Special Issue

Microfluidics for Synthetic Biology

Message from the Guest Editor

Synthetic biology is one of the fastest growing fields in biology nowadays. Researchers in this field investigate bio-functional materials such as cells, DNA, RNA, proteins, etc., through synthesizing/modifying bio-functional materials. In addition, they apply those synthesized/modified bio-functional materials for novel technologies. Such bio-functional materials to be investigated are mostly smaller than micro-scale and soluble/dispersible liquids, therefore, microfluidics that manipulates liquids in micro-scale provides numerous advantages to perform highly controlled experiments in synthetic biology. For example, single cells encapsulated in micro-droplets can be used for the directed evolution of a target protein. In addition, cell-free protein expression systems with biomolecule-sensitive DNA embedded in a microfluidic device can be used as an easy-to-use biosensor. The aim of this Special Issue is to cover microfluidic technologies that can be applied to synthetic biology. We invite full research papers, reviews and communications covering related topics included in the keywords below. We look forward to your submissions.

Guest Editor

Dr. Taishi Tonooka

Faculty of Mechanical Engineering, Kyoto Institute of Technology, Matsugasaki, Sakyo-ku, Kyoto 606-8585, Japan

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Micromachines
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
micromachines@mdpi.com

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Editor-in-Chief

Prof. Dr. Ai-Qun Liu
1. Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong, China
2. School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore 639798, Singapore

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