FACT SHEET AND BACKGROUND
CUHK *InnoHK* Centres

Health@InnoHK

Centre for Novostics
Scientific Director: Professor Dennis Lo
Non-local Collaborating Institutions: University of Oxford, UCL Great Ormond Street Institute of Child Health, Great Ormond Street Hospital for Children NHS Foundation Trust, and Imperial College London

The Centre for Novostics (Novostics), with the meaning of novel diagnostics, aims to push forward the frontier of molecular diagnostics. Novostics will focus on the development of cutting edge diagnostics based on cell-free nucleic acids in blood and other bodily fluids, particularly around prenatal diagnosis and cancer diagnostics. These research areas will accelerate the application of liquid biopsy and promote Hong Kong as a leading molecular diagnostic centre in the world.

Website: www.novostics.hk

Microbiota I-Center
Director: Professor Siew Ng
Co-Director: Professor Francis Chan
Non-local Collaborating Institutions: University of Cambridge, The University of Chicago and The University of Melbourne

Just as Magic is science yet to be discovered, the Microbiota I-Center (MagIC) harnesses and translates the human microbiome into cutting-edge innovations for early disease detection and prevention. MagIC focuses on advancing science in the gut microbiome and promoting entrepreneurship. It is committed to developing a novel class of microbiome diagnostics and live biotherapeutics for common diseases including obesity, cancer, autism, inflammatory disorders and COVID-19, that will not only transform lives of patients and their families, but also accelerate Hong Kong into a world-class microbiome biotechnology hub.

Website: www.magic-inno.com

Center for Neuromusculoskeletal Restorative Medicine (CNRM)
Director: Professor Patrick Yung
Co-Director: Professor Woody Chan
Non-local Collaborating Institution: Karolinska Institutet

The Center for Neuromusculoskeletal Restorative Medicine (CNRM) is a multi-disciplinary, international consortium devoted to the application of convergent principles and technologies of biomedical science and engineering to restore structure and function to neuromusculoskeletal tissues and organs injured, diseased and degenerated due to aging or trauma, for the maintenance of mobility and enhancement of quality of life through biomedical research and development.

The CNRM combines the talents and expertise in stem cells, biomaterials, 3D bioprinting, tissue engineering, and personalized and translational medicine from The Chinese University of Hong Kong (CUHK) and the Karolinska Institutet (KI). FiveResearch Programs will be pursued: (1) *Stem Cells and Cell-Based Therapies*; (2) *Tissue Engineering and 3D Microtissue Modeling*; (3) *Cellular and Molecular Mechanisms; (4) Preclinical and Clinical Translation; and* (5) *Enabling Technologies,* each consisting of research projects led by investigators from multiple disciplines. The CNRM will build on the infrastructural research capabilities and facilities of CUHK and the research set-up of the KI Hong Kong Ming Wai Lau Centre for Reparative Medicine located at the HKSTP. In addition, talent development at the CNRM will be promoted and enhanced by partnering with the relevant academic education and training programs at CUHK. A rigorous and progressive transition and commercialization as well as industrial partnerships and patient advocacy will be pursued for efficient and effective evaluation and translation of the therapeutic agents, procedures, and technologies derived from CNRM research activities.

AIR@InnoHK
Hong Kong Centre for Logistics Robotics (HKCLR)
Director: Professor Yunhui Liu
Co-director: Professor Masayoshi Tomizuka
Non-local Collaborating Institution: University of California, Berkeley

The Hong Kong Centre for Logistics Robotics (HKCLR) was established with research contributions from the University of California, Berkeley (UC Berkeley). The Centre focuses on the research and development (R&D) of robotics and artificial intelligence (AI) technologies for future workplaces as well as innovative solutions to the pressing problems in the logistics industry. In particular, it aims to advance robot intelligence in terms of smart perception, smart interactions, smart manipulation; and smart moving.

The research team is composed of distinguished professors from CUHK and UC Berkeley, and accomplished Ph.D. degree holders across world-leading universities. The Centre is dedicated to pursuing innovative breakthroughs in ready-for-use robotics and AI technologies via close collaboration with academic and industrial stakeholders throughout Hong Kong, the Greater Bay Area (GBA), and mainland China. It is expected that the Centre will foster the leading role of the local logistics industry in the GBA and mainland China, meanwhile enhancing its competitive edge in the global arena.

Website: http://hkclr.hk/

Multi-Scale Medical Robotics Center (MRC)
Directors: Professor Philip Chiu and Professor Samuel Au
Non-local Collaborating Institutions: ETH Zurich, Imperial College London, and Johns Hopkins University

The Multi-Scale Medical Robotics Center (MRC) laboratory is positioned to enable translational research on and productisation of novel surgical robotic technologies, through the R&D programmes of Endoluminal Multiscale Robotic Platforms for Diagnostics and Therapeutics, Magnetic-guided Endoluminal Robotic Platform, and Imaged-Guided Robotics Intervention. The Hybrid Operating Room of the MRC Lab, equipped with MRI and Robotic-Assisted C-Arm X-ray Imaging System (Artis Zeego) machines, enables real-time, intra-operational medical imaging during surgical robotics interventions R&D, which is a one-of-its-kind facility in Asia that is fully dedicated to R&D and pre-clinical evaluations of new surgical robots and medical devices via live animal and cadaveric studies.

MRC is well connected with industry, and serves as a synergistic platform for clinicians, engineers, and researchers from local and overseas top-rank universities to contribute their efforts through transdisciplinary collaborations, to enable the acceleration of new IP generations, pre-clinical evaluations and the commercialisation of novel surgical robots, and to ultimately benefit patients and communities worldwide.

Website: www.mrc-cuhk.com

Centre for Perceptual and Interactive Intelligence (CPII)
Director: Professor Helen Meng
Non-local Collaborating Institutions: Massachusetts Institute of Technology and The University of Manchester

Since its inception, the Centre for Perceptual and Interactive Intelligence's (CPII) mission has been to

make use of Hong Kong's international research networks for AI talent development and exchange, nurture AI start-ups and bring academic outcomes to meet industrial demands. With strong capabilities in computer vision, multilingual speech and language technologies, natural language processing, and AI-enabled design automation, CPII will efficiently connect research with industry to accelerate social implementation.

Website: www.cpii.hk