

## Power-to-Gas Internship – Process Modelling and Control

### Overview

Electrochaea GmbH is seeking an Intern to support its Development team in the field of process modelling and control. The Company is developing a disruptive new technology for conversion of carbon dioxide into methane, using renewable power and a variety of CO<sub>2</sub> feed stocks. Electrochaea's main power-to-gas technology represents a commercially viable solution for utility-scale energy storage, grid balancing, and carbon recycling.

The core of the technology is a proprietary biocatalyst – an adapted strain of methanogenic archaea, a single-celled anaerobic microorganism – which efficiently converts hydrogen and carbon dioxide into pipeline-grade methane for direct injection into the existing natural gas grid.

The Company is commercializing this power-to-gas technology in markets with high penetration of wind and solar energy (Denmark, Sweden, Germany, Benelux countries, UK, California, etc.), where the intermittent nature of renewable energy sources leads to prolonged periods of excess electricity production.

### Description of Position

The Intern will be part of our Development department and work within a multidisciplinary team of engineers and biologists on the conception and implementation of process models, using MATLAB Simulink.

### Detailed Tasks and Activities

- Perform literature study to identify suitable process modelling and control strategies;
- Implement process models using MATLAB Simulink software;
- Run simulations and evaluate/analyze the results;
- Participate in process evaluations and provide recommendations for further development activities;
- Communicate and appropriately document work in the form of internal reports/presentations.

### Preferred Qualifications

- B.S./M.S. in Process / Mechanical / Electrical Engineering
- Excellent process modelling skills in MATLAB Simulink
- Knowledge in bioprocess engineering, e.g. power to gas, or a related field

**Starting date:** 1<sup>st</sup> October 2019

**Duration:** 4 months minimum, full-time

This project is available either for internship or master thesis applicants. All interested candidates irrespective of age, gender, disability, race, religion or ethnic background are encouraged to apply.

Please send your CV to [jobs@electrochaea.com](mailto:jobs@electrochaea.com).

For questions about the project please contact:

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