

YOUNG SCIENTIST AWARD 2026

HOU YI

**Presidential Young Professor
Department of Chemical and Biomolecular Engineering
National University of Singapore**

“For his contributions to the development of high-performance perovskite solar technologies, from record-setting devices to scalable manufacturing, enabling lightweight and energy-efficient power systems for AI infrastructure, wearable electronics, space platforms and sustainable energy applications.”

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Dr Hou Yi is recognised for his pioneering contributions to the development of next-generation tandem solar cell technologies, spanning fundamental materials innovation, device engineering, and scalable manufacturing. His research has led to multiple world-record performances in perovskite solar cells and modules, while addressing key challenges in efficiency, stability, and large-scale deployment.

Through breakthroughs in perovskite-based tandem solar cells, Dr Hou has helped push photovoltaic technologies beyond the limits of conventional silicon, opening new pathways for lightweight and energy-efficient power generation across a range of demanding applications. His work has advanced the understanding of material interfaces and degradation mechanisms, enabling more durable, efficient, and commercially viable next-generation solar technologies.

Beyond his laboratory achievements, Dr Hou has played a leading role in translating scientific discoveries into real-world applications through scalable manufacturing and technology commercialisation. As Founder of Singfilm Solar, a National University of Singapore spin-off company, he has helped bridge the gap between academic research and industrial deployment. His innovations have enabled emerging energy solutions for AI infrastructure, wearable electronics, next-generation space power systems, and other applications where lightweight and high-efficiency power generation is critical.

Through his research contributions and entrepreneurial efforts, Dr Hou has advanced the global development of perovskite photovoltaics, strengthening Singapore’s position as a leader in next-generation solar technologies that power AI infrastructure, wearable electronics, space platforms, and sustainable energy applications.