The principal aims of the CMDT are to 1) foster synergistic collaborations in the area of medical devices and instrumentation among faculty members currently in various departments in the School of Medicine and the Jacobs School of Engineering, 2) facilitate the incubation of novel concepts and ideas and to catalyze the technology transfer and commercialization of UCSD inventions in the area of medical devices, 3) establish strategic partnerships with the industrial sector for the development of novel ideas and concepts in medical devices and instrumentation, and 4) satisfy the currently unmet demand for the education of students and the continuous training of scientists and engineers in the growing medical devices industry.

Physicians with UC San Diego's Center for the Future of Surgery are working with medical device companies and engineering faculty to improve patient care with advances such as robotic surgery devices and instruments that allow surgery with no scars.

The Center has defined seven thrust areas: Metabolic Biosensors; Drug Delivery Systems; Neural Interfaces and Integrated Physiological Instrumentation; Control of Implantable and Wearable Biodevices; Biomaterials; Power Autonomy, Data Accessibility, and Interconnectivity; and System Integration and Embedded Life Sciences Applications.

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Institute of Engineering in Medicine

UC San Diego

Center for Medical Device Technology

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The mission of the **Center for Medical Device Technology (CMDT)** is to achieve interdisciplinary innovation to design personalized, intelligent biodevices, especially microdevices. These engineered microdevices will revolutionize current medical protocols and play a central role in bringing about a decentralized paradigm shift for the benefits of patients and the nation as a whole.

The CMDT will perform key fundamental research to enable new technology and to translate these basic discoveries into tangible, innovative designs with the close participation of industrial partners. The main innovation of our approach is to develop novel control strategies with smart, dynamically interfaced on-body biosensors and actuators that can control drug release, electrical stimulation and other therapeutic outputs by means of a combination of intelligent feedback and global wireless interconnectivity. These systems will be matched to specific physiological and metabolic sensors embedded in networks of newly designed biodevices for the intelligent management of