



## SNAPSHOT

### The Inventor

On his personal time, Dr. David T. Fleischmann conceptualized and prototyped technology to create a new development in joints that could be used for advanced robotic platforms, better joint replacements, and prosthetics.

### The Technology

The hydromagnetic joint utilizes a novel material that makes use of opposing magnetism and buoyancy to provide a frictionless joint capable of preserving both mobility and vibration energy. The joint exhibits gradual resistance to compression that cannot be achieved with traditional robotics, prosthetics, and replacement implants.

### The Opportunity

The hydromagnetic joint will improve existing robotic, joint replacement, and prosthetics technologies, which is currently in the 10 billion to 20 billion per year market range.

### The Goal

Dr. Fleischmann is interested in reassigning the technology (licensing or selling his technology), and in doing so use funds acquired to donate and develop more robotic platforms, joint replacements, and prosthetics to help U.S. service members returning from combat tours walk again.

## DAVID T. FLEISCHMANN

Dr. David T. Fleischmann is a physician and independent inventor with patents for robotics, medical devices, and healthcare products. Dr. Fleischmann developed a hydromagnetic joint designed to enhance robotic, prosthetic, and joint replacements by conserving vibration energy with respect to motion of opposing surfaces.

The hydromagnetic joint utilizes novel materials that make use of opposing magnetism and buoyancy to provide a frictionless joint capable of preserving both mobility and vibrational energy. The joint exhibits gradual resistance to compression that cannot be achieved with traditional robotics or replacement implants. Additionally, the potential for wear debris is absent.

The technology can also be applied to enhance efficiency of rotating generators by conserving vibrational energy thereby conserving heat/friction energy losses as well.

Dr. Fleischmann's technology aims to advance existing technology for robotic/artificial joints. The market industry for robotic and artificial joints ranges from 10 billion to 20 billion per year. The device has received angel funding, private funding, and recently received \$97,100,000 from the Bureau of Medicine and Surgery. With funds in place, a multi-organizational study of the hydromagnetic joint is underway at the Orthopedic Biomechanics Research Center at Rady Hospital in San Diego, CA. As posted on the WBT website, supporting institutions for Dr. Fleischmann's joint include but are not limited to Navy Medical Research and Development Center, Navy Medicine Institute, Bureau of Medicine and Surgery.

"I'm grateful for the opportunity to present at WBT Innovation Marketplace," said Dr. Fleischmann. "This technology is multipurpose, has the capability of improving robotics while also helping injured service members returning from deployment walk again. I'd like to reassign the rights to the technology so it can be commercialized, and with funds received in the reassignment, I would like to donate them to advancing robotics, joint replacements, and prosthetics for our service members returning home from war."

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