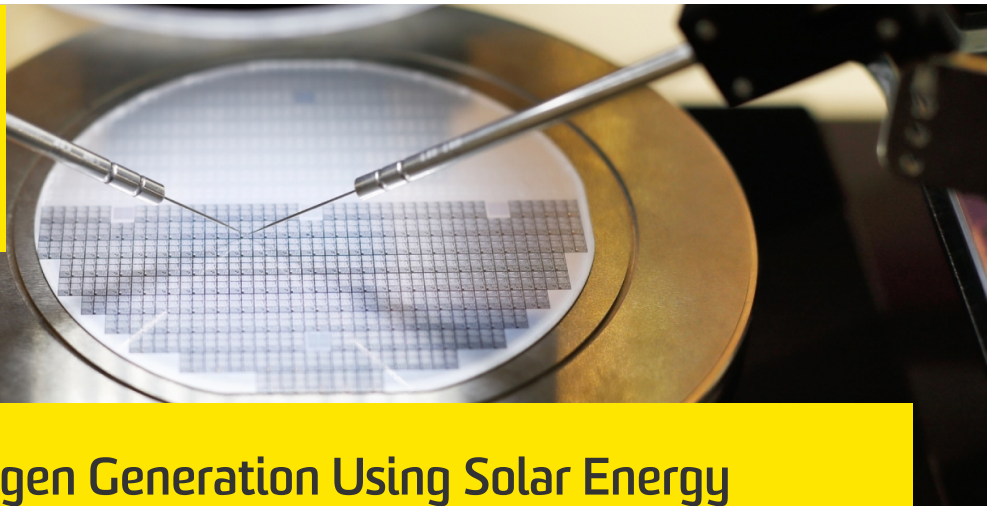




UNSW
SYDNEY



Materials for Hydrogen Generation Using Solar Energy

Design and development of novel semiconducting materials systems for efficient, direct conversion of solar energy to hydrogen allows solar energy to be stored and transported in the form of a chemical fuel, so that it can be used on-demand.

Competitive advantage

- Integrating expertise across computational materials design, a range of materials fabrication techniques, advanced characterisation and device testing. This allows a holistic approach covering all stages from design to testing, thus accelerating materials development.

Impact

- New materials that can absorb energy from sunlight and convert it to hydrogen
- Atomic-level understanding, derived from computational studies, of the light absorption and surface catalytic properties of novel materials

Successful applications

- Prediction and confirmation of a new materials system with photoactivity extending to longer wavelengths than most existing materials.

Capabilities and facilities

- High-performance computing capabilities
- Expertise in applying computational materials science to designing new materials and understanding materials performance across a range of applications, including photocatalysis, photovoltaics, battery materials and catalysis

More Information

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