



UNIVERSITY OF  
NEWCASTLE

# GREEN HYDROGEN PRODUCTION TECHNOLOGY FROM SEAWATER UNDER SUNLIGHT

**Pioneering Sustainable Hydrogen Production Through Solar-Powered Seawater Splitting**

**The University of Newcastle's innovative research is revolutionising green hydrogen production by developing technology that uses sunlight to split seawater into hydrogen and oxygen. This breakthrough approach eliminates the need for fresh water resources and external energy input, making hydrogen production more sustainable and cost-effective.**

## PARTNERSHIP CAPABILITIES

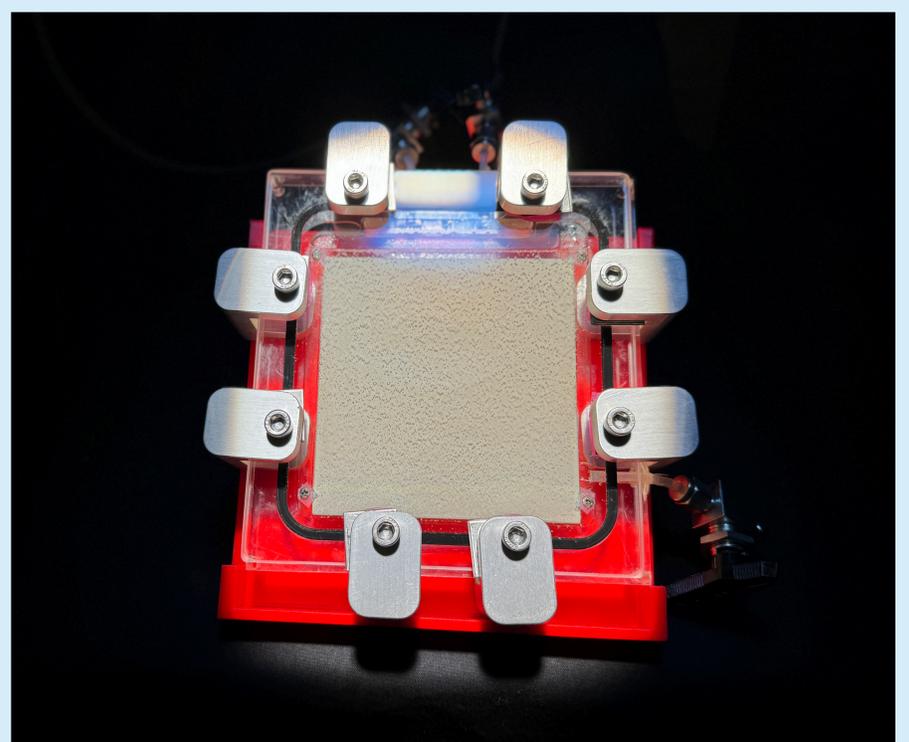
- Advanced materials development and testing
- Solar-powered water splitting technology
- Seawater electrolysis systems
- Scalable production methods
- Environmental impact assessment
- Industry collaboration opportunities
- Prototype development and testing
- Technical feasibility studies

## PROVEN IMPACT

- Development of sustainable hydrogen production methods
- Reduced environmental footprint compared to traditional methods
- Elimination of freshwater dependency
- Lower production costs through solar energy utilisation
- Advancement in renewable energy technology
- Contribution to Australia's hydrogen economy goals
- Creation of scalable green hydrogen solutions

## TRANSFORMING SEAWATER INTO CLEAN ENERGY

Our research team successfully demonstrated a prototype system that directly converts seawater into hydrogen using only sunlight, achieving significant efficiency improvements over conventional methods. This breakthrough technology represents a major step forward in making green hydrogen production more accessible and environmentally sustainable, particularly for coastal regions with limited freshwater resources.



## CONTACT US:

**Professor Ajayan Vinu**

Director of Global Innovative Center  
for Advanced Nanomaterials

[Ajayan.Vinu@newcastle.edu.au](mailto:Ajayan.Vinu@newcastle.edu.au)

