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**강연제목:** 웨어러블 로봇의 생체공학적 기술과 의료시장 상용화

**Bio-engineering and Medical Commercialization of Wearable Robotics**

**Abstract:** Wearable robotics, or more broadly, human assistive robotics, is a field where robotics and biomedical technologies seamlessly integrate. The actuation technology, often evaluated based on its mechanical transparency and torque-mode controllability, and the control technology that calculates and implements assistive joint torque in real-time, are key engineering aspects of wearable robotics. Unlike humanoid robots, wearable robots are human-centered technologies, and successful development requires not only an understanding of robotics but also a comprehensive knowledge of the human body. For example, human body models are essential for simulating human-robot integrated dynamics, while bio-signal sensors and signal processing algorithms play a crucial role in recognizing human motion intentions. Additionally, anatomical knowledge is necessary to prevent excessive force or constraints from being applied to the human body. In this plenary talk, I will analyze the technologies that compose wearable robotics from a bioengineering perspective and share a successful case of the technology's development, focusing on the process and outcomes of its commercialization in the medical market.

### **Brief Biosketch**

- 2009 University of California, Berkeley, Ph.D.
- 2011~2018 서강대학교 기계공학과 조교수, 부교수 / Assistant & Associate Professor in Department of Mechanical Engineering, Sogang University
- 2017~ (주)엔젤로보틱스 창업 및 대표이사 (현재 이사회 의장 및 CTO) / Foundation and CEO of Angel Robotics Co., Ltd. (Currently Chairman and Chief Technology Officer)
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