrator stacking 5 modules, and focus on the **valorization of the carbon co-product**.

Your mission (shall you accept it!) :

- Characterize the carbon currently produced by Spark, using existing diagnostics (SEM, TEM, Raman, TGA, BET,) and implementing new ones so as to qualify the material for the applications of interest.
- Optimize the quality of the carbon produced in the reactors in the R&D Lab as well as on the Demonstrator.
- Support the work done with our partner laboratories and the modeling team to predict the quality of the carbon produced in our setup.

You will report to the CTO, and interact daily with Spark's Experimental team and our network of suppliers and integrators.

We are looking for an intern at M1/M2 level, gap year or end of studies engineer:

- Trained in material-science, organic-chemistry.
- Knowledge of reactive environments (combustion / plasma kinetics) is a plus.
- Experienced in scientific computing: comfortable with a terminal (Bash, Git), familiar with scientific Python environments (Numpy, Pandas.), ideally FORTRAN.
- Knowledge of carbon nucleation and growth processes is important.
- Passionate about the thousand forms of carbon materials.
- Keen to **learn, help and share** your expertise in a multi-expertise team.
- Most importantly, eager to take on one of the biggest challenges of our time: **decarbonize** our industry.

It feels like a fit ? Contact us!

contact@spark-cleantech.eu

Incubateur 21st, 3 rue Joliot Curie, Gif sur Yvette, Paris-Saclay (France).

Start Date : ASAP