# MARINE FLUID DYNAMICS EXPERT - CFD ENGINEER AND DEVELOPER

## Full Time Position

**Reference**               **: CH_JOB_21_02_CFD**
Publication Date          : 2021-02-23
Education Level           : Master or PhD
Duration                  : Full Time Job
Seniority                 : more than 4 years of experience in the field
Start date                : March/April 2021
Location                  : Valencia, Spain
**Answer to**               **: jobs@caponnetto-hueber.com**

## 1. Caponnetto-Hueber Presentation

Background:

Caponnetto-Hueber is an innovation and technological laboratory specialized in fluid dynamics and energy efficiency. The company provides naval architecture solutions, innovative concepts, fluid dynamics services and products for the maritime world.

Caponnetto-Hueber main topics of expertise are hydrodynamics, aerodynamics, shapes optimization and numerical simulations (CFD i.e. Computational Fluid Dynamics)

Caponnetto-Hueber has been involved with America's Cup for more than 2 decades and has won it in 2010 and 2013 and is currently working for Italian Challenger, Luna Rossa Prada Pirelli, providing all the numerical simulations and responsible of the foils design.

Caponnetto-Hueber brings advanced technologies and its creativity to the whole maritime and nautical industries.

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.
- Innovative concepts, design, naval architecture
- 0-emission ships and yachts
- Wind Assisted Ship Propulsion (WASP) systems
- Foiling yachts
- Computational Fluid Dynamics (CFD)
- Hydrodynamics, aerodynamics

Main current projects:
- Innovative concepts and solutions
- Flying electric boat design and flight control
- Mega-yachts hydrodynamics and CFD
- Propellers design and hydrodynamics
- Racing and sailing yachts hydrodynamics and CFD
- America's Cup (36th AC)
- R&D

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.

## 2. Collaborator Profile

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

Experience:
- More than 4 years of experience:
  - o  using Star-CCM+ for marine applications
  - o  developing and writing codes in java and python

Job Description:
- You will prepare and run CFD cases, analyze the results and write comprehensive reports (**CFD Production**).
- You will develop advanced CFD models (Panel codes, RANS, LES, …), develop 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 codes, software and web platforms. You will be in charge of building and improving the software, the codes, the scripts, the macros, the utilities and maintain them (versioning, quality, documentation) (**Software Development**).
- According to you experience, you may lead the CFD group (**Coordination**).
- You will work with our Technical Director on conceptual and design projects and will use and develop your creativity and engineer skills to develop and validate new concepts and innovative solutions (**Design & Innovation**).
- You will support the Junior CFD engineers in their production and development and eventually the clients using the company codes and platforms (**Support**).

Technical Requirements ("MUST"):
- Deep knowledge of fluid dynamics
- Deep knowledge of naval architecture and marine applications
- Proficient with Star-CCM+ for naval applications
- Proficient in programming and automatization using Java, Python and shell scripting

Technical Skills Appreciated ("PLUS"):
- Proficient with Open-Foam for naval applications.
- Proficient in software development (Github, Python, Java, Fortran, …)
- Proficient in web applications development (JavaScript, Plotly, graphics and data visualization)
- Experienced with Machine Learning technics and AI applied to numerical simulations
- Experienced with database and data Manipulation Language
- Experienced with CAD and parametrization of geometries
- Knowledge of structure and especially fluid structure interactions
- HPC and AWS expertise

Other Requirements ("MUST"):
- English is compulsory as it is the working language at the office.
- **Rigorous, precise, hard-worker, to maintain the quality standard of the group.**
- 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.

Due to the nature of our work and the level of excellency that we need to maintain and always increase as a group, we look for engineers / scientists who are passionate, have a very strong academical background and clear understanding of the physical phenomena, eager to learn and develop new competences, who are pro-active and make things happens, are not afraid of challenge and are willing to push themselves to be the best individually and collectively, who are team players and are able to share their knowledge and their motivation with the group, are open-minded, creative, curious and responsible of their projects and tasks, who wants to push technology to the limits and who are willing to be part of an very international group who aim to be the leader in innovation and technology in the nautical and maritime industry.

Contact us at **jobs@caponnetto-hueber.com** using the offer reference in the tittle and include your **CV and references in English are mandatory.**