



**Professor Gojiro Nakagami**

Professor

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**Biography**

Professor Gojiro Nakagami received his bachelor's degree in nursing from Kobe University in 2004 and received his PhD in health sciences from the University of Tokyo in 2009. While in his PhD course, he served as Research Fellow (DC2), Japan Society for the Promotion of Science. He started his career as a nursing faculty at the University of Tokyo in 2009. He has worked as a visiting scholar at University of California at Los Angeles in 2013. He has been working at the University of Tokyo as a professor since April 2022.

**Topic**

**Using Ultrasonography and AR/MR in Nursing: Experience in Japan**

By Professor Gojiro Nakagami and Dr Toshiaki Takahashi

**Abstract**

The Global Nursing Research Center is an institution established at The University of Tokyo to train young nursing researchers. The Division of Care Innovation has been integrating biology, engineering and nursing science and has formed the new field of bioengineering nursing.

One of the areas we have been focusing on is the development of visualized nursing, in particular nursing care using ultrasound assessment. Ultrasound can be considered a sixth physical assessment technique that is unrestrained, non-invasive and immediate, which is particularly important in geriatric nursing, enabling all nurses to provide the best care appropriate to the patients' condition. For example, we developed ultrasound assessment methods for wounds, excretion, swallowing and catheter management and tested their effectiveness. The results showed that the methods can visualize the subjective and ambiguous information in conventional nursing care. A barrier to the introduction of ultrasound in basic nursing education is the need for skills in probe operation (scanning) and image reading. As a solution, we have standardized the ultrasound techniques to be implemented in clinical and home-care settings by

developing ultrasound devices with applications that use artificial intelligence technology to automatically colorize abnormal findings. They are now more widely used in Japan.

We have been also engaged in new initiatives, making use of data display methods such as augmented reality and mixed reality. We have developed a remote consultation system and educational tools for novice nurses. We will report on the programs we have developed to support nurses to acquire useful nursing skills they can use at bedside in home care settings, where independent decision-making is required.