

# Robotics Technologies For Movement Rehabilitation After Neurologic Injury

## January 26

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Live Webinar  
via Zoom Conference



**Speaker: David J. Reinkensmeyer, Ph.D.**

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## Abstract

Movement rehabilitation involves trying to activate sensory motor plasticity to promote recovery after injury. Starting about 30 years ago, researchers began introducing robotic technologies to deliver and quantify movement rehabilitation. Today, these technologies have reshaped rehabilitation research, having become essential investigational tools, and yet uptake into routine clinical practice has been partial and slow. In this talk I will overview what is known about the effectiveness of robotic-assisted therapy, including recent insights into who can benefit most from it and why, in the context of upper extremity stroke rehabilitation. I will also describe the commercialization process of two inventions from my laboratory – an arm exoskeleton called T-WREX that became ArmeoSpring, and the MusicGlove, a consumer stroke rehabilitation technology. Finally, I will identify ways the field is currently evolving. We are entering the age of wearability and artificial intelligence based on large scale data sets.



## Bio

David Reinkensmeyer is Professor in the Departments of Mechanical and Aerospace Engineering, Anatomy and Neurobiology, Biomedical Engineering, and Physical Medicine and Rehabilitation at the University of California at Irvine. He is co-director of the NIDILRR COMET Robotic Rehabilitation Engineering Center, co-director of the NIH K12 Engineering Career Development Center in Movement and Rehabilitation Sciences, and Editor-in-Chief of the Journal of Neuroengineering and Rehabilitation. He recently received the Innovator of the Year Award from the Henry Samueli School of Engineering and the Distinguished Midcareer Faculty Research Award from UC Irvine. He is a fellow of the AIMBE.

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