

RÉSUMÉ AND CURRICULUM VITAE

PERSONAL DETAILS & QUALIFICATIONS

Name: Emma Shepherd
Position: Design Engineer
Nationality: British
Education: MEng (Hons) Marine Technology with Small Craft Technology

EMPLOYMENT RECORD

2020 - Present *Argo Engineering Solutions Ltd*, Design Engineer
2018-2019 *Argo Engineering Solutions Ltd*, Summer Placement
2017 *INEOS Team UK*, Intern

RÉSUMÉ

I am currently a Design Engineer/Naval Architect at Argo Engineering. Prior to working at Argo, I spent a few summers working to gain experience around the marine sector working on various projects with Argo Engineering and the design team with the INEOS America's cup team. This work developed and built on what I learnt at University. Throughout my degree, I completed modules covering a range of Naval Architecture disciplines including Structures, Naval Architecture, Hydrodynamics and Small Craft. As part of the small craft module I had to produce a concept sailing yacht design which included producing lines, general arrangement, stability assessment and weights calculations. In my final year I was involved in a group project which proposed and designed concept solutions for reducing port emissions. My main role in this project was producing a concept design for an all-electric tug. Since starting at Argo in 2020 I have worked on a wide range of projects and developed many skills.

EXPERIENCE

Northern Fisheries 9.5m RIB

One of my first jobs with Argo was on this project, carrying out a structural assessment of the vessel using the ISO 12215 standards, particularly the new rules in Annex J regarding workboats.

RS Pulse 580 Electric RIB

At Argo I have also been involved in the lifting calculations for the RS Pulse. This involved multiple iterations of calculations as the lifting arrangement developed. I also performed the stability assessment of this project.

Hoverbarge Studies

Whilst working with Argo in summer 2018 and 2019, I helped on two hoverbarge studies. The work included an assessment, from first principles of hoverbarge on-cushion stability, roll period and dynamics. I also helped compile the final deliverable documents which gave me a great insight into these specialist craft. I have continued to work on various hoverbarge jobs with Argo, mostly carrying out stability assessments.

Finite Element Analysis

Since starting at Argo, I have worked on various FEA projects and have gained experience using Strand7.

Hull Structural Analysis

I have also spent lots of time analysing hull structures using hand calculations for a range of standards and materials. I have used HullScant software for ISO12215 and ComposeIT for BV rules. This work has been on a range of projects of different sizes of both monohulls and catamarans.

Weight studies

At Argo I have also carried out several weight studies, closely linked to structural analysis using various rules. These weight studies have been for both composite and aluminium structures.

Naval Architecture and Hydrodynamics

I have worked on various concept naval architecture projects using Orca3d and completed multiple resistance, powering, and trim studies. I have also used ISO12217 to assess stability on a range of projects. Other rule sets that I have used for stability analyses include HSC2000 and the Intact Stability code. The stability analyses have mostly been on small craft such as RIBs but I have also assessed the stability on hoverbarges and pontoons.

Preliminary design of RIBs

Preliminary structural design and naval architecture on various RIBs. This has included weight studies, structural assessments, powering/performance predictions and stability assessments to various rule sets.

Professional Development

Associate member of The Royal Institution of Naval Architects (AMRINA)

OUT OF WORK INTERESTS

My main interests out of work are sailing, running and cycling. I have grown up around boats and was a keen dinghy racer before University. I still like to get out racing dinghies when I can. I am a keen runner and enjoy taking part in events over a range of distances both on and off road. I also like to get out on my bike whenever I can and regularly race the local cyclocross league. Since I started running and cycling, I have also taken part in a selection of sprint and standard distance Duathlon events and sprint Triathlon events.
