

# Curriculum Vitae

**Li-Hsien Yeh (葉禮賢)**



Associate Professor

Department of Chemical Engineering

National Taiwan University of Science and Technology

E-Mail: [lhyeh@mail.ntust.edu.tw](mailto:lhyeh@mail.ntust.edu.tw)

## Education

09/2001-06/2007 **Ph. D. in Chemical Engineering, National Taiwan University, Taiwan**

09/1997-06/2001 **B. S. in Chemical Engineering, Tunghai University, Taiwan**

## Professional Experience

08/2018-present **Associate Professor**

Department of Chemical Engineering, National Taiwan University of Science and Technology, Taiwan

08/2015-07/2018 **Associate Professor**

Department of Chemical and Materials Engineering, National Yunlin University of Science and Technology, Taiwan

06/2017-09/2017 **Visiting Professor**

Department of Physics and Astronomy, University of California, Irvine, USA

08/2012-07/2015 **Assistant Professor**

Department of Chemical and Materials Engineering, National Yunlin University of Science and Technology, Taiwan

09/2011-07/2012 **Research Fellow**

Institute of Micro/Nanotechnology, Old Dominion University, USA

08/2008-08/2011 **Postdoctoral Fellow**

Department of Chemical Engineering, National Taiwan University, Taiwan

## Research Interests

1. Microfluidics and Nanofluidics (微米/奈米流體系統)
2. Nanofluidic Power (奈米流體能源)
3. Ionic Circuit (離子電路)
4. Nanopore Sensing Technique (奈米孔道感測技術)
5. Colloid and Interface Science (膠體與界面科學)

**Selective publications in recent five years**

1. C. Y. Lin, P. H. Wong, P. H. Wang, Z. S. Siwy, **L. H. Yeh**,\* “Electrodialysis-Induced Negative Differential Resistance in pH-Regulated Mesopores Containing Purely Monovalent Solutions”, *ACS Applied Materials & Interfaces*, 12, 3198-3204 (January 2020).
2. **L. H. Yeh**,\* Z. Y. Huang, Y. C. Liu, M. J. Deng, T. H. Chou, H. C. Ou Yang, T. Ahamad, S. M. Alshehri, Kevin C. W. Wu, “A Nanofluidic Osmotic Power Generator Demonstrated in Polymer Gel Electrolytes with Substantially Enhanced Performance”, *Journal of Materials Chemistry A*, 7, 26791-26796 (December 2019).
3. J. P. Hsu, T. C. Su, P. H. Peng, S. C. Hsu, **L. H. Yeh**,\* “Unraveling the Anomalous Surface-Charge-Dependent Osmotic Power Using a Single Funnel-Shaped Nanochannel”, *ACS Nano*, 13, 13374-13381 (November 2019).
4. C. Y. Lin, C. Combs, Y. S. Su, **L. H. Yeh**,\* Z. S. Siwy,\* “Rectification of Concentration Polarization in Mesopores Leads To High Conductance Ionic Diodes and High Performance Osmotic Power”, *Journal of the American Chemical Society*, 141, 3691-3698 (February 2019).
5. C. Y. Lin, **L. H. Yeh**,\* Z. S. Siwy,\* “Voltage Induced Modulation of Ionic Concentrations and Ion Current Rectification in Mesopores with Highly Charged Pore Walls”, *Journal of Physical Chemistry Letters*, 9, 393-398 (January 2018).
6. **L. H. Yeh**,\* F. Chen, Y. T. Chiou, Y. S. Su, “Anomalous pH-Dependent Nanofluidic Salinity Gradient Power”, *Small*, 13, 1702691 (December 2017). (**Featured on frontispiece cover**).
7. L. Mei, **L. H. Yeh**,\* S. Qian, “Buffer Anions Can Enormously Enhance the Electrokinetic Energy Conversion in Nanofluidics with Highly Overlapped Double Layers”, *Nano Energy*, 32, 374-381 (February 2017).
8. Y. Qiu, C. Y. Lin, P. Hinkle, T. S. Plett, C. Yang, J. V. Chacko, M. A. Digman, **L. H. Yeh**,\* J. P. Hsu,\* Z. S. Siwy,\* “Highly Charged Particles Cause a Larger Current Blockage in Micropores Compared to Neutral Particles”, *ACS Nano*, 10, 8413-8422 (August 2016).
9. Z. P. Zeng, **L. H. Yeh**,\* M. Zhang, S. Qian, “Ion Transport and Selectivity in Biomimetic Nanopores with pH-Tunable Zwitterionic Polyelectrolyte Brushes”, *Nanoscale*, 7, 17020-17029 (October 2015).
10. C. Y. Lin, **L. H. Yeh**,\* J. P. Hsu, S. Tseng, “Regulating Current Rectification and Nanoparticle Transport through a Salt Gradient in Bipolar Nanopores”, *Small*, 35, 4594-4602 (September 2015).
11. Y. Ma, **L. H. Yeh**,\* C. Y. Lin, L. Mei, S. Qian, “pH-Regulated Ionic Conductance in a Nanochannel with Overlapped Electric Double Layers”, *Analytical Chemistry*, 87, 4508-4514 (April 2015).