

## Science and Engineering Research Program 2020 Project Proposal

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**institute:** Institute of Structural Analysis

**project title:**

VIPile – Influence of vibration parameters on the installation and load-bearing behavior of monopiles

**project description:**

The project VIPile aims to provide validated calculation models for the installation and for the foundation stiffness of vibrated monopiles as a foundation variant of offshore wind energy converters. Thereby, large-scale experiments and numerical simulations are conducted.

By taking part in this project, topics for the research student would be numerical simulation, finite element model updating, setup of the measurement system or the like.

**required skills:**

Knowledge about the dynamics of a system (eigenfrequencies, eigenmodes, ...), numerical optimization and/or finite element model updating would be helpful. Also, experiences with finite element analysis software (Ansys, Abaqus, ...) would be adjuvant. But all these skills are not a necessity. Students of e.g. civil or mechanical engineering would be fit for this project.

**contact/ supervisor:** Marlene Bruns, M. Sc.

Please return to Kristina Schmidt or Uta Knoche till 15th of November.