

Curriculum Vitae

Shang-Hsiu Hu (胡尚秀)

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EDUCATION AND TRAINING

2009–2010 Visiting Scientist

Department of Bioengineering, University of Washington, USA

2006–2010 Ph.D.

Department of Materials Science and Engineering, National Chiao Tung University, Taiwan.

2004–2006 M.S.

Department of Materials Science and Engineering, National Chiao Tung University, Taiwan.

2000–2004 B.S.

Department of Chemical Engineering, National Chung-Hsin University, Taiwan.

POSITION

2021–Present Professor, Department of Biomedical Engineering and Environmental Sciences, National Tsing Hua University, Taiwan.

2023–Present Associate Vice President for R&D (副研發長), National Tsing Hua University

2022–Present Director (育成中心主任), Innovation Incubation Center, National Tsing Hua University

2019–2022 Division Leader (清華大學產學營運中心智財組 組長)

Technology Transfer Division, National Tsing Hua University

2018–Present Director (中華民國生醫材料與藥物製放學會 理事), Biomaterials and Controlled Release Society Taiwan Local Chapter, Taiwan

2016–Present Adjunct Mentor, Interdisciplinary Program of Nuclear Science, National Tsing Hua University

Dr. Hu's major achievement breakthrough in the past few years is the development of novel composite materials, which provide high-efficiency metastatic tumor targets, metastatic tumor immunotherapy, overcoming tumor barriers/drug resistance, and nerve regeneration. Major research includes lung-metastasis-targeted immune-modulators ([Adv. Funct. Mater.](#), 2022; [ACS Nano](#), 2022; [Materials Horizons](#), 2020; [Nano Letters](#), 2021), positive tumor targeted delivery systems ([Journal of Controlled Release](#), 2020; [Nanoscale](#), 2020; [Nano Letters](#), 2019; [Advanced Functional Materials](#), 2017; [ACS Nano](#), 2016), penetrated tumor drug delivery ([Advanced Functional Materials](#), 2016) and injectable porous microspheres for nerve regeneration ([Nat. Comm.](#), 2022; [NPG Asia Materials](#), 2020; [Advanced Science](#), 2019; [Theranostics](#); [Small](#)). The efficiency of penetration and delivery can break through the tumor barrier and overcome the problems of traditional drug resistance and low drug accumulation. In 2016, he was invited to write [Adv. Drug Deliver. Review](#) (IF=13.3, Ranking <2%) review articles, and has been cited **259 times**. He was invited to write [Pharmaceutics and Advanced Nanobiomed Research](#) Review articles. Due to the excellent achievements, Dr. Hu was also invited to join the [Editorial Board in Journal of Controlled Release](#) and [Pharmaceutics](#), etc..

RESEARCH INTERESTS

1. Nano science and interfacial engineering: functional materials and structures designed and fabricated on the nanometer scale for biomedical application.
2. Injectable microbeads for biomedical applications.
3. Microfluidic chip for drug screening, particle-bio interface and immunotherapy.

HONORS AND AWARDS

1. 2023 李天德青年科技獎
2. 2022 科技部傑出研究獎
3. 2022 清華大學-校傑出教學獎

4. 2022 第十八屆國家新創精進獎。
5. 2022 未來科技獎。
6. 2022 李昭仁基金會－研究學者獎。
7. 2021 Excellent Teaching Award of Nuclear Collage, National Tsing Hua University (院傑出教學獎)。
8. 2020 Outstanding Teaching Award of Nuclear Collage, National Tsing Hua University 教學優良教師(6%)。
9. 2019 Outstanding Teaching Award of Nuclear Collage, National Tsing Hua University. 教學優良教師(6%)。
10. 2019 National Innovation Award- Academic Innovation. (國家新創獎)
11. 2019 Controlled Release Society (CRS) Meeting, Great Scientific Communication Award, Spain.
12. 2019 Outstanding Student Mentor Award of Nuclear Collage. (原科院傑出導師)
13. 2018 MOST Young Scholar Fellowship. (科技部青年學者)
14. 2018 MOST Grant for the Columbus Program. (哥倫布計畫)
15. 2018 Outstanding Teaching Award of Nuclear Collage, National Tsing Hua University. (院傑出教學)
16. 2017 MOST Ta-Yo Wu Award-Bioengineering. (科技部吳大猷獎)
17. 2017 Outstanding Teaching Award of Nuclear Collage, National Tsing Hua University.
18. 2017 MOST Outstanding Young Scholar Programs- Biology and Engineering. (科技部優秀青年學者計畫)
19. 2016 Outstanding Teaching Award of Nuclear Collage, National Tsing Hua University.
20. 2016 Young Investigator Award, The 2nd Global Conference on Biomedical Engineering & 2016 Annual Meeting of Taiwanese Society of Biomedical Engineering. (世界生醫材料年輕學者獎)
21. 2016 Academic Achievement Award of National Tsing Hua University.
22. 2015 Young Faculty Research Award of National Tsing Hua University. (清華新進學者研究獎)
23. 2015 Young Investigator Award, The 5th Asian Biomaterials Congress.
24. 2015 Young Investigator Award on Biomedical Engineering of Prof. Chao-Ren Lee. (李昭仁年輕學者獎)

Selected Publications

1. Yi-Chieh Chan, Ya-Hui Lin, Hsiu-Ching Liua, Ru-Siou Hsu, Ming-Ren Chiang, Li-Wen Wang, Tsu-Chin Chou, Tsai-Te Lu, I-Chi Lee, Li-An Chu*, Shang-Hsiu Hu*, In Situ Magnetoelectric Generation of Nitric Oxide and Electric Stimulus for Nerve Therapy by Wireless Chargeable Molybdenum Carbide Octahedrons, *Nano Today*, 2023, 51, 101935. [SCI: 17.4](#)) PHARMACOLOGY & PHARMACY, N/M=12/352, Rank: 5.9%
2. Min-Ren Chiang, Wei-Ting Shen, Pin-Xuan Huang, Kang-Li Wang, Wei-Han Weng, Chien-Wen Chang, Wen-Hsuan Chiang, Yu-Chen Liu, Shing-Jyh Chang, Shang-Hsiu Hu*, Programmed T Cells Infiltration into Lung Metastases with Harnessing Dendritic Cells in Cancer Immunotherapies by Catalytic Antigen-Capture Sponges, *J. Control. Release*, 2023, 360, 260-273. [SCI: 10.8](#)) PHARMACOLOGY & PHARMACY, N/M=12/352, Rank: 3.27%
3. Thi My Hue Huynh, Bhanu Nirosha Yalamandala, Min-Ren Chiang, Wei-Han Weng, Chien-Wen Chang, Wen-Hsuan Chiang, Lun-De Liao, Yu-Chen Liu, Shang-Hsiu Hu*, Programmed antigen capture-harnessed dendritic cells by margination-hitchhiking lung delivery, *J. Control. Release*, 2023, 358, 718-728. [\(SCI: 10.8\)](#) PHARMACOLOGY & PHARMACY, N/M=12/352, Rank: 3.27%
4. Bhanu Nirosha Yalamandala, Thi My Hue Huynh, Min-Ren Chiang, Wei-Han Weng, Chien-Wen Chang, Wen-Hsuan Chiang, **Shang-Hsiu Hu***, Catalytic Therapy and Antigen Capture-Mediated Dendritic Cells Harnessing Cancer Immunotherapies by In Situ-Forming Adhesive Nanoreservoirs, *Adv. Funct. Mater.* **2022**, 2210644. [\(SCI: 19.924\)](#) MATERIALS SCIENCE, MULTIDISCIPLINARY, N/M=11/380, Rank: 2.76%.
5. Ru-Siou Hsu, Ssu-Ju Li, Jen-Hung Fang, I-Chi Lee, Li-An Chu, Yu-Chun Lo, Yu-Jen Lu*, You-Yin Chen*, **Shang-Hsiu Hu***, Wireless Charging-Mediated Angiogenesis and Nerve Repair by Adaptable Microporous Hydrogels from Conductive Building Blocks, *Nat. Comm.* **2022**, 13, 5172. [\(SCI: 17.694\)](#) MULTIDISCIPLINARY SCIENCES, N/M=5/134, Rank: 3.36%
6. Wei Cheng, Yu-Lin Su, Hao-Hsiang Hsu, Ya-Hui Lin, Li-An Chu, Wei-Chen Huang, Yu-Jen Lu, Chi-Shiun Chiang, **Shang-Hsiu Hu***, Rabies Virus Glycoprotein-Mediated Transportation and T Cell Infiltration to Brain Tumor by Magnetoelectric Gold Yarnballs, *ACS nano*, **2022**, 16, 3, 4028. [\(SCI: 18.027, Journal Cover\)](#) MATERIALS SCIENCE, MULTIDISCIPLINARY, N/M=15/380, Rank: 3.82%

7. Yu-Lin Su, Ting-Wei Yu, Wen-Hsuan Chiang, Hsin-Cheng Chiu, Chun-Hsiang Chang, Chi-Shiun Chiang, **Shang-Hsiu Hu***, Hierarchically Targeted and Penetrated Delivery of Drugs to Tumors by Size-Changeable Graphene Quantum Dot Nanoaircrafts for Photolytic Therapy, *Adv. Funct. Mater.*, **2017**, 27, 1700056. (SCI: 19.924) MATERIALS SCIENCE, MULTIDISCIPLINARY, N/M=11/380, Rank: 2.76%.
8. Chien-Ting Lin, I-Chieh Lin, Shou-Yuan Sung, Yu-Lin Su, Yu-Fen Huang, Chi-Shiun Chiang, **Shang-Hsiu Hu***, Dual Targeted Photo-penetrated Delivery of Multiple Micelles/Hydrophobic Drugs by a Nanopea for Enhanced Tumor Therapy, *Adv. Funct. Mater.*, **2016**, 26, 4169. (SCI: 19.924) MATERIALS SCIENCE, MULTIDISCIPLINARY, N/M=11/380, Rank: 2.76%.
9. Ru-Siou Hsu, Pei-Yueh Chen, Jen-Hung Fang, You-Yin Chen, Chien-Wen Chang, Yu-Jen Lu*, **Shang-Hsiu Hu***, Adaptable Microporous Hydrogels of Propagating NGF-Gradient by Injectable Building Blocks for Accelerated Axonal Outgrowth, *Advanced Science*, **2019**, 6, 1900520. (SCI: 17.521) MATERIALS SCIENCE, MULTIDISCIPLINARY, N/M=17/380, Rank: 4.34%
10. Yu-Lin Su, Kuan-Ting Chen, Yu-Chen Sheu, Shuo-Yuan Sung, Ru-Siou Hsu, Chi-Shiun Chiang, **Shang-Hsiu Hu***, The Penetrated Delivery of Drug and Energy to Tumors by Lipo-Graphene Nanosponges for Photolytic Therapy, *ACS Nano*, **2016**, 10, 9420. (SCI: 18.027) MATERIALS SCIENCE, MULTIDISCIPLINARY, N/M=15/380, Rank: 3.82%
11. Yu-Wei Chen, Yu-Lin Su, **Shang-Hsiu Hu***, San-Yuan Chen*, Functionalized Graphene Nanocomposites for Enhancing Photothermal Therapy, *Advanced Drug Delivery Reviews*, **2016**, 105, 190. (SCI: 17.873) PHARMACOLOGY & PHARMACY, N/M=3/352, Rank: 0.71%
12. Min-Ren Chiang, Yu-Lin Su, Chih-Yi Chang, Chein-Wen Chang, **Shang-Hsiu Hu***, Lung metastasis-targeted donut-shaped nanostructures shuttled by the margination effect for the PolyDox generation-mediated penetrative delivery into deep tumors, *Materials Horizons*, **2020**, 7, 1051. (SCI: 15.171, Journal cover) MATERIALS SCIENCE, MULTIDISCIPLINARY, N/M=21/380, Rank: 5.39%
13. Wei-Ting Shen, Ru-Siou Hsu, Jen-Hung Fang, Pei-Fen Hu, Chi-Shiun Chiang, **Shang-Hsiu Hu***, Marginative Delivery-Mediated Extracellular Leakiness and T Cell Infiltration in Lung Metastasis by Biomimetic Nano-Raspberry, *Nano Letters*, **2021**, 3, 1375–1383. (SCI: 12.262, Journal Cover) MATERIALS SCIENCE, MULTIDISCIPLINARY, N/M=22/380, Rank: 5.66%
14. Jen-Hung Fang, Hao-Hsiang Hsu, Ru-Siou Hsu, Chih-Kang Peng, Yu-Jen Lu, You-Yin Chen, San-Yuan Chen*, **Shang-Hsiu Hu***, 4D Printing of Stretchable Nanocookie@Conduit Hosting Biocues and Magneto-Electrical Stimulation for Neurite Sprouting, *NPG Asia Materials*, **2020**, 12, 61. (SCI: 10.761) MATERIALS SCIENCE, MULTIDISCIPLINARY, N/M=37/333, Rank: 10.6%
15. Shou-Yuan Sung, Yu-Lin Su, Wei Cheng, Pei-Feng Hu, Chi-Shiun Chiang, Wen-Ting Chen, **Shang-Hsiu Hu***, Graphene Quantum Dots-Mediated Theranostic Penetrative Delivery of Drug and Photolytics in Deep Tumors by Targeted Biomimetic Nanosponges, *Nano Letters*, **2019**, 19, 69. (SCI: 12.262) MATERIALS SCIENCE, MULTIDISCIPLINARY, N/M=22/380, Rank: 5.66%
16. Yu-Lin Su, Li-Wen Kuo, Chia-Hsien Hsu, Chi-Shiun Chiang, Yu-Jen Lu, Shing-Jyh Chang, **Shang-Hsiu Hu***, Rabies virus glycoprotein-amplified hierarchical targeted hybrids capable of magneto-electric penetration delivery to orthotopic brain tumor, *J. Control. Release*, **2020**, 321, 159. (SCI: 11.167) PHARMACOLOGY & PHARMACY, N/M=12/352, Rank: 3.27%

Journal editorial members

1. **Journal of Controlled Release (2021-present)**
2. Pharmaceutics (SCI journal)-Associate Editor
3. Frontier of Pharmacy (SCI journal)-Associate Editor
4. Frontier of Oncology (SCI journal)-Associate Editor
5. Polymers (SCI journal)-Guest Associate Editor