About the Solar Cell Research Team

Can perovskite and organic materials make solar cells more efficient?
A team of researchers from the National University of Singapore (NUS) has set a new record in the power conversion efficiencyof solar cells made using perovskite and organic materials. This technological breakthrough paves the way for flexible,light-weight,low cost and ultra-thin photovoltaic cells which are ideal for powering vehicles,boats...

Why do we need a solar cell summary?
We and other editors across the Nature Portfolio believe that this is more useful to both reviewers and readers: it not only ensures transparency in reporting the results, but also allows a quick assessment of the solar cell data presented in a study, avoiding the need to go back and forth between the Summary and the main files.

Does the solar cells Reporting Summary include experimental details?
Nature Energy 8,1299 (2023) Cite this article To improve the usefulness of the Solar Cells Reporting Summary as a standalone report,we now ask authors of relevant manuscripts to include experimental details in the Summary,and we have updated some of the requested information.

What is a research interest in solar energy conversion?
Research interest is the development of new chemical approachesto solar energy conversion - harnessing solar energy either to produce electricity (photovoltaics) or molecular fuels (e.g. hydrogen). Research interests lie in the area of solar energy conversion and molecular electronics.

How can a tandem solar cell improve power conversion rate?
To address this technological challenge, Asst Prof Hou and his team developed a novel and effective ICL that reduces voltage, optical and electrical losses within the tandem solar cell. This innovation significantly improves the efficiency of the perovskite/organic tandem solar cells, achieving a power conversion rate of 23.6%.

Do we need to report the area of solar cells?
In particular,we now ask authorsnot only to report the area of the tested solar cells but also to indicate the type of area calculated,for example,total area,aperture area,active area.

Solar cells made from perovskite are about to break through - the cheap and versatile material is almost made for the efficient generation of solar electricity. However, the new solar cells are not yet robust enough for real use. ...

A research team led by Prof. XU Jixian from the University of Science and Technology of China (USTC) has once again pushed the boundaries of solar cell technology. On July 3rd, the...

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Professor Mansoo CHOI"s research team (Department of Mechanical and Aerospace Engineering) has developed a highly efficient transparent conductive oxide (TCO)-free inverted perovskite (CH3NH3PbI3) solar cell by using a graphene transparent electrode. Careful engineering of the interface between the graphene electrode and the hole transport ...

Hybrid Solar Cells (HSC) is a young and ambitious group focusing on the development of novel low-cost and solution-processable organic and inorganic semiconductors for highly efficient, eco-friendly, and stable next generation ...

Trying to improve the efficiency of solar cells to become independent from fossil energy sources is a major goal of solar cell research. A team around the physicist Dr. Felix Lang from the University of Potsdam, Prof. Lei Meng and Prof. Yongfang Li from the Chinese Academy of Sciences, Beijing, now combine perovskite with organic absorbers to form a ...

15 ????· Academia Sinica today announced a breakthrough in next-generation solar cell technology that is about 30 percent more efficient than currently available products. Taiwan has limited land to dedicate to solar energy generation, which makes increasing efficiency vital, Academia Sinica said in a news release. The most efficient silicon-based solar cells currently ...

The Hybrid Solar Cells (HSC) team was launched in 2018, after over a decade of PV research carried out at the research site. The team includes seven researchers from four different countries and ...

A breakthrough discovery in next-generation solar cell technology could help open the way to lighter, more flexible and more efficient solar panels. The discovery by a team of researchers at CDE led by Assistant Professor Hou Yi (Presidential Young Professor, Chemical and Biomolecular Engineering and Solar Energy Research Institute of Singapore ...

SolarLab research focusses on three key topics: Solar cell design, Solar energy materials and integration of solar cells. Within these topics over 50 solar energy research groups work on a multitude of topics relevant to the energy transition.

Perovskite solar cells can be damaged when partially shaded, owing to currents flowing in reverse. Two research groups have now increased the breakdown voltage of the perovskite devices (the ...

C18NewSolarCells.jpg Photovoltaic research within the energy initiative is carried out across a number of departments and research groups at the University of Cambridge. Research in photovoltaics includes: The physics of charge photogeneration, separation and collection from organic heterojunction solar cells, hybrid perovskite solar cells and solution-processed

Photovoltaic Power Team is developing technologies to fabricate highly efficient (>22%) and reliable solar cells. Specific issues to be addressed are as follows: Developing precise wafer ...

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European research team achieves milestone in the laser structuring of organic solar cells 18th of December 2017. Dresden, Deutschland - 19. Dezember 2017 - As part of the ALABO project, a research team has been working on the foundations for the next generation of organic solar cell encapsulation technology for the past three years.This month the research project has ...

Conversations with experts in photovoltaics were crucial both to identify issues in the characterization and reporting of solar cells and to develop a solution to address it.

Our research proposes to harness this potential through the development of solar cells. This can be achieved for example through the development of novel cells using polymer of small dye molecules to absorb light and convert it into electricity, or by designing systems mimicking photosynthesis, through our multidisciplinary "artificial leaf" programme. Contact; Name Title ...

15 ????· The most efficient silicon-based solar cells currently available are about 22 to 24 percent efficient, it said. Academia Sinica researchers work on new solar cell technology in an ...

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