

## Results report

- 1 . Title of Research and Development : Research and Development of Dependable Wireless Medical Network Using Highly Reliable Body Area Network
- 2 . Principal Investigator : Ryuji Kohno(Professor, Division of Physics, Electrical and Computer Engineering, Graduate School of Engineering, Yokohama National University)
- 3 . Counterpart Principal investigator : Jari Iinatti (Professor, Faculty of Information Technology and Electrical Engineering, University of Oulu (Finland))
- 4 . Results of Research and Development:

This joint project between Yokohama National University and University of Oulu has promoted various academic and industrial collaboration in interdisciplinary field between medicine and information communication technology (ICT), so-called “Medical ICT.” Major theoretical results are (1) joint optimization of wireless medical network technologies in physical, MAC and network layers such as hybrid ARQ corresponding various QoS requirement of medical data, dependable MAC protocol and (2) dependable wireless remote feedback loop control for medical vital (glucose) sensors and actuators(insulin pump). Major industrial contribution are (3) promotion of amendment of IEEE and ETSI international standards for wireless medical Body Area Network(BAN), and (4) implementation of prototypes of dependable wireless BAN. This project held 2015 and 2016 international symposia on medical ICT in Kamakura, Japan and Boston, USA.