Dependable Medical ICT - Medical Healthcare Based on Highly Reliable, Robust, Secure ICT -

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Regional gap, high expense and sugary failure in medical healthcare becomes a serious social problem. Population ageing may crap social healthcare service due to exceeding expense for high cost and long treatment etc. In order to solve such a social problem, advanced information and communication technology (ICT) can improve connectivity, scalability and sustainability for medical healthcare among hospitals, houses and peoples in country sides and metro-cities by networking. Specific requirement for such a ubiquitous medicine that medical healthcare can be served for anyone anytime and anywhere must be highly reliable, robust, and secure, so-called dependable. To guarantee dependable medical healthcare, cross and multiple layers of ICT should be jointly optimized.

This talk will provide demand and trend of ubiquitous medicine, and introduce some advanced medical healthcare systems using dependable ICT such as body area network (BAN) and its extended medical implant micro robotics. Moreover, this talk will introduce technical requirements to carry out ubiquitous medicine based on such a dependable ICT that can satisfy the requirement to solve various problems.

Moreover, this talk will introduce a ongoing special education program for interdisciplinary field between medicine and technology such as a double Ph.D. degrees for medicine and engineering between Yokohama National and City Universities in conjunction with National Institute on ICT (NICT) and University of Oulu in the current ongoing MEXT Global COE program.

Furthermore, this talk will also discuss on subjects of global business and social services for ubiquitous medicine based on dependable wireless ICT and cover some regulation and standardization to make ubiquitous medicine attractive in business and social services.