

# Technical Committee on Integrated Medical Engineering

## Towards Paradigm Shift of Biomedical Engineering -Living body-compatible Robotics Technology-

### 1. Goal

Contribution to forming the sound society by providing advanced technologies for development of practical medical devices and systems facilitating happiness of humankind.

### 2. Problem

Development of advanced technologies for biomedical engineering by integrating medicine/biology and engineering based on an innovative strategy is needed to resolve the social issues concerning rapid aged society and decrease of birth rate.

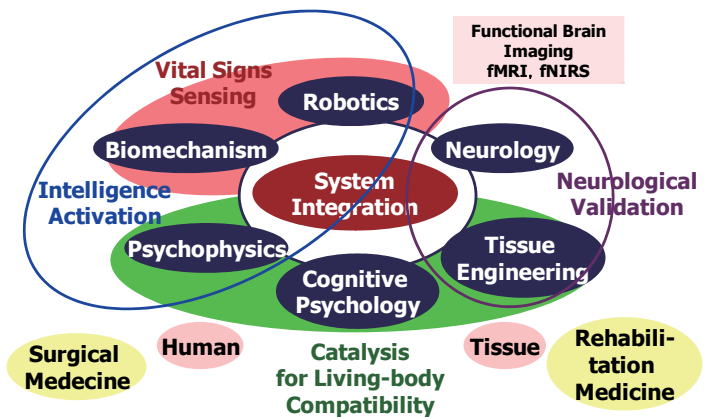
### 3. Strategy

Establishment of a new frontier for innovative technology and resolution method by consolidating knowledge and experience in the different fields of engineering and medicine/biology. Key-technologies include informatics, system control and system integration.

### 4. Activity Plan

Exchanging knowledge for advanced medical engineering among the committee members, holding research activities (four to six times per year) and lab tours (four times per year), and making positive interchanges with other societies related to the study.

### Integrated Medical Engineering



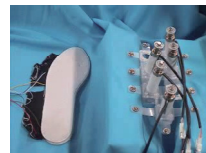
Tread-walk



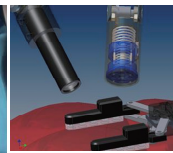
(Left) New mobility-aid vehicle controlled by walking  
(Middle) Walking assistive robot with a weight-holder under the Ischia



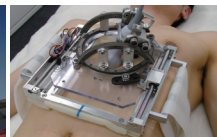
(Right) Neurologically testing brain functions with fNIRS



(Left) Biofeedback portable device for locomotion rehabilitation (PARTY)



(Middle) On-beating operation robot



(Right) On-body tele-operated echo-diagnosis robot (Fastele)

Organizers (2009)

Director: Masakatsu Fujie (Waseda University)  
Vice-director: Kazuo Kiguchi (Saga University)  
Secretary: Hiroyasu Iwata (Waseda University)