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Electrochemical Micro/Nano-Machining

May 3 | Bldg. 101
13:30 | Seminar Room on the 1st floor

Abstract: Micro/nano-machining (MNM) is becoming the cutting-edge of high-tech manufacturing because of the increasing industrial demand for supersmooth surfaces and functional three-dimensional micro/nano-structures (3D-MNS) in ultra-large scale integrated circuits, microelectromechanical systems, miniaturized total analysis systems, precision optics, and so on. Taking advantage of no tool wear, no surface stress, environmental friendliness, simple operation, and low cost, electrochemical micro/nano-machining (EC-MNM) has an irreplaceable role in MNM. The key point of EC-MNM is to confine electrochemical reactions at the micro/nano-meter scale. We will present our unflagging effort on how to “confine” reactions ranging from electrochemical principles through technical characteristics to relevant applications.

Reference:

- [1] D. Zhan, L. Han, J. Zhang, et al., *Chem. Soc. Rev.*, 2017, 46, 1526-1544.
- [2] D. Zhan* L. Han, J. Zhang, et al., *Acc. Chem. Res.* 2016, 49, 2596–2604.
- [3] J. Zhang, L. Zhang, W. Wang, et al., *Chem. Sci.*, 2017, 8, 2407-2412.
- [4] J. Zhang, L. Zhang, L. Han, , et al., *Nanoscale*, 2017, 9, 7476–7482.
- [5] J. Lai, D. Yuan, P. Huang, , et al., *J. Phys. Chem. C* 2016, 120, 16446–16452.
- [6] J. Jia, J. Zhang, F. Wang, , et al., *Chem. Commun.*, 2015, 51, 17700-17703.

Prof. Dr. Dongping Zhan graduated from Harbin Engineering University (BSc) and Wuhan University (PhD), China. After postdoctoral fellowships at Peking University, the University of Texas at Austin and Queens College the City University of New York, he joined Xiamen University where he has been a Professor since 2013. His interests are in electrochemistry at the nanoscale, including nanoelectrodes, electrochemical micro- & nanomachining, scanning electrochemical microscopy and precise electrochemical instruments.

You are cordially invited to attend!

Special Guest Seminar