

## MARINE FLUID DYNAMICS ENGINEER / CFD ENGINEER AND DEVELOPER

### Full Time Position

**Reference** : CH\_JOB\_23\_01\_CFD  
**Publication Date** : 2022-10-18  
**Education Level** : Master or PhD  
**Duration** : Full Time Job  
**Seniority** : more than **4 years** of experience in nautical or maritime industry  
**Start date** : January-February 2023  
**Location** : Valencia, Spain  
**Answer to** : [jobs@caponnetto-hueber.com](mailto:jobs@caponnetto-hueber.com)

### 1. CAPONNETTO HUEBER PRESENTATION

#### Background:

Caponnetto Hueber (CH) is consulting company and a scientific laboratory specialized in fluid dynamics, energy efficiency and R&D for the nautical and maritime industries. The company provides fluid dynamics services and develops innovative concepts and “efficient design” for the maritime world.

Over the years, Caponnetto Hueber have become a reference in racing, foiling, efficient, low and 0-emissions yachts and vessels design, optimization and analysis, and is currently developing internally, through its laboratory, and for external clients, efficient and disruptive solutions which aims at decarbonizing the nautical and maritime industries.

Caponnetto and Hueber have been involved in the last five America’s Cup editions and have won it in 2010 and 2013.

#### Services:

Caponnetto Hueber provides innovative services in fluid dynamics, using high-end methodologies and tools for naval architects, yacht designers, shipyards and ship owners to improve design, performances and efficiency, to lower consumptions and emissions.

- Computational Fluid Dynamics (CFD).
- Hydrodynamic and aerodynamic design.
- Flying yacht concept development and foil design.
- 0-emission ships and yachts.
- R&D, innovative concepts and solutions.

The company is currently expanding its workforce and is willing to integrate motivated and hardworking professionals who want to work in a competitive, high-technological and international sector.

The design office is located within the Marina of Valencia, Spain, in a former America's Cup base.

## 2. COLLABORATOR PROFILE

### Profile:

- **Fluid dynamics engineer, marine CFD engineer or naval architect specialized in Computational Fluids Dynamics** with a Master or a PhD in one of the following fields:
  - Naval engineering / yacht design
  - Computational Fluid Dynamics
  - Hydrodynamics / aerodynamics
  - Mathematics and numerical simulations

### Experience:

- More than 4 years of experience:
  - Working as a CFD engineer in the nautical, maritime or renewable industries, or as a researcher.
  - In at least one of the following topics:
    - hydrodynamics,
    - ship and yacht design and optimization
    - propeller hydrodynamics
    - hydrofoil hydrodynamics
    - wind turbines aerodynamics
    - offshore wind turbines fluid dynamics
  - using RANS Star-CCM+ Code for marine applications.
  - developing and writing codes in python and java.

### Job Description:

- You will prepare and run CFD cases, analyze the results and write comprehensive reports (**CFD Production**).
- You will develop CFD models, improve the methodologies and workflow, automatize the processes, test, validate and deploy them (**CFD Development**).
- You will use your technical, analytical and coding skills to develop or improve in-house design and analysis codes (**Code Development**).
- You will work with our hydrodynamic designers to test and validate their design and develop your skills to support them during the optimization process. You will develop optimization codes and CFD workflow to automatize the optimization processes. (**Optimization**).
- You will work with our hydrodynamic designers on conceptual and design projects and will develop your creativity and engineer skills to develop and validate new concepts and innovative solutions (**Design & Innovation**).

# CAPONNETTO HUEBER

## Technical Requirements (“MUST”):

- Deep knowledge of fluid dynamics.
- Deep knowledge of naval architecture and naval engineering.
- Proficient with Star-CCM+ for naval applications.
  - Calm water hydrodynamics.
  - External aerodynamics.
  - Dynamic hydrodynamics.
- Proficient in programming and automatization using Python, Java and Bash shell scripting.

## Technical Skills Appreciated (“PLUS”):

- Experienced with CAD and parametrization of geometries.
- Previous experience using Star-CCM+ or another CFD code to carry:
  - Seakeeping analyses.
  - Manoeuvrability analyses.
  - Propellers, wind and marine turbines analyses.
  - FSI and co-simulation analyses.
  - Thermal analyses.
  - Vibration analyses.
- Experienced with optimizer such as HEEDS, ModeFrontier or Dakota.
- Experienced with Fluid Structure Interaction and aeroelastic simulations.
- Knowledge of structural engineering and pre-dimensioning of structures.
- Experienced with hydrodynamics models, model fitting and data analysis.
- Experienced with simulation software such as AMESIM or Simulink.
- Experienced with Open-Foam for naval applications.

## Other Requirements (“MUST”):

- English is compulsory as it is the working language at the office.
- EU resident.
- **Be able to relocate to Valencia, Spain.**
- **Rigorous, precise, hard-worker.**
- Autonomous and responsible to be fully in charge of your own projects.
- Curious, passionate, eager to learn and to push your knowledge.
- Humble and able to work within an international team.
- Open-minded with the ability to adapt to innovate.
- Eager to apply hard sciences to the naval industry.

You are willing to be part of an international group who aim to lead the innovation, the technology development and the transformation of the nautical and maritime industries towards more efficient, cleaner and more sustainable industries, please contact us at [jobs@caponnetto-hueber.com](mailto:jobs@caponnetto-hueber.com) using the offer reference in the title and include your **CV and references in English** (mandatory).