Hsieh, Chih-Chen （謝之真）

Associate Professor

B.S. in Chemical Engineering
National Taiwan University, 1995
M.S. in Chemical Engineering
National Taiwan University, 1997
Ph.D. in Chemical Engineering
University of Michigan, 2005
Postdoc in Chemical Engineering
Massachusetts Institute of Technology, 2008

Research and Professional Interests

DNA dynamics in nanofluidic devices
Synthesis functional microparticles using microfluidics
Mesoscale simulations of DNA/polymer behavior in complex flows

Journal Papers

1. JT Wu, CY Wu, SK Fan, **CC Hsieh**, YC Hou, HY Chen, "Customizable Optical and Biofunctional Properties of a Medical Lens Based on Chemical Vapor Deposition Encapsulation of Liquids", *Chemistry of materials*, 2015, 27, 7028−7033. (SCI, EI).

2. CJ Chiang, YH Lee, YP Lee, GT Lin, MH Yang, LY Wang, **CC Hsieh** and CA Dai*, "One-step in situ hydrothermal fabrication of D/A poly(3-hexylthiophene)/TiO_2 hybrid nanowires and its application in photovoltaic devices", *Journal of Materials Chemistry A*, 2016, 4, 908-919. (SCI, EI).

3. CYH Shen, Lee, YP Lee, CJ Chiang, FK Wei, CH Wua, KC Kaua, HW Liu, **CC Hsieh**, LY Wang, CA Dai, "Self-organization and phase transformation of all π-conjugated diblock copolymers andits applications in organic solar cells", *Reactive and Functional Polymers*, 2016, 108, 94-102. (SCI, EI).

4. CH Lam, AC Yang, HY Chi, KY Chan, **CC Hsieh** and DY Kang, "Microwave-Assisted Synthesis of Highly Monodispersed Single-Walled Alunminosilicate Nanotubes", ChemistrySelect, 2016, 1(19), 6212-6216. (SCI, EI).

5. SH Wang, PH Wang, IM Hsieh and **CC Hsieh**, "Microfluidic synthesis of silica microcomponents using sol-gel process and stop-flow lithography", Journal of the Taiwan Institute of Chemical Engineers, 2018, 93,103-108. (SCI, EI).

6. Lee, Y. P., Liu, H. Y., Lin, P. C., Lee, Y. H., Yu, L. R., **CC Hsieh**, PJ Shih, WP Shih, IJ Wang, JY Yen and CA Dai, Facile fabrication of superporous and biocompatible hydrogel scaffolds for artificial corneal periphery. Colloids and Surfaces B: Biointerfaces, 2019,175, 26-35. (SCI, EI).

7. FW Wang, CW Hsu and **CC Hsieh**, "Numerical Design and Experimental Realization of a PNIPAM Based Micro Thermosensor", ACS Applied Materials & Interfaces, 2019, 11, 8591-8600. (SCI, EI).

8. YP Lee, MW Liu, JK Qin, YH Lee, YL Yang, LY Wang, YY Cheng, YF Chen, WY Liu, **CC Hsieh** and CA Dai, "Long-term thermally stable nanoconfining networks for efficient fully conjugated semicrystalline/amorphous diblock copolymer photovoltaics", Organic Electronics, 2019, 69, 263-374.

9. SK Hu, FY Lo, **CC Hsieh** and L Chao, "Sensing Ability and Formation Criterion of Fluid Supported Lipid Bilayer Coated Graphene Field-Effect Transistors", ACS Sensors, 2019, 4, 892-899.

Conference Papers

1. HJ Guo, HE Lee and **CC Hsieh**, "Performing Gene Mapping on DNA Unraveled on Patterned Lipid Bilayers", presented at the AIChE 2015 Annual Meeting, Salt lake city, Utah, USA.

2. Wang CK and **CC Hsieh**, "Modeling the Formation and Lipid Distribution of Lipid Bilayers on a Curved Surface Using Multi-Particle Collision Dynamics", presented at the AIChE 2015 Annual Meeting, Salt lake city, Utah, USA.

3. **CC Hsieh**, "A Novel Platform for Optical Mapping of Genomic DNA: Mechanism and Applications", Invited talk, 63rd TwICHE Annual Conference, 2016, Taiwan.

4. HJ Guo, HE Lee and **CC Hsieh**, "Experimental and simulation study on Spontaneous Unravelling of DNA on Grooved Lipid Bilayers", Invited talk, Annual Meeting of the Physical Society of the Republic of China (Taiwan), 2017, Taipei, Taiwan.

5. **CC Hsieh**, Invited talk, "Separation of Genomic DNA in a Micro-Post Array by Electrophoresis with Intermittent Electric Field", 2017 BEST Conference & International Symposium on Biotechnology and Bioengineering, 2017, Yunlin, Taiwan.

6. **CC Hsieh**, "Performing DNA Gene Mapping on Grooved Surface Covered with Lipid Bilayers", Invited talk, The 23rd Symposium of Young Asian Biological Engineers' Community (YABEC), 2017, Xi'an, China.

7. MY Chang, CK Wang and **CC Hsieh**, "Brownian Dynamics Simulations on Spontaneous Extension of DNA on Cationic Lipid Bilayers Along Grooved Structures", presented at the AIChE 2017 Annual Meeting, Minneapolis, Minnesota, USA.

8. CH Shu, SH Wang, CJ Liu and **CC Hsieh**, "Research of DNA Separation By Post Array Under Intermittent Electric Field", presented at the AIChE 2017 Annual Meeting, Minneapolis, Minnesota, USA.

9. TZ Fan, HJ Guo and **CC Hsieh**, "Research on the Mechanism of Spontaneous DNA Extension on Grooved Surface Covered with Cationic Lipid Bilayers", presented at the AIChE 2017 Annual Meeting, Minneapolis, Minnesota, USA.

10. **CC Hsieh**, Invited talk, "Microfluidic Synthesis of a Poly(N-isopropylacrylamide) Based Thermosensor: A Numerical and Experimental study ", The 2018 International Symposium on Transport Phenomena and Applications, 2018, Yunlin, Taiwan.

11. CJ Lee, PH Wang and **CC Hsieh**, "Diffusive Behavior of DNA Adsorbed on Lipid Bilayers Supported on a Glass Substrate", presented at the AIChE 2019 Annual Meeting, Orlando, Florida, USA.

12. DY Kao, YC Chen, **CC Hsieh** and CA Dai, "Effects of Hydrocarbon Resins on the Performance of Silica-Filled Styrene-Butadiene Rubber and Butadiene Rubber Blend", presented at the AIChE 2019 Annual Meeting, Orlando, Florida, USA.

13. CH Shu, CJ Liu, CS Chang and **CC Hsieh**, "Electrophoretic Separation of DNA By Normal Stress", presented at the AIChE 2019 Annual Meeting, Orlando, Florida, USA.

14. IA Chiang, Chang MY and **CC Hsieh**, "Simulations of the Diffusive Behavior of DNA Adsorbed on Charged Lipid Bilayers", presented at the AIChE 2019 Annual Meeting, Orlando, Florida, USA.

Honors and Others

1. 指導碩士生李杰容獲得 2019 年台灣化工學會 66 週年年會壁報論文專題競賽” 生化及生醫工程組”佳作。

2. 指導碩士生張淳慎獲得 2018 年台灣化工學會 65 週年年會學生英文報告競賽優勝。

3. 指導碩士生郭朝琛獲得 2018 年台灣化工學會 65 週年年會壁報論文專題競賽”生化及生醫工程組”優勝。

4. 指導碩士生李杰容獲得 2018 年台灣化工學會 65 週年年會壁報論文專題競賽” 生化及生醫工程組”佳作。

5. 舒稚翔/指導教授謝之真教授/2017 台灣化學工程學會 64 週年年會壁報論文競賽:” 生化及生醫工程”佳作。

6. 張名熠/指導教授謝之真教授/2016 台灣化學工程學會 63 週年年會壁報論文競賽:” 熱力及界面工程組”優勝。