

NEWSLETTER

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Chinese researchers make breakthrough in green cooling technology

Chinese researchers have discovered a novel “dissolution barocaloric” cooling effect that delivers rapid, energy-efficient refrigeration with low carbon emissions. Using a pressure-driven salt solution, the system achieved a nearly 30°C temperature drop in 20 seconds and up to 77% energy efficiency, outperforming solid-state cooling. The breakthrough could support greener cooling for data centers and other large-scale applications. **(People’s Daily)**

Chinese scientists develop self-powered device to speed up muscle repair

Chinese scientists have developed a self-powered, fully biodegradable implant that accelerates muscle repair by converting body movement into gentle electrical stimulation. The wireless device requires no batteries or follow-up surgery and dissolves naturally after healing. Animal tests showed full muscle recovery within two weeks, highlighting potential for next-generation, minimally invasive treatments for severe muscle injuries. **(Xinhua)**

Chinese researchers achieve storage density breakthrough via novel ferroelectric materials

Chinese researchers have achieved a major storage-density breakthrough by identifying one-dimensional charged domain walls in ferroelectric materials. The discovery could boost data storage capacity by hundreds of times. Theoretical density may reach 20 terabytes per square centimeter—enough to store 10,000 HD movies on a postage-stamp-sized device—supporting next-generation memory, sensing and AI technologies. **(Xinhua)**

China achieves breakthrough in extracting lithium from salt lakes

China has launched the world’s first 20,000-tonne lithium extraction line using new salt-lake brine technology, boosting recovery rates and cutting losses. The process lifts lithium recovery above 78 percent and total workshop recovery to over 90 percent, supporting greener, large-scale production. The breakthrough strengthens China’s lithium supply chain and underpins growth in electric vehicles and energy storage. **(People’s Daily)**

China successfully conducts first metal 3D printing experiment in space

China has completed its first metal 3D printing experiment in space, marking an advance in in-orbit manufacturing. The CAS-developed payload autonomously fabricated metal parts at about 120 kilometers aboard the Lihong-1 Y1 suborbital vehicle. The test validated key microgravity technologies and provides critical data to support future space infrastructure construction and reusable space manufacturing systems. **(Xinhua)**