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An electrolysis micropump's development and potential applications

Through decades of developing micropumps in the MEMS field, a new micropump design should not only focus on performance and function, but should also target the ability to be integrated into BioMEMS system chips for the achievement of versatile applications. For this reason, a new micropump design, possessing the potential to integrate with various developed microdevices, has considerable value. This study proposes a new electrolysis micropump, featuring low power consumption and heat pipe-like back and forth actuation. It is believed that such design would have large potential to integrate with varied microfluidic devices. It is also believed that the combination of our micropump and an embedded microfluidic array probe matches the future trend of BioMEMS development, and provides a high quality tool for further study of medical tests involving biological samples.

Biography

Shih-Chi Chan has completed his PhD at National Tsing Hua University and research work from IRCAD Taiwan. He got the Outstanding Chemical Engineering Article of the Year 2010, Oct. 2010. Since March 2018, he has been a Researcher in the Hsiao Chung-Cheng Healthcare Group, Taiwan, Republic of China. He presently works at the Hsiao Chung-Cheng Healthcare Group, where he focuses on the development of the microsystems and Bio-ultrasound.

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