9:30-10:30 3F Main Hall
a-001

Advancement of Speech Data Processing Technology and the Future of Language Learning Environments

Katsuhiko Shirai

Language learners come in many forms and characteristics such as age, experience, and social background often vary widely, in addition to the different first and target languages of learners. Of course well-trained teachers can often overcome the challenges these characteristics may entail, but such teachers are not always available, and globally we can say their number is certainly lacking, given the number of languages that learners want to learn as globalization progresses in the world. For this reason, it is not surprising that CALL is increasingly in demand, since it has the power to change language learning environments drastically by substituting for teachers in some cases, or assisting in teacher training, or overcoming time and distance barriers and allowing language learning in remote places or at different times.

One important development in CALL-related technology is certainly language processing technology that allows for high performance statistical speech data analysis. This technology has obvious applications in automatic speech recognition applications, but is useful in furthering our understanding of language itself. In the presentation I will describe how this technology is employed and what the advantages of the statistical language model are. I will also talk about how such technologies may be applied to benefit language learning and how they may be effectively deployed in the future as more sophisticated CALL applications are developed.

Katsuhiko Shirai is not only president of Waseda University, one of the most prestigious private universities in Japan, but he is also a renowned expert in the fields of artificial intelligence and speech data processing. With a doctorate in engineering and a vast amount of experience in educational leadership, including his present post and the presidency of the Japan University Accreditation Association, Dr. Shirai brings both a technical and administrative perspective to the WorldCALL conference. His work in data processing is well known and he has published several important books and articles in that field. He was recently recognized by the Japan Broadcasting Association (Nihon Hoso Kyokai: NHK) for his achievements in supervising NHK's research in vocal speed conversion technology and his active promotion of technological development in creating broadcasting software for visually and aurally impaired individuals.