

Ying-Chih Liao (廖英志)

Professor

B.S. in Chemical Engineering
National Taiwan University, 1995
M.S. in Chemical Engineering
National Taiwan University, 1997
Ph.D. in Chemical Engineering
Purdue University, 2004

Research and Professional Interests

Printed electronics
Thin film coating
Colloid suspension
Particle surface functionalization
Computational fluid dynamics

Journal Papers

1. C. W. Chang and **Y. C. Liao**, "Accelerated Sedimentation Velocity Assessment for Nanowires Stabilized in a Non-Newtonian Fluid", *Langmuir*, 32(51), 13620-13626, 2016(Dec), (SCI,EI)
2. 張家維 and 廖英志, "奈米材料懸浮液之穩定策略及穩定性測量方法", *工業材料*, 360, 96-104, 2016(Dec)
3. C. W. Hu, T. Kawamoto, H. Tanaka, A. Takahashi, K. M. Lee, S. Y. Kao, **Y. C. Liao** and K. C. Ho, "Water processable Prussian blue-polyaniline: polystyrene sulfonate nanocomposite (PB-PANI:PSS) for multi-color electrochromic applications", *Journal of Materials Chemistry C*, 4(43), 10293-10300, 2016(Nov), (SCI,EI)
4. **Y. C. Liao**, F. Y. Yen, F. Hung, C. H. Su and W. H. Chen, "Intermittent pressurized operation of steam explosion pretreatment system", *Journal of the Taiwan Institute of Chemical Engineers*, 67, 285-291, 2016(Oct), (SCI,EI)
5. C. Y. Li and **Y. C. Liao**, "Adhesive Stretchable Printed Conductive Thin Film Patterns on PDMS Surface with an Atmospheric Plasma Treatment", *Acs Applied Materials & Interfaces*, 8(18), 11868-11874, 2016(May), (SCI,EI)
6. C. C. Yu, J. D. Baek, C. H. Su, L. D. Fan, J. Wei, **Y. C. Liao** and P. C. Su, "Inkjet-Printed Porous Silver Thin Film as a Cathode for a Low-Temperature Solid Oxide Fuel Cell", *Acs Applied Materials & Interfaces*, 8(16), 10343-10349, 2016(Apr), (SCI,EI)
7. Y. C. Lai, C. W. Kung, C. H. Su, K. C. Ho, **Y. C. Liao** and D. H. Tsai, "Metal-Organic Framework Colloids: Disassembly Deaggregation", *Langmuir*, 32(24), 6123-6129, 2016(Jun), (SCI,EI)
8. C. H. Su, C. W. Kung, T. H. Chang, H. C. Lu, K. C. Ho and **Y. C. Liao**, "Inkjet-printed porphyrinic metal-organic framework thin films for electrocatalysis", *Journal of Materials Chemistry A*, 4(28), 11094-11102, 2016, (SCI,EI)
9. C.-W. Chang, S.-P. Chen and **Y.-C. Liao**, "A Fabrication Method for Highly Stretchable Conductors with Silver Nanowires", *Journal of Visualized Experiments*, 107, 53623, 2016(Jan), (SCI)
10. K. M. Huang, T. Y. Tsou, C. W. Chang and **Y. C. Liao**, "Stability Analysis of Printed Liquid Elbows", *Langmuir*, 33(2), 645-651, 2017(Jan), (SCI,EI)

11. H. Shirai, M. T. Nguyen, D. Čempel, H. Tsukamoto, T. Tokunaga, **Y.-C. Liao** and T. Yonezawa, "Preparation of Au/Pd bimetallic nanoparticles by a microwave-induced plasma in liquid process (MWPLP)", *Bulletin of the Chemical Society of Japan*, 90(3), 279-285, 2017(Nov)
12. Y. Q. Yong, M. T. Nguyen, T. Yonezawa, T. Asano, M. Matsubara, H. Tsukamoto, **Y. C. Liao**, T. F. Zhang, S. Isobe and Y. Nakagawa, "Use of decomposable polymer-coated submicron Cu particles with effective additive for production of highly conductive Cu films at low sintering temperature", *Journal of Materials Chemistry C*, 5(5), 1033-1041, 2017(Feb), (SCI, EI)
13. B. Ketelsen, M. Yesilmen, H. Schlicke, H. Noei, C. H. Su, **Y. C. Liao** and T. Vossmeier, "Fabrication of Strain Gauges via Contact Printing: A Simple Route to Healthcare Sensors Based on Cross-Linked Gold Nanoparticles", *Acs Applied Materials & Interfaces*, 10(43), 37374-37385, 2018(Oct), (SCI, EI)
14. F. R. Hsiao and **Y. C. Liao**, "Printed Micro-Sensors for Simultaneous Temperature and Humidity Detection", *Ieee Sensors Journal*, 18(16), 6788-6793, 2018(Aug), (SCI, EI)
15. T. H. Chen, Y. C. Yeh and **Y. C. Liao**, "Healable and Foldable Carbon Nanotube/Wax Conductive Composite", *Acs Applied Materials & Interfaces*, 10(28), 24217-24223, 2018(Jul), (SCI, EI)
16. S. C. Lin, C. W. Chang and **Y. C. Liao**, "Welding Silver Nanowire Junctions for Transparent Conducting Films by a Rapid Electroplating Method", *Journal of Nanoscience and Nanotechnology*, 18(1), 251-255, 2018(Jan), (SCI, EI)
17. C. Y. Huang, C. C. Ko, L. H. Chen, C. T. Huang, K. L. Tung and **Y. C. Liao**, "A simple coating method to prepare superhydrophobic layers on ceramic alumina for vacuum membrane distillation", *Separation and Purification Technology*, 198, 79-86, 2018(Jun), (SCI, EI)
18. C. H. Su, C. L. Sun, S. Y. Peng, J. J. Wu, Y. H. Huang and **Y. C. Liao**, "High performance non-enzymatic graphene-based glucose fuel cell operated under moderate temperatures and a neutral solution", *Journal of the Taiwan Institute of Chemical Engineers*, 95, 48-54, 2019(Feb), (SCI, EI)
19. J. Y. Wu, Y. C. Lai, C. L. Chang, W. C. Hung, H. M. Wu, **Y. C. Liao**, C. H. Huang and W. R. Liu, "Facile and Green Synthesis of Graphene-Based Conductive Adhesives via Liquid Exfoliation Process", *Nanomaterials*, 9(1), 2019(Jan)
20. C. H. Su, H. L. Chiu, Y. C. Chen, M. Yesilmen, F. Schulz, B. Ketelsen, T. Vossmeier and **Y. C. Liao**, "Highly Responsive PEG/Gold Nanoparticle Thin-Film Humidity Sensor via Inkjet Printing Technology", *Langmuir*, 35(9), 3256-3264, 2019(Mar)
21. Y. Lim, C. H. Su, **Y. C. Liao** and S. Y. Lee, "Impedimetric analysis on the mass transfer properties of intact and competent E-coli cells", *Biochimica Et Biophysica Acta-Biomembranes*, 1861(1), 9-16, 2019(Jan)
22. D. H. Jiang, P. C. Tsai, C. C. Kuo, F. C. Jhuang, H. C. Guo, S. P. Chen, **Y. C. Liao**, T. Satoh and S. H. Tung, "Facile Preparation of Cu/Ag Core/Shell Electrospun Nanofibers as Highly Stable and Flexible Transparent Conductive Electrodes for Optoelectronic Devices", *Acs Applied Materials & Interfaces*, 11(10), 10118-10127, 2019(Mar)

23. C. Y. Huang, Y. C. Lai and **Y. C. Liao**, "Photocurable Stretchable Conductors with Low Dynamic Resistance Variation", *Acs Applied Electronic Materials*, 1(5), 718-726, 2019(May)
24. F. R. Hsiao, I. F. Wu and **Y. C. Liao**, "Porous CNT/rubber composite for resistive pressure sensor", *Journal of the Taiwan Institute of Chemical Engineers*, 102, 387-393, 2019(Sep)
25. W. Y. Chung, Y. C. Lai, T. Yonezawa and **Y. C. Liao**, "Sintering Copper Nanoparticles with Photonic Additive for Printed Conductive Patterns by Intense Pulsed Light", *Nanomaterials*, 9(8), 2019(Aug)
26. Chun-Yung Huang, Yi-Chin Lai and **Ying-Chih Liao***, "Photo Curable Stretchable Conductors with Low Dynamic Resistance Variation", *ACS Appl. Electron. Mater.*, 1(5), 718-726, 2019(Apr)
27. Wan-Yu Chung, Yi-Chin Lai, Tetsu Yonezawa, **Ying-Chih Liao***, Sintering Copper Nanoparticles with Photonic Additive for Printed Conductive Patterns by Intense Pulsed Light, *Nanomaterials*, 9,8,1071, August 2019.
28. Fu-Ren Hsiao, I-Feng Wu, **Ying-Chih Liao***, Porous CNT/rubber composite for resistive pressure sensor, *J Taiwan Inst Chem Eng.*, 102, 387-393, 1 September 2019. (2020 化工學會傑出論文獎)
29. Tzu-Chieh Fang, Shuan-Ying Peng, **Ying-Chih Liao***, Stretchable Polydimethylsiloxane Composites with Emulsified Ionic Materials and Thermochromic Applications, *ACS omega*, 5, 16, 9458–9464, 2020.
30. Soumyajyoti Chatterjee, Wei-Ting Ke, Ying-Chih Liao,* Elastic nanocellulose/graphene aerogel with excellent shape retention and oil absorption selectivity, *J Taiwan Inst Chem Eng.*, 111, 261-269, 2020.
31. Wei-Ting Ke, Hsien-Lung Chiu, **Ying-Chih Liao***, Multifunctionalized Cellulose Nanofiber for Water-Repellent and Wash-Sustainable Coatings on Fabrics, *Langmuir*, 36, 28, 8144-8151, 2020.
32. Shuan-Ying Peng, Chun-Hao Su, Masayoshi Higuchi, Kuo-Chuan Ho, **Ying-Chih Liao***, Flexible rewritable electrochromic device with handwriting feature, *Sol. Energy Mater Sol. Cells*, 217, 110738, 2020.

Conference Papers

1. Jia-Xiu Wu*, Ying-Chih Liao, Heat Flux Regulation for Thermal Comfort in Smart Clothing, The 67th Annual Meeting of Taiwan Institute of Chemical Engineers, Oct 23-24, 2020, Hsinchu, Taiwan
2. Yen-Chi Chen* and Ying-Chih Liao, Bio-inspired sweat collector for Real-time Health Monitoring, The 67th Annual Meeting of Taiwan Institute of Chemical Engineers, Oct 23-24, 2020, Hsinchu, Taiwan
3. Ting-Yu Cheng*, Pankaj Doshi, and Ying-Chih Liao, Enhancement of Liquid Mixing in Porous Media Composed of Particles with Contradictory Hydrophilicity, The 67th Annual Meeting of Taiwan Institute of Chemical Engineers, Oct 23-24, 2020, Hsinchu,

Taiwan

4. Jia-Sheng Tang*, Ying-Chih Liao, Fabrication of Solid State Printed Transparent Supercapacitor as Origami Structure, The 67th Annual Meeting of Taiwan Institute of Chemical Engineers, Oct 23-24, 2020, Hsinchu, Taiwan
5. Yu-Chieh Chiu*, Ying-Chih Liao, 製備可應用於人工韌帶之羥基磷灰石奈米墨水, The 67th Annual Meeting of Taiwan Institute of Chemical Engineers, Oct 23-24, 2020, Hsinchu, Taiwan
6. I F. Wu, and Y. C. Liao, "Flexible Transparent Conductive Film by Solution-based Coating and Light Sintering Method", 20th International Society of Coating Science and Technology, Minnesota, U.S., September 20-23 2020.
7. Yu-Chieh Chiu*, Ying-Chih Liao, Formulation of Titanium Dioxide-Dimethylacetamide Nanoink with High Solid Content for Polyurethane Electrospinning, 2020 中華民國界面科學學會年會, July 31, 2020, Taipei, Taiwan
8. I F. Wu, and Y. C. Liao, "Fabrication of ITO Transparent and Conductive Thin Film Patterns by Pulsed Light Sintering Method", 2020 中華民國界面科學學會年會, July 31, 2020, Taipei, Taiwan
9. Ting-Yu Cheng*, Pankaj Doshi, and Ying-Chih Liao, Enhancement of Liquid Mixing in Porous Media by Using Two-Components Powder Particles, 2020 中華民國界面科學學會年會, July 31, 2020, Taipei, Taiwan
10. Yen-Chi Chen* and Ying-Chih Liao, Bio-inspired sweat collector for sweat concentration/rate monitoring device to prevent exercise dehydration, 2020 中華民國界面科學學會年會, July 31, 2020, Taipei, Taiwan

Honors and Others

1. 指導蕭富仁同學、吳奕鋒同學榮獲 109 學年度台灣化學工程學會傑出論文獎
2. 指導陳彥齊同學榮獲 2020 年台灣化學工程學會壁報論文暨競賽佳作獎
3. 指導鄭庭宇同學榮獲 2020 年台灣化學工程學會壁報論文暨競賽優勝獎
4. 指導陳彥齊同學榮獲 2020 年中華民國界面科學學會年會口頭報告入圍獎
5. 指導陳綾瑄同學榮獲 2020 年中華民國界面科學學會年會壁報論文暨競賽佳作獎
6. 指導鄭庭宇同學榮獲 2020 年中華民國界面科學學會年會壁報展示競賽優勝海報獎