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Assistant Professor Chen-Yu Huang

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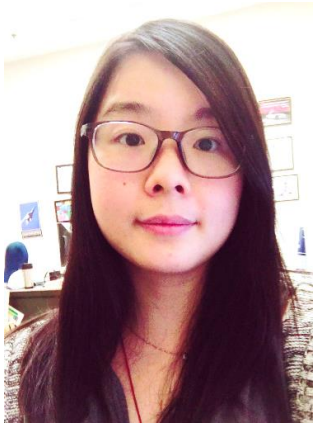

Education

Ph.D. National Tsing Hua University

B.S. Kaohsiung Medical University

Research

Dr. Huang focused her research on the multidisciplinary study of micro-/nano-magnetic materials integrated in the microsystems for biomedical/biomimetic applications during the PhD program. She received Postdoctoral Research Abroad Program (PRAP) grant and started the research focusing on developing human pluripotent stem (hiPSC) derived cardiac/smooth muscle microtissues model system for biomechanical and electrophysiology in Johns Hopkins University since 2016.

Contribution to Science:

i) Developed pluripotent stem cell-derived cardiomyocyte (hiPSC-CM) derived patient-specific cardiac microtissues (CMTs)/ smooth muscle microtissues (SMT) models for the study of electrophysiological /biomechanical properties.

ii) Developed a new method based on magnetophoresis to evaluate nanotoxicity effects that related to the cellular uptake of magnetic nanoparticles at single cellular level. The method allow people (clinical doctors or researches) to decide the amount of dose (threshold) that can be used when the use MNPs as a treatment or diagnosis tool to avoid side effects caused by nanotoxicity.

iii) Integrated the different types of 2D and 3D magnetic microstructures with constricted geometry for biological manipulation, detection or cell culture system.

iv) Use magnetic ferrofluid to fabricate biomimetic micro/nano dual-scale inclined cones for the wettability study of leaves of plants, which have great impact on new self-cleaning materials. Paper was selected as Frontispiece of Advanced functional material in May, 2015.

v) Developed electrospun polymer nanofibers for cellular study and nano particle delivery.

Google scholar: https://scholar.google.com.tw/citations?user=QNpB9ssAAAAJ&hl