

[Request Information](#)

[Permalink](#)

Solar-to-Hydrogen Reactor Design

Tech ID: 33765 / UC Case 2022-999-0

BRIEF DESCRIPTION

An innovative reactor design that converts sunlight into hydrogen fuel efficiently and cost-effectively.

FULL DESCRIPTION

Researchers at UCI have developed a reactor capable of producing hydrogen (H₂) fuel from water using sunlight. Unlike existing solutions that rely on expensive materials or pose safety risks, this design utilizes a novel approach to split water into hydrogen and oxygen cleanly and inexpensively. The process is CO₂-free, aligning with global efforts to reduce carbon emissions and combat climate change.

SUGGESTED USES

- » Renewable energy storage across seasons.
- » Low-cost, clean transportation fuel.
- » Chemical industry feedstock for ammonia and other chemicals production.
- » Large-scale implementation in existing energy infrastructure.

ADVANTAGES

- » Cost-effective production of H₂, meeting the U.S. Department of Energy's cost targets.
- » Clean production process with no CO₂ emissions.
- » Compatibility with existing infrastructure for hydrogen use.
- » Utilizes sunlight, an abundant and renewable energy source.
- » Addresses the bottleneck issues of prior technologies, offering a scalable solution for global implementation.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Published Application	20230390724	12/07/2023	2022-999

RELATED MATERIALS

CONTACT

Ben Chu
ben.chu@uci.edu
tel: .



OTHER INFORMATION

CATEGORIZED AS

- » **Energy**
- » Bioenergy
- » Other

RELATED CASES

2022-999-0

UCI Beall
Applied Innovation

5270 California Avenue / Irvine, CA
92697-7700 / Tel: 949.824.2683



© 2024, The Regents of the University of
California
[Terms of use](#)
[Privacy Notice](#)