"To address the challenge of ever-increasing cost and limited accessibility of healthcare, we have to think outside the box. Disruptive technology is one of the components that is crucial for any solution. It is inspiring to see XPRIZE, one of the world's most innovative organizations, willing to take up this enormous task of providing a platform to test these disruptive technologies."

- Team Dynamical Biomarkers Group

DYNAMICAL BIOMARKERS GROUP

HEADQUARTERS: Zhongli City, Taoyuan, Taiwan

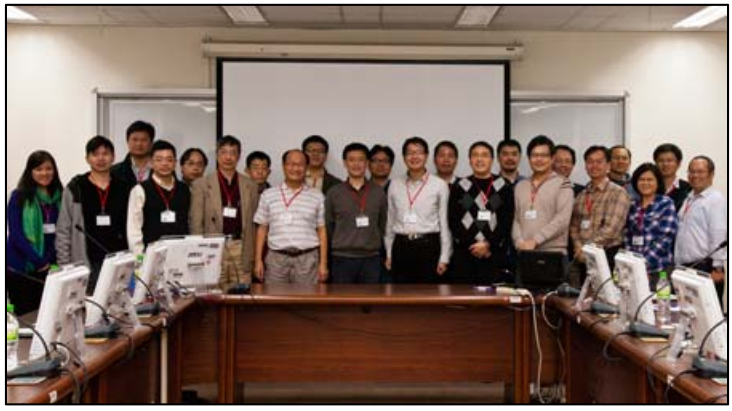
TEAM WEBSITE: dbg.ncu.edu.tw

TEAM LEADER: Dr. Chung-Kang Peng

TECHNICAL INNOVATION

To develop a ligh-weight consumer-friendly system that can accurately diagnose 15 diseases and continuously monitor 5 vital signs, we have implemented innovative ideas in various technologies that are related to physiological signal analysis, medical image processing, molecular biomarkers detection, microfluidic engineering, biochip fabrication, and human machine interface. We incorporated these technological innovations, fully developed by scientists and engineers in our team, into 5 eleagantly designed sub-systems: Smart Vital-Sense-Patch and Smart Vital-Sense-Wrist module; Smart Blood Sense module; Smart Scope module; Smart Exhaler module; and Smart Urine Sense module. These modules have been designed to allow consumers to use them in a simple and intuitive way, and they are wirelessly connected to a smartphone which runs a user-friendly app that carries out the analysis to generate disease diagnosis.

ABOUT OUR TEAM



In Tawain universal healthcare is available to all, so we deeply understand the urgency in controlling the cost and wise use of medical resources. Furthermore, in the greater China region, providing quality healthcare in rural area also poses an incredible challenge. The Dynamical Biomarkers Group (DBG) is a research group of the Center for Dynamical Biomarkers and Translational Medicine (CDBTM) at National Central University (NCU) in Taiwan. CDBTM was established in 2011 through a grant from the National Science Council of Taiwan under its I-RiCE program (International Research-intensive Centers of Excellence in Taiwan). DBG comprises a multidisciplinary team of clinicians, medical researchers, physicists, applied mathematicians, computer scientists and engineers. Our goal is to develop interdisciplinary solutions for improving patient care. The Qualcomm Tricorder XPRIZE is a wonderful challenge to stimulate biomedical research groups to advance personalized healthcare. The goal of the prize is in line with the mission of our group. DBG is sponsored by HTC, a global leader in innovation and design.

ABOUT OUR TEAM LEADER

Chung-Kang Peng, Ph.D., is the Dean of the College of Health Sciences and Technology, and K.-T. Li Chair Professor of the National Central University in Taiwan. He is also the Co-Director of the Rey Institute for Nonlinear Dynamics in Medicine at the Beth Israel Deaconess Medical Center / Harvard Medical School.

ABOUT THE PRIZE

The Qualcomm Tricorder XPRIZE is a $10 million global competition to stimulate innovation and integration of precision diagnostic technologies, helping consumers make their own reliable health diagnoses anywhere, anytime. Putting healthcare in the palm of your hand.

qualcommtricorderxprize.org