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**국문 강연제목: 외부 자극 없이 동작 프로그래밍 가능한
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**영문 강연제목: Photopatterned microswimmers with
programmable motion without external stimuli**

Abstract(영문):

We introduce highly programmable microscale swimmers driven by the Marangoni effect (Marangoni microswimmers) that can self-propel on the surface of water. Previous studies on Marangoni swimmers have shown the advantage of self-propulsion without external energy source or mechanical systems, by taking advantage of direct conversion from power source materials to mechanical energy. However, current developments on Marangoni microswimmers have limitations in their fabrication, thereby hindering their programmability and precise mass production. By introducing a photopatterning method, we generated Marangoni microswimmers with multiple functional parts with distinct material properties in high throughput. Furthermore, various motions such as time-dependent direction change and disassembly of swimmers without external stimuli are programmed into the Marangoni microswimmers.

Brief Biosketch (간단한 이력, 연구/대외활동 소개,국문/영문)

Cheolheon Park is Professor of the Department of Electric Engineering at Jeonbuk National University. He received his B.S from Kyunghee University in 2014, and Ph.D. in Kyunghee University in 2021. Since year, he joined Jeonbuk National University as a faculty member, where he is now Professor of Department of Electric Engineering. His research interests include diagnosis, micro/nano fabrication.