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DELFT

# Thesis proposal: Constraint Kinematics for the Ampelmann System

**Are you looking for a thesis proposal with direct impact on improving our Ampelmann systems? This MSc thesis aims to investigate a new control strategy that considers actuator and residual motion constraints to optimize workability and safety of the system.** Interested? Read more below or apply via the “apply now” button!

## About Ampelmann

Ampelmann makes offshore access as easy as crossing the street. Our drive is to make the offshore industry safer, enable the energy transition and have a great career in the meantime. We combine the challenges of a large globally-operating organisation with a change-positive attitude and entrepreneurial spirit. Growing Ampelmann means growing you.

## Your assignment

The Ampelmann A-Type system is a self-stabilizing 9-DOF gangway system to provide easy and safe access from vessels to offshore structures. During a normal sea state, the platform and gangway should be motionless. However, during actuator failure or extreme weather conditions the actuator constraints can introduce residual motions. Your goal is to investigate a new control strategy that considers actuator and residual motion constraints to optimize workability and safety of the 9-DOF system. During your thesis work you will explore the techniques for constraint optimization of actuator setpoint calculation. An additional challenge is that the algorithm should be able to coop with the uncertainty of the future vessel motions.

## We ask

- 🕒 MSc student in Mechanical, Aerospace, Robotics / Control Engineering or Applied Mathematics
- 🕒 Proven experience with modelling and simulation in Matlab and/or Python; Preferred

ematics, multi-body dynamics and optimization



Fluent in English

- During your thesis work you will be spending a couple of days a week at our office in Delft. (To be agreed upon, and of course considering the circumstances due to COVID-19)

### You get

- A nice compensation
- A great and informal workplace in Delft
- Fantastic lunch, amazing coffee and fun break facilities (e.g. ping pong, darts)
- Two experienced supervisors with a background at MSc level

### About the R&D department

Within the R&D Department, you will be part of a young and dynamic team that turns technical ideas into innovative building blocks for the operational fleet and the innovations department. As R&D employee you are involved in the whole process from coming up with an idea, prototyping and testing it on a real system.

Read more about the Ampelmann story [here](#) and have an 'inside look' [here](#).

### Interested?

You can apply before 14 August 2020 by uploading your CV and motivation letter via the "Apply Now" button on our website. In the week after the closing date, we will let you know if you have been selected for an interview. A match? Then we will offer you the assignment! If you have any questions related to this vacancy, please contact [recruitment@ampelmann.nl](mailto:recruitment@ampelmann.nl). Your contact person for this vacancy is Dianne Schaafsma.

> **APPLY NOW**

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