

### Novel functional electrodes for hydrogen peroxide production

Would you like to gain industrially-relevant skills at a fast-growing startup? HPNow offers a master thesis project at its R&D laboratories in collaboration with DTU. The right candidates will have the possibility to combine the master thesis work with a student job at HPNow.

#### The challenge

The core of HPNow's devices is formed of catalyzed electrodes that generate hydrogen peroxide. The performance of these electrodes can be enhanced by adding small amounts of dopant molecules. This enables tailoring the functionality of the electrode at a molecular level, and achieving groundbreaking results in key merit parameters - efficiency, throughput or concentration. The goal of this project is to test novel classes of dopants to create functional electrodes and assess their impact in performance.

#### The approach

- Reactor fabrication through advanced catalyst nano-coating techniques.
- Electrochemical testing combined with deep insight from analytical chemistry techniques and physical characterization (scanning electron microscopy).
- Benchmarking with state-of-the-art in the field.

#### Who we are looking for

You are a student in physics, chemistry, chemical engineering or similar. You have already gained some initial experience in a laboratory environment. You like driving a project from start to finish and are result-oriented, always paying attention to details without losing the big picture. You are fluent in English and enjoy working in an international environment.

#### Your development

We offer the opportunity to gain valuable practical experience while using your skills to solve complex challenges. The insight developed through this project will be directly applicable to HPNow's products, and you will get a comprehensive overview of how electrochemistry and analytical techniques are used to develop disruptive technology.

Questions: Please email Arnau Verdaguer, Director of Products - [arve@hpnw.dk](mailto:arve@hpnw.dk)

Thesis place: HPNow Denmark (R&D laboratories) and DTU

Please send your application to [info@hpnw.dk](mailto:info@hpnw.dk). Attach your CV and a copy of your transcript of records.

#### About HPNow

At HPNow we believe in natural solutions for water and air purification. That is why we are pioneering a novel environmentally friendly disinfection technology with strong potential across fields as varied as agriculture, hospital room disinfection and drinking water purification. Our products help create more sustainable food, healthy air and safe water while impacting the bottom line of our customers.