Special Issue

Nano and Micro Scale Fabrication for Molecular Cybernetics and Molecular Robotics

Message from the Guest Editors

Molecular robotics and molecular cybernetics are interdisciplinary research fields that aim to construct autonomous molecular systems by integrating devices built at a molecular level. In those fields, biomolecules such as DNA, RNA, peptides, and lipids are commonly used as building blocks owing to their programmability, functionality, and integrability. Various molecular devices have been designed and proposed using nucleic acid nanotechnology, molecular programming, artificial cell biotechnology, and protein engineering. Many microfluidic or lab-on-a-chip experiments have been conducted for integrating molecular devices to be observed under microscopy. As these techniques have progressed, a variety of systems have been demonstrated in the past few decades. However, there are still open questions on how to develop autonomous molecular machinery in molecular robotics and realize chemical artificial intelligence in molecular cybernetics. In this Special Issue, contributions on molecular robotics and molecular cybernetics are welcome in forms such as original research articles, short communications, and review articles.

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Editor-in-Chief

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