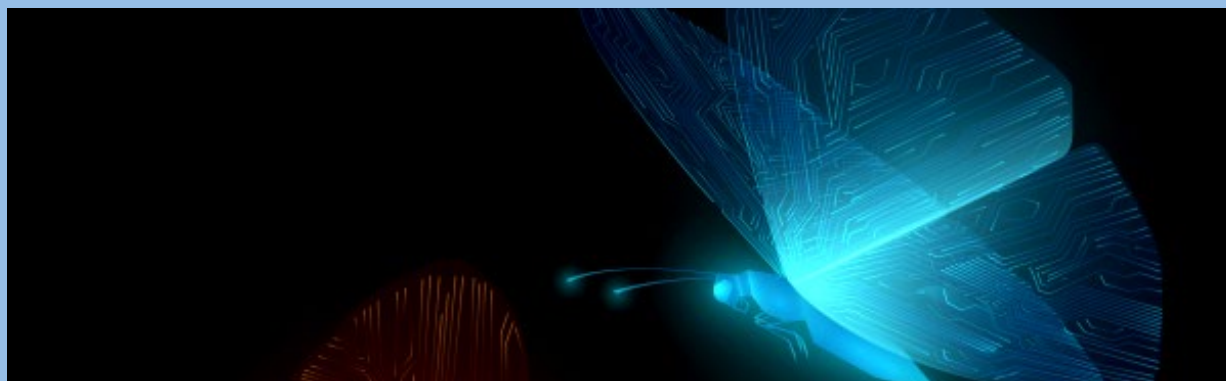




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## FEATURED STORY



# BUTTERFLY-INSPIRED AI technology takes flight

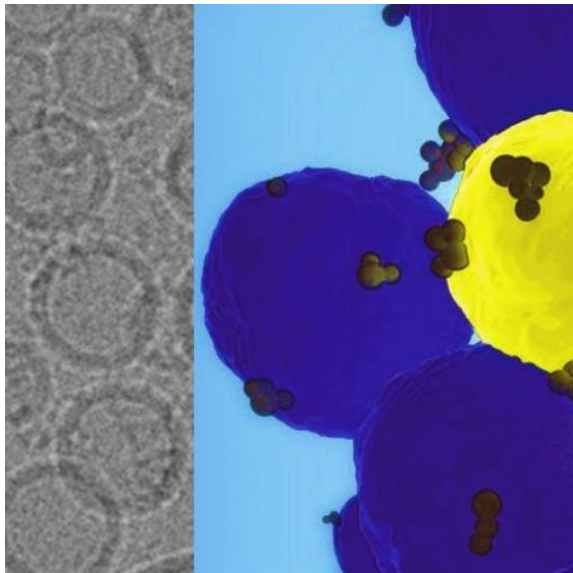


LEAD: ASSOCIATE PROFESSOR SAPTARSHI DAS

Butterflies have incredibly small brains, yet they must process multiple sensory inputs at the same time — which is more than current artificial intelligence (AI) technologies can achieve without significant energy consumption. To make AI as smart as the butterflies, a team of Penn State researchers have created a multi-sensory AI platform that is both more advanced and uses less energy than other AI technologies.

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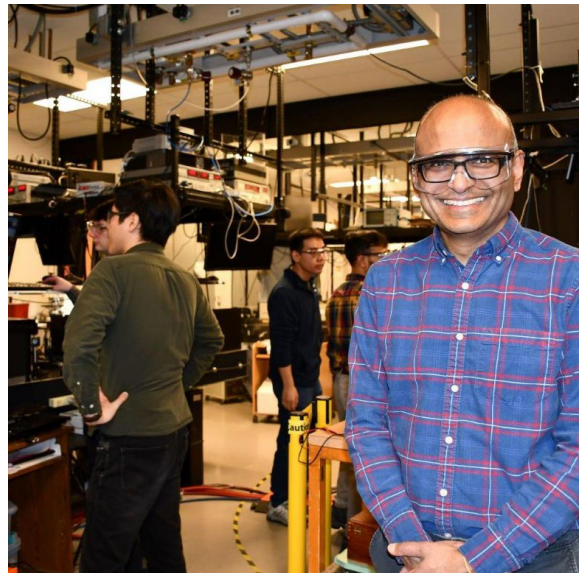
## OTHER NEWS



### GPS nanoparticle platform precisely delivers therapeutic payload to cancer cells

LEAD: PROF. DIPANJAN PAN

A newly developed “GPS nanoparticle” injected intravenously can home in on cancer cells to deliver a genetic punch to the protein implicated in tumor growth and spread,



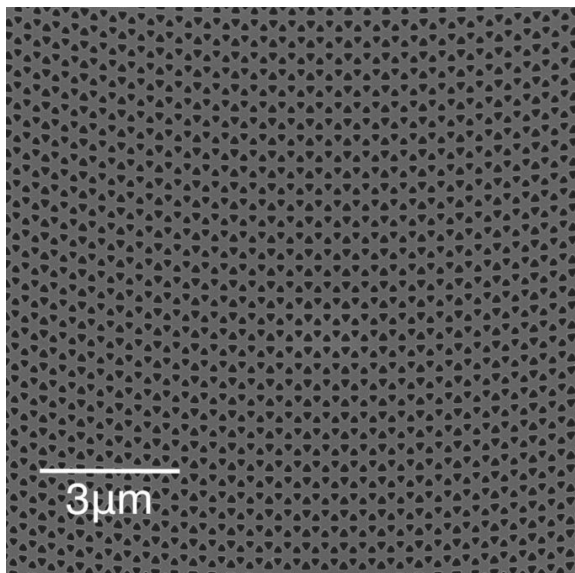
### ‘Surprising’ hidden activity of semiconductor material spotted by researchers

LEAD: PROF. VENKATRAMAN GOPALAN

New research suggests that materials commonly overlooked in computer chip design actually play an important role in information processing, a discovery which

according to researchers from Penn State.

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## Making light 'feel' a magnetic field like an electron would

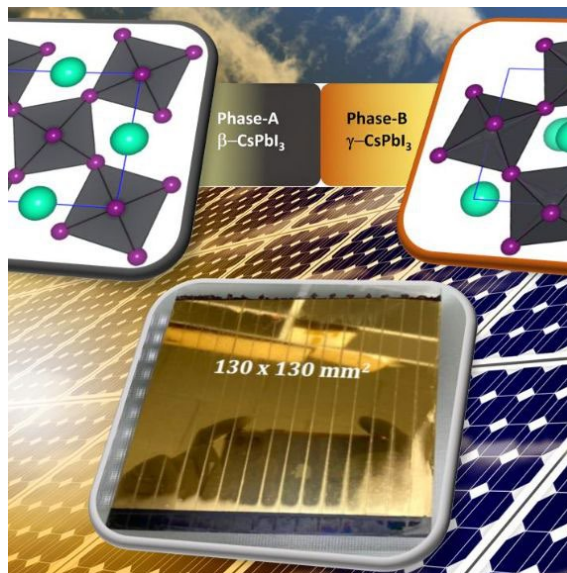
**LEAD: PROF. MIKAEL RECHTSMAN**

Within the crystal, the light spins in circles and the researchers observed, for the first time, that it forms discrete energy bands, paralleling a well-known phenomenon seen in electrons. This finding could point to new ways to increase the interaction of light with matter, an advance that has the potential to improve photonic technologies, like very small lasers.

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could lead to faster and more efficient electronics.

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## Scientists develop new method to create stable, efficient next-gen solar cells

**LEAD: ASST. PROF. NELSON DZADE**

Next-generation solar materials are cheaper and more sustainable to produce than traditional silicon solar cells, but hurdles remain in making the devices durable enough to withstand real-world conditions. A new technique developed by a team of international scientists could simplify the development of efficient and stable perovskite solar cells, named for their unique crystalline structure that excels at absorbing visible light.

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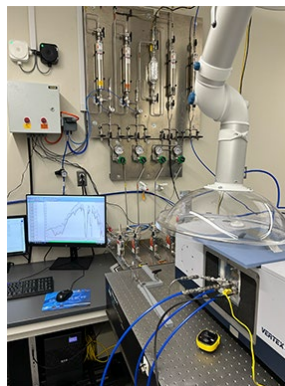
### Silicon Carbide Innovation Alliance



#### Silicon Carbide Innovation Alliance to drive industrial-scale semiconductor work

To advance the potential of this semiconductor, Penn State recently launched the Silicon Carbide Innovation Alliance (SCIA), a coalition of industry leaders, academic institutions and government support with a focus on becoming the nation's central hub for research, development and workforce training in silicon SiC crystal technology.

### The Material Characterization Lab (MCL)



#### MCL opens its first satellite facility in the Chemical and Biomedical Engineering Building (CBEB)

Located on the UP campus in 217A CBEB, this facility was set up to allow a permanent and robust experimental setup to analyze material under controlled atmosphere and temperature using infrared spectroscopy (FTIR). FTIR system is optimized to deliver a wide variety of gases (hydrogen, nitrogen, air, carbon monoxide) or liquids molecules (water, alcohol, pyridine) into the in situ sample cell. It is also equipped with various standard FTIR accessories

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as well as a UV-Vis-NIR spectrometer.

[CONTACT: JORDAN MEYET](#)



## industryXchange 2024: ROBOTICS



**May 21-22, 2024**

Pittsburgh, Pennsylvania

### industryXchange 2024

Robotics will bring together Penn State faculty, industry leaders, and government agencies to network, discuss industry needs, and explore robotics research collaboration opportunities.

Please join us for this annual event led by the Penn State College of Engineering, in collaboration with Pittsburgh Robotics Network and Robotics Factory of Innovation Works.

[Details & Registration](#)



## Biomaterials and Nature-Based Solutions



**Join LiMC<sup>2</sup> on June 13-14, 2024**

### Achieving a Sustainable, Decarbonized and Climate-Resilient Built Environment

This Workshop is open to Penn State participants who are interested in research at the intersection of building materials, nature-inspired materials design, and the social, environmental and global impact of the built environment on the climate crisis.

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