

# KMU Fights Cancer with AI Collaboration



**O**n 18th November 2020, Kaohsiung Medical University Chung-Ho Memorial Hospital, ASUS and ACT Genomics, signed a letter of intent for a Strategic Partnership. The partnership agreement intends to combine ACT Genomics' NGS (Next Generation Sequencing) database with ASUS's AICS (ASUS Intelligent Cloud Services) to develop an "Artificial Intelligence (AI) and Medical Big-Data Search System" that targets precision cancer treatment at Kaohsiung Medical University Chung-Ho Memorial Hospital. The new system will allow doctors to quickly search the tumor gene mutation database for

patients, and predict the tumor size and marker index after patients have received medication-assisted treatment. Consequently, doctors will be able to develop a treatment plan with maximum efficacy and minimal side effects.

The ceremony was witnessed by the Chairman of the Board of Trustees of Kaohsiung Medical University, Jian-Zhi Chen, during which time Professor Yuh-Jyh Jong President of Kaohsiung Medical University mentioned that the combination of AI and medical data would provide objective analysis and prediction capabilities at different treatment stages from prevention to acute

medical treatment, and thus it would improve medical care quality tremendously. Professor Yin-Wen Chung, Superintendent of Kaohsiung Medical University Chung-Ho Memorial Hospital, emphasized that AICS' natural language processing technology was like acquiring a modern missile guidance system in the Stone Age, enabling doctors to have full control and accurate critical information to fight against diseases and bolster the quality and quantity of cancer treatment.

# She is a NURSE and now a FAAN

Becoming a Fellow of the American Academy of Nursing (FAAN) is the highest honor for a person's accomplishments in the American nursing profession. From 2007 the American Academy of Nursing opened the nomination of nursing leaders from countries other than the United States to become an Academy Fellow. The elected Academy Fellows are leaders in the fields of nursing education, management, practice and research. Those who are nominated and invited to be Academy Fellows are recognized for their

contribution to the nursing profession. This year, internationally renowned scholars, Professor Lorraine Walker and Emeritus Professor Kay Avant, co-nominated Professor Fan-Hao Chou of KMU to become a Fellow of the American Academy of Nursing (FAAN). These promi-

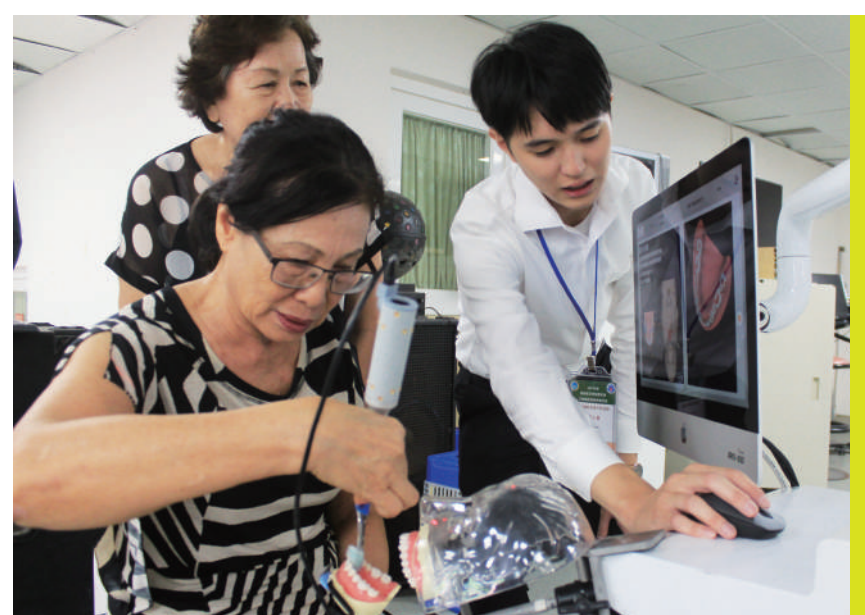


nent scholars are the co-authors of an influential nursing textbook titled, Strategies for Theory Construction in Nursing. Their textbook is a must-read for doctoral program students of

higher nursing education since it clarifies many concepts relating to the philosophy of nursing. In the nomination letter to FAAN, giving extremely high praise to the efforts Professor Fan-Hao Chou made to the nursing field, Emeritus Professor Kay Avant mentioned that: "Professor Fan-Hao Chou is dedicated, creative, innovative, and energetic. And she is an inventor! That is rare in my experience and we need more like her."- Due to the impacts of the COVID-19 pandemic this year, the FAAN induction ceremony was conducted via live streaming, featuring a 40-second self-introduction video of

each of the newly elected Academy Fellows. The virtual Induction Ceremony was held at 5:00 p.m. (EST) on 31st October, 2020.

# KMU Virtual Reality Education says Bye Bye to Bad Breath



The absence of proper oral health care in the elderly is related to the occurrence of systemic diseases such as dementia, aspiration pneumonia, diabetes, and cardiovascular irregularities. The Department of Oral Hygiene at Kaohsiung Medical University has co-operated with EPED Inc., which is headquartered in Kaohsiung at the Southern Taiwan Science Park, to establish the very first "virtual reality (VR) and augmented reality (AR) Oral Health Care lab". The VR/ AR training courses can provide the simulation of different physical conditions of patients, train future caregivers in better home caring and oral health caring skills of elderly people, and provide for self-assessment of their oral care skills.

During the course, learners understand and correct their brushing skills through the results of the system evaluation. The individualized learning courses provide a good chance for students to learn and practice by themselves in VR or AR-equipped classrooms. That in turn allows them to grasp a better understanding on how to provide complete oral care methods for the elderly in different

situations. Ultimately, VR/ AR training courses allow students to learn correct oral health care methods, strengthen their brushing skills, and promote appropriate oral health care habits among young people.

To minimize infectious diseases spreading by being far away from traditional classrooms crowded with learners, the virtual classroom simulation is loaded with effective oral care methods designed for the health workers and caregivers. VR/ AR teaching adopts individual learning in an independent space at selective times allowing students to operate the courses by themselves. The VR/ AR system also includes other valuable content for students to learn oral health care skills.

Nowadays, virtual education is vital for every school curriculum since it reduces the risk of epidemic transmissions like the current global COVID-19 pandemic. Moreover, in conjunction with Taiwan's "New Southbound Policy", VR/ AR oral care resources developed in Taiwan can be promoted to other Asian countries to achieve technology sharing and medical resources' sharing, to ultimately improve the quality of global oral health care.