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| <input checked="" type="checkbox"/> Bachelor's thesis     | <input type="checkbox"/> theoretical             |
| <input checked="" type="checkbox"/> Plant design exercise | <input checked="" type="checkbox"/> experimental |
| <input checked="" type="checkbox"/> Master's thesis       | <input checked="" type="checkbox"/> constructive |

## Installation and Optimisation of a Test Rig for PEM Electrolyser Cells

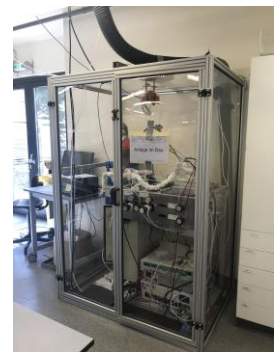
Field of study: Chemical Engineering

Hydrogen as an environmentally friendly energy carrier is attracting more and more interest as fuel suitable for low-emission power generation. Proton exchange membrane water electrolysis (PEMWE) is a highly efficient technology for the generation of renewable (green) hydrogen. The lifetime of this new technology is limited by the degradation of the materials used and the associated continuous deterioration of cell performance.

The aim of this diploma thesis is the construction and commissioning of a test rig for automated tests of PEM electrolysis cells, in order to evaluate the suitability of novel materials in long-term studies.

The student's tasks include:

- **Preliminary considerations**
- **Assembly and commission** of a new test rig based on existing hardware
- **Performance of precision & integrity tests**
- **Configuration of the measurement setup**



In the Fuel Cell & Hydrogen Working Group at CEET, you can become part of a team of experienced researchers, PhD students with expertise in materials preparation, electrochemistry and cell characterization, as well as other motivated master students. The research group has access to a fully equipped laboratory with the necessary infrastructure for the planned experimental work.

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