

Weekly Update

1. Nanodiamonds could hold key to cool clothing

Due to amazing absorption properties and being biocompatible in nature and with the course of electrospinning, nanodiamonds, which are carbon-based particles measured in nanometers, can play a major role in reducing heating.

Source: **RMIT University**

<https://www.rmit.edu.au/news/all-news/2024/feb/nanodiamonds>

2. A paintbrush for delivery of nanoparticles and molecules to live cells with precise spatiotemporal control

μkiss, also known as microkiss. Towards the indispensable, with the help of micropipette-based advances, μkiss provides new routes to substantial analyzes in cell biology and medicine with sophisticated space-time control over the life and structure of individual cells.

Source: **Nature**

https://www.nature.com/articles/s41592-024-02177-x?utm_source=twitter&utm_medium=social&utm_campaign=nmeth

3. HKUST Researchers Develop New Integration Technique for Efficient Coupling of III-V and Silicon

III-V on Si: Towards a multifarious world because Silicon is used as growth wafers for III-V Devices. A technique called lateral aspect ratio trapping, which is a novel selective direct epitaxial process that can specifically grow III-V materials on silicon-on-insulator (SOI) in a lateral direction without the need for thick buffers.

Source: **The Hong Kong University of Science & Technology**

<https://hkust.edu.hk/news/research-and-innovation/hkust-researchers-develop-new-integration-technique-efficient-coupling>

4. Another Clue Into the True Nature of Fast Radio Bursts

Fast Radio Bursts, a short beep or quick burst of bright light in the radio wavelength range of the electromagnetic spectrum, and it's really short, about the blink of an eye, maybe a thousandth of a second or two thousandths of a second. But since we don't know where they come from, or we don't really know where to find them or when to expect them.

Source: **Universe Today**

<https://www.universetoday.com/165744/another-clue-into-the-true-nature-of-fast-radio-bursts/#:~:text=Then%20in%202020%20we%20observed,flares%20similar%20to%20solar%20flares.>

5. NASA's Hubble Traces 'String of Pearls' Star Clusters in Galaxy Collisions

Light from the most distant galaxies has taken billions of years to travel across the universe and reach Hubble. Hubble also tracks the breeding grounds for new solar systems: dusty disks around newborn stars that can condense and turn into planets.

Source: **NASA HubbleSite**

<https://hubblesite.org/contents/news-releases/2024/news-2024-004>

6. Saturn's ocean moon Titan may not be able to support life after all

Titan, the largest of Saturn's 146 moons, is larger than Mercury. But this is no ordinary satellite. The giant moon is similar to Earth, Titan not only has lakes, seas and rivers, but also a subsurface ocean of water hidden beneath the icy ground. But a new study has revealed that Titan's ocean is no longer habitable due to the lack of amino acids.

Source: **Space**

<https://www.space.com/titan-ocean-saturn-moon-inhospitable-life-earth-study>

7. Sora is an AI model that can create realistic and imaginative scenes from text instructions

OpenAI's new tool, called Sora, uses artificial intelligence to create high-quality videos from text descriptions. Based on specific cues, it can generate videos of people, places, animals or animations.

Source: **OpenAI**

<https://openai.com/sora>

8. Perovskite solar cell technology goes greener with antimony

Organic solar cells – also known as organic photovoltaic cells (OPVs) – are the latest advancement in solar cell technology, and it is increasingly attracting the attention of industry professionals. Unlike conventional crystalline solar cells, which use silicon as an absorber, organic solar cells use polymer or small molecule cells made from carbon-based materials and organic electronics.

Source: **TechXplore**

<https://techxplore.com/news/2024-02-perovskite-solar-cell-technology-greener.html>

9. World's Smallest Humanoid Robot Has Been Built By Group Of Schoolboys

Guinness World Record broken by making the world's smallest humanoid robot. A group of four burgeoning engineers at a Hong Kong school have created the world's smallest humanoid robot.

Source: **IFLScience**

<https://www.iflscience.com/worlds-smallest-humanoid-robot-has-been-built-by-group-of-schoolboys-72980>

10. Brain waves are part of memory

Although things are still quite mysterious, recently we have been making progress toward linking brain waves to things like consciousness, memory, and perhaps even some diseases. In fact, our brain is full of all different frequencies of waves; So in some ways, measuring brain waves (neural oscillations) could be very powerful.

Source: **Universitätsklinikum bonn**

<https://www.ukbnewsroom.de/gehirnwellen-sind-bestandteil-des-gedaechtnisses/>