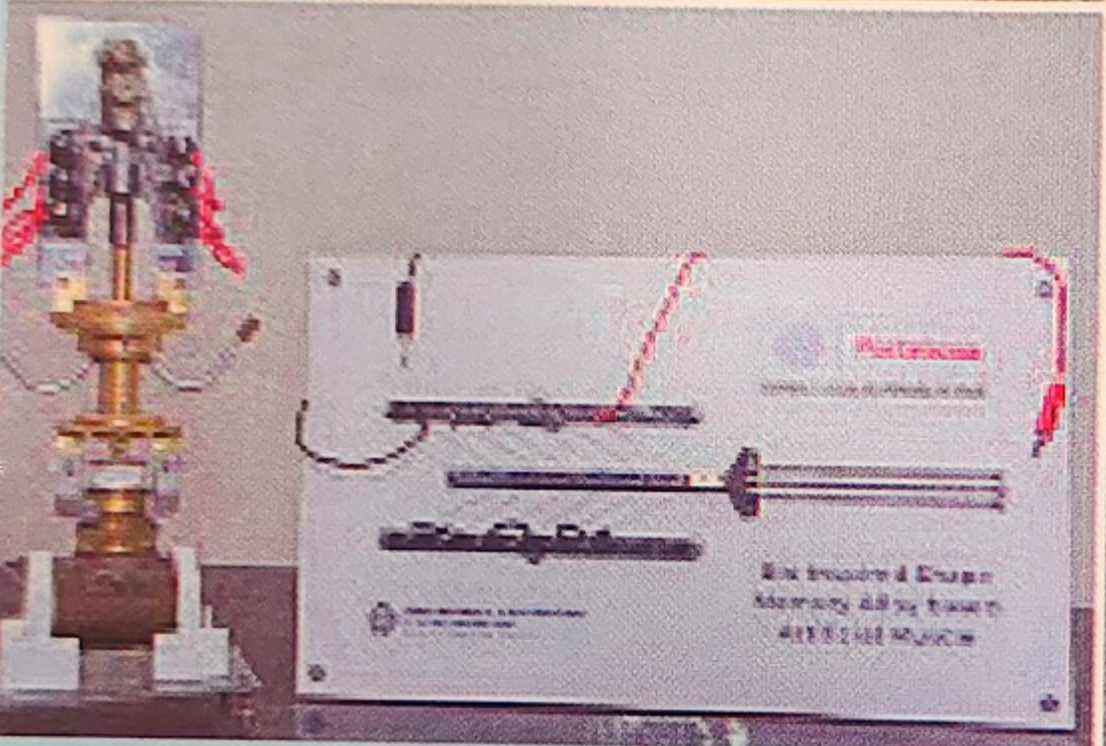
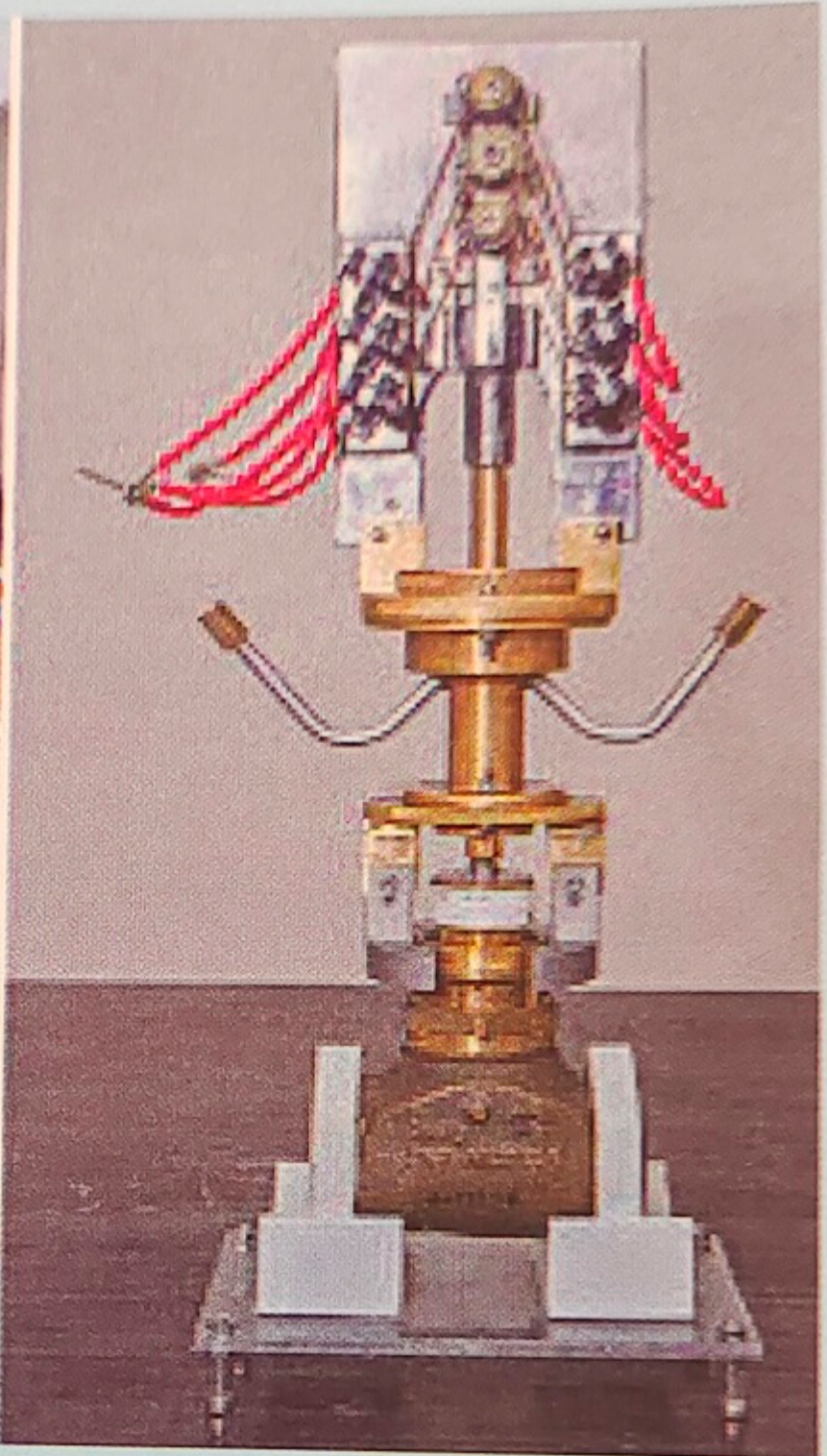
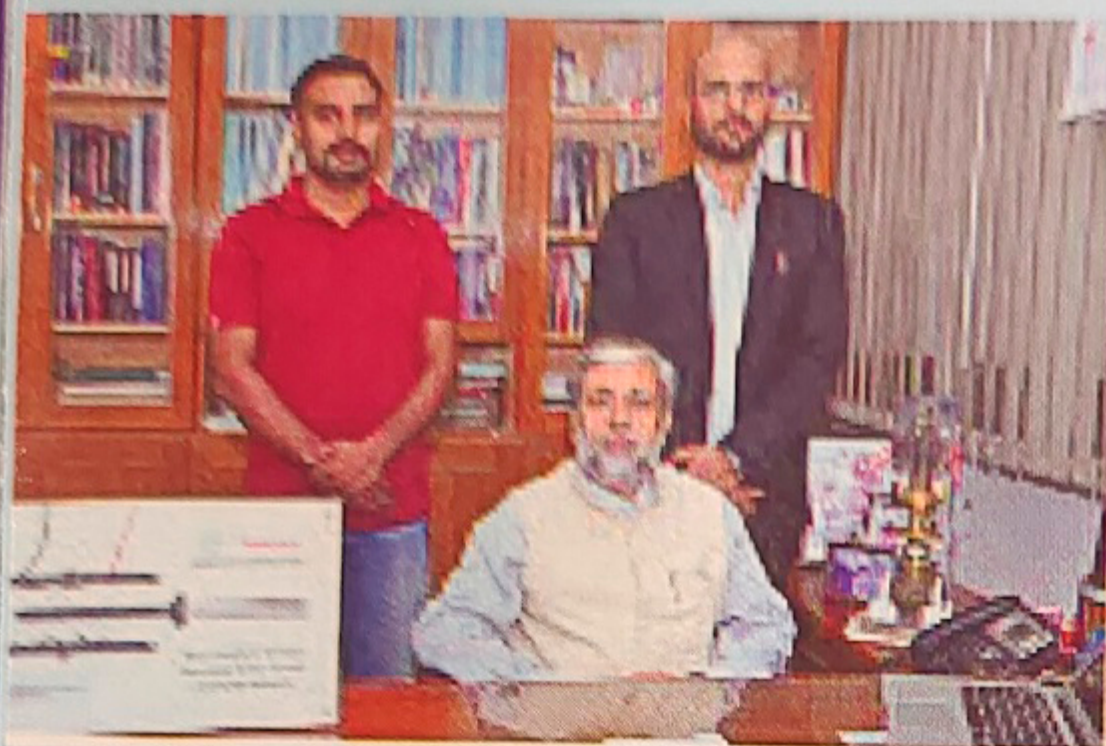


Researchers from IIT Kanpur develop artificial muscles that can be used in next-generation medical devices and space robots

IIT Kanpur researchers have developed a bio-inspired artificial muscle for medical prostheses and next-generation space robots. Since the demand for miniature, lightweight, non-magnetic gear-free actuators has grown in the industry, Shape Memory Alloy (SMA) based actuators have emerged as a suitable alternative to conventional actuators due to their good power-to-weight ratio. “Shape Memory Alloy (SMA) based actuators are considered better alternatives to the conventional actuators, although they have some limitations.

January 2023 | Science Reporter | 19

2022 | S&T Breakthroughs



Researchers at the SMSS Lab at IIT Kanpur worked on these limitations and developed this unique shape memory alloy-based bio-inspired muscle design that holds the potential to revitalize the Space Robotics and bio-medical technology industry. This invention will not only result in the development of the Next Gen Space Robots and Medical Prostheses but will also help aviation and some other industries. In a way, it will help make multiple sectors self-reliant and more advanced in the long run,” says Prof. Abhay Karandikar, Director, IIT Kanpur in a release. This was published in *Nature Scientific Reports*.