

CFD ENGINEER – MARITIME & WASP (CH FRANCE)

Reference : CH_JOB_24_04_CFD_MAR_FR
Publication Date : 2024-04-10
Education Level : Master or PhD
Contract : Full Time Job
Seniority : more than 4 years of experience in the maritime or nautical industries
Start date : 2024 Q2 or Q3
Location : France – Nice Area (alternatively Valencia, Spain)
Answer to : jobs@caponnetto-hueber.com

COMPANY PRESENTATION

Background:

Caponnetto Hueber (CH) is a scientific laboratory and a consulting company 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 designs” for the maritime world.

Over the years, Caponnetto Hueber has become a reference in racing, foiling, and efficient yacht design and ship optimization.

By combining its innovative-driven mindset, and its state-of-arts analysis and optimization software and expertise, CH is able to develop disruptive solutions aimed at lowering the O-emission of the nautical and maritime industries.

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

The design office is located within the Marina of Valencia, Spain, in a former America’s Cup base. CH is currently setting up a subsidiary dedicated to the maritime industry in France.

R&D Lab:

Caponnetto Hueber develops innovation, software and expertise through its innovation and technological Laboratory and in particular develops analysis software and design solutions to decarbonize the nautical and maritime industries.

CH main R&D topics are:

- Wind Assisted Ship Propulsion (WASP) systems design.
- High Fidelity Wind Assisted Ship Propulsion (WASP) systems power, emissions and performance predictions software and systems emission reduction evaluation tools.
- Propulsion and energy harvesting systems through fluids motions.
- Innovative and efficient hydrodynamic concept, design and solutions for yachts, vessels and ships
- Machine Learning based solutions for design optimization, performance prediction, emission reduction and operation optimization software.

Services:

Caponnetto Hueber offers innovative services in the field of fluid dynamics and naval engineering. Using high-end methodologies and tools, CH is able to improve design, performance and efficiency for naval

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architects, yacht designers and shipyards, and deliver lower fuel consumption and emissions design for ship owners.

CH services include:

- Computational Fluid Dynamics (CFD).
- Hydrodynamic and aerodynamic design and optimization.
- Efficient and foiling yacht concept development.
- Hulls, appendages and foils design.
- Low and 0-emission yachts and vessels.

Caponnetto Hueber is expanding its activities and is currently setting up a subsidiary in France to develop its activities in the Maritime, Wind Assisted Ship Propulsion (WASP) and Floating Offshore Wind Turbine (FOWT) Industries.

COLLABORATOR PROFILE

Profile:

- **Fluid dynamics engineer, marine CFD engineer, or naval architect specialized in Computational Fluids Dynamics** with a MSc Degree or a PhD.

Experience:

- **4+ years experience as a CFD engineer** in the maritime (shipping, WASP), offshore (FOWT) or renewable energy (WT) sectors.
- Experienced with RANS code (Star-CCM+, preferably).
- Experienced with seakeeping and dynamic analysis codes.
- Developing and writing analysis, design/optimization and automation codes and tools in python, java or C++.

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 (**CFD Development**).
- You will develop optimization codes and CFD workflow to automatize the optimization processes. (**Optimization**).
- You will use your technical, analytical and coding skills to develop or improve in-house design and analysis codes (**Code Development**).
- You will create hydrodynamic and aerodynamic models (RSA, Surrogate models) and database, and analyze them to further improve the design, the performance analysis or the understanding of the phenomenon involved (**Data Analysis and Data Intelligence**).
- You will carry CFD analysis to improve ship efficiencies and to evaluate devices (WASP, ESD, bulbs) to improve EEDI/ EEXI and to reduce ship emissions. You will collaborate with Performance Prediction Analysis Engineer and Developers, to improve the company workflow and software (**Power Prediction and Emission Reduction Analyses**).
- You will work with our hydrodynamic and aerodynamic 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**).

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Technical Requirements (“MUST”):

- Strong academical background and deep knowledge in fluid dynamics, Computational Fluid Dynamics (CFD) and maritime engineering.
- Proficient in CFD for marine applications.
- Deep knowledge of dynamics modeling.

Technical Skills Appreciated (“PLUS”):

- Expertise in Wind Assisted Ship Propulsion systems (WASP).
- Expertise in ship optimization, Energy Saving Devices, EEDI/EEXI.
- Expertise in rotating systems such as marine propellers, water turbines or wind turbines.
- Expertise in Floating Offshore Wind Turbine (FOWT).
- Experienced with optimizer such as HEEDS, ModeFrontier or Dakota.
- Experienced with Fluid Structure Interaction and aeroelastic simulations.
- Experienced with numerical modeling, model fitting, data analysis and Machine Learning.

Other Requirements (“MUST”):

- Fluent in English and French.
 - Italian or Spanish knowledge would be a plus.
- EU resident or in possession of an EU work permit.
- Dynamic, pro-active, organized, rigorous, autonomous and flexible.
- Open-minded with the ability to adapt to innovate.
- Passionate about innovation, technology, the ocean and water activities.

CH values candidates who have a real passion and interest for making a meaningful impact in the maritime and nautical sectors by actively contributing to decarbonization efforts.

If 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 using the offer reference in the tittle and include your **CV and references in English**.