

## **REN, Kangning (Ph.D.)**

### **Educational Background:**

B.Sc., Tsinghua University

Ph.D., Tsinghua University

Postdoctoral: HKUST and Stanford University

### **Current Research Interests:**

Microfabrication and microfluidics; biomaterial and soft matters; analytical microdevices; biomimicking and advanced coating technology

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### **Selected Publications:**

1. Zhengzhi Liu, Niaz Banaei, Kangning Ren, “Microfluidics for Combating Antimicrobial Resistance”, Trends in Biotechnology, in press (2017).
2. Sheng Lin, Wanhe Wang, Chong Hu, Guanjun Yang, Chung-Nga Ko, Kangning Ren, Chung-Hang Leung, Dik-Lung Ma, “The application of a G-quadruplex based assay with an iridium(III) complex to arsenic ion detection and its utilization in a microfluidic chip”, J. Mater. Chem. B, 5, 479-484 (2017).
3. Chong Hu, Sheng Lin, Wanbo Li, Han Sun, Yangfan Chen, Chiu-Wing Chan, Chung-Hang Leung, Ma Dik-Lung, Hongkai Wu and Kangning Ren, “A One-Step Strategy for Ultra-Fast and Low Cost Mass Production of Plastic Membrane Microfluidic Chips”, Lab Chip, 16, 3909-3918 (2016).
4. Han Sun, Zhengzhi Liu, Chong Hu, Kangning Ren, “Cell-on-Hydrogel Platform Made of Agar and Alginate for Rapid, Low-cost, Multidimensional Test of Antimicrobial Susceptibility”, Lab Chip, 16, 3130-3138 (2016).
5. A. Karthik, K. Margulis, K. Ren, R. N. Zare, L. W. Leung, “Rapid and Selective Detection of Viruses Using Virus-Imprinted Polymer Films”, Nanoscale, 7, 18998-9003 (2015).
6. S. Lin, L. Lu, M. Wang, C. Hu, L. J. Liu, K. Ren, D. L. Ma, C. H. Leung, “G-quadruplex-based Logic Gates for Hg II and Ag I Ions Employing A Luminescent Iridium (iii) Complex and Extension of Metal-mediated Base Pairs by Polymerase”, J. Mater. Chem. B, 3, 4780-4785 (2015).
7. R. L. Gaur, K. Ren, A. Blumenthal, S. Bhamidi, S. Gibbs, M. Jackson, R. N. Zare, M. Amieva, S. Ehrt, J. D. Ernst, N. Banaei, “LprG-mediated surface expression of lipoarabinomannan is essential for virulence of Mycobacterium tuberculosis”, PLOS Pathogens, 10(9), e1004376 (2014).
8. K. N. Ren, Y. Chen, H. K. Wu, “New Materials for Microfluidics for Applications in Biology”, Curr. Op. in Biotechn., 25, 78-85 (2014).
9. K. N. Ren, N. Banaei, R. N. Zare, “Sorting Inactivated Cells Using Cell-Imprinted Polymer Thin Films”, ACS Nano, 7, 6031-6036 (2013).
10. K. N. Ren, J. H. Zhou and H. K. Wu, “Materials for Microfluidic Chip Fabrication”, Acc. Chem. Res., 46, 2396-2406 (2013).
11. K. N. Ren and R. N. Zare, “Chemical Recognition of Cell-Imprinted Polymers”, ACS Nano, 6, 4314-4318 (2012).
12. K. N. Ren, W. Dai, J. H. Zhou, J. Su. H. K. Wu, “Whole-Teflon Microfluidic Chips”, P. N. A. S., 108, 8162-8166 (2011).

## Funded Projects

HKRGCE Early Career Scheme (ECS) 22200515	Microfluidic Platform for Rapid, Low-cost, High-Throughput, Automated Test of Antimicrobial Susceptibility, 2016-18, HK\$641,200
NSFC Young Scientists Project, 21505110	A Centrifugal Microfluidic Device for Rapid Antimicrobial Drug Efficacy Testing in Resource-Limited Environment, 2016-18, RMB210,000 (direct fund)
Hong Kong Baptist University Faculty Research Grant Category II, [FRG2/16-17/062]	Drug Efficacy Testing Platform for Personalized Treatment of Bacterial Infection Based on 2D Gradient Array, \$139,308
NSFC General Program, 51773173	Novel Polymeric Microfabrication Strategy for Generating Multifunctional Self-Cleaning Coating, 2018-2021, RMB610,000 (direct fund)
HKBU TDG 2017-18-04	Strategy for Promoting Student-orientated, Interactive Teaching/Learning of Major Election Courses, 2018-2019, HK\$195,000
HKBU SKL-CRF, SKLP_1718_P01	Development of a microfabricated lung mimic device to study the toxicity of air pollutants, HK\$600,000.00
Hong Kong Baptist University Faculty Research Grant Category II, 2016-2017 [FRG2/16-17/047]	Practical Method for Creating Superhydrophobic Coating for Real Applications, HK\$142,196.00