



Job Title	Senior Electrochemist
Location	West London, UK
Type	Full time
Salary	Salary plus Equity We want our team to be invested in the business, rewarded through the creation of value. For this reason, we have a shareplan.
Holiday	25 days + public holidays

About Supercritical:

Supercritical is developing the world's first high pressure, ultra-efficient water electrolyser for green hydrogen production. The system will be capable of overcoming many of the limitations experienced by today's incumbent electrolysis technologies. By harnessing the benefits of heat and pressure, Supercritical's proprietary design enables us to operate in the region of the highest electrical efficiencies seen commercially today, whilst delivering hydrogen at high pressure which is perfect for storage. The resultant green hydrogen and oxygen products that we produce can be used to decarbonise heavy industry, chemicals, transport and more. We have recently closed a £2.6million funding round and have announced two incredible projects - [WhiskHy](#) and [GreeNH₃](#).

Globally 'Top 50 to watch for climate action' - CleanTech Group
Top5 Zero Emission Solution to watch in 2022 (StartUS Insights)
Runner-up and People's Choice in 'Shell's 2021 New Energy Challenge'
Finalist 'Hydrogen Hypothesis' - OZ Minerals

The opportunity:

Supercritical is looking for a well-rounded and experienced Senior Electrochemist to join our development team. You will facilitate decision making in product design through analysis of experimental results and deep literature research. Building on an in-depth understanding of electrochemical principles, you will enable Supercritical to rapidly optimise its system for performance and durability.

Founded in 2020, Supercritical has built its proof of concept, secured private and public funding and is building its first multi-cell module. You will join an exciting and fast moving company that is intent on disrupting the energy industry and enabling a net zero future. An electrolyser is a complex electrochemical system which can sit in any number of value chains. Supercritical's key sectors include chemicals, energy, heavy industry and transport, and we need a Senior Electrochemist that will accelerate and strengthen our technical team in its London test facilities.

We're really excited about expanding and diversifying our team. Coming from a diverse background ourselves, we do not discriminate regardless of disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race (including ethnic or national origins, colour and nationality), religion or belief (including lack of belief), sex, sexual orientation or any other characteristic. We can't wait to have you on board!



Accountabilities:

- Be responsible for design of experiments, pioneering new test protocols and standardising operating procedures.
- Drive decision making through critical analysis of test results and understanding from literature research, identifying and leading on next steps for design and testing.
- Characterise a wide range of metal electrodes for hydrogen evolution and oxygen evolution reactions.
- Future development road-mapping and supplier classification
- Investigate methods to increase the surface area of electrodes.
- Investigate deposition methods of catalyst nanoparticles onto the electrode surface.
- Investigate corrosion tolerance of materials and develop corrosion-resistant coatings.
- Assist CTO with design, fabrication and electrolyser cells and modules.
- Procurement and management of reagents and electrochemical equipment/consumables.
- Reporting outputs of research with CTO.
- Manage commercial and academic scientific partnerships.

About you

You will

- Be passionate about a net zero environment, excited by innovation and proactive in your pursuit of it.
- Be innovative, adaptive, able to execute, be a teamplayer and have the potential to manage others.
- BSc / MSc level degree in a physical science or engineering discipline relevant to electrochemical cell research and development
- Have 6 years of experience in electrochemical (or applicable scientific sector) research and development
- Have demonstrated experience in providing leadership and steer to the direction & execution of research
- Be interested and understand how to improve research practice, adapting different methodologies and frameworks according to evolving the needs of the R&D team.
- Be excellent at distilling technical data and deriving conclusions and providing direction
- Perform electrochemical impedance spectroscopy, analyse and present results comfortably.
- Have experience characterising hydrogen evolution and oxygen evolution catalysts using EIS.
- Have a strong material science background, ideally specialised with metal alloys and multi-metal oxides.
- Have experience with surface area analysis techniques.
- Demonstrate strong problem solving skills.
- Have outstanding communication skills, both written and speaking.
- Be proactive and self-motivated, taking initiative to drive towards company goals.

Desirable

- Have a PhD or significant industrial experience in electrochemistry.
- Multiphysics/Electrochemical modelling experience
- Corrosion chemistry experience
- Experience of working with high pressure/high temperature systems

Direct applicants only - no agencies.

Supercritical is not in a position to sponsor overseas applications.