

**ASPIRE League Partnership Seed Fund
1st (2019) Round – Project 2
Research Project Summary**

Q1. Title of Research Project

Multi-mode Miniaturized Robots (MMR) for Microfluidic Applications with Thermal Features

Q2. Timeframe

Project Start: 01/11/19

Project Completion: 31/10/21

Q3. Project Synopsis

Leveraging ASPIRE league, we would propose to set up a strong Korea - Hong Kong - Singapore educational program with long-term interdisciplinary educational/ research collaboration on the topic of Miniaturized Robots for Microfluidic Applications with several academic exchanges and hopefully with also student exchanges. All collaborators have their expertise, skills in Physics, Mechanics, Thermal fluids, Fabrication, Design and Microfluidics. We could readily synergize to develop a fundamental understanding of the various modes of robotic interactions in microfluidic complex systems. Such micro-engineering and micro robotics researches are not yet well supported at the educational level. Therefore, based on this research program, we aim at structuring a network of excellence and enrich current educational programs in our partner universities, at the master level in physics, design, microfabrication and mechanics with new practical lectures and workshops.



(note: the photo was taken during an ASPIRE League NTU-KAIST-HKUST workshop)