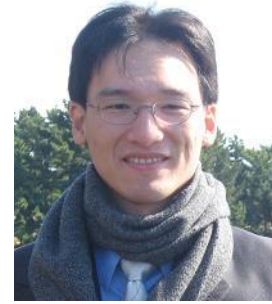


Yu-Hsiang Hsu (許聿翔)

Associate Professor

- B.S. in Mechanical engineering,
National Taiwan University, 2000
M.S. in Institute of Applied Mechanics,
National Taiwan University, 2002
M.S. in Biomedical Engineering,
University of California, Irvine, USA 2006
Ph.D. in Biomedical Engineering,
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Dr. Yu-Hsiang Hsu joined the faculty of the Institute of Applied Mechanics at the National Taiwan University since August 2013. His research primary focus on four fields: (1) microsystems to develop microtissues for drug screening applications, including cardiac microtissue and microtumor; (2) plastic lab-on-a-chip devices for early and quantitative diagnostic methods for chronic human diseases, and integration with portable devices; (3) smart materials: develop optopiezoelectric composites for the applications of optically controllable pumps, valves, and sonic motors; (4) wearable devices: develop textile sensors for body movement, blood pressure, and health monitoring. He teaches the courses of Applied Mathematics, Introduction to Cellular BioMEMS and Biomicrofluidics, and Engineering and Physics of Human Body.

Selected Journal Papers

Lab-on-a-Chip

1. Y.H. Huang, C.F. Yang, Y.H. Hsu* “Development of a cardiac-and-piezoelectric hybrid system for application in drug screening.” *Lab Chip*, 20(18), 3423-3434, September 2020.
2. C.J. Lee, Y.H. Hsu* (2019, Sep). Vacuum pouch microfluidic system and its application for thin-film micromixers. *Lab on a Chip*, 19, 2834-2843.
3. Y.H. Hsu*, W.W. Liu, T.H. Wu, C. J. Lee, Y.H. Chen, P.C. Li (2019, Jan.) Study of diffusive- and convective-transport mediated microtumor growth in a controlled microchamber. *Biomedical Microdevices*, 21(1):7.

Wearable Devices

4. Y.H. Hsu*, P.C. Liu, T.T. Lin, S.W. Huang, Y.C. Lai (2020, Nov). Development of an Elastic Piezoelectric Yarn for the Application of a Muscle Patch Sensor. *ACS Omega*, 5, 45, 29427–29438.
5. Y.H. Hsu*, C.H. Chan, W. C. Tang (2017, Nov). Alignment of multiple electrospun piezoelectric fiber bundles across serrated gaps at an incline: a method to generate textile strain sensors. *Scientific Reports*, 7, 15436.

Smart Materials and Structures

6. T.H. Chen, T.Y. Chu, Y.M. Lin, S.J. Lin, J.T. Gu, Y.H. Hsu* (2018, Sept.). Light-activated piezoelectric linear motor by using a serial bimorph made of an optopiezoelectric composite. *Smart Materials and Structures*, 27(10), 105050.
7. H.H. Wang, T.J. Wu, S.J. Lin, J.T. Gu, C.K. Lee, I.C. Cheng, Y.H. Hsu* (2017, Oct). Dual light-activated microfluidic pumps based on an optopiezoelectric composite. *Journal of Micromechanics and Microengineering*, 27,125003.
8. Y.M. Lin, Y.H. Hsu*, W.C. Su, Y.T. Kao, C.K. Lee* “Development of a two-dimensional piezoelectric traveling-wave generator.” *Journal of Intelligent Material Systems and Structures*, ICAST special issue, 1-18, July 2020.