Thursday Morning

KEYNOTE LECTURE; CHAIR: TOSHIO FUKUDA (JAPAN)
*Supportive technology made to simply disappear: Design strategies for devices
to age gracefully, usefully and not prematurely*
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Assistive devices can be useful, both in facilitating a more independent and fulfilling lifestyle, but also in dramatically reducing health care costs over surprisingly short time intervals. Yet, much assistive technology purchased with the best of intentions finds its way to premature obsolescence in the dustbin. The design of assistive devices is challenging, particularly because humans must live in substantial intimacy with the technology. It is undeniable that assistive devices such as a power scooter, cell phone or computer both provide help but also impose burdens upon our lives, exacting some toll in cost, hassle and time for upkeep, is undeniable. If we as users already experience some degree of physical or cognitive impairment, perhaps due to aging or disease, the additional burden is felt even more acutely. The relationship thus formed will only be viable if a fundamental inequality holds: the benefits from the use of the technology outweigh the drawbacks inherent in life with any gadget. Many ingenious designs created in good faith by skilled technologists fail because they fail to obey this inequality. Likely, the designer has both overestimated the benefits of the design, while vastly underestimating its burden. A lesson quickly learned, but difficult to put into practice, is the importance of simplicity. Yet, simplicity itself is not so simple: sometimes, great effort and some sophistication is required to create 'transparent' technology, such as new digital hearing aids. This talk will discuss some lessons learned by one rehabilitation engineer in seeking to develop simple and 'livable' technology in the realm of devices for children with orthopaedic disabilities and people with spinal cord injury. We explore possible applications of those lessons in designs of technology for older people featuring minimal physical and cognitive profile while offering maximum benefit.