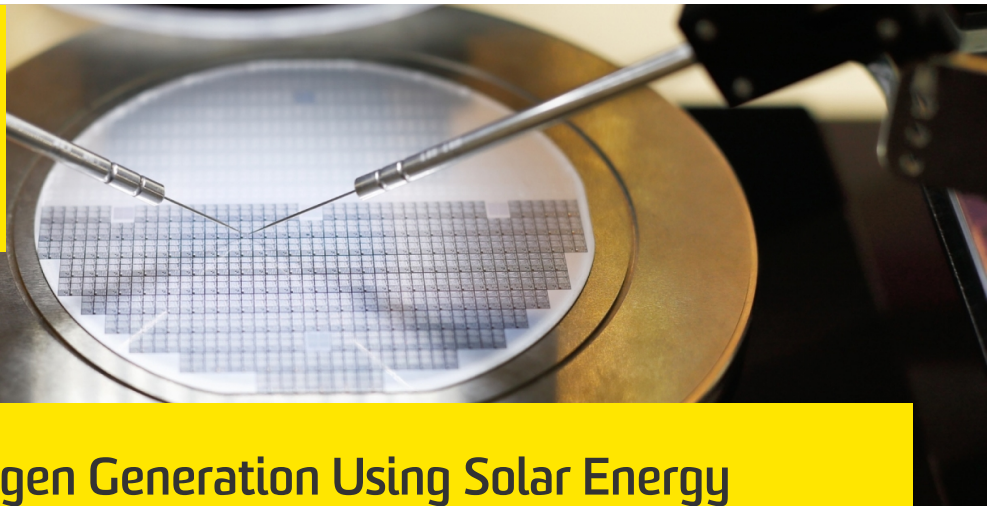




**UNSW**  
SYDNEY



## 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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