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**강연제목:** MEMS 기술 기반의 차세대 바이오메디컬 응용/

MEMS Technology for Next-generation Biomedical Applications

### **Abstract:**

Microelectromechanical Systems (MEMS) technology refers to systems that either produce electrical changes based on three-dimensional microstructures at the micrometer scale or convert electrical signals into mechanical responses. This technology is widely used in various electro-mechanical energy conversion devices, such as sensors and actuators. MEMS technology encompasses structural design techniques for high-efficiency energy conversion, advanced material technologies for enhanced performance, and ultra-precision fabrication techniques for the production of designed components. These capabilities make MEMS particularly suitable for next-generation biomedical device applications, such as converting weak biological signals into electrical signals or providing various stimuli required for biological processes, which has recently garnered significant attention in the field. This presentation introduces examples of next-generation biomedical applications utilizing two representative MEMS technologies: microfluidic channel technology and accelerometer sensors. Specifically, it covers the use of biodegradable microfluidic channels as bioelectronic medicines for neural pain relief and empirical research results on evaluating human gait balance using multiple synchronized motion sensors.

### **Brief Biosketch**

부산대학교 나노메카트로닉스공학 학사 (2011 년)

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