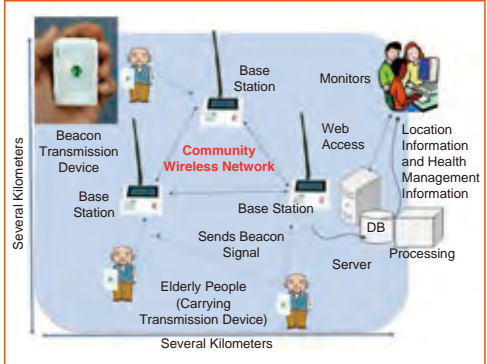


# A Community-Based Wireless Wellness Monitoring System:

## Supporting Elderly Individuals with Dementia Using ICT

Graduate School of Engineering Associate Professor Tetsuo Tsujioka's group, in collaboration with Vital Information, Inc., has developed a community-based wireless wellness monitoring system that uses 920 MHz-band low power-radio, which can be used without a license under Japanese law. The 2015 revisions to the nursing-care insurance system envision the well-being of the elderly being monitored by middle / elementary school districts. Residents' associations and local NPOs play an important



Associate Professor Tetsuo Tsujioka, Graduate School of Engineering

role in doing so. Thus, to implement the framework presented in the revisions, there was a need for an economical system suited for a several square kilometer area that enables the local community to independently and continuously engage in monitoring activities. The developed system is comprised of beacon transmission devices, wireless base stations, and a server. Elderly individuals carry around a transmission device, which periodically transmits to the wireless base station a beacon signal. The wireless base station, which is installed in various locations of the community (such as balconies of the users), then relays this signal to the server. Based on this accumulated data, users can understand their location and condition in real-time. This location system has a low running cost because it does not use a mobile network, and places a low burden on users.

In December 2015, a test-run began at Senboku New Town in Sakai city's Minami ward (Osaka prefecture). After improving the system based on test-run users' opinions, it will be put to actual use.



Associate Professor Tetsuo Tsujioka, Graduate School of Engineering

Associate Professor Tsujioka has a variety of hobbies: cameras, cooking, collecting stationery materials, and so on. He particularly recommends trying out amateur radio because one can experientially learn about wireless communications, and still participates in contests (participants compete to see who can exchange the most messages). When he was a university student he programmed for Ultima, and says that he'd like students to enjoy creating—rather than playing—video games.

