BME Institute of Biomedical Engineering, NTHU

國立清華大學 National Tsing Hua University

生物醫學工程研究所 Institute of Biomedical Engineering

教授著作目錄

PUBLICATION LIST OF FACULTY MEMBERS

THE LATEST FIVE YEARS

(January, 2020)

中華民國一〇九年一月

Faculty Members

李國賓Gwo-Bin Lee, Ph.D.

Tsing Hua Chair Professor
Director, Institute of Biomedical Engineering
Department of Power Mechanical Engineering
Institute of NanoEngineering and Microsystems
National Tsing Hua University
Hsinchu, Taiwan (ROC)
Email: gwobin@pme.nthu.edu.tw

Gwo-Bin Lee received his B.S. and M.S. degrees in Department of Mechanical Engineering from National Taiwan University in 1989 and 1991, respectively. He received his Ph.D. in Mechanical & Aerospace Engineering from University of California, Los Angeles, USA in 1998. Dr. Gwo-Bin Lee is currently a Chair Professor in the Department of Power Mechanical Engineering at National Tsing Hua University. He also serves as Director of Institute of Biomedical Engineering. His research interests lie on nano-biotechnology, micro/nanofluidics and their biomedical applications. He is the director of "Microfluidic Biochips Lab". Dr. Lee has been very active in the field of micro/nanofluidic systems, and has developed integrated micro/nano systems incorporated with nano/biotechnology for biomedical applications. He has developed several micro/nano-scale platforms for cell, protein, and DNA manipulation and detection. Dr. Lee has published over 320 SCI journal papers, 424 conference papers, and filed 168 patents (125 patents granted) in the past 21 years. His works have been highly cited (over 9800 times) with an H-index of 54 (ISI). In Google Scholar, citations of all Dr. Lee's papers are 15500 times with an h-index of 70. He also published 8 book chapters. He has served as a general chair and an organizing committee member in many international conferences. He was General Co-chair of MicroTAS 2018, IEEE NEMS 2014, IEEE MEMS 2013, IEEE NEMS 2011, and IEEE NANOMED 2013. He has received several academic awards, including Dragon Thesis Award (2002), Distinguished Research Award from Engineering School of National Cheng Kung University (2002), Distinguished Young Engineer Award from Chinese Engineering Society (2003), K. T. Lee Research Award from K. T. Lee Foundation (2004), Distinguished Mechanical Engineer Award from Chinese Mechanical Engineering Society (2004), Distinguished Young Electrical Engineer Award from Chinese Electrical Engineering Society (2005), Young People of the Year (2006), Distinguished Engineering Professor from Chinese Mechanical Engineering Society (2006), Engineering Professor Award from Southern Division of Chinese Engineering Society (2007), Excellent Research Award from National Science Council in Taiwan (2007, 2011, 2014), National Innovation Award (2008, 2010, 2012, 2013, 2016), Distinguished Engineering Professor Award from Chinese Engineering Society (2009), Distinguished Kuo-Ting Lee Researcher Award from Kuo-Ting Lee Foundation (2009), Outstanding Inventor Award (2011) and Academic Award from Ministry of Education, Taiwan (2017). He was elected Fellow of Society of Theoretical and Applied Mechanics and elected Fellow of Chinese Society of Mechanical Engineering. He was also an elected ASME Fellow in 2013, an elected RSC Fellow in 2014, elected IET Fellow in 2015, elected IEEE Fellow and AIBME Fellow in 2017. He was a corresponding member of International Academy of Engineering in 2018. He has been invited in various conferences for plenary and keynote talks. Currently, he is Editor-in-Chief of Microfluidics and Nanofluidics (SCI indexed) since 2020. He was joint Editor-in-chief of Micro and Nano Letters (SCI indexed) and Associate Editor-in-chief of IEEE Transactions of Nanotechnology (SCI indexed). He also serves as an editor for several journals, including Scientific Reports (SCI indexed).

As a rare pioneer on biochips in Taiwan, Prof. Gwo-Bin Lee has developed integrated microfluidic and nanotechnology systems capable of automating complicated bioprocesses on biochips for a variety of biomedical applications, including efficient screening of biomarkers (affinity

reagents), fast diagnosis of infectious diseases and electromagnetic thermotherapy of tumors. Here are his three major contributions:

1. Biomarker screening

Prof. Lee invented a new method by fine-tuning the microfluidic shear force during the biomolecular screening so that non-specific binding between biomolecules could be greatly eliminated. For examples, this new technology has been substantiated for in vitro screening of aptamers and peptides that have an affinity 100 times higher than natural antibodies, resulting in a shortened screening time (down to ~10%), reduced reagent/sample consumption, and increased efficacy of aptamer and peptide screening. The most direct applications of this technology are for the diagnosis of cardiovascular diseases, cancers, diabetes and infectious diseases. His works on this subject has produced highly cited publications and patents (15 issued and 5 pending) in both Taiwan and USA.

2. Fast diagnoses of infectious diseases

Fast diagnoses of seasonal and epidemic infectious diseases are important but difficult, as they are known to be time-consuming and labor-intensive. Prof. Lee has demonstrated single-biochip solutions for fast diagnosis of infectious diseases such as methicillin-resistant staphylococcus aureus (MRSA) (Ref. 3) and influenza virus (Ref. 7). He pioneered various microdevices, such as pumps, valves, mixers and bioreactors, so that the entire bioprocesses for molecular diagnosis (including sample treatment, virus/bacteria isolation/purification, DNA/RNA extraction, nucleic acid amplification and optical detection) can be executed within a miniature integrated device with < 30 minutes and with a detection limit down to a single cell/virus. This is enabled by using specially conjugated magnetic beads (i.e., beads with a combination of multiple high-affinity capturing probes such as antibodies, aptamers, peptides, nucleic acids and antibiotics on the beads) so that the capture of targeted bacteria/viruses or biomolecules could be achieved even in complicated biosamples with efficient mixing and collection. This technology has already been transferred to local Taiwan industries for commercialization (e.g., Jabil Green Point Inc., Taiwan). In addition to disease diagnosis, this technology is also under development for other important applications for virus/bacteria “subtypes” screening, antibiotics-resistant bacteria screening, and effective dose optimization of antibiotics.

3. Electromagnetic thermotheraputic devices for cancer treatment

Pro. Lee’s group has developed a new electromagnetic thermotheraputic (EMT) device using electromagnetically heated stainless-steel needle arrays. Under a specially designed high-frequency alternating electromagnetic field, the minimally invasive device could be precisely heated to treat tumors. It features fast and efficient heating using both eddy currents and magnetic hysteresis. A spin-off company from his lab (Taiwan Earning Inc.) has commercialized this technology in both Taiwan and China. As an official product, his EMT device has been routinely used in pets without damaging normal tissues.

Publication List

January 2020

A-1.Refereed Journal Papers and Book Chapters (*Corresponding Author)

2019

1. Yu-Dong Ma, Kuang-Hsien Li, Yi-Hong Chen, Yung-Mao Lee, Shang-Ta Chou, Yue-Yuan Lai, Po-Chiun Huang, Hsi-Pin Ma* and **Gwo-Bin Lee***, „A sample-to-answer portable platform for rapid detection of pathogens with a smartphone interface," Lab on a chip, DOI: 10.1039/C9LC00797K, Vol. 19, Issue 22, pp. 3804-3814, 2019 (SCI; Impact factor=6.914) 6/75=8% (BIOCHEMICAL RESEARCH METHODS) **(Co-corresponding author). (front cover)**
2. Yi-Sin Chen, Yu-Dong Ma, Chihchen Chen, Shu-Chu Shiesh, and **Gwo-Bin Lee***, „An Integrated Microfluidic System for On-Chip Enrichment and Quantification of Circulating Extracellular Vesicles from Whole Blood," Lab on a chip, DOI: 10.1039/C9LC00624A, Vol. 19, Issue 19, pp. 3305-3315, 2019 (SCI; Impact factor=6.914) 6/75=8% (BIOCHEMICAL RESEARCH METHODS) **(Corresponding author).**
3. Wen-Bin Lee, Chien-Yu Fu, Huey-Ling You, Mel S. Lee* and **Gwo-Bin Lee***, „An Integrated Microfluidic System for Antimicrobial Susceptibility Testing with Antibiotic Combination," Lab on a chip, DOI: 10.1039/C9LC00585D, Vol, 19, Issue 16, pp. 2699-2708, 2019. (SCI; Impact factor=6.914) 6/75=8% (BIOCHEMICAL RESEARCH METHODS) **(Co-corresponding author).**
4. Priya Gopinathan, Anirban Sinha, Yi-Da Chung, Shu-Chu Shiesh*, and **Gwo-Bin Lee***, „Detection of cardiac troponin I using an aptamer-based sandwich assay on an integrated microfluidic platform," Analyst, DOI: 10.1039/C9AN00779B, Vol. 144, Issue 16, pp. 4943-4951, 2019. (SCI; Impact factor=4.019) 6/75=8% (BIOCHEMICAL RESEARCH METHODS) **(Co-corresponding author)**
5. Yu-Dong Ma, Yi-Sin Chen, and **Gwo-Bin Lee*, „**An integrated self-driven microfluidic device for rapid detection of Influenza A (H1N1) virus by reverse transcription loop-mediated isothermal amplification," Sensors and Actuators B: Chemical, DOI: 10.1016/j.snb.2019.126647, Vol. 296, Article Number: UNSP 126647, 2019 (SCI; Impact factor=6.393) 2/58=3.4% (INSTRUMENTS & INSTRUMENTATION). **(Corresponding author)**
6. Tse-Yu Tai, Anirban Sinha, Indu Sarangadharan, Anil Kumar Pulikkathodi, Shin-Li Wang, Shu-Chu Shiesh*, **Gwo-Bin Lee***, Yu-Lin Wang*, „Design and demonstration of tunable amplified sensitivity of AlGaN/GaN high electron mobility transistor (HEMT)-based biosensors in human serum," Analytical Chemistry, DOI: 10.1021/acs.analchem.9b003532019, vol. 91, pp. 5953-5960, 2019 (SCI; Impact factor =

8.173). 2/76=2.6% (CHEMISTRY, ANALYTICAL) **(Co-corresponding author).**

7. Yi-Sin Chen, Ko-Chin Chung, Wen-Yen Huang, Wen-Bin Lee, Chien-Yu Fu, Chih-Hung Wang, and **Gwo-Bin Lee***, „Generating Digital Drug Cocktails via Optical Manipulation of Drug-containing Particles and Photo-Patterning of Hydrogels," Lab on a chip, DOI: 10.1039/C9LC00189A, vol. 19, pp. 1764-1771, 2019. (SCI; Impact factor=6.914) 6/75=8% (BIOCHEMICAL RESEARCH METHODS) **(Corresponding author). (cover)**
8. Anirban Sinha, Priya Gopinathan, Yi-Da Chung, Shu-Chu Shiesh, and **Gwo-Bin Lee***, „Simultaneous detection of multiple NT-proBNP clinical samples utilizing an aptamer-sandwich assay on an integrated microfluidic system," Lab on a chip, DOI: 10.1039/C9LC00115H, 2019, vol. 19, pp. 1676-1685 (SCI; Impact factor=6.914) 6/75=8% (BIOCHEMICAL RESEARCH METHODS) **(Corresponding author).**
9. Kao-Mai Shen, Narayana Murthy Sabbavarapu, Chien-Yu Fu, Jia-Tsrong Jan, Jen-Ren Wang, Shang-Cheng Hung*, and **Gwo-Bin Lee***, „An integrated microfluidic system for rapid detection and multiple subtyping of influenza A viruses by using glycan-coated magnetic beads and RT-PCR," Lab on a chip, DOI: 10.1039/C8LC01369A, 2019. (SCI; Impact factor=5.995) 6/75=8% (BIOCHEMICAL RESEARCH METHODS) **(Co-corresponding author).**
10. Wei-Ting Liu, Wen-Bin Lee, Yi-Cheng Tsai, Yuan-Jhe Chuang, Keng-Fu Hsu* and **Gwo-Bin Lee***, An Automatic Microfluidic System for Consecutive Selection of Aptamers by Using Cancer Tissue Samples," Biomicrofluidics, vol. 13, 014114, doi 10.1063/1.5085133, 2019. (SCI; IF= 2.571). 8/31=25.8 % (PHYSIC, FLUIDS & PLASMAS) **(Co-Corresponding author).**
11. Anirban Sinha, Tze-Yu Tai, Kuang-Hsien Li, Priya Gopinathan, Yi-Da Chung, Indu Sarangadharan, Hsi-Pin Ma, Po-Chiun Huang, Shu-Chu Shiesh, Yu-Lin Wang*, and **Gwo-Bin Lee***, "An integrated microfluidic system with field-effect-transistor sensor arrays for detecting multiple cardiovascular biomarkers from clinical samples," Biosensors and Bioelectronics, vol. 129, pp. 155-163, 2019 (SCI; Impact factor =8.173).2/76=2.6% (CHEMISTRY, ANALYTICAL) **(Co-corresponding author).**
12. Yi-Hong Chen, Anil Kumar Pulikkathodi, Yu-Dong Ma, Yu-Lin Wang*, and **Gwo-Bin Lee***, "A microfluidic platform integrated with field-effect transistors for enumeration of circulating tumor cells," Lab on a chip, DOI: 10.1039/C8LC01072B, vol. 19, pp. 618-625, 2019. (SCI; Impact factor=5.995) 6/75=8% (BIOCHEMICAL RESEARCH METHODS) **(Co-corresponding author).**
13. Chih-Hung Wang, Jiunn Jong Wu and **Gwo-Bin Lee***, "Screening of highly-specific aptamers and their applications in paper-based microfluidic chips for rapid diagnosis of multiple bacteria," Sensors and Actuators B: Chemical, vol. 284, pp. 395-402, 2019. (SCI; Impact factor=5.667) 2/58=3.4% (INSTRUMENTS & INSTRUMENTATION). **(Corresponding author)**
14. Ting-Hang Liu, Shu-Shen Cheng, Huey-Ling You, Mel S. Lee*, and **Gwo-Bin Lee***,

"Bacterial Detection and Identification from Human Joint Fluids on an Integrated Microfluidic System," Analyst, DOI: 10.1039/C8AN01764F, vol. 144, pp. 1210-1222,2019 (SCI; Impact factor=3.864) 6/75=8% (BIOCHEMICAL RESEARCH METHODS) **(Co-corresponding author)**

2018

1. Feng-Chih Kuo, Yu-Der Lu, Cheng-Ta Wu, Huey-Ling You, **Gwo-Bin Lee***, Mel S Lee*, "Comparison of molecular diagnosis with serum markers and synovial fluid analysis in patients of periprosthetic joint infection," The Bone & Joint Journal, vol 100-B(10), pp. 1345-1351, 2018. (SCI; IF= 2.948) **(Co-corresponding author)**
2. Lien-Yu Hung, Chien-Yu Fu, Chih-Hung Wang, Yuan-Jhe Chuang, Yi-Cheng Tsai, Yi-Ling Lo, Pang-Hung Hsu, Hwan-You Chang, Shu-Chu Shiesh, Keng-Fu Hsu*, and **Gwo-Bin Lee***, "Microfluidic platforms for rapid screening of cancer affinity reagents by using tissue samples," Biomicrofluidics, vol. 12, 054108, 2018. (SCI; IF= 2.571). 8/31=25.8 % (PHYSIC, FLUIDS & PLASMAS) (Co-Corresponding author).
3. Tse-Yu Tai, Anirban Sinha, Indu Sarangadharan, Anil Kumar Pulikkathodi, Shin-Li Wang , Shu-Chu Shiesh, **Gwo-Bin Lee***, Yu-Lin Wang*, "Aptamer functionalized AlGaN/GaN high electron mobility transistor for rapid diagnosis of fibrinogen in human plasma," Sensors and Materials, vol. 30, No. 10(2), 2018. (SCI; IF= 0.519) (Co-corresponding author)
4. Anirban Sinha, Priya Gopinathan, Yi-Da Chung, Hsin-Ying Lin, Kuang-Hsien Li, Hsi-Pin Ma, Po-Chiun Huang, Shu-Chu Shieh* and **Gwo-Bin Lee***, "An integrated microfluidic platform to perform continuous SELEX process to screen affinity reagents specific to cardiovascular biomarkers," Biosensors and Bioelectronics, 122, pp. 104-112, 2018 (SCI; Impact factor = 8.173). 2/76=2.6% (CHEMISTRY, ANALYTICAL) (Co-corresponding author).
5. Hong-Lin Cheng, Chien-Yu Fu, Wen-Che Kuo, Yen-Wen Chen, Yi-Shin Chen, Yung-Mao Lee, Kuang-Hsien Li, , Chih-Chen Chen, Hsi-Pin Ma, Po-Chiun Huang, Yu-Lin Wang*, and **Gwo-Bin Lee***, „Detecting miRNA Biomarkers from Extracellular Vesicles for Cardiovascular Disease with a Microfluidic System," Lab on a chip, DOI: 10.1039/C8LC00386F, vol. 18, pp. 2917-2925, 2018. (SCI; Impact factor=5.995) 6/75=8% (BIOCHEMICAL RESEARCH METHODS) (Co-corresponding author). (outside cover)
6. Wenfeng Liang, Lianqing Liu, Yuechao Wang, **Gwo-Bin Lee** and Wen Jung Li*, "Rapid assembly of carbon nanoparticles into electrical elements by optically-induced electroosmotic flow," IEEE Transactions on Nanotechnology, DOI 10.1109/TNANO.2018.2856880, Vol. 17, pp. 1045-1052, 2018 (SCI; IF= 2.857).
7. Feifei Wang, Lianqing Liu, Gongxin Li, Pan Li, Yangdong Wen, Guanglie Zhang, Yuechao Wang, and **Gwo-Bin Lee,** Wen Jung Li* „Thermometry of optically induced electrokinetics chips for cell manipulation and assembly," Microsystems and Nanoengineering (Nature Publishing Group), DOI: 10.1038/s41378-018-0029-y, 2018 (SCI; IF=5.071) 3/61=4.9% (Instruments and Instrumentations).

8. Yu-Chun Hsiao, Chih-Hung Wang, Wen-Bin Lee, and **Gwo-Bin Lee***, „Automatic cell fusion via optically-induced dielectrophoresis and optically-induced locally-enhanced electric field on a microfluidic chip," Biomicrofluidics, DOI: 10.1063/1.5028158, 2018 (SCI; IF= 2.571). 8/31=25.8 % (PHYSIC, FLUIDS & PLASMAS) (Corresponding author). (Editor's Pick)
9. Yen-Wen Chen, Tse-Yu Tai, Chen-Pin Hsu, Indu Sarangadharan, Anil Kumar Pulikkathodi, Hsin-Li Wang, Revathi Sukesan, Geng-Yen Lee, Jen-Inn Chyi, Chih-Chen Chen, **Gwo-Bin Lee**, Yu-Lin Wang*, „Direct Detection of DNA using Electrical Double Layer gated High Electron Mobility Transistor in High Ionic Strength Solution with High Sensitivity and Specificity," Sensors and Actuators B, vol. 271, pp. 110-117, DOI: https://doi.org/10.1016/j.snb.2018.05.119, 2018. (SCI; Impact factor=5.667) 2/58=3.4% (INSTRUMENTS & INSTRUMENTATION)
10. Jia-Han Wu, Chih-Hung Wang, Yu-Dong Ma, and **Gwo-Bin Lee***, „A Nitrocellulose membrane-based Integrated Microfluidic System for Bacterial Detection Utilizing Magnetic-composite-membrane Microdevices and Bacteria-specific Aptamers," Lab on a chip, DOI: 10.1039/C8LC00251G, 2018. (SCI; Impact factor=5.995) 6/75=8% (BIOCHEMICAL RESEARCH METHODS) (Corresponding author).
11. Pan Li, Haibo Yu, Na Liu, Feifei Wang, **Gwo-Bin Lee**, Yuechao Wang, Lianqing Liu* and Wen Jung Li*, „Visible Light Induced Electropolymerization of Suspended Hydrogel Bioscaffolds in a Microfluidic Chip," Biomaterials Science, DOI: 10.1039/C7BM01153A, Vol. 6, Issue 6, pp. 1371-1378, 2018. (SCI; IF= 5.831)
12. Wen-Yen Huang, Shang-Ta Chou, Chia-Hui Chen, Shan-Ying Chou, Jia-Han Wu, Yu-Chen Chen, and **Gwo-Bin Lee***, "An Automatic Integrated Microfluidic System for Allergy Microarray Chips," Analyst, DOI: 10.1039/C8AN00247A, vol. 143, pp.2285-2292, 2018 (SCI; Impact factor=3.864) 6/75=8% (BIOCHEMICAL RESEARCH METHODS) (Corresponding author).
13. Anil Kumar Pulikkathodi, Indu Sarangadharan, Yi-Hong Chen, Geng-Yen Lee, Jen-Inn Chyi, **Gwo-Bin Lee***, and Yu-Lin Wang*, „Dynamic Monitoring of Transmembrane Potential Changes: Study of Ion Channels using Electrical Double Layer gated FET Biosensor," Lab on a chip, accepted for publishing, 2018 (SCI) **(Co-Corresponding author).**
14. Anil Kumar Pulikkathodi, Indu Sarangadharan,Yi-Hong Chen, Geng-Yen Lee, Jen-Inn Chyi, **Gwo-Bin Lee*** and Yu-Lin Wang*, „A Comprehensive Model for Whole Cell Sensing and Transmembrane Potential Measurement Using FET Biosensors," ECS Journal of Solid State Science and Technology, vol. 7 (7), Q3001-Q3008, 2018. (SCI; IF=1.787) 68/147=46.3% (PHYSICS, APPLIED)**(Co-Corresponding author)**.
15. Ju-Ching Yu, Chih-Chien Hu, Wen-Hsin Chang, Pei-Chun Chen, Mel S. Lee, Kuo-Ti Peng* and **Gwo-Bin Lee***, „An integrated microfluidic system using mannose-binding lectin for bacteria isolation and biofilm-related gene detection," Microfluidics and Nanofluidics, vol. 22, Issue 1, Article Number: 13, DOI: 10.1007/s10404-017-2031-3, 2018(SCI, Impact factor=2.344) 17/58=29.3% (INSTRUMENTS & INSTRUMENTATION) **(Co-Corresponding author).**
16. Yu-Dong Ma, Kang Luo, Wen-Hsin Chang and **Gwo-Bin Lee***, „A microfluidic chip capable of

generating and trapping emulsion droplets for digital loop-mediated isothermal amplification analysis," Lab on a chip, vol. 18, pp. 296 - 303, DOI: 10.1039/C7LC01004D, 2018. (SCI; Impact factor=6.115) 6/75=8% (BIOCHEMICAL RESEARCH METHODS) **(Corresponding author) (cover paper)**.

17. Anil Kumar Pulikkathodi, Indu Sarangadharan, Chen-Pin Hsu, Yi-Hong Chen, Lien-Yu Hung, Geng-Yen Lee, Jen-Inn Chyi, **Gwo-Bin Lee***, and Yu-Lin Wang*, „Enumeration of Circulating Tumor Cells and Investigation of Cellular Responses using Aptamer-Immobilized AlGaN/GaN High Electron Mobility Transistor Sensor Array," Sensors and Actuators B: Chemical, vol. 257, pp. 96–104, 2018 (SCI; Impact factor=3.535) 3/57=5.3% (INSTRUMENTS & INSTRUMENTATION) **(Co-corresponding author).**
18. Indu Sarangadharan, Abiral Regmi, Yen-Wen Chen, Chen-Pin Hsu, Pei-chi Chen, Wen-Hsin Chang, Geng-Yen Lee, Jen-Inn Chyi, Shu-Chu Shiesh, **Gwo-Bin Lee,** Yu-Lin Wang*, "High sensitivity cardiac troponin I detection in physiological environment using AlGaN/GaN High Electron Mobility Transistor (HEMT) Biosensors," Biosensors and Bioelectronics, vol. 100, 282–289, 2018. (SCI; Impact factor = 7.780). 2/76=2.6% (CHEMISTRY, ANALYTICAL)**.**
19. Yu-Dong Ma, Wen-Hsin Chang, Kang Luo, Chih-Hung Wang, Shih-Yuan Liu, Wen-Hsiang Yen and **Gwo-Bin Lee***, "Digitized quantification of DNA through Isothermal Amplification on a Self-driven Microfluidic Chip through a Rapid Surface Modification on Polydimethylsiloxane Channels," Biosensors and Bioelectronics, vol. 99, pp. 547–554, 2018(SCI; Impact factor = 7.780). 2/76=2.6% (CHEMISTRY, ANALYTICAL) **(Corresponding author).**

2017

1. Ju-Ching Yu, Pang-Hsin Hsieh, Hsing-Wen Tsai, Wen-Hsin Chang, Ting-Hung Liu, Mel S. Lee, Kuo-Ti Peng, Kuo-Chin Huang*, and **Gwo-Bin Lee***, „Rapid identification of pathogens responsible for necrotizing fasciitis on an integrated microfluidic system," Biomicrofluidics, vol. 11, Issue: 6, Article Number: 064108 DOI: 10.1063/1.5007081, 2017 (SCI; IF= 2.535). 8/31=25.8 % (PHYSIC, FLUIDS & PLASMAS) **(Co-Corresponding author). (editor's pick)**
2. Wenfeng Liang, Yuliang Zhao, Lianqing Liu, Yuechao Wang, Wen Jung Li*, **Gwo-Bin Lee**, "Determination of cell membrane capacitance and conductance via optically induced electrokinetics," Biophysical Journal, vol. 113, Issue 7, pp. 1531-1539, 2017, (SCI; IF=3.656). 17/73= 23.3% (BIOPHYSICS)
3. Ching-Wen Yu, Chien-Yu Fu, Lien-Yu Hung, Chih-Hung Wang, Nai-Jung Chiang, Yu-Chun Wang, Yan-Shen Shan* and **Gwo-Bin Lee***, Screening of Peptides Specific to Cholangiocarcinoma Cancer Cells Using an Integrated Microfluidic System and Phage Display Technology," Microfluidics and Nanofluidics, DOI 10.1007/s10404-017-1983-7, 2017(SCI, Impact factor=2.344) 17/58=29.3% (INSTRUMENTS & INSTRUMENTATION) **(Co-Corresponding author).**
4. Abiral Regmi, Indu Sarangadharan, Chen-Pin Hsu, Yen-Wen Chen, Jen-Inn Chyi, Geng-Yen Lee,

Shu-Chu Shiesh, **Gwo-Bin Lee*** and Yu-Lin Wang*, „Direct detection of Fibrinogen in human plasma using electric-double-layer gated AlGaN/GaN high electron mobility transistors," Applied Physics Letters, vol. 111, doi: 10.1063/1.50002472017 (SCI; IF=3.411). 28/147=19.0% (PHYSICS, APPLIED) **(Co-Corresponding author).**

5. Wei-Chieh Kao, Yen-Wen Chen, Chia-Ho Chu, Wen-Hsin Chang, Yu-Lin Wang* and **Gwo-Bin Lee***, "Detection of C-reactive Protein on an Integrated Microfluidic System by Utilizing Field-effect Transistors and Aptamers," Biomicrofluidics, vol. 11, Article Number: 044105, DOI: 10.1063/1.4995257, 2017 (SCI; IF= 2.535). 8/31=25.8 % (PHYSIC, FLUIDS & PLASMAS) **(Co-Corresponding author).**
6. Priya Gopinathan, Lien-Yu Hung, Chih-Hung Wang, Nai-Jung Chiang, Yu-Chun Wang, Yan-Shen Shan*, and **Gwo-Bin Lee***, "Automated selection of aptamers against cholangiocarcinoma cells on an integrated microfluidic platform," Biomicrofluidics, vol. 11, Article Number: 044101, DOI: 10.1063/1.4991005, 2017 (SCI; IF= 2.535). 8/31=25.8 % (PHYSIC, FLUIDS & PLASMAS) **(Co-corresponding author).**
7. Sung-Chi Tsai, Lien-Yu Hung, **Gwo-Bin Lee***, "An integrated microfluidic platform for the isolation and detection of circulating tumour cells using cell selection and enrichment method," Biomicrofluidics, DOI: 10.1063/1.4991476, 2017 (SCI; IF= 2.535). 8/31=25.8 % (PHYSIC, FLUIDS & PLASMAS) **(Co-corresponding author).**
8. Pei-Chi Chen, Yen-Wen Chen, Indu Sarangadharan, Chen-Pin Hsu, Chih-Chen Chen, Shu-Chu Shiesh, **Gwo-Bin Lee*** and Yu-Lin Wang*, "Field-effect transistor-based biosensors and a portable device for personal healthcare," ECS Journal of Solid State Science and Technology**,** 6 (7), Q71-Q76, 2017 (SCI; IF=1.787) 68/147=46.3% (PHYSICS, APPLIED)**(Co-Corresponding author)**.
9. Chia-Ho Chu, Indu Sarangadharan, Abiral Regmi, Yen-Wen Chen, Chen-Pin Hsu, Wen-Hsin Chang, Jen-Inn Chyi, Chih-Chen Chen, Shu-Chu Shiesh, **Gwo-Bin Lee*** and Yu-Lin Wang*, "Beyond the Debye length in high ionic strength solution: direct protein detection with field-effect transistors (FETs) in human serum," Scientific Reports, vol. 7, Article Number: 5256, DOI: 10.1038/s41598-017-05426-6, 2017 (Nature Publishing Group), 2017.(SCI; IF=4.259) 10/64=15.6% (MULTIDISCIPLINARY SCIENCES) **(Co-corresponding author).**
10. Lien-Yu Hung, Nai-Jung Chiang, Wei-Chun Tsai, Chien-Yu Fu, Yu-Chun Wang, Yan-Shen Shan*, and **Gwo-Bin Lee***, "A MICROFLUIDIC CHIP FOR DETECTING CHOLANGIOCARCINOMA CELLS IN HUMAN BILE," Scientific Reports (Nature Publishing Group), Vol. 7, Article Number: 4248, DOI: 10.1038/s41598-017-04056-2, 2017.(SCI; IF=4.259) 10/64=15.6% (MULTIDISCIPLINARY SCIENCES)**(Co-corresponding author).**
11. Wen-Yen Huang, Ching-An Liu, Rong-Syuan Fan, Zhi-Da Lin, Kuan Wang* and **Gwo-Bin Lee***, "Automatic optimization of drug cocktails on an integrated microfluidic system," Biomicrofluidics, vol. 11, Article Number: 034109, DOI: 10.1063/1.49836142017 (SCI; IF= 2.535). 8/31=25.8 % (PHYSIC, FLUIDS & PLASMAS) **(Co-Corresponding author).**

12. Shu-Ling Chen, Wen-Hsin Chang, Chih-Hung Wang, Huey-Ling You, Jiunn-Jong Wu, Mel S. Lee* and **Gwo-Bin Lee***, "An Integrated Microfluidic System for Live Bacteria Detection from Human Joint Fluid Samples by Using Ethidium Monoazide and Loop-Mediated Isothermal Amplification," Microfluidics and Nanofluidics, Vol. 21, Issue: 5, Article Number: 87, DOI: 10.1007/s10404-017-1913-8, 2017(SCI, Impact factor=2.344) 17/58=29.3% (INSTRUMENTS & INSTRUMENTATION) **(Co-Corresponding author).**
13. Wen-Hsin Chang, Ju-Ching Yu, Sung-Yi Yang, Yi-Cheng Lin, Chih-Hung Wang, Huey-Ling You, Jiunn-Jong Wu, Mel S. Lee* and **Gwo-Bin Lee***, "Vancomycin-resistant gene identification from live bacteria on an integrated microfluidic system by using low temperature lysis and loop-mediated isothermal amplification," Biomicrofluidics, Vol. 11, Issue 2, Article Number: 024101, DOI: 10.1063/1.4977439, 2017(SCI; IF= 2.535). 8/31=25.8 % (PHYSIC, FLUIDS & PLASMAS) **(Co-corresponding author).**
14. Wen-Bin Lee, Chien-Yu Fu, Wen-Hsin Chang, Huey-Ling You, Chih-Hung Wang, Mel S Lee* and **Gwo-Bin Lee***, „A microfluidic device for antimicrobial susceptibility testing utilizing a broth dilution method," Biosensors and Bioelectronics, vol. 87, pp. 669–678, DOI: 10.1016/j.bios.2016.09.008, 2017(SCI; Impact factor = 7.780). 2/76=2.6% (CHEMISTRY, ANALYTICAL) **(Co-corresponding author)**.

2016

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B-1. Conference Papers

1. Cheng-Sheng Lin, Yi-Cheng Tsai and **Gwo-Bin Lee***, "AN AUTOMATED MICROFLUIDIC SYSTEM FOR OPTIMIZATION OF APTAMER SELECTION BY USING CANCER TISSUE SAMPLES," IEEE MEMS 2020, January 26-30, 2020, Vancouver, Canada.
2. Yen-Ling Fang, Wen-Bin Lee, Chih-Hung Wang, Chun-Chih Chien, Huey-Ling You, Mel S. Lee*, **Gwo-Bin Lee***, "AN INTEGRATED MICROFLUIDIC SYSTEM FOR FAST ISOLATION OF BACTERIA IN HUMAN WHOLE BLOOD FOR DIAGNOSIS OF SEPSIS,"

IEEE MEMS 2020, January 26-30, Vancouver, Canada.

3. Kuo-Wei Hsu, Wen-Bin Lee, Huey-Ling You, Mel S. Lee, and **Gwo-Bin Lee***, "AUTOMATED PORTABLE DEVICE FOR ANTIMICROBIAL SUSCEPTIBILITY TEST OF ANTIBIOTIC COMBINATIONS," MicroTAS 2019, October 27-31, Basel, Switzerland.
4. Ting-Hang Liu, Chang-Ni Lin, Keng-Fu Hsu and **Gwo-Bin Lee***, "A MICROFLUIDIC PLATFORM FOR DIAGNOSIS OF OVARIAN CLEAR CELL CARCINOMA VIA QUANTIFICATION OF FXYD2 GENE," MicroTAS 2019, October 27-31, Basel, Switzerland.
5. Wen-Yen Huang, Nai-Jung Chiang, Cheng-Hsiu Chang, Priya Gopinathan, Terry D. Juang, Hsiu-Chi Tu, Yen-Shen Shan, Shang-Cheng Hung and **Gwo-Bin Lee***, "AN INTEGRATED MICROFLUIDIC PLATFORM TO DETECT TUMOR CELLS FROM BILE JUICE OF CHOLANGIOCARCINOMA PATIENTS BY USING NOVEL AFFINITY REAGENTS," MicroTAS 2019, October 27-31, Basel, Switzerland.
6. Chih-Hung Wang and **Gwo-Bin Lee***, "DIAGNOSIS OF METHYLATED DNA FRAGMENTS OF TUMOR SUPPRESSOR GENES IN BLOOD BY UTILIZING METHYLATION-SPECIFIC APTAMERS ON A MICROFLUIDIC SYSTEM," MicroTAS 2019, October 27-31, Basel, Switzerland.
7. Yi-Cheng Tsai and **Gwo-Bin Lee***, "CONTINUOUS TISSUE-SELEX UTILIZING A PRE-SCREENING PROCESS FOR MEMBRANE TARGETING APTAMERS ON AN INTEGRATED MICROFLUIDIC SYSTEM," MicroTAS 2019, October 27-31, Basel, Switzerland.
8. Wen-Bin Lee, Kuo-Wei Hsu, Huey-Ling You, Mel S. Lee*, and **Gwo-Bin Lee***, "A PORTABLE, AUTOMATIC MICROFLUIDIC SYSTEM FOR RAPID PERSONALIZED ANTIBIOTIC SCREENING," Transducers 2019, June 23-27, Berlin, Germany.
9. Anirban Sinh, Priya Gopinathan, Yi-Da Chung, Shu-Chu Shiesh and **Gwo-Bin Lee***, "AN APTAMER BASED SANDWICH ASSAY FOR SIMULTANEOUS DETECTION OF MULTIPLE CARDIOVASCULAR BIOMARKERS ON A MULTILAYERED INTEGRATED MICROFLUIDIC SYSTEM," Transducers 2019, June 23-27, Berlin, Germany.
10. Yi-Sin Chen, Chihchen Chen and **Gwo-Bin Lee***, "Quantification of circulating extracellular vesicles from human plasma by utilizing a membrane-based microfluidic system," The International Society for Extracellular Vesicles Annual meeting 2019 (ISEV2019), 24 - 28 April 2019, Kyoto, Japan.
11. Yi-Cheng Tsai, Wei-Ting Liu, Sheng-Po Haung, Wen-Bin Lee, Yuan-Jhe Chuang, Keng-Fu Hsu** and **Gwo-Bin Lee***, "Microfluidic Systems for Fast and Accurate Diagnosis of Ovarian Cancers," IEEE NEMS 2019, Thailand.
12. Yu-Dong Ma, Kuang-Hsien Li, Yi-Hong Chen, Yung-Mao Lee, Po-Chiun Huang, Hsi-Pin Ma* and **Gwo-Bin Lee***, "A SMARTPHONE-BASED PORTABLE SYSTEM FOR RAPID DETECTION OF PATHOGENS," IEEE MEMS 2019, Korea.
13. Anirban Sinha, Priya Gopinathan, Yi-Da Chung, Shu-Chu Shieh and **Gwo-Bin Lee***, "Integrated microfluidic platform for utilizing aptamer-based ELISA-like assay for simultaneous detection

of multiple cardiovascular clinical samples," MicroTAS 2018, Kaohsiung, Taiwan.

14. Wen-Bin Lee, Ting-Hang Liu, Yi-Sin Chen, Huey-Ling You, Mel S. Lee* and **Gwo-Bin Lee***, "A MEMBRANE-TYPE MICROFLUIDIC DEVICE FOR RAPID BACTERIA DETECTION IN CLINICAL SAMPLES," MicroTAS 2018, Kaohsiung, Taiwan.
15. Ka-U Ip, Jia-Ru Chang, Xin-Ren Huang, Chih-Hung Wang, Shang-Cheng Hung*, Horng-Yunn Dou* and **Gwo-Bin Lee***, "AN INTEGRATED MICROFLUIDIC SYSTEM FOR THE DETECTION OF LIVE MYCOBACTERIUM TUBERCULOSIS BY USING HEPARAN SULFATE COATED BEADS," MicroTAS 2018, Kaohsiung, Taiwan.
16. Chin-Heng Su, Min-Han Tsai, Chia-Ying Lin, Yu-Dong Ma, Chih-Hung Wang, Yi-Da Chung and **Gwo-Bin Lee***, "DUAL APTAMER ASSAY FOR BACTERIAL DETECTION BY USING AN ELECTROMAGETIC MICROFLUIDIC PLATFORM," MicroTAS 2018, Kaohsiung, Taiwan.
17. Po-Hsien Lu, Yu-Dong Ma, Chien-Yu Fu and **Gwo-Bin Lee***, "A Structureless Digital Microfluidic Platform for Detection of Influenza A Virus by Using Magnetic Beads and Electromagnetic Forces," MicroTAS 2018, Kaohsiung, Taiwan.
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24. Yi-Sin Chen, Chihchen Chen and **Gwo-Bin Lee***, "INTEGRATED MICROFLUIDIC SYSTEM UTILIZING STIRRING ENHANCED FILTRATION AND IMMUNOCAPTURE FOR ENRICHING CIRCULATING EXTRACELLULAR VESICLES FROM WHOLE BLOOD," MicroTAS 2018, Kaohsiung, Taiwan.
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INFLUENZA A VIRUSES BY USING CHEMICALLY SYNTHESIZED PENTASACCHARIDE-COATED MAGNETIC BEADS AND RT-PCR," MicroTAS 2018, Kaohsiung, Taiwan.

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30. Anirban Sinha, Tse-Yu Tai, Yu-Lin Wang and **Gwo-Bin Lee***, "INTEGRATED MICROFLUIDIC SYSTEM WITH FIELD EFFECT TRANSISTOR FOR AUTOMATIC DETECTION OF MULTIPLE CARDIOVASCULAR BIOMARKERS," IEEE MEMS 2018, Belfast, Northern Ireland.
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45. Shan-Ying Chou, Jia-Han Wu, Shang-Ta Chou, Chia-Hui Chen, Wen-Yen Huang, Chen-Yu Chen and **Gwo-Bin Lee***, "An Integrated Microfluidic System for Automating Multiplex Allergy Microarrays," IEEE NEMS 2017, Las Angeles, USA.

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HYDROGELS FOR DEMONSTRATION OF DIGITAL DRUG COCKTAILS," IEEE MEMS 2017, Las Vegas, USA.

48. Wen-Yen Huang, Chinn-An Liu, Rong-Syuan Fan, Zhih-Da Lin, Kung Wang, and **Gwo-Bin Lee***, "AUTOMATIC OPTIMIZATION OF DRUG COCKTAIL ON AN INTEGATED MICROFLUIDIC SYSTEM," MicroTAS 2016, Dublin, 2016.
49. Priya Gopinathan, Lien-Yu Hung, Chih-Hung Wang, Nai-Jung Chiang, Yu-Chun Wang, Yan-Shen Shan and**Gwo-Bin Lee***, "An integrated microfluidic platform for screening of aptamers specific to cholangiocarcinoma by utilizing on-chip cell SELEX process," MicroTAS 2016, Dublin, 2016.
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Hsing-Wen Sung, Ph.D.
Handling Editor, Biomaterials
National Chair Professor
Department of Chemical Engineering
National Tsing Hua University
Hsinchu 30013, Taiwan (ROC)
Tel: +886-3-574-2504
Email: hwsung@mx.nthu.edu.tw

Hsing-Wen Sung is a Tsing Hua Distinguished Chair Professor, Department of Chemical Engineering, National Tsing Hua University. He received his PhD degree from the Department of Chemical Engineering/Biomedical Engineering Program, Georgia Institute of Technology in May 1988. His research interests are biomaterials, tissue engineering, and drug/gene delivery. Professor Sung has received numerous awards such as Fellow of American Institute for Medical and Biological Engineering, Fellow of International Union of Societies for Biomaterials Science and Engineering, Academician of Asia Pacific Academy of Materials, Ho Chin Tui Outstanding Research Award, National Science Council Outstanding Research Award, Professor Tsai-The Lai Award, Elsevier 2015 Biomaterials Best Paper Award, and 2016 TERMIS-AP Outstanding Scientist Award. He has been on the Editorial Boards of Journal of Controlled Release, Tissue Engineering, and Advanced Healthcare Materials; also, he has been serving as a Handling Editor for Biomaterials. Professor Sung has published 260 scientific papers and received 120 international patents. His published papers have over 14,500 citations with an H-index of approximately 70, according to Google Scholar..

Publication List

January 2020

A-1.Refereed Journal Papers (*Corresponding Author)

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mediated multidrug resistance," Angewandte Chemie International Edition, vol. 54, pp. 9890–9893, 2015. (SCI 12.257)

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41. Hsiao, C.-W., Chen, H.-L., Liao, Z.-X., Sureshbabu, R., Hsiao, H.-C., Lin, S.-J., Chang, Y.*, Sung, H.-W.*, "Effective photothermal killing of pathogenic bacteria by using spatially tunable colloidal gels with nano-localized heating sources," Advanced Functional Materials, vol.25, pp.721−728, 2015. (SCI 15.621)

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B. Conference Papers

2018

1. Hsieh, M.-H.,Wu, J., Li, S.-H., Wu, S.-Y., Gao, X.-Y., Wei, H.-J., Li, R.-K., Sung, H.-W.* "An Injectable Self-doping Conductive Hydrogel that Improves Electrical Coupling of Isolated

Cardiomyocytes, Restoring Heart Function after Myocardial Infarction”此篇論文榮獲 2018 中華民國生醫材料及藥物制放學會壁報競賽活動生醫材料組第一名

2. Hsieh, M.-H.,Wu, J., Li, S.-H., Wu, S.-Y., Gao, X.-Y., Wei, H.-J., Li, R.-K., Sung, H.-W.* “ An Injectable Self-doping Conductive Hydrogel that Improves Electrical Coupling of Isolated Cardiomyocytes, Restoring Heart Function after Myocardial Infarction”此篇論文榮獲 2018 第 19 屆工學院研究生論文發表競賽壁報展示組佳作

3. Chen, P.-M., Pan, W.-Y, Wu ,Y.-R., Yeh, C.-Y., Yang ,Y.-Z., Luo, P.-K., Chou, C.-J., Sung, H.-W.*, “ An NIR-Absorbing Nanoparticle System Loaded with TLR-7/8 Ligand for Combinational Photothermal Immunotherapy”此篇論文榮獲 2018 The 2nd International Conference on Biomedical Application of Nanomaterials, Best Poster Award in 3rd Prize

2017

4. Hsieh, M.-H., Huang, C.-C., Hu, H.-Y., Wei, H.-J., Lin, K.-J., Chang, Y., Sung, H.-W.*, “Exogenous Delivery of Hydrogen Sulfide by DATS-loaded PLGA Microparticles for the Treatment of Ischemic Disease”此篇論文榮獲 2017 清華大學-深圳大學高等研究院雙邊研討會論論文海報展示報告優勝獎

5. Wan, W.-L., Lin, Y.-J., Huang, C.-C., Shih, P.-C., Bow, Y.-R., Sung, H.-W.*, “In situ Nanoreactor for Photosynthesizing H2 Gas to Mitigate Oxidative Stress in Tissue Inflammation” 此篇獲 2017 年生物醫學工程科技研討會 口頭論文優勝

6. Chen, P.-M., Pan, W.-Y, Tsai, Y.-H., Wu, Y.-R., Sung, H.-W.*, “An NIR-Absorbing Nanoparticle System Loaded with TLR-7/8 Ligand for Combinational Photothermal Immunotherapy”此篇論文榮獲 2017 台灣化學工程學會年會學生組論文口頭發表競賽傑出獎

7. Chen, P.-M., Pan, W.-Y., Tsai, Y.-H., Wu, Y.-R., **Sung, H.-W.***, “An NIR-Absorbing Nanoparticle System Loaded with TLR-7/8 Ligand for Combinational Photothermal Immunotherapy”此篇論文榮獲 2017 台灣化學工程學會 64 週年年會學生組論文口頭發表競賽傑出獎

8. Lin P.-Y., Huang J.-H., Chuang E.-Y., Huang T.-G., Juang J.-H., **Sung, H.-W.***, “Nonviral Gene Delivery for Chronic Protein Replacement Therapy”此篇論文榮獲 2017 台灣化學工程學會 64 週年年會學生組英文口頭論文競賽傑出獎

9. Lin, Y.-J., Chi, N.-W., Nguyen, T., Chen, C.-C., Lu, H.-Y., **Sung, H.-W.***, “In Situ Formation

of Micellar Depots Containing Nitric Oxide Bubbles for the Treatment of Osteoporosis" 2017 CASNN (Chinese American Society of Nanomedicine and Nanobiotechnology) Poster Award

10. Wan, W.-L., Shih, P.-C., Lin, Y.-J., Bow, Y.-R., Huang, C.-C., **Sung, H.-W.***, "A H2 Bubble-Generating Nanoreactor System for Treating Inflammatory Diseases" 此篇論文榮獲 2017 年 CASNN Annual Meeting (Suzhou, China) Best Poster Award

11. Chen, P.-M., Pan, W.-Y., Tsai, Y.-H., Wu, Y.-R., **Sung, H.-W.***, "An NIR-Absorbing Nanoparticle System Loaded with TLR-7/8 Ligand for Combinational Photothermal Immunotherapy " 2017 ICBP (The 6th International Conference on Bio-based Polymers) Outstanding Poster Award : Silver Medal Award.

12. Lin P.-Y., Chiu Y.-H., Chuang E.-Y., Lin K.-J.,**Sung, H.-W.***, "Bubble Carrier Stabilized with Sodium Dodecyl Sulfate for Oral Delivery of Insulin" 此篇論文榮獲 2017 中華民國高分子學會年會學生組英文口頭論文競賽特優

2016

13. Pan, W.-Y, Chen, P.-M., Tsai, Y.-H., **Sung, H.-W.***, "An NIR-Absorbing Nanoparticle System Loaded with TLR-7/8 Ligand for Combinational Photothermal Immunotherapy", International Conference on Advanced Polymeric Materials Commemorating the 40th Anniversary of the Polymer Society of Korea (IUPAC-PSK40), Jeju, Korea, 2016

14. Chiranjeevi, K., Hsiao, C.-W., **Sung, H.-W.***, "Photothermal Tumor Ablation in Mice withRepeated Therapy Sessions Using NIR Absorbing Micellar Hydrogels Formed In Situ," MRST annual meeting held at ITRI in 2016. (Hsinchu, Taiwan).

15. Wei-Chih Lin, Shu-Jyuan Lin, Cheng-Wei Lu, Chen-Kao Liu, Meng-Ju Lee, and **Hsing-Wen Sung**, "Sustained Release of H2S from a Microsphere System Encapsulted with NaHS to Promote Cell Proliferation and Angiogenesis for Wound Healing in Diabetic Mice". (2016) 3rd Symposium on Innovative Polymers for Controlled Delivery, Suzhou, China. 此篇榮獲 2016 年 SIPCD 壁報論文優勝獎

16. Chen P.-M., Pan W.-Y., Tsai Y.-H., Wu Y.-R., **Sung H.-W.***, "An NIR-Absorbing Nanoparticle System Loaded with TLR-7/8 Ligand for Combinational Photothermal Immunotherapy" 此篇論文榮獲 2016 台灣化學工程學會 63 週年慶祝大會暨科技部化學工程學門成果發表會壁報論文競賽優勝獎

17. Wan, W.-L., Chung, M.-F., Lin, Y.-J., **Sung, H.-W.***, "Inflammation-Mediated Drug Release Using a Gas-Generating System for Treating Osteomyelitis," 此篇論文榮獲 2016 年

中華民國高分子學會年會壁報論文競賽佳作

18. Wan, W.-L., Chung, M.-F., Lin, Y.-J., **Sung, H.-W.***, “Inflammation-Induced Drug Release by Using a pH-Responsive Gas-Generating Hollow-Microsphere System for the Treatment of Osteomyelitis ” 此篇論文榮獲 2016 年李昭仁教授紀念研討會學生組壁報論文競賽優勝

19. Hsieh M.-H., Huang C.-C., Hu H.-Y., Wei H.-J., Lin K.-J., Wu S.-Y., Chang Y.,**Sung H.-W***, “Exogenous Delivery of Hydrogen Sulfide by DATS-loaded PLGA Microparticles for the Treatment of Ischemic Disease” 此篇論文榮獲 2016 台灣化學工程學會壁報論文競賽優勝

20. Lin P.-Y., Chuang E.-Y., Lin K.-J., **Sung, H.-W.***, “Multifunctional GCSF-Containing Nanoparticles for Oral Delivery to Chemotherapy-Induced Neutropenia Rat” 此篇論文榮獲 2016 李昭仁教授紀念研討會學生組口頭論文競賽特優

21. Lin P.-Y., Chuang E.-Y., Chen H.-L., Juang J.-H., Chiang C.-H.,**Sung, H.-W.***, “Safety and Efficacy of Self-Assembling Bubble Carriers Stabilized with Sodium Dodecyl Sulfate for Oral Delivery of Therapeutic Proteins” 此篇論文榮獲 2016 International Symposium on Biointerface Science and Engineering 海報論文競賽優勝

22. Huang, C.-C., Wei, H.-J., Lin, K.-J., Lin, W.-W., Hu, H.-Y., Chen, P.-M., Hsieh, M.-H., Chang, Y.*, **Sung, H.-W.***, “Multimodality noninvasive imaging for assessing therapeutic effects of exogenously transplanted cell aggregates capable of angiogenesis on acute myocardial infarction,” 2016 Annual Meeting of the Asia Pacific Chapter of the Tissue Engineering and Regenerative Medicine International Society (TERMIS-AP), Tamsui, Taiwan

23. Huang, C.-C., Wei, H.-J., Lin, K.-J., Lin, W.-W., Hsieh, M.-H., Chang, Y.*, **Sung, H.-W.***, “Multimodality noninvasive imaging for assessing therapeutic effects of exogenously transplanted cell aggregates capable of angiogenesis on acute myocardial infarction,” 2016 The 2nd Global Conference on Biomedical Engineering, Taipei, Taiwan

24. Huang, C.-C., Chen, D.-Y., Hsiao, C.-W., Lee, W.-Y., Chang, Y.*, **Sung, H.-W.***, “Injectable Cell Delivery Constructs for Myocardial Tissue Engineering,” The 17th International Annual Meeting of the Korean Tissue Engineering and Regenerative Medicine Society (KTERMS 2016), Seoul, South Korea

25. Huang, C.-C., Wei, H.-J., Lin, K.-J., Lin, W.-W., Hu, H.-Y., Chen, P.-M., Hsieh, M.-H., Chang, Y.*, **Sung, H.-W.***, “Multimodality noninvasive imaging for assessing therapeutic effects of exogenously transplanted cell aggregates capable of angiogenesis on acute myocardial infarction,” 此篇論文榮獲 2016 Memorial Symposium for Prof. Chau-Jen Lee, Hsinchu, Taiwan. 年輕學者英語口頭論文競賽優等

26. Chiranjeevi, K., Hsiao, C.-W., **Sung, H.-W.***, “Photothermal Tumor Ablation in Mice with Repeated Therapy Sessions Using NIR Absorbing Micellar Hydrogels Formed In Situ,” 此篇論文榮獲 2016 International Symposium On Theranostic Nanomedicine (Hsinchu, Taiwan) Best poster presentation award

2015

27. Wan, W.-L., Chung, M.-F., Lin, Y.-J., **Sung, H.-W.***, “Inflammation-Induced Drug Release by Using a pH-Responsive Gas-Generating Hollow-Microsphere System for the Treatment of Osteomyelitis,” 此篇論文榮獲 2015 年中國材料科學年會壁報論文競賽優勝

28. Chen, K.-J., Chung, M.-F., Hsiao, C.-W., Liao, Z.-X., Chia, W.-T., Lin, K.-J., **Sung, H.-W.***, “Bubble-Generating Carrier Systems for localized Controlled Release,” The 2015 International Chemical Congress of Pacific Basin Societies (Pacifichem 2015), Hawaii, USA.

29. **Sung, H.-W.***, “Bubble-Generating Carrier Systems for localized Controlled Release,” 2015 International Conference on Biomedical Application of Nanomaterials (ICOBAN 2015), Hong Kong

30. Lin, Y.-J., Chung, M.-F., Liu, H.-Y., Lin, K.-J., Chia, W.-T., **Sung H.-W.***, "A pH-Controlled Nitric Oxide-Generating Hollow Microsphere System for Overcoming P-Glycoprotein-Mediated Multidrug Resistance for Cancer Therapy," 此篇論文榮獲 2015 International Conference on Biomedical Application of Nanomaterials(ICOBAN 2015), Hong Kong, China, Best Poster Award

31. **Sung, H.-W.***, “Multifunctional Nanoparticles for Oral Protein Drug Delivery,” 2015 The 1st Annual International Symposium on Bio-Therapeutics Delivery Society, Seoul, Korea.

32. Huang, C.-C., Wei, H.-J., Lin, K.-J., Lin, W.-W., Wang, C.-W., Pan, W.-Y., Hwang, S.-M., Chang, Y.*, **Sung, H.-W.***, “Hypoxia-induced Therapeutic Angiogenesis in a Rat Model of Myocardial Infarction Using Injectable 3D HUVEC/cbMSC Aggregates,” 2015 The 4th Tissue Engineering and Regenerative Medicine International Society (TERMIS) World Congress, Boston, MA, USA.

33. Chung, M.-F., Chia, W.-T., Liu , H.-Y., Hsaio, C.-W., Hsiao, H.-C., Yang, C.-M., **Sung, H.-W.***, “An Inflammation-induced Bubble-generating Microsphere System for Treating Osteomyelitis,” 此篇論文榮獲 2015 The 5th Asian Biomaterials Congress (Taipei, Taiwan) Student Poster Award

34. Huang, C.-C., Wei, H.-J., Lin, K.-J., Hwang, S.-M., Chang, Y.*, **Sung, H.-W.***, “Hypoxia-

induced Therapeutic Neovascularization in Rodent Models of Ischemic Diseases Using Injectable 3D Cell Aggregates Composed of HUVECs and cbMSCs," 此篇論文榮獲 2015 The 5th Asian Biomaterials Congress (Taipei, Taiwan) Best Student Oral Presentation Award

35. Lin, P.-Y., Chuang, E.-Y., Lin, K.-J., **Sung, H.-W.***,"Treatment of chemotherapy-induced neutropenia in a rat model byusing multiple daily doses of oral administration of G-CSF-containingnanoparticles,"此篇論文榮獲 2015 The 5th Asian Biomaterials Congress (Taipei, Taiwan) Best Student Oral Presentation Award

36. Wan, W.-L., Hsiao, C.-W., Chen, H.-L., Liao, Z.-X., **Sung, H.-W.***, "Effective Photothermal Killing of Pathogenic Bacteria by Using Spatially Tunable Colloidal Gels with Nano-Localized Heating Sources"The 5th Asian Biomaterials Congress, Taipei, Taiwan, 2015

37. Huang, C.-C., Wei, H.-J., Lin, K.-J., Hwang, S.-M., Chang, Y.*, **Sung, H.-W.***, "Hypoxia-induced Therapeutic Neovascularization in Rodent Models of Ischemic Diseases Using Injectable 3D Cell Aggregates Composed of HUVECs and cbMSCs," 此篇論文榮獲 2015 Annual Meeting of the Polymer Society (Taipei, Taiwan) Best Oral Presentation Award

38. Pan, W.-Y., Chiang, W.-L., Chuang, E.-Y., Hsiao, H.-C., Liu, H.-Y., Chen, S.-Y., **Sung, H.-W.***, "A PLGA hollow microsphere system with an magnetically-activated molecular switch that can sequentially co-deliver a chemopreventive agent and a chemotherapy drug to enhance therapeutic efficacy" International Conference on Nanomedicine and NanoBiotechnology, Hangzhou, China, 2015

39. Wan, W.-L., Liao, Z.-X., Chuang, E.-Y., Lin, C.-C., **Sung, H.-W.***, "An Aptamer-Conjugated Liposomal System Containing a Bubble-Generating Agent for Tumor-Specific Chemotherapy Overcoming Multidrug Resistance" 此篇論文榮獲 2015 International Conference on Nanomedicine and NanoBiotechnology (Hangzhou, China) Best Poster Award

C. Patents

Taiwan

1. 宋信文,林威志,林淑娟,"緩釋型組成物、其製備方法及其用途, SUSTAINED-RELEASE COMPOSITION, METHOD FOR FABRICATING,AND USE THEREOF," 2018年中華民國專利發明第I638666號.

2. **Sung, H.-W.**, Lin, Y.-J., Chi, N.-W., Wan, W.-L., "溫度反應型組成物、其製備方法及其用途/Temperature-Responsive Composition, Method for Fabricating, And Use Thereof," 2017年中華民國專利發明第I606829號.

3. **Sung, H.-W.**, Chuang, E.-Y., Lin, P.-Y., "用於藥物傳遞之奈/微米氣泡, Nano/Micro Bubbles for Drug Delivery," 2016年中華民國專利發明第I556837號.

4. **Sung, H.-W.**, Chuang, E.-Y., Lin, P.-Y., "用於製備藥物傳遞之奈/微米氣泡之醫藥組成物, Pharmaceutical Composition for Preparing Drug Delivery Nano/Micro Bubbles," 2016年中華民國專利發明第I530299號.

5. **Sung, H.-W.**, Chuang, E.-Y., Lin, P.-Y., Chiang C.-H., "醫藥組合物/ Pharmaceutical composition" (Taiwan #105137833, filed on 11/18/2016.)

6. **Sung, H.-W.**, Hsiao, C.-W., Huang, C.-C., Chung, M.-F., Liao, Z.-X., Chiang, W.-L., "接枝酸摻雜聚苯胺之水膠共聚物及其用途, Acid-Substituted Polyaniline-Grafted Hydrogel Copolymer And Use Thereof," 2015年中華民國專利發明第I494112號.

United States

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吳志成Chih-Cheng Wu, M.D.

National Taiwan University Hospital, Hsinchu Br.
Cardiovascular Center, Director
Institute of Biomedical Engineering, adjunct assistant professor
National Tsing Hua University
Hsinchu, Taiwan(ROC)
Email: chihchengwumd@gmail.com

Chih-Cheng Wu is an adjunct Associate Professor, Institute of Biomedical Engineering, Tsing Hua Universityand College of Medicine, National Taiwan University. He received his MD degree from College of medicine, National Yang Ming University in June, 1994. Hisresearch interests are vascular biology,endovascular interventional technology and cardiovascular diseases in hemodialysis patients. Doctor Wu has received numerous awards such as best science from European Society of Cardiology, Society of interventional Radiology, Society of Atherosclerosis and vascular disease, and Taiwan Society of Cardiology. He has been on the Editorial Boards of Journal of Taiwan Society of Interventional Cardiology. Doctor Wu has published 50 scientific papers.

Publication List

January 2020

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1. Wu CC, Hsieh MH, Lee CK, Chuang SY, Chung MY, Lin CC (2019, Oct). Dimethylarginine Dimethylaminohydrolase 1 Polymorphisms and Venous Intimal Hyperplasia in Hemodialysis Patients. Am J Nephrol, DOI: 10.1159/000503949. (SCI, 23/76). MOST 106-2314-B-002-173-MY3. 本人為第一作者.

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13. Chen KC, Yin WH, Wu CC, Chan SH, Wu YW, Yang Wang K, Chang KC, Hwang JJ, Voon WC, Hsieh IC, Chong JT, Lin WS, Hsu CN, Ueng KC, Hsia CP, Liu JC, Yeh JS, Mar GY, Shih JY, Kuo JY, Tsao HM, Tseng WK, Yang CH, Chang CC, Chiang CE, Lei MH, Lin JF, Shyu KG (2018, May). In-Hospital Implementation of Evidence-Based Medications is Associated with Improved Survival in Diabetic Patients with Acute Coronary Syndrome - Data from TSOC ACS-DM Registry.. Acta Cardiol Sin. , 2018 May;34(3):211-223. .

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34. Hsieh MY, Lai CC,Wu YW, Lin L,Ho MC, Wu CC (2014, Nov). Impact on Pulmonary Arterial Pressures after Repeated Endovascular Thrombectomy of Dialysis Grafts: A Prospective Follow-up Study. J Vasc Interv Radiol, 25(12):1883-9. (SCI, 40/129). 本人為通訊作者.

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37. Chih-Cheng Wu, Huang PH, Lai CL, Leu HB, Chen JW, Lin SJ. (2014, Apr). The impact of endothelial progenitor cells on restenosis after percutaneous angioplasty of hemodialysis vascular access. PLOS ONE, 9(6): e101058.. (SCI, 8/55,Multidiscipline). 本人為第一作者.

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Conference Papers

Year	Format	Topic	Society	Location
2017	Oral	Effect of Timely Salvage on the Outcome of Thrombosed Vascular Access for hemodialysis	TCTAP 2017	Seoul
2016	Best poster	Vascular smooth muscle cell-related microRNAs are up-regulated in human venous intimal hyperplasia of dialysis patients	ESC, 2016	Rome
2015	Poster	Deficiency of endothelial progenitor cells is associated with subacute thrombosis after angioplasty in hemodialysis patients	ESC 2015	London
2014	Poster	Dimethylarginine dimethlaminohydrolase 1 gene polymorphisms predict accelerated venous intimal hyperplasia in hemodialysis patients	ESC 2014	Bacerlona
2014	Poster	Deficiency of endothelial progenitor cells is associated with subacute thrombosis after angioplasty in hemodialysis patients	ESC 2014	Barcelona
2011	Poster	Does Repeated Endovascular Declotting in Hemodialysis Grafts Caused Pulmonary Hypertension?	TCT-AP 2011	Seoul
2010	poster	Comparison of the Arrow-Trerotola Percutaneous Thrombectomy Device versus the AngioJet Rheolytic Catheter in the treatment of thrombosed native hemodialysis arteriovenous fistulas	TCT-AP 2010	Seoul

Awards：

Year	**Topic**	**Society**	**City**	Award
2017	Effect of Timely Salvage on the Outcome of Thrombosed Vascular Access for Hemodialysis	TCTAP 2017	Seoul	Best research
2016	Vascular smooth muscle cell-related microRNAs are up-regulated in human venous intimal hyperplasia of dialysis patients	ESC, 2016	Rome	Best poster
2016	Serum Indoxyl Sulfate Predicts Graft Thrombosis in Hemodialysis Patients.	Taiwan Atherosclerosis and vascular disease society	Taipei	First place of medical literatures
2016	An integrated approach to improve door to ECG time of ACS patients	TCTAP 2017	Seoul	Best poster
2014	Serum Indoxyl Sulfate Predicts Graft Thrombosis in Hemodialysis Patients.	TSOC, Annual meeting, 2014	Taipei	Best research
2011	Does Repeated Endovascular Declotting in Hemodialysis Grafts Caused Pulmonary Hypertension?	TCTAP 2011	Seoul	Best oral abstract

林宗宏Zong-Hong Lin, Ph.D.

Associate Professor
Institute of Biomedical Engineering
National Tsing Hua University
Hsinchu 30013, Taiwan(ROC)
E-mail: linzh@mx.nthu.edu.tw
Website: http://linzhatnthu.wixsite.com/suerte

Zong-Hong Lin received his Ph.D. (2009) from Department of Chemistry, National Taiwan University. After one year in the army (2009-2010), he started his postdoctoral career at the National Taiwan University between 2010 and 2012. Then he moved to Georgia Institute of Technology as a postdoctoral fellow between 2012 and 2014. Dr. Lin joined the faculty at National Tsing HuaUniversity (NTHU) in the fall of 2014 as an assistant professor and promoted to an associate professfor in 2017.His research interests include the development of high-output nanogenerators with smart designs, self-powered systems as biomedical and environmental sensors, highly efficient and stable catalysts for electrochemical applications, and functional nanomaterials for controlled antibacterial activity.He has been regularly invited as the reviewer for high impact and reputable SCI journals, including Nature Communications, Advanced Materials, ACS Nano, Science Advances, Nano Energy, etc. Dr. Lin has published over 70 SCI papers (sum of the times cited: 6077, h-index: 38) and has been responsible for the committee organization of varied international workshops and conferences.He has received awards such as Yong Investigator Award, the 5th Asian Biomaterials Congress (ABMC5) and Yong InvestigatorAward, the 21th Symposium of Association for Chemical Sensors in Taiwan (2016 SACST).

Publication List

January 2020

A-1. Refereed Journal Papers and Book Chapters (*Corresponding Author)

1. Y.-J. Fan*****; M.-Z. Huang; Y.-C. Hsiao; Y.-W. Huang; C.-Z. Deng; C. Yeh; R. A. Husain; **Z.-H. Lin*** (2019) "Enhancing the Sensitivity of Portable Biosensors Based on Self-Powered Ion Concentration Polarization and Electrical Kinetic Trapping" **Nano Energy**, 69, 104407. (IF:15.548).
2. Q. Cui; T.-H. Le; Y.-J. Lin; Y.-B. Miao; I-T. Sung; W.-B. Tsai; H.-Y. Chan; **Z.-H. Lin***; H.-W. Sung* (2019) **"**A Self-Powered Battery-Driven Drug Delivery Device that can Function as a Micromotor and Galvanically Actuate Localized Payload Release" **Nano Energy**, 66, 104120. (IF: 15.548).
3. F.-C. Kao*****, P.-Y. Chiu*****, T.-T. Tsai; **Z.-H. Lin** (2019) "The application of nanogenerators and piezoelectricity in osteogenesis" **Sci. Technol. Adv. Mater.**, 20, 1103-1117 (IF:3.585).
4. S.-N. Chen; M.-Z. Huang; **Z.-H. Lin**; C.-P. Liu***** (2019) **"**Enhancing Charge Transfer for ZnO Nanorods Based Triboelectric Nenogenerators Through Ga Doping" **Nano Energy**, 65, 104069. (IF: 15.548).
5. V. K. S. Hsiao; S.-F. Leung; Y.-C. Hsiao; P.-K. Kung; Y.-C. Lai; **Z.-H. Lin**; K. N. Salama; H. N. Alshareef; Z. L. Wang; J.-H. He***** (2019) "Photo-Carrier Extraction by Triboelectricity for Carrier Transport Layer-Free Photodetectors" **Nano Energy**, 65, 103958 (IF: 15.548).
6. C.-M. Chiu; S.-W. Chen; Y.-P. Pao; M.-Z. Huang; S.-W. Chan; **Z.-H. Lin*** (2019) "A Smart Glove with Integrated Triboelectric Nanogenerator for Self-Powered Gesture Recognition and Language Expression" **Sci. Technol. Adv. Mater.**, 20, 964-971. (Invited) (IF:3.585).
7. Y.-H. Tsao; R. A. Husain; Y.-J. Lin; I. Khan; S.-W. Chen; **Z.-H. Lin*** (2019) "A Self-Powered Mercury Ion Nanosensor Based on the Thermoelectric Effect and Chemical Transformation Mechanism" **Nano Energy**, 62, 268-274 (IF: 15.548).
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9. C.-M. Chiu, Y.-Y. Ke, T.-M. Chou, Y.-J. Lin, P.-K. Yang, C.-C. Wu, **Z.-H. Lin*** (2018) "Self-Powered Active Antibacterial Clothing through Hybrid Effects of Nanowire-Enhanced Electric Field Electroporation and Controllable Hydrogen Peroxide Generation" **Nano Energy**, 53, 1-10 (IF: 15.548).
10. Y.-T.+ Yao, P.-K.+ Yang, C.-M. Chiu, Y.-J. Lin, S.-W. Chen, D. Choi, **Z.-H. Lin*** (+Equal Contributions) (2018) "A Textile-based Triboelectric Nanogenerator with Humidity-Resistant

Output Characteristic and its Applications in Self-Powered Healthcare Sensors" **Nano Energy**, 50, 513-520(IF: 15.548).

11. M.+ He, Y.-J.+ Lin, C.-M. Chiu, W. Yang, B. Zhang, D. Yun, Y.* Xie, **Z.-H. Lin*** (+Equal Contributions) (2018) "A Flexible Photo-Thermoelectric Nanogenerator based on MoS2/PU Photothermal Layer for Infrared Light Harvesting" **Nano Energy**, 49, 588-595(IF: 15.548).
12. S. Masimukku, Y.-C. Hu, **Z.-H. Lin***, S.-.W Chen, T.-M. Chou, J. M.* Wu, (2018) "High Efficient Degradation of Dye Molecules by PDMS Embedded Abundant Single-Layer Tungsten Disulfide and their Antibacterial Performance" **Nano Energy**, 46, 338-346(IF: 15.548).
13. S.-N. Chen, C.-H. Chen, **Z.-H. Lin***; Y.-H. Tsao, C.-P.* Liu, (2018) "On Enhancing Capability of Tribocharge Transfer of ZnO Nanorod Arrays by Sb Doping for Anomalous Output Performance Improvement of Triboelectric Nanogenerators" **Nano Energy**, 45, 311-318(IF: 15.548).
14. C.-H. Chen, P.-W. Lee, Y.-H. Tsao, **Z.-H. Lin***(2017) "Utilization of Self-Powered Electrochemical Systems: Metallic Nanoparticles Synthesis and Lactate Detection" **Nano Energy**, 42, 241-248(IF: 12.343).
15. D. Choi, Y.-H. Tsao, C.-M. Chiu, D. Yoo, **Z.-H. Lin***, D. S. Kim* (2017) **Nano Energy**, 38, 419-427(IF: 12.343).
16. J.-H. Lin+, Y.-H. Tsao+, M.-H. Wu, T.-M. Chou, **Z.-H. Lin***, J. M. Wu* (+Equal Contributions) (2017) **Nano Energy**, 22, 575-581 (IF: 12.343).
17. Y.-T. Jao, Y.-C. Li, Y. Xie, Z.-H. Lin* (2017) **ECS J. Solid State Sci. Technol.**, 6(3), 3055-3057 (Invited)(IF: 1.787).
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21. T.-M. Chou, Y.-Y. Ke, Y.-H. Tsao, Y.-C. Li, **Z.-H. Lin*** (2016) **Int. J. Environ. Res. Publ. Health.**, 13(2), 202 (Invited) (IF: 2.01).
22. X. Li+, M.-H. Yeh+, **Z.-H. Lin+**, H. Guo, P.-K. Yang, J. Wang, S. Wang, R. Yu, T. Zhang, Z. L. Wang* (+Equal Contributions) (2015) **ACS Nano**, 9 (11), 11056-11063 (IF: 13.942).
23. P.-K. Yang+, **Z.-H. Lin+**, K. C. Pradel, L. Lin, X. Li, X. Wen, J.-H. He, Z. L. Wang* (+Equal Contributions) (2015) **ACS Nano**, 9(1), 901-907 (IF: 13.942).
24. **Z.-H. Lin**, G. C., X. Li, P.-K. Yang, X. Wen, Z. L. Wang* (2015) **Nano Energy**, 15, 256-265 (IF: 12.343).

25. G. Cheng, L. Zheng, **Z.-H. Lin**, J. Yang, Z. Du, Z. L. Wang* (2015) **Advanced Energy Materials**, 5(5), 1401452 (IF: 16.721).
26. Y. Li+, G. Cheng+, **Z.-H. Lin+**, J. Yang, L. Lin, Z. L. Wang* (+Equal Contributions) (2015) **Nano Energy**, 11, 323-332 (IF: 12.343).
27. B. Saravanakumar, K. Thiyagarajan, N. R. Alluri, S. S. Yoon, K. Taehyun, **Z.-H. Lin**, S.-J. Kim***Carbon**, 2015, 84, 56-65 (IF: 6.337).

B-1. Conference Papers

時間	會議名稱	地點	作者	論文名稱
2015	The Emerging Information and Technology Association (EITA)-Bio 2015	Taipei, Taiwan	Zong-Hong Lin	Development and Application of Functional Nanogenerators
2015	The 5th Asian Biomaterials Congress (ABMC5)	Hsinchu, Taiwan	Zong-Hong Lin	Self-Powered Nanosensors for Pressure, UV Light, Mercury Ion, and Catechin Molecule Detection
2015	MRS Spring Meeting	San Francisco, USA	Zong-Hong Lin	A Multi-layered Interdigital Electrodes-Based Triboelectric Nanogenerator for Hydroelectric Power Harvesting
2015	228th ECS Meeting	Phoenix, USA	Zong-Hong Lin	Development of Fiber-Based Devices as Energy Harvesters and Self-Powered Sensors
2016	International Symposium on Theranostic Nanomedicine	Hsinchu, Taiwan	Zong-Hong Lin	Nanogenerators for Self-Powered Sensing Systems
2016	The Nanenergy and Nanosystem (NENS 2016)	Beijing, China	Zong-Hong Lin	Polypeptides-Based Nanogenerators for Renewable Energy Harvesting
2016	229th ECS Meeting	San Diego, USA	Ting-Wei Chang、Yun-Ting Jao、Zong-Hong Lin	Preparation of Highly Active Au/Pd Nanocatalysts for Self-Powered Sensing Applications
2016	229th ECS Meeting	San Diego, USA	Ying-Chen Li、Zong-Hong Lin	Tellurium Nanowire Arrays-Based Nanogenerators for Thermal Energy Harvesting
2016	229th ECS Meeting	San Diego, USA	Yi-Yun Ke、Ting-Mao Chou、Zong-Hong Lin	Development of Functional Triboelectric Nanogenerators for Antibacterial Applications
2016	229th ECS Meeting	San Diego, USA	Chuan-Hua Chen、Yu-Hsiang Tsao、Zong-Hong Lin	Development of Biocompatible Triboelectric Nanogenerators by Using Polypeptides as the Contact Materials
2017	MRS Spring Meeting	Phoenix, USA	Zong-Hong Lin	Self-Powered Electrochemical Sensors for Glucose and Lactate Detection
2017	231st ECS Meeting	New Orleans, USA	Ting-Mao Chou、Yi-Yun Ke、Zong-Hong Lin	A Self-Powered Active Antibacterial System Controlled by Human Motions
2017	231st ECS Meeting	New Orleans, USA	Yun-Ting Jao、Ting-Wei Chang、Zong-Hong Lin	Multifunctional Textile for Energy Harvesting and Self-Powered Sensing Application

2017	231st ECS Meeting	New Orleans, USA	Yu-Hsiang Tsao、Chuan-Hua Chen、Zong-Hong Lin	Self-Powered Electrochemical Systems for the Synthesis of Metal Nanoparticles and Their Use in Lactate Detection
2018	233rd ECS Meeting	Washington, USA	Yu-Jiung Lin、Ting-Mao Chou、Zong-Hong Lin	Multifunctional MoS_2 Nanocatalysts for Water Disinfection
2018	233rd ECS Meeting	Washington, USA	Che-Min Chiu、Yu-Jhen Lin、Zong-Hong Lin	Development of Portable Self-Powered Disinfection Systems Based on Triboelectric and Thermoelectric Effects
2018	233rd ECS Meeting	Washington, USA	Yu-Jhen Lin、Yu-Hsiang Tsao、Zong-Hong Lin	Development of Self-Powered Mercury Ion Sensor based on Thermoelectric Effect
2019	235th ECS Meeting	Dallas, USA	Shuen-Wen Chan、Yu-Jiung Lin、Zong-Hong Lin	High Efficient Bi2Te3 Thermalcatalyst for Environmental Disinfection
2019	235th ECS Meeting	Dallas, USA	Shuo-Wen Chen、Yu-Jhen Lin、Zong-Hong Lin	Highly Sensitive Solid-Liquid Interfacing Triboelectric Nanosensor for Self-Powered Mercury Ion Detection
2019	235th ECS Meeting	Dallas, USA	CHENG Yeh、Chia-Chen Liu、Zong-Hong Lin	Shark Skin Inspired Riblet Microstructures As a Novel Solid-Liquid Triboelectric Nanogenerator for Energy Harvesting
2019	235th ECS Meeting	Dallas, USA	Yu-Ping Pao、Che-Min Chiu、Zong-Hong Lin	A Smart Glove with Integrated Triboelectric Nanogenerator for Self-Powered Gesture Recognition and Language Expression

C. Patents

類別	名稱	號碼(公開/告號)	期間	發明人
發明	一种振动开关式摩擦发电机和摩擦发电方法（Vibration switch type friction generator and friction generating method）	CN103780137B	已獲證	程纲、林宗宏、王中林
發明	基于液体的摩擦发电机、发电方法及传感器（Liquid-based friction generator, power generation method and sensor）	CN104467514B	已獲證	林宗宏、程纲、王中林
發明	自驱动光电传感器及其制备方法（Self-driving photoelectric sensor and preparation method thereof）	CN103780134B	已獲證	林宗宏、程纲、王中林
發明	一种基于滑动摩擦的脉冲发电机和发电方法（Sliding friction based impulse generator and power generation method）	CN103780133B	已獲證	程纲、林宗宏、王中林

發明	一种脉冲摩擦发电机和摩擦发电方法（Pulsed friction generator and frictional electricity generating method）	CN103780132B	已獲證	王中林、程纲、林宗宏
發明	一种风力摩擦纳米发电机（Wind power friction nanometer generator）	CN103780128B	已獲證	王中林、朱光、林宗宏
發明	静电脉冲发电机和直流脉冲发电机（Electrostatic impulse generator and direct current impulse generator）	CN103368452B	已獲證	王中林、白鹏、朱光、林宗宏
發明	一种基于摩擦纳米发电机的分子传感器（Friction-nanogenerator-based molecular sensor）	CN103364460B	已獲證	王中林、林宗宏、朱光
發明	脉冲发电机和发电机组（Pulse power generator and generator set）	CN103368458B	已獲證	王中林、朱光、林宗宏
發明	硫化硒纳米粒子添加剂的制作方法及其应用（Selenium sulfide nanoparticle additive preparing method and use）	CN1788734B	已獲證	王崇人、林宗宏、吴业煌
發明	Impulse generator and generator set	EP2928063A1	申請中	Zhong Lin Wang, Guang Zhu, Zong-Hong Lin
發明	Triboelectric nanogenerator for powering portable electronics	US20140084748A1	申請中	Zhong Lin Wang, Sihong Wang, Long Lin, Guang Zhu, Zong-Hong Lin
發明	Triboelectric nanogenerator for harvesting energy from water	US20160218640A1	申請中	Zhong Lin Wang, Zong-Hong Lin, Gang Cheng
發明	Robust triboelectric nanogenerator based on rolling electrification	US20160149518A1	申請中	Zhong Lin Wang, Long Lin, Yannan Xie, Zong-Hong Lin, Gang Cheng, Hengyu Guo, Jun Chen
發明	摩擦起電裝置	TW105110915	已獲證	林宗宏、曹育翔、陳詮樺、張庭維
發明	成長碲及碲化物奈米線陣列於導電基材上的方法和碲及碲化物奈米線熱電裝置（Method for forming tellurium/telluride nanowire arrays and tellurium/telluride nanowire thermoelectric devices）	US15/338,468; CN201610539817.5; TW105121774	申請中	林宗宏、周庭楸、李璎純、饒允婷

發明	熱電奈米感測器及其製造方法與應用方法 (Thermoelectric nanosensor, manufacturing method and applycation method thereof)	TW107106	申請中	林宗宏、曹育翔

陳韻晶Yunching Chen, Ph.D.

Associate Professor
Institute of Biomedical Engineering
National TsingHua University
Hsinchu 30013, Taiwan
Email: yunching@mx.nthu.edu.tw

Dr. Yunching Chen hasreceived her Ph.D. degree in Pharmaceutical Sciences at the University of North Carolina at Chapel Hill in May 2010. She completed her doctoral thesis under the supervision of Dr. Leaf Huang and developed various novel nanoparticle formulations to deliver RNA therapeutics and chemotherapy drugs for cancer therapy. She later worked with Drs.Rakesh Jain and Dan Duda as a research fellow of Radiation Oncology at Harvard Medical School and Massachusetts General Hospital.She found the tumor stroma plays an important role on immunosuppression, drug resistance, and cancer cell survival and metastasis. She joined the faculty of National TsingHua University as a tenure-track Assistant Professor in 2013. She rose through the ranks to Associate Professor in 2016. Her work provides a molecular understanding for the development of effective combination therapeutic approaches for the treatment of cancer. She has published 24 journal papers with nearly 2000 citations.

Publication List

January 2020

A-1. Refereed Journal Papers and Book Chapters (*Corresponding Author)

1. Kuan-Wei Huang, Fu-Fei Hsu, Jiantai Timothy Qiu, Guann-Jen Chern, Yi-An Lee, Chih-Chun Chang[1], Yu-Ting Huang, Yun-Chieh Sung, Cheng-Chin Chiang, Rui-Lin Huang, Chu-Chi Lin, Trinh Kieu Dinh, Hsi-Chien Huang, Yu-Chuan Shih, Donia Alson, Chun-Yen Lin, Yung-Chang Lin, Po-Chiao Chang, Shu-Yi Lin*, **Yunching Chen*** (2019). Highly Efficient and Tumor-Selective Nanoparticles for Dual-Targeted Immunogene Therapy against Cancer. ***Science Advances***. (*in press*)

2. Yun-Chieh Sung, Pei-Ru Jin, Li-An Chu, Fu-Fei Hsu, Mei-Ren Wang, Chih-Chun Chang, Show-Jen Chiou, Jiantai Timothy Qiu, Dong-Yu Gao, Chu-Chi Lin, Yu-Sing Chen, Yi-Chiung Hsu, Jane Wang, Fu-Nien Wang, Pei-Lun Yu, Ann-Shyn Chiang, Anthony Yan-Tang Wu, John Jun-Sheng Ko, Charles Pin-Kuang Lai, Tsai-Te Lu*, **Yunching Chen*** (2019). Delivery of Nitric Oxide with a Nanocarrier Promotes Tumour Vessel Normalization and Potentiates Anti-Cancer Therapies. ***Nature Nanotechnology,*** 14, 1160–1169.

3. Cin- Hao Lin, Hsin- Chuan Wen, Cheng- Chin Chiang, Jen- Sheng Huang, **Yunching Chen**, Sheng- Kai Wang* (2019). Polyproline Tri- Helix Macrocycles as Nanosized Scaffolds to Control Ligand Patterns for Selective Protein Oligomer Interactions. ***Small*.** 15(20).

4. Hung-Hsun Lu, Cheng-Hung Huang, Ting-Yun Shiue, Fu-Sheng Wang, Ko-Kai Chang, **Yunching Chen**, Chi-How Peng* (2019). Highly Efficient Gene Release in Spatiotemporal Precision Approached by Light and pH Dual Responsive Copolymers. ***Chemical Science***. 10, 284-292.

5. Kuan-Wei Huang, Yu-Tsung Lai, Guann-Jen Chern, Shao-Feng Huang, Chia-Lung Tsai, Yun-Chieh Sung, Cheng-Chin Chiang, Pi-Bei Hwang, Ting-Lun Ho, Rui-Lin Huang, Ting-Yun Shiue, **Yunching Chen***, and Sheng-Kai Wang* (2018). Galactose Derivative-Modified Nanoparticles for Efficient siRNA Delivery to Hepatocellular Carcinoma. ***Biomacromolecules*.** 19 (6), 2330–2339.

6. Chih-Chun Chang, Yang Yang, Dong-Yu Gao, Hui-Teng Cheng, Bryan Hoang, Po-Han Chao, Ling-Hsuan Chen, Joseph Bteich, Tsaiyu Chiang, Jia-Yu Liu, Shyh-Dar Li*, Yunching Chen* (2018). Docetaxel-carboxymethylcellulose nanoparticles ameliorate

CCl4-induced hepatic fibrosis in Mice. *Journal of Drug Targeting*. 27:1-9.

7. Yun-Chieh Sung, Ya-Chi Liu, Po-Han Chao, Chih-Chun Chang, Ts-Ting Lin, Ja-An Lin, Hui-Teng Cheng, Jane Wang, Charles P. Lai, Ling-Hsuan Chen, Peiru Jin, Anthony Y. Wu, Tsaiyu Chiang, Dong-Yu Gao, Dan G. Duda, Yunching Chen* (2018) Combined delivery of sorafenib and a MEK inhibitor using CXCR4-targeted nanoparticles reduces hepatic fibrosis and prevents tumor development. *Theranostics.* 8(4):894-905.

8. Chun-Hung Liu, Guann-Gen Chern, Fu-Fei Hsu, Kuan-Wei Huang, Yun-Chieh Sung, Hsi-Chien Huang, Jiantai Timothy Qiu, Chu-Chi Lin, Chien-Hsun Wu, Han-Chung Wu, Jia-Yu Liu, Yunching Chen* (2018) A multifunctional nanocarrier for efficient TRAIL-based gene therapy against hepatocellular carcinoma with desmoplasia.*Hepatology.*67(3):899-913.

9. Yunching Chen*, Ya-Chi Liu, Yun-Chieh Sung, Rakesh R. Ramjiawan, Ts-Ting Lin, Chih-Chun Chang, Kuo-ShyangJeng, Chiung-Fang Chang, Chun-Hung Liu, Dong-Yu Gao, Fu-Fei Hsu, Annique M. Duyverman, ShujiKitahara, Peigen Huang, SimonaDima, IrinelPopescu, Keith T. Flaherty, Andrew X. Zhu, NabeelBardeesy, Rakesh K. Jain, Cyril H. Benes, and Dan G. Duda* (2017) Overcoming sorafenib evasion in hepatocellular carcinoma using CXCR4-targeted nanoparticles to co-deliver MEK-inhibitors. *Sci Rep.* 7, 44123.

10. Liying Wang, Yunching Chen, Hsin Yao Lin, Yung-TeHou, Ling-Chu Yang, Aileen Y. Sun, Jia-Yu Liu, Chien-Wen Chang, and Dehui Wan (2017) Near-IR-Absorbing Gold Nanoframes with Enhanced Physiological Stability and Improved Biocompatibility for In Vivo Biomedical Applications. *ACS Appl. Mater. Interfaces*. *9* (4), 3873–3884.

11. Chun-Hung Liu[#], Kun-Ming Chan[#], Tsaiyu Chiang[#], Jia-Yu Liu, Guann-Gen Chern, Fu-Fei Hsu, Yu-Hsuan Wu, Ya-Chi Liu, Yunching Chen*(2016) Dual-functional nanoparticles targeting CXCR4 and delivering anti-angiogenicsiRNA ameliorate liver fibrosis. *Molecular Pharmaceutics.* 13 (7), 2253–2262.

12. Chun-Jui Lin, Chen-Hsiang Kuan, Hsi-Chin Wu, Yunching Chen, Chien-Wen Chang, Jih-Yang Huang, Tzu-Wei Wang (2016) Dual Responsive Self-assembling Nanocarrier with Active Targeting Peptide Ligand for Orthotopic Ovarian Cancer Theranostics. *Biomaterials.* 90:12-26.

13. Ts-Ting Lin#, Dong-Yu Gao#, Ya-Chi Liu, Yun-Chieh Sung, Dehui Wan, Jia-Yu Liu, Tsaiyu Chiang, Liying Wang, Yunching Chen* (2015) Development and Characterization of Sorafenib-Loaded PLGA Nanoparticles for the Systemic Treatment of Liver Fibrosis. *Journal of Controlled Release*. 10, 211:62~70.

14. Jia-Yu Liu, Tsaiyu Chiang, Chun-Hung Liu, Guann-Gen Chern, Ts-Ting Lin, Dong-Yu Gao,

Yunching Chen* (2015) Delivery of siRNA using CXCR4-Targeted Nanoparticles Modulates Tumor Microenvironment and Achieves a Potent Anti-Tumor Response in Liver Cancer. *Molecular Therapy*. 23(11):1772-82.

15. Dong-Yu Gao, Ts-Ting Lin, Yun-Chieh Sung, Ya Chi Liu, Wen-Hsuan Chiang, Chih-Chun Chang, Jia-Yu Liu, Yunching Chen* (2015) CXCR4-Targeted Lipid-Coated PLGA Nanoparticles Deliver Sorafenib and Overcome Acquired Drug Resistance in Liver Cancer. *Biomaterials*. 67: 194~203.

16. Yunching Chen*& Dan G. Duda* (2015) Targeting immunosuppression after standard sorafenib treatment to facilitate immune checkpoint blockade in hepatocellular carcinoma – an auto-commentary on clinical potential and future development. *Oncoimmunology.* 27;4(10).

17. Thomas Reiberger, Yunching Chen, Rakesh R. Ramjiawan, Tai Hato, Christopher Fan, Rekha Samuel, Sylvie Roberge, Peigen Huang, Gregory Y. Lauwers, Andrew X. Zhu, NabeelBardeesy, Rakesh K. Jain, Dan G. Duda (2015). An orthotopic mouse model of hepatocellular carcinoma with underlying liver cirrhosis. *Nature Protocol*. 10: 1264–1274.

18. Yunching Chen, Rakesh R. Ramjiawan, Thomas Reiberger, Mei Rosa Ng, Tai Hato, Yuhui Huang, Hiroki Ochiai, Elizabeth C. Unan, Teja P. Reddy, Peigen Huang, Andrew X. Zhu, Rakesh K. Jain, Dan G. Duda* (2015). CXCR4 inhibition in tumor microenvironment facilitates anti-PD-1 immunotherapy in sorafenib-treated HCC in mice. *Hepatology*, 61(5):1591-602.

B-1. Conference Papers

1. Yi-An Lee, Kuan-Wei Huang, Yunching Chen* (2019) Dual Delivery of siRNA and Plasmid DNA by Dendrimer-Encapsulated Nanoparticles for Cancer Immunotherapy. 13th International Symposium on Nanomedicine (ISNM2019) in Japan. (此論文獲選為The Best Poster Award)

2. Kuan-Wei Huang, Yunching Chen* (2019) A Multifunctional Nanocarrier for Efficient Gene Therapy against Hepatocellular Carcinoma. 2019 Cancer Nanotechnology Gordon Research Conference.

3. Yun-Chieh Sung, Tsai-Te Lu, Yunching Chen* (2019) Delivery of Nitric Oxide Promotes Tumor Vessel Normalization. 2019 Cancer Nanotechnology Gordon Research Conference.

4. Yun-Chieh Sung, Jane Wang, Tsai-Te Lu, Yunching Chen* (2018) Nanotechnology-Enabled Delivery of Nitric Oxide Suppresses Progression of Hepatocellular Carcinoma. 2018 Global Conference on Biomedical Engineering (此論文獲選為Student Best Oral Presentation

Award)

5. Chih-Chun Chang, Yunching Chen* (2018) Amelioration of CCl_4-induced Hepatic Fibrosis in Mice by Targeting Activated Hepatic Stellate Cells with a Docetaxel-carboxymethylcellulose Nanoparticle. 2018 Controlled Release Society Annual Meeting & Exposition in New York

6. Kuan-Wei Huang, Yunching Chen* (2018) Efficient siRNA Delivery by Galactoside-Decorated Nanoparticles to Treat Hepatocellular Carcinoma. 2018 Controlled Release Society Annual Meeting & Exposition in New York

7. Yun-Chieh Sung, Yunching Chen* (2018) Co-delivery Of Nitric Oxide Donor And Tyrosine Kinase Inhibitor Inhibits Tumor Progression And Overcome Drug Resistance In Hepatocellular Carcinoma. 2018 Controlled Release Society Annual Meeting & Exposition in New York

8. Yunching Chen* (2018) Multifunctional Nanocarriers for Efficient Treatment against Hepatocellular Carcinoma with Desmoplasia. 2018 前瞻生醫奈米研討會. (invited talk)

9. Kuan-Wei Huang, Yu-Tsung Lai, Guann-Jen Chern, Shao-Feng Huang, Chia-Lung Tsai, Yun-Chieh Sung, Cheng-Chin Chiang, Sheng-Kai Wang*, Yunching Chen* (2018) Establish Efficient siRNA Delivery with Galactoside Modified Nanoparticles for Hepatocellular Carcinoma Treatment. 2018 **中華民國生醫材料及藥物制放學會年會暨研討會.** (此論文獲選為Student Best Poster Award)

10. Pei-Ru Jin, Shang-Ying Hsieh, Jeng-Liang Han and Yunching Chen* (2017) Development of a Novel Quinoline-Based Autophagy Inhibitor for Effective Cancer Treatment2017生物醫學工程科技研討會

11. Chih-Chun Chang, Yunching Chen*, Shyh-Dar Li, Dong-Yu Gao and Po-Han Chao (2017) Docetaxel-carboxymethylcellulose Nanoparticles Ameliorate CCl4-induced Hepatic Fibrosis and Suppress the Progression of Liver Cancer2017生物醫學工程科技研討會

12. Yunching Chen* (2017) Nanoscale combination treatment targeting resistance mechanisms associated with cancer therapy 2017 Taiwan Biological Inorganic Chemistry Symposium. (invited talk)

13. Yun-Chieh Sung, Yunching Chen* (2017) Combined delivery of sorafenib and a MEK inhibitor using CXCR4-targeted nanoparticles ameliorates hepatic fibrosis and prevents tumor development. 2017 Cancer Nanotechnology Gordon Research Conference.

14. Guann-Gen Chern,Chun-Hung Liu, Yunching Chen* (2017) TRAIL-Induced Gene Delivery System as Treatment of Hepatocellular Carcinoma. 2017 Cancer Nanotechnology Gordon

Research Conference.

15. Yunching Chen* (2017) A new way to conquer liver diseases: Development of nanoscale combination treatment targeting microenvironment. 2017 Cancer Nanotechnology Gordon Research Conference.

16. Po-Han Chao, Yun-Chieh Sung, Tsai-Te Lu, Yunching Chen* (2017) Co-Delivery of Sorafenib and Dinitrosyl Iron Complexes with Targeted Nanoparticles Overcomes Drug Resistance for the Treatment of Liver Cancer. 2017 Cancer Nanotechnology Gordon Research Conference.

17. Kuan-Wei Huang, Chun-Hung Liu, Guann-Jen Chern, Yunching Chen* (2017) A multifunctional delivery system for TRAIL-based gene therapy against hepatocellular carcinoma with liver fibrosis. 2017ISOMRM. (此論文獲選為Student Best Poster Award)

18. Po-Han Chao and Yunching Chen*(2017) Combined delivery of sorafenib and a MEK inhibitor using CXCR4-targeted nanoparticles reduces hepatic fibrosis and prevents tumor development. 第6屆國際生質高分子研討會ICBP 2017.

19. Guann-Gen Chern and Yunching Chen*(2017) A multifunctional nanocarrier for efficient TRAIL-based gene therapy against hepatocellular carcinoma with desmoplasia. 第6屆國際生質高分子研討會ICBP 2017. (此論文獲選為Student Best Poster Award)

20. Chih-Chun Chang, Yunching Chen*(2016) Overcoming Sorafenib Evasion in Hepatocellular Carcinoma Using CXCR4-targeted Nanoparticles to Co-deliver MEK-inhibitors. 3rd International Conference on Biomaterials Science in Tokyo.

21. Yun-Chieh Sung, Yunching Chen*(2016) Co-Delivery of Sorafenib and a MEK Inhibitor with Targeted Nanoparticles Overcomes Paradoxical MAPK Pathway Activation in the Treatment of Liver Fibrosis. 3rd International Conference on Biomaterials Science in Tokyo.

22. Chih-Chun Chang, Ya-Chi Liu, Ts-Ting Lin, Yun-Chieh Sung, Chun-Hung Liu, Dong-Yu Gao, Yunching Chen*(2016) Tumor-targeted nanoparticles co-deliver multi-inhibitors to overcome sorafenib-driven paradoxical activation of RAF/MEK/ERK pathway in HCC. 2016 Global Conference on Biomedical Engineering. (selected as the Best Poster Award)

23. Yunching Chen* (2016). Nanoscale combination treatment targeting resistance mechanisms associated with cancer therapy. 2016李昭仁教授紀念研討會. (此論文獲選為李昭仁教授年輕學者獎)

24. Chun-Hung Liu#, Kun-Ming Chan#, Tsaiyu Chiang#, Jia-Yu Liu,Guann-Gen Chern, Fu-Fei Hsu, Yu-Hsuan Wu, Ya-Chi Liu, Yunching Chen* (2016). Dual-functional nanoparticles

targeting CXCR4 and delivering anti-angiogenicsiRNA ameliorate liver fibrosis. 2016李昭仁教授紀念研討會. (此論文獲選為Student Best Poster Award)

25. 劉俊宏, 江彩語, 劉家瑜, 陳韻晶* (2015). 以靶向 CXCR4之雙效奈米粒子遞送抗血管生成siRNA以治療肝纖維化. 2015生物醫學工程科技研討會.

26. 張智鈞, 高棟禹, 陳韻晶* (2015). 肝癌靶向之 PLGA 奈米粒子搭載Sorafenib以克服抗藥性並治療肝癌. 2015生物醫學工程科技研討會. (此論文獲選為Student Best Poster Award)

27. Dong-Yu Gao, Jia-Yu Liu, Yunching Chen* (2015). CXCR4-Targeted Nanoparticles Delivering Anti-angiogenic Drugs or siRNA Modulates Tumor Microenvironment and Overcomes Evasion of Anti- angiogenic Therapy in HCC. 2015 Cancer Nanotechnology Gordon Research Conference.

28. Dong-Yu Gao and Yunching Chen* (2015). CXCR4-Targeted Lipid-Coated PLGA Nanoparticles Deliver Sorafenib and Overcome Acquired Drug Resistance in Liver Cancer. The 5th Asian Biomaterials Congress.

29. Jia-Yu Liu, Tsaiyu Chiang and Yunching Chen* (2015). Lipid-Based Nanoparticles Inhibiting SDF1-a/CXCR4 axis and Delivering Anti-angiogenicsiRNa for treating liver fibrosis. The 5th Asian Biomaterials Congress. (此論文獲選為Student Best Poster Award)

30. Jia-Yu Liu, and Yunching Chen*(2015). Delivery of VEGF siRNA using CXCR4-Targeted Nanoparticles Modulates the Tumor Microenvironment and Achieves a Potent Anti-Tumor Response in Hepatocellular Carcinoma. The 5th Asian Biomaterials Congress. (此論文獲選為Student Best Poster Award)

31. Ts-Ting Lin, Dong-Yu Gao and Yunching Chen*(2015). Systemic Treatment of Liver Fibrosis with Sorafenib-Loaded PLGA Nanoparticles. The 5th Asian Biomaterials Congress.

32. Yunching Chen*,Jia-Yu Liu, Dong-Yu Gao, Ts-Ting Lin, Tsaiyu Chiang (2015). Delivery of anti-angiogenic agents using CXCR4 Targeted Nanoparticles Modulates Tumor Microenvironment and Achieves a Potent Anti-Tumor Response in Liver Cancer. 2015 CSHL Meeting on Biology of Cancer, NY.

33. Yunching Chen*,Ts-Ting Lin, Tsaiyu Chiang, Dong-Yu Gao, Jia-Yu Liu (2015, May). A new way to conquer liver diseases: Development of nanoscale combination treatment targeting microenvironment . The 5th Asian Biomaterials Congress. (此論文獲選為年輕學者獎)

34. Yen Ting Liao, Yunching Chen, Hsien Wei Chen and Jenq Gong Duh (2015). Controllable surface antifouling property of poly(ethylene terephthalate) via atmospheric pressure plasma surface grafting . The 2nd International Workshop on Plasma for Cancer Treatment.

C. Patents

1. 陳韻晶，張智鈞 “NANOPARTICLE, PREPARATION PROCESS AND USES THEREOF” U.S. Pat.申請號16/366630
2. 陳韻晶, 張智鈞 “奈米粒子及其製備方法與用途” 中華民國專利發明 申請號 TW 107146673
3. 陳韻晶、林姿婷及高棟禹 “包覆酪氨酸激媒抑制劑之奈米粒子在用於製備改善肝臟纖維化之醫藥組成物的用途” 中華民國專利發明第TW I590831號
4. 陳韻晶、劉家瑜及高棟禹 “Method for treatment of liver cancer and inhibiton of metastasis with cxc-chemokine-receptor 4-targeted nanoparticle” U.S. Pat. No. 9,415,011
5. 陳韻晶、劉家瑜及高棟禹 “以CXC趨化因子受體4為標靶之奈米粒子用於製備治療肝癌與抑制肝癌轉移之醫藥組成物的用途” 中華民國專利發明第TW I556830號
6. 吳漢忠, 林欽塘, 陳韻晶“用於檢測第一型登革病毒的抗原”中華民國專利發明第318982號.
7. Leaf Huang, Yunching Chen, JoyeetaSen, Surendar Reddy Bathula, SumioChono, Shyh-Dar Li, Michael Hackett “Methods and compositions comprising novel cationic lipids” U.S. Pat. No. 8,389,768.

黃玠誠Chieh-Cheng Huang, Ph.D.

Assistant Professor
Institute of Biomedical Engineering
National Tsing Hua University
Hsinchu, Taiwan(ROC)
Email: chiehcheng@mx.nthu.edu.tw

Chieh-Cheng Huang received his Ph.D. degree from Department of Chemical Engineering, National Tsing Hua University in July2015. From 2015 to 2017, he worked as a postdoctoral fellow with Profs. Hsing-Wen Sung (National Tsing Hua University, Taiwan) and Ren-Ke Li (University Health Network/University of Toronto, Canada). Currently, he is an assistant professor at Institute of Biomedical Engineering of National Tsing Hua University. His research interests include tissue engineering and regenerative medicine, drug delivery, and biomaterials.

Publication List

January 2020

A-1.Refereed Journal Papers and Book Chapters (*Corresponding Author)

1. Lee CY, Chen HT, Hsueh YJ, Chen HC*, **Huang CC**, Meir YJJ, Cheng CM, Wu WC, "*Perioperative topical ascorbic acid for the prevention of phacoemulsification-related corneal endothelial damage: Two case reports and review of literature*," ***World Journal of Clinical Cases***, vol.7, pp.642–649, 2019.
2. Wan WL, Lin YJ, Chen HL, **Huang CC**, Shih PC, Bow YR, Chia WT, Sung HW, "*In situ* nanoreactor for photosynthesizing H_2 gas to mitigate oxidative stress in tissue inflammation," ***Journal of the American Chemical Society***, vol.139, pp. 12923–12926, 2017.
3. Lin WC, **Huang CC**†, Lin SJ, Li MJ, Chang Y, Lin YJ, Wan WL, Shih PC, Sung HW, "*In situ* depot comprising phase-change materials that can sustainably release a gasotransmitter H_2S to treat diabetic wounds,"***Biomaterials***,vol.145, pp.1–8, 2017. (†Co-first author)
4. Lin YJ, **Huang CC**†, Wan WL, Chiang CH, Chang Y, Sung HW, "Recent advances in CO_2 bubble-generating carrier systems for localized controlled release," ***Biomaterials***, vol.133, pp.154–164, 2017. (†Co-first author)
5. Korupalli C†, **Huang CC**†, Lin WC, Pan WY, Lin PY, Wan WL, Li MJ, Chang Y*, Sung HW*, "Acidity-triggered charge-convertible nanoparticles that can cause bacterium-specific aggregation *in situ* to enhance photothermal ablation of focal infection," ***Biomaterials***, vol.116, pp.1−9, 2017. (†Co-first author)
6. **Huang CC**, Liao ZX, Lu HM, Pan WY, Wan WL, Chen CH, Sung HW*, "Cellular organelle-dependent cytotoxicity of iron oxide nanoparticles and its implications for cancer diagnosis and treatment: a mechanistic investigation," ***Chemistry of Materials***, vol. 28, pp.9017–9025, 2016.
7. Pan WY†, Lin KJ†, **Huang CC**†, Chiang WL, Lin YJ, Lin WC, Chuang EY, Chang Y*, Sung HW*, "Localized sequence-specific release of a chemopreventive agent and an anticancer drug in a time-controllable manner to enhance therapeutic efficacy," ***Biomaterials***, vol.101, pp.241−250, 2016. (†Co-first author)
8. **Huang CC**, Chia WT, Chung MF, Lin KJ, Hsiao CW, Jin C, Lim WH, Chen CC, Sung HW*, "An implantable depot that can generate oxygen *in situ* for overcoming hypoxia-induced resistance to anticancer drugs in chemotherapy," ***Journal of the American Chemical Society***, vol.138, pp.5222–5225, 2016.
9. Pan WY†, **Huang CC**†, Lin TT, Hu HY, Lin WC, Li MJ, Sung HW*, "Synergistic antibacterial effects of localized heat and oxidative stress caused by hydroxyl radicals mediated by graphene/iron oxide-based nanocomposites," ***Nanomedicine: Nanotechnology, Biology and Medicine***, vol.12, pp.431–438, 2016. (†Co-first author)

10. **Huang CC**, Pan WY, Tseng M T, Lin KJ, Yang YP, Tsai HW, Hwang SM, Chang Y, Wei HJ*, Sung HW*, “Enhancement of cell adhesion, retention, and survival of cell aggregates transplanted in ischemic tissues by concurrent delivery of an antioxidant for therapeutic angiogenesis,” ***Biomaterials***, vol.74, pp.53−63, 2016.
11. **Huang CC**, Wei HJ, Lin KJ, Lin WW, Wang CW, Pan WY, Hwang SM, Chang Y*, Sung HW*, “Multimodality noninvasive imaging of therapeutic effects of exogenously transplanted cell aggregates capable of angiogenesis on acute myocardial infarction,” ***Biomaterials***, vol.73, pp.12−22, 2015. ***This paper is honored as a recipient of Elsevier 2015 Biomaterials Outstanding Paper Award***.

B-1. Conference Abstracts

1. 林聖筑、謝岱恩、陳立騏、**黃玠誠***，“複合式產氧系統之開發及其於抑制缺氧細胞死亡之應用”，2019 中國材料科學學會年會。
2. 方怡喬、林郁婕、蔡孟妤、**黃玠誠***，“以臍帶血間葉幹細胞分化而成之類許旺細胞與血管內皮細胞所建立之三維幹細胞球體應用於周邊神經損傷之修復”，2019 中國材料科學學會年會。
3. 謝麗虹、游芷苹、郭靜雯、**黃玠誠***，“可促進血管新生與抑制細胞凋亡之三維幹細胞球體於提昇β細胞移植存活率之應用”，2019 中國材料科學學會年會。(此論文獲選為 Outstanding Student Poster Award)
4. Lin YJ, **Huang CC***, “3D Spheroids of MSC-derived Schwann Like Cells for Neuroregeneration,” 2019 Annual Meeting of the Asia Pacific Chapter of the Tissue Engineering and Regenerative Medicine International Society (TERMIS-AP), Brisbane, Australia.
5. Hsu TW, Fan YQ, Lin SJ, Tsai MY, YJ Lu, **Huang CC***, “Neuroprotective 3D stem cell spheroids for treating ischemic stroke,” 2019 Annual Meeting of the Asia Pacific Chapter of the Tissue Engineering and Regenerative Medicine International Society (TERMIS-AP), Brisbane, Australia.
6. Chiang CE, Yu CP, Chuang, RC, Juang JH, **Huang CC***, “Enhancing β cell survival by using pro-angiogenic 3D stem cell spheroids,” 2019 Annual Meeting of the Asia Pacific Chapter of the Tissue Engineering and Regenerative Medicine International Society (TERMIS-AP), Brisbane, Australia.
7. Yang WY, Hsieh TE, Lai PL, Yeh CK, **Huang CC***, “A composite oxygen-generating system for bone regeneration,” 2019 Annual Meeting of the Asia Pacific Chapter of the Tissue Engineering and Regenerative Medicine International Society (TERMIS-AP), Brisbane, Australia.
8. Lee PC, Chen SC, Hsueh YJ, Chen HC, Yeh CK, **Huang CC***, “Curcumin-loaded Gelatin Scaffold for Corneal Tissue Engineering,” 2019 Annual Meeting of the Asia Pacific Chapter of the Tissue Engineering and Regenerative Medicine International Society (TERMIS-AP), Brisbane, Australia.

9. Lin YJ, **Huang CC***, “Development of 3D cell spheroid composed of MSC-derived Schwann-like cells for treating peripheral nerve injury,” 2019 The 9th WACBE World Congress on Bioengineering (WACBE 2019), Taipei, Taiwan.
10. Hsu TW, Fan YQ, Lin SJ, Tsai MY, YJ Lu, **Huang CC***, “Development of 3D stem cell spheroids with neuroprotective and angiogenic functions for treating ischemic stroke,” 2019 The 9th WACBE World Congress on Bioengineering (WACBE 2019), Taipei, Taiwan.
11. Chiang CE, Yu CP, Chuang, RT, Juang JH, **Huang CC***, “Co-transplantation of 3D stem cell spheroids with pro-angiogenic & anti-apoptotic potentials improves β cell survival after subcutaneous engraftment,” 2019 The 9th WACBE World Congress on Bioengineering (WACBE 2019), Taipei, Taiwan.
12. Yang WY, Hsieh TE, Lai PL, Yeh CK, **Huang CC***, “A composite oxygen-generating system for bone regeneration,” 2019 The 9th WACBE World Congress on Bioengineering (WACBE 2019), Taipei, Taiwan.
13. Lee PC, Chen SC, Hsueh YJ, Chen HC, Yeh CK, **Huang CC***, “3D cultivation of donor corneas using stimuli-responsive fibrin gel for corneal tissue engineering,” 2019 The 9th WACBE World Congress on Bioengineering (WACBE 2019), Taipei, Taiwan.
14. **Huang CC***, Yu CP, Lin YJ, Kuo CW, Juang JH, “Co-transplantation of 3D stem cell spheroids with pro-angiogenic & anti-apoptotic potentials improves β cell survival after subcutaneous engraftment,” 2019 Asia Islet Biology & Incretin Symposium, Seoul, Korea. (此論文獲選為 Poster Award)
15. Lin YJ, **Huang CC***, “Development of 3D cell spheroid composed of MSC-derived Schwann-like cells for treating peripheral nerve injury,” 2019 The 14th Asian Congress on Biotechnology (ACB2019), Tamsui, Taiwan.
16. Hsu TW, Fan YQ, Lin SJ, Tsai MY, YJ Lu, **Huang CC***, “Development of 3D stem cell spheroids with neuroprotective and angiogenic functions for treating ischemic stroke,” 2019 The 14th Asian Congress on Biotechnology (ACB2019), Tamsui, Taiwan.
17. Chiang CE, Yu CP, Chuang, RT, Juang JH, **Huang CC***, “Co-transplantation of 3D stem cell spheroids with pro-angiogenic & anti-apoptotic potentials improves β cell survival after subcutaneous engraftment,” 2019 The 14th Asian Congress on Biotechnology (ACB2019), Tamsui, Taiwan.
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19. Lee PC, Chen SC, Hsueh YJ, Chen HC, **Huang CC***, “3D cultivation of donor corneas using stimuli-responsive fibrin gel for corneal tissue engineering,” 2019 The 14th Asian Congress on Biotechnology (ACB2019), Tamsui, Taiwan.
20. Yu CP, Juang JH, **Huang CC***, “Co-transplantation of 3D stem cell spheroids with pro-angiogenic & anti-apoptotic potentials improves β cell survival after subcutaneous engraftment,” 2019 International Advanced Drug Delivery Symposium (IADDS) & Annual

Meeting of Biomaterials and Controlled Releases Society (BCRS) in Taiwan, Hsinchu, Taiwan. (此論文獲選為 Outstanding Student Poster Award)

21. Hsieh TE, Chen CC, Lai PL, **Huang CC***, "A composite oxygen-generating system for bone regeneration," 2019 International Advanced Drug Delivery Symposium (IADDS) & Annual Meeting of Biomaterials and Controlled Releases Society (BCRS) in Taiwan, Hsinchu, Taiwan.
22. Chen SC, Hsueh YJ, Chen HC, **Huang CC***, "3D cultivation of donor corneas using stimuli-responsive fibrin gel for corneal tissue engineering," 2019 International Advanced Drug Delivery Symposium (IADDS) & Annual Meeting of Biomaterials and Controlled Releases Society (BCRS) in Taiwan, Hsinchu, Taiwan.
23. Yu CP, Juang, JH, **Huang CC***, "Enhancement of post-islet transplantation graft survival rate using 3D stem cell aggregates with pro-angiogenesis and antiapoptotic effects,"*2018 The 3rdGlobal Conference on Biomedical Engineering (GCBME)*, Zhongli, Taiwan. (此論文獲選為 Best Oral Presentation Award)
24. Hsieh TE, Chen CC, Lai PL, **Huang CC***, "A composite oxygen-generating system for bone regeneration,"*2018The 3rdGlobal Conference on Biomedical Engineering (GCBME)*, Zhongli, Taiwan.
25. Chen SC, Hsueh YJ, Chen HJ, **Huang CC***, "3D cultivation of donor corneas using stimuli-responsive fibrin gel for corneal tissue engineering," *2018The 3rdGlobal Conference on Biomedical Engineering (GCBME)*, Zhongli, Taiwan.
26. Hsieh TE, Chen CC, Lai PL, **Huang CC***, "A composite oxygen-generating system for bone regeneration,"*2018 The 5th Tissue Engineering and Regenerative Medicine International Society (TERMIS) World Congress*, Kyoto, Japan.
27. Yu CP, Juang, JH, **Huang CC***, "Enhancement of post-islet transplantation graft survival rate using 3D stem cell aggregates with pro-angiogenesis and antiapoptotic effects,"*2018 The 5th Tissue Engineering and Regenerative Medicine International Society (TERMIS) World Congress*, Kyoto, Japan.
28. Chen SC, Hsueh YJ, Chen HJ, **Huang CC***, "3D cultivation of donor corneas using stimuli-responsive fibrin gel for corneal tissue engineering," *2018 The 5th Tissue Engineering and Regenerative Medicine International Society (TERMIS) World Congress*, Kyoto, Japan.
29. **Huang CC***, Lu YJ, "Development of 3D stem cell aggregates with neuroprotective and angiogenic functions for treating ischemic stroke,"*2018 The 5th Tissue Engineering and Regenerative Medicine International Society (TERMIS) World Congress*, Kyoto, Japan.
30. Hsieh MH, **Huang CC**, Hu HY, Wei HJ, Lin KJ, Chang Y, Sung HW, "Exogenous delivery of hydrogen sulfide by DATS-loaded PLGA microparticles for the treatment of ischemic disease," *2017 生物醫學工程科技研討會暨科技部醫學工程學門成果發表會*, Zhongli, Taiwan.
31. Wan WL, Lin YJ, **Huang CC**, Shih PC, Bow YR, Sung HW, "In situ nanoreactor for photosynthesizing h2 gas to mitigate oxidative stress in tissue inflammation," *2017 生物醫*

學工程科技研討會暨科技部醫學工程學門成果發表會, Zhongli, Taiwan.

32. **Huang CC***, Lee WY, Hsiao CW, Chang Y, Sung HW, "Injectable cell delivery constructs for myocardial tissue engineering," *2017 International Union of Materials Research Societies - International Conference in Asia (IUMRS-ICA)*, Taipei, Taiwan.
33. **Huang CC***, Wei HJ, Lin KJ, Lin WW, Hsieh MH, Chang Y, Sung HW, "Multimodality noninvasive imaging for assessing therapeutic effects of exogenously transplanted cell aggregates capable of angiogenesis on acute myocardial infarction," *2017 Annual Meeting of the Asia Pacific Chapter of the Tissue Engineering and Regenerative Medicine International Society (TERMIS-AP)*, Nantong, China.
34. **Huang CC***, Wei HJ, Lin KJ, Lin WW, Hsieh MH, Chang Y, Sung HW, "Multimodality noninvasive imaging for assessing therapeutic effects of exogenously transplanted cell aggregates capable of angiogenesis on acute myocardial infarction," *2017 International Symposium of Materials on Regenerative Medicine (ISOMRM)*, Taoyuan, Taiwan.
35. **Huang CC***, Lee WY, Hsiao CW, Chang Y, Sung HW, "Injectable cell delivery constructs for myocardial tissue engineering," *2017 The 2nd International Symposium on Bio-Therapeutics Delivery (BTDS)*, Seoul, Korea.
36. **Huang CC***, Wan WL, Chia WT, Chung MF, Lin KJ, Hsiao CW, Jin C, Lim WH, Chen CC, Sung HW, "An implantable depot capable of generating oxygen for overcoming hypoxia-induced resistance to doxorubicin," *2017 The 6th International Conference on Bio-based Polymers (ICBP)*, Zhongli, Taiwan.
37. Wan WL, **Huang CC**, Chung MF, Sung HW*, "An implantable depot capable of generating oxygen for overcoming hypoxia-induced resistance to doxorubicin," *2017 Annual Meeting of the Polymer Society*, Taichung, Taiwan.
38. Hsieh MH, **Huang CC**, Hu HY, Wei HJ, Lin KJ, Wu SY, Chang Y*, Sung HW*, "Exogenous delivery of hydrogen sulfide by DATS-loaded PLGA microparticles for the treatment of ischemic disease", *2016 Annual Meeting of Taiwan Institute of Chemical Engineers*, Taoyuan, Taiwan.
39. **Huang CC**, Wei HJ, Lin KJ, Lin WW, Hu HY, Chen PM, Hsieh MH, Chang Y*, Sung HW*, "Multimodality noninvasive imaging for assessing therapeutic effects of exogenously transplanted cell aggregates capable of angiogenesis on acute myocardial infarction," *2016 Annual Meeting of the Asia Pacific Chapter of the Tissue Engineering and Regenerative Medicine International Society (TERMIS-AP)*, Tamsui, Taiwan.
40. **Huang CC**, Wei HJ, Lin KJ, Lin WW, Hu HY, Chen PM, Hsieh MH, Chang Y*, Sung HW*, "Multimodality noninvasive imaging for assessing therapeutic effects of exogenously transplanted cell aggregates capable of angiogenesis on acute myocardial infarction," *2016 Memorial Symposium for Prof. Chau-Jen Lee*, Hsinchu, Taiwan.
41. **Huang CC**, Wei HJ, Lin KJ, Lin WW, Wang CW, Pan WY, Hwang SM, Chang Y*, Sung HW*, "hypoxia-induced therapeutic angiogenesis in a rat model of myocardial infarction using injectable 3D HUVEC/cbMSC aggregates," *2015 The 4th Tissue Engineering and*

Regenerative Medicine International Society (TERMIS) World Congress, Boston, MA, USA.

42. **Huang CC**, Wei HJ, Lin KJ, Hwang SM, Chang Y*, Sung HW*, "Hypoxia-induced therapeutic neovascularization in rodent models of ischemic diseases using injectable 3D cell aggregates composed of HUVECs and cbMSCs," *2015 The 5th Asian Biomaterials Congress*, Taipei, Taiwan.
43. **Huang CC**, Wei HJ, Lin KJ, Hwang SM, Chang Y*, Sung HW*, "Hypoxia-induced therapeutic neovascularization in rodent models of ischemic diseases using injectable 3D cell aggregates composed of HUVECs and cbMSCs," *2015 Annual Meeting of the Polymer Society*, Taipei, Taiwan.

C. Patents

1. Sung HW, **Huang CC**, Wan WL, Hsieh MH, Shih PC, Hu HY, "Sustained-release composition, method for fabricating, and use thereof." (US Pat. No. 10,265,342 B2)
2. 宋信文、**黃玠誠**、萬瑋琳、謝孟軒、施博健、胡心禕，"緩釋型組成物、其製備方法及其用途" (申請案號 106116146，5/16/2017)
3. Sung HW, Hsiao CW, **Huang CC**, Chung MF, Liao ZX, Chiang WL, "Acid-substituted polyaniline-grafted hydrogel copolymer and use." (US Pat. No. 9,539,326 B2)
4. 宋信文、蕭鈞文、**黃玠誠**、鐘敏帆、廖子嫻、蔣維倫，"接枝酸摻雜聚苯胺之水膠共聚物及其用途" (中華民國專利發明第 TW I494112 號，8/1/2015)

裘正健Jeng-Jiann Chiu, Ph.D.

Adjunct Professor
Institute of Biomedical Engineering
National TsingHua University
Hsinchu, Taiwan(ROC)
Email:jjchiu@nhri.org.tw

Chiu has been characterized as a bioengineer equipped with a broad academic background of multi-disciplines in vascular biology, mechanobiology, cellular and molecular biology, fluid mechanics, and tissue engineering. His research goal is to elucidate the molecular mechanisms of the regulation of vascular functions, with a special emphasis on the transduction of mechanical stimuli, such as blood flow-induced shear stress and complex flow pattern, into intracellular signaling and the ensuing gene expression and functional responses in health and disease. A multidisciplinary, integrative approach is used that combines engineering and biomedical sciences, including nanotechnology, DNA microarrary, cell biophysics, biomechanics, and ex vivo and in vivo research on cardiovascular system. Chiu's research has significant implications in the understanding of the interplays between cellular/molecular and mechanical factors in the modulation of inflammatory state and atherogenesis of the vasculature. Such studies have important bearings on a variety of key clinical disorders such as myocardial infarction, stroke and intermittent claudication

Publication List

January 2020

A-1. Refereed Journal Papers and Book Chapters (*Corresponding Author)

1. Li Q, Yao Y, Shi S, Zhou M, Zhou Y, Wang M, **Chiu JJ**, Huang Z, Zhang W, Liu M, Wang Q, Tu X. (2019). Inhibition of miR-21 alleviated cardiac perivascular fibrosis via repressing EndMT in T1DM. *J Cell Mol Med*,

2. Lee DY, **Chiu JJ***. (2019). Atherosclerosis and flow: roles of epigenetic modulation in vascular endothelium. *J Biomed Sci,* 26:56 (In press).

3. Qu D, Wang L, Huo M, Song W, Lau CW, Xu J, Xu A, Yao X, **Chiu JJ**, Tian XY, Huang Y. (2019). Focal TLR4 activation mediates disturbed flow-induced endothelial inflammation. *Cardiovasc Res,* (In press).

4. Lee DY, **Chiu JJ***. (2019). Hemodynamics-based strategy of using retinoic acid receptor and retinoid X receptor agonists to induce microRNA-10a and inhibit atherosclerotic lesion. *Methods Mol Biol,* 2019:143-169.

5. Wu CC*, Chen LJ, Hsieh MY, Lo CM, Lin MH, Tsai HE, Song HL, **Chiu JJ***. (2018). MicroRNA-21 and venous neointimal hyperplasia of dialysis vascular access. *Clin J Am Soc Nephrol,* 13:1712-1720.

6. Yang TL, Lee PL, Lee DY, Wang WL, Wei SY, Lee CI, **Chiu JJ*** (2018). Differential regulations of fibronectin and laminin in Smad2 activation in vascular endothelial cells in response to disturbed flow. *J Biomed Sci,* 25:1.

7. Lee DY, Yang TL, Huang YH, Lee CI, Chen LJ, Shih YT, Wei SY, Wang WL, Wu CC, **Chiu JJ*** (2018). Induction of microRNA-10a using retinoic acid receptor-α and retinoid x receptor-α agonists inhibits atherosclerotic lesion formation. *Atherosclerosis,* 271:36-44.

8. Xie SA, Zhang T, Wang J, Zhao F, Zhang YP, Yao WJ, Hur SS, Yeh YT, Pang W, Zheng LS, Fan YB, Kong W, Wang X, **Chiu JJ**, Zhou J (2018). Matrix stiffness determines the phenotype of vascular smooth muscle cell in vitro and in vivo: Role of DNA methyltransferase 1. *Biomaterials,* 155:203-216.

9. Yeh YT, Serrano R, François J, **Chiu JJ**, Li YJ, Del Álamo JC, Chien S, Lasheras JC (2018). Three-dimensional forces exerted by leukocytes and vascularendothelial cells dynamically facilitate diapedesis. *Proc Natl Acad Sci U S A*,115:133-138.

10. Lee DY, Lin TE, Lee CI, Zhou J, Huang YH, Lee PL, Shih YT, Chien S*, **Chiu JJ***. (2017). MicroRNA-10a is crucial for endothelial response to different flow patterns via interaction of retinoid acid receptors and histone deacetylases. *Proc Natl Acad Sci U S A,* 114:2072-2077.

11. Wang L, Luo JY, Li B, Tian XY, Chen LJ, Huang Y, Liu J, Deng D, Lau CW, Wan S, Ai D, Mak KK, Tong KK, Kwan KM, Wang N, **Chiu JJ**, Zhu Y, Huang Y (2016). Integrin-YAP/TAZ-JNK cascade mediates atheroprotective effect of unidirectional shear flow. *Nature,* 540:579-582.

12. Liu J, Bi X, Chen T, Zhang Q, Wang SX, **Chiu JJ**, Liu GS, Zhang Y, Bu P, Jiang F. (2015). Shear stress regulates endothelial cell autophagy via redox regulation and Sirt1 expression. *Cell Death Dis,* 6: e1827.

13. Shih YT, Wang MC, Zhou J, Peng HH, Lee DY, **Chiu JJ***. (2015). Endothelial progenitors promote hepatocarcinoma intrahepatic metastasis through monocyte chemotactic protein-1 induction of microRNA-21. *Gut,* 64:1132-47.

14. Chen LJ, Chuang L, Huang YH, Zhou J, Lim SH, Lee CI, Lin WW, Lin TE, Wang WL, Chen L, Chien S, **Chiu JJ***. (2015). MicroRNA mediation of endothelial inflammatory response to smooth muscle cells and its inhibition by atheroprotective shear stress. *Circ Res*, 116:1157-69.

15. Wei SY, Lin TE, Wang WL, Lee PL, Tsai MC, **Chiu JJ***. (2014). Protein kinase C-δ and -β coordinate flow-induced directionality and deformation of migratory human blood T-lymphocytes. *J Mol Cell Biol,*6:458-72.

16. Wang WL, Yeh YT, Chen LJ, **Chiu JJ***. (2014). Regulation of fibrillar collagen-mediated smooth muscle cell proliferation in response to chemical stimuli by telomere reverse transcriptase through c-Myc. *Biomaterials,* 35:3829-39.

17. Chang SF, Chen LJ, Lee PL, Lee DY, Chien S*, **Chiu JJ***. (2014). Different modes of heterocellular interactions between endothelial and smooth muscle cells elicit differential phosphorylations of β-catenin and endothelial functions. *Proc Natl Acad Sci U S A,* 111:1855-60.

B-1. Conference Papers

1. Zhejiang Biomedical Engineering Forum, March 23-25, Hangzhou, 2017.
2. The 3rd Cardiovascular Biology & Scientific Translation, Nov. 26-27, Nanjing, China, 2016.
3. The 7th Scientific Meeting of Asian Society for Vascular Biology, Oct 27-29, Hualien, Taiwan, 2016.
4. Taipei Medical University, June 20, Taipei, 2016.
5. Institute of Biomedical Sciences, Academia Sinica, April 28, Taipei, 2016.
6. The 1st National Conference of Chinese Society of Matrix Biology, March 18-20, Beijing, China, 2016
7. TianJin Medical University, Jan. 5, Tianjin, China, 2016.
8. Institute of Physiology and Pathophysiology, Peking University Health Science Center, Jan. 4, Beijing, China, 2016
9. The advanced Institute for Medical Sciences, Dalian Medical University, Dec 4, Dalian, China, 2015.
10. The 2th Cardiovascular Biology & Scientific Translation, Dec 2-3, Nanjing, China, 2015.
11. Tzu Chi University-NHRI Bilaterial Meeting, Nov. 27, Hualien, 2015.
12. The 8th Congress of the Federation of Asian and Oceanian Physiological Societies (FAOPS), Nov. 22-25, Bangkok, Thailand, 2015.
13. The 10th Across-the-Strait Conference on Cardiovascular Biology, Nov 19-21, Hong Kong, 2015
14. 2015 9th UST-UCSD-IRICE Symposium, National Yang-Ming University, Nov. 17-18, Taipei, Taiwan, 2015
15. 2015 International Conference on Applied Material, Chung Yuan Christian University, July 22, Taoyuan, Taiwan, 2015.
16. Institute of Microbiology and Immunology, National Yang-Ming University, April 10, Taipei, Taiwan, 2015.
17. Annual Meeting of Division of Internal Medicine, Department of Life Science, Ministry of

Science and Technology, Oct 31, Taipei, Taiwan, 2014.

18. 2014 Annual Conference of Physiology Society of China, Oct 24-27, Shanghai, China, 2014.

19. Advances in Medical Engineering and Stem Cell Regeneration, Sep 29, Taipei Medical University, Taipei, 2014

20. The 10th International conference on Bone Morphogenetic Proteins. Sep 16-20, Berlin, Germany, 2014.

21. New Era of Medical Sciences: Disease Models and Therapeutics, Tzu Chi University, Sep 12-13, Hunlian, Taiwan, 2014.

22. The 6th Scientific Meeting of the Asian Society for Vascular Biology, Aug 22-24, Kuala Lumpur, Malaysia, 2014.

23. The Taiwan-Israel Symposium on Nano-Bio-Engineering, July 7, The Hebrew University, Jerusalem, Israel, 2014.

24. The 44th Taiwan Society of Cardiology (TSOC) Meeting, May 17, Taipei, 2014.

25. Kaohsiung Medical University Chung-Ho Memorial Hospital, Kaohsiung, March 28, Kaohsiung, 2014.

26. I-Shou University, March 25, Kaohsiung, 2014.

27. The 29th Joint Annual Conference of Biomedical Sciences, Chinese Physiology Society, March 15, Taipei, 2014.

28. The Taiwan-France Bilateral Workshop, Nov 26-Dec 1, Lyon, France, 2013.

29. Annual Symposium on Biomedical Engineering and Technology, Nov 16, National TsingHua University, HsinChu, 2013.

30. International Symposium for Taiwan-Russia Research Cooperation (NSC-SBRAS), Nov 11, National Cheng-Kung University, Tainan, 2013.

31. College of Life Sciences, National Central University, Oct 15, Chung-Li, 2013.

32. 2013 Autumn Scientific Meeting, Taiwan Society of Cardiology, Sep. 27-29, Hsin-Chu, Taiwan.

33. Institute of Physiology and Pathophysiology, Peking University Health Science Center, Sep. 25, Beijing, China.

34. 2013 Annual Conference of Cardiovascular Physiology, Sep. 24, Shen-Yang, China.

35. The Medical Device Innovation Center, National Cheng Kung University, Sep. 17, Tainan, Taiwan, 2013.

36. College of Pharmacy, Taipei Medical University, Sep. 11, Taipei, Taiwan, 2013.

37. The 29th Biology Summer Camp, Aug. 21-23, Taichung, Taiwan, 2013.

38. The 9th Across-the-Strait Conference on Cardiovascular Biology, Aug. 16-18, Tainan, Taiwan, 2013.

39. The Bio-Complex-Taiwan Symposium, July 16-19, Taipei, Taiwan, 2013

40. Symposium of The Application of Next Generation Sequencing in Epigenomics of Common Diseases, June 22, Kaohsiung Medical School., 2013.

41. The NCTU-NCTH Poster Symposium, National Chiao Tung University, May 16, Hsin-Chu, Taiwan, 2013.

42. School of Biomedical Sciences, Faculty of Medicine, The Chinese University of Hong Kong, May 7-10, Hong Kong, 2013.

43. The Taiwan-Italy Bilateral Workshop, April 17-20, Naples, Italy, 2013.

44. Taipei Medical University - Shuang Ho Hospital, April 5, New Taipei City, Taiwan, 2013.

45. The 28th Joint Annual Conference of Biomedical Science, March 23-24, Taipei, Taiwan, 2013.

46. Taipei Medical University, Dec. 27, Taipei, Taiwan, 2012.

47. 2012 Translational Medicine Conference, Taiwan Genomics and Genetics Society, Dec. 21-22, Sanhsia, New Taipei City, Taiwan, 2012.

48. 2012 Merck Millipore Asia Bioforum. Nov. 23, Taipei, Taiwan, 2012.

49. Taiwan-France ORCHID Bilateral Workshop on the development of bionic nano-scaffolds and its application to regenerative medicine, Nov. 8, Taipei, Taiwan, 2012.

50. International Conference of Physiological Sciences 2012, Nov. 1-4, Suzhou, China, 2012.

51. The 15th Scientific Meeting of the Asian Society for Vascular Biology, Oct. 26-28, Xi'an, China 2012.

52. 2012 BioTaiwan Committee Meeting, Oct. 23-25, Taipei, Taiwan, 2012.

53. INSERM-Taiwan bilateral symposium, Oct. 11, Taipei, Taiwan, 2012.

54. The 9th Across-the-Strait Conference on Cell Biology, Sep. 23-26, Li-Jiang, Yunnan, China, 2012.

55. 2012 Across-the-Strait Symposium on Biomedical Sciences, Sep. 10-13, Shanghai, China, 2012.

56. Sino-American Symposium for Vascular Mechanobiology, June 7-8, Xi'an, China 2012.

57. The World Congress on Medical Physics and Biomedical Engineering (WC2012), May 26-31, Beijing, China, 2012

58. Special Lectureship on Biomedical Sciences, School of Life Science, National Chung-Hsin University, April 13, Taichung, Taiwan, 2012.

59. School of Life Science, National Yang-Ming University, April 11, Taipei, Taiwan, 2012.

60. Special Lectureship for the Outstanding Research Achievement Award. National Health Research Institutes, March 22, Zhunan, Taiwan, 2012.

61. Department of Life Sciences, National Science Council, Feb. 8, Taipei, Taiwan, 2012.

62. Institute of Biomedical Engineering, National TsingHua University, Jan 12, HsinChu, Taiwan 2012.

萬德輝Dehui Wan, Ph.D.

Associate Professor
Institute of Biomedical Engineering
National Tsing Hua University
Hsinchu, Taiwan (ROC)
Email: dhwan@mx.nthu.edu.tw
Website:http://nthubmewanlab.wixsite.com/dehuiwanlab

Dehui Wan is an Assistant Professor, Institute of Biomedical Engineering, National Tsing Hua University. He received his B.S. (2003) in Chemistry and Ph.D. (2010) in Material Science and Engineering at the National Taiwan University.He later worked as a postdoctoral research fellow of Department of Biomedical Engineering, Georgia Institute of Technology. He joined the faculty of National Tsing Hua University as a tenure-track Assistant Professor in 2013. He rose through the ranks to Associate Professor in 2017. His research interests are functional nanostructures for biomedical applications such as bio/chemical sensors, ultrabroadband photodetector, photothermal cancer therapy, and antibiofilm coatings for implants. Professor Wan has received numerous awards such as Young Investigator Award of National Tsing Hua University, Young Investigator Award of College of Engineering, National Tsing Hua University, and Dr. Zhao-ren Li Biomedical Engineering Young Investigator Award. Professor Wan has published 27 scientific papers and received 6 international patents.

Publication List

January 2020

A. Refereed Journal Papers and Book Chapters (*Corresponding Author)

1. Shan-Jen Kuo, Sih-Wei Chang, Yuen Yung Hui, Oliver Y. Chen, Yen-Wei Chen, Ching-Che Lin, **Dehui Wan**, Hsuen-Li Chen,* Huan-Cheng Chang* (2019, Nov) Fluorescent microdiamonds conjugated with hollow gold nanoparticles as photothermal fiducial markers in tissue. *Journal of Materials Chemistry C*, 2019, 7, 15197-15207 (2019 Journal of Materials Chemistry C HOT Papers).

2. Y.-K. Hsieh, C.-T. Chang, I-H. Jen, F.-C. Pu, S.-H. Shen, **Dehui Wan**, J. Wang* (2018, Aug). Use of Gold Nanoparticles to Investigate the Drug Embedding and Releasing Performance in Biodegradable Poly(glycerol sebacate). *ACS Applied Nano Materials*, 1, 4474-4482.

3. S.-Y. Tseng, S.-Y. Li, S.-Y. Yi, A. Y. Sun, D.-Y. Gao, **Dehui Wan*** (2017, May) Food Quality Monitor: Paper-Based Plasmonic Sensors Prepared Through Reversal Nanoimprinting for Rapid Detection of Biogenic Amine Odorants. *ACS Applied Materials and Interfaces*, 9, 17306-17316.

4. L. Wang, Y. Chen, H. Y. Lin, Y.-T. Hou, L.-C. Yang, A. Y. Sun, J.-Y. Liu, C.-W. Chang, **Dehui Wan*** (2017, Jan). Near-IR-Absorbing Gold Nanoframes with Enhanced Physiological Stability and Improved Biocompatibility for In Vivo Biomedical Applications. *ACS Applied Materials and Interfaces*, 9, 3873-3884.

5. E.-Y. Chuang, C.-C. Lin, K.-J Chen, **Dehui Wan**, K.-J Lin, Y.-C. Ho, P.-Y. Lin, H.-W. Sung* (2016, Jul). A FRET-guided, NIR-responsive bubble-generating liposomal system for in vivo targeted therapy with spatially and temporally precise controlled release. *Biomaterials*, 93, 48-59.

6. T.-T. Lin, D.-Y. Gao, Y.-C. Liu, Y.-C. Sung, **Dehui Wan**, J.-Y. Liu, T. Chiang, L. Wang, Yunching Chen* (2016, Jan). Development and Characterization of Sorafenib-Loaded PLGA Nanoparticles for the Systemic Treatment of Liver Fibrosis.*Journal of Controlled Release*, 221, 62-70.

7. S. H. Tsao, **Dehui Wan***, Y.-S. Lai, H.-M. Chang, C.-C. Yu, K.-T. Lin, H.-L. Chen(2015, Nov).White Light–Induced Collective Heating of Gold Nanocomposite/B. mori Silk Thin Films with Ultrahigh Broadband Absorbance. *ACS Nano*, 9, 12045-12059

8. C.-W. Hsiao, E.-Y. Chuang, H.-L. Chen, **Dehui Wan**, C. Korupallia, Z.-X. Liao, Y.-L. Chiu, W.-T. Chia, K.-J. Lin, H.-W. Sung* (2015, Jul).Photothermal tumor ablation in mice with repeated therapy sessions using NIR-absorbing micellar hydrogels formed in situ. *Biomaterials*, 56, 26-35.

B. Conference Papers

1. **Dehui Wan*** "Paper-Based Surface-Enhanced Raman Spectroscopy for Paraquat Poisoning Diagnosis" International Symposium on Nanomedicine (ISNM), Kobe, Japan (**Invited talk**).

2. Chen Y, Chang S, Sun A, Chen H, and **Dehui Wan*** "Cost-Effective Three-Dimensional Plasmonic SERS Papers for Rapid Paraquat Poisoning Diagnosis with Portable Raman Spectrometer" Micro and Nano Engineering (MNE), Rhodes, Greece (2019) **(Oral)**.

3. Y. H. Chen, Y. C. Shen, H. L. Chen and **Dehui Wan*** " Natural Materials for Daytime Radiative Cooling: An Example of Regenerated Silk Fibroin Film " , Material Research Society Spring Meeting (MRS Spring Meeting), Phoenix, USA (2019) (Oral).

4. Y. H. Chen, Y. L. Chang, H. L. Chen and **Dehui Wan*** " Paper-Based Surface-Enhanced Raman Spectroscopy for Early Diagnosis of Acute Paraquat Poisoning " , 2 Material Research Society Spring Meeting (MRS Spring Meeting), Phoenix, USA (2019) (Oral).

5. Y. H. Hsu, I.-H. Jen, L.-C. Yang, C.-Y. Wu, Y.-C. Chen, **Dehui Wan*** " Laser-assisted Multifunctional Silk Fibroin Hydrogel System for Combining Starving and Photothermal Therapy for Cancer Treatment " European Materials Research Society Spring Meeting (E-MRS Spring Meeting), Nice, France (2019) (Oral).

6. **Dehui Wan***, Cost-effective Plasmonic Sensors for Food, Environmental and Biomedical Applications, IEEE international Conference on Nano/Molecular Medicine and Engineering (NANOMED), Hawaii, USA (2018) (**Invited talk**).

7. Y.-Y. Wu, S.-Y. Yi, S.-C. Tseng, **Dehui Wan*** " Facile Fabrication of Flexible, Disposable Plasmonic Biosensors for Naked-eye Detection of Volatile Biogenic Amines as Food Freshness Indicator", Micro and Nano Engineering (MNE), Copenhagen, Denmark (2018) **(Oral)**.

8. I-H., Jen, L.-C. Yang, M.-R. Wang, T.-T. Lu, **Dehui Wan*** "NO-releasing Silk Composite Hydrogel System for Breast Cancer Combination Therapy", Micro and Nano Engineering (MNE), Copenhagen, Denmark (2018).

9. **Dehui Wan***, Light-triggered Forming Silk Fibroin Hydrogel System for Combined Cancer Photothermal Chemotherapy, 2018 MRS Spring Meeting, Pheonix, USA (2018) **(Oral)**.

10. **Dehui Wan***, NIR–Absorbing Gold Nanoframes with Enhanced Physiological Stability and Improved *In Vivo* Biocompatibility, 2018 MRS Spring Meeting, Pheonix, USA (2018) (**Poster**).

11. **Dehui Wan***, Cost-effective Plasmonic Sensors Prepared Through Reversal Nanoimprinting for Rapid Detection of Biogenic Amine Odorants, 2018 MRS Spring Meeting, Pheonix, USA (2018) (**Poster**).

12. **Dehui Wan***, Fabrication of Metal Nanoparticle Array for Cost-effective, Easy-to-use, Sensitive Plasmonic Sensors, International Union on Materials Research Societies International Conference in Asia (IUMRS-ICA), Taipei, Taiwan (2017) (**Invited talk**).

13. **Dehui Wan***, Fabrication of Near-IR-Absorbing Gold Nanomaterials for Photothermal Cancer Therapy, Cross-Strait Workshop on Frontiers Interdisciplinary of Biomedicine, Xian, China (2017) (**Invited talk**).

14. **Dehui Wan***, Functionalized Silk Fibroin Thin Films with Gold Nanoparticles as Ultrahigh Broadband Absorber, International Conference on Metamaterials, Photonic Crystals and Plasmonics (META), Incheon, Korea (2017) (**Invited talk**).

15. A. Y. Sun, S.-Y. Yi, L.-C. Yang, S.-Y. Li, S.-Y. Tseng, **Dehui Wan***, Use of Metal Nanoparticle Arrays to Develop Cost-effective Plasmonic Biosensors for Immediate Detection of Volatile Biogenic Amines as Food Freshness Indicator, Micro and Nano Engineering (MNE), Vienna, Austria (2016) (**Oral**).

16. A. Y. Sun, S.-W. Chang, H.-L. Chen, **Dehui Wan***, Extraordinary Electric Field Enhancement Arising from Non-noble Metal Substrate-induced Interfacial Plasmonics with Silver Nanoparticles, Micro and Nano Engineering (MNE), Vienna, Austria (2016).

17. L.-C. Yang, S. H. Tsao, L. Wang, Y. Chen, **Dehui Wan***, Light-triggered In Situ Formation of Multifunctional Silk Fibroin Hydrogel System for Synergistic Photothermal Chemotherapy of Breast Cancer, Micro and Nano Engineering (MNE), Vienna, Austria (2016) (**Oral**).

18. L.-C. Yang, L. Wang, S.-Y. Chou, **Dehui Wan***, Fabrication of Hollow-Gold-Nanoparticle/Spin-On-Glass Composite Thin Film with Ultrahigh Broadband Absorbance

for Novel Silicon-based Photod", Micro and Nano Engineering (MNE), Vienna, Austria (2016) (**Oral**).

19. L.-C. Yang, S. H. Tsao, L. Wang, Y. Chen and **Dehui Wan***, Use of Injectable Light-induced Gold Nanoshells-embedded Silk Fibroin Hydrogel for Combined Photothermal-Chemotherapy for Breast Cancer, 2016 Tissue Engineering and Regenerative Medicine International Society- Asia Pacific Meeting (TERMIS-AP), Taipei, Taiwan (2016) **(Oral, 3rd prize for SYIS oral presentation)**.

20. A. Y. Sun, S.-Y. Yi, S.-Y. Li, S.-Y. Tseng and **Dehui Wan***, Immediate Naked-eye Detection of Volatile Biogenic Amines from Perishable Foods - A Novel Plasmonic Biosensor based on Metal Nanoparticles Array Immobilized on Flexible Substrates, 2016 Tissue Engineering and Regenerative Medicine International Society- Asia Pacific Meeting (TERMIS-AP), Taipei, Taiwan (2016) **(Oral, 1st prize for SYIS oral presentation)**.

21. **Dehui Wan***, Functionalized Silk Thin Films with Gold Nanoparticles as Ultrahigh Broadband Absorber, 李昭仁教授紀念研討會, Hsinchu, Taiwan (2016). (**Oral**, **年輕學者組口頭論文競賽特優**)

22. S. Y. Li, S. Y. Yi, and **Dehui Wan***, Use of Metal Nanostructure Arrays to Develop Flexible Biosensors for Rapid Point-of-Care Diagnosis Device, 229th ECS Meeting, San Diego, USA (2016) **(Oral)**.

23. S. J. Lo, **Dehui Wan**, C. M. Cheng, K. Keränen, R. Korhonen, H. Kopola, D. J. Yao, Miniaturized portable image-recording device for paper-based nucleotide assays with nanoparticles, 18th International Conference on Solid-State Sensors, Actuators and Microsystems Transducers, Alaska, USA (2015).

24. Shang-Yi Yi, **Dehui Wan***, Shao HsuanTsao, and Shih-Yu Tseng, Substrate-Independent Immobilization of Monolayer Metal Nanoparticles Array via Self-Assembly for Efficient Antibiofilm Coatings, Micro and Nano Engineering (MNE), Den Haag, Netherland (2015). (Oral)

25. Shih-Yu Tseng, Shang-Yi Yi and **Dehui Wan***, Rapid, Cost-effective, Disposal Analytical Platforms Prepared by Nanoimprinting Technique for On-site Detection of Mercury (II) Ions, Micro and Nano Engineering (MNE), Den Haag, Netherland (2015).

26. **Dehui Wan***, Multifunctional Gold Nanostructures in Biomedical Engineering, The 5th Asian Biomaterials Congress (ABMC5), Taipei, Taiwan (2015).

27. Shang-Yi Yi, Liying Wang and **Dehui Wan***, Porous Gold Nanoshell as a Novel Near-IR Thermal Theraputic Agent with Low-Toxicity In Vitro and In Vivo, The 5th Asian Biomaterials Congress (ABMC5), Taipei, Taiwan (2015). (Oral)

28. Shih-Yu Tseng, Szu-ying Li and **Dehui Wan***, Low-cost Paper-based Food Quality Monitor Prepared by Reversal Nanoimprint Technique, The 5th Asian Biomaterials Congress (ABMC5), Taipei, Taiwan (2015)(**Best Student Poster Award**).

29. Shao-HsuanTsao, **Dehui Wan***, Yu-Sheng Lai, Ho-Ming Chang, Keng-Te Lin, Chen-Chieh Yu and Hsuen-Li Chen, Using Broadband Light-Induced Heating of Silk/Metal Nanoparticle Composite Film to Develop Silicon-Based NIR Photodetector, 2015 Material Research Society Spring Meeting (2015 MRS Spring Meeting), San Francisco, USA (2015). (Oral)

C. Patents

1. **萬德輝(Dehui Wan)**、曾詩喻、易尚儀"一種重金屬檢驗試片與其製備方法(A HEAVY METAL DETECTING DEVICE AND THE FABRICATING METHOD THEREOF)," **TW I612288; US 9,891,204 B2**.

2. **萬德輝(Dehui Wan)**、曾詩喻、楊中堯、林思廷、鄭兆珉"一種纖維試片及其製作方法(A FIBER BASED SENSOR AND THE FABRICATING METHOD THEREOF)," **TW I566943; US 9,469,529 B2**.

3. 陳學禮、方程毅、李仰淳、劉宇倫、萬德輝、游振傑"光學裝置及其製作方法(OPTICAL DEVICE AND METHOD FOR MANUFACTURING THE SAME)," **TW I481084; US 8,928,024 B2**.

鄭兆珉Chao-Min Cheng, Ph.D.

Professor
Institute of Biomedical Engineering
National Tsing Hua University
Hsinchu, Taiwan(ROC)
Email: chaomin@mx.nthu.edu.tw

Chao-Min Cheng received his Ph. D. in 2009 from Carnegie Mellon University (Biomedical Engineering Department) under the supervision of Prof. Philip R. LeDuc. He then did his post-doctoral training with Prof. George M. Whitesides at Harvard University where he helped develop paper diagnostic systems to address global public health concerns. He is currently an independent P.I. at National Tsing Hua University, Taiwan, where he started in the summer of 2011. He has been blessed to receive "Distinguished Young Investigator Research Grant" twice from the Ministry of Science and Technology in Taiwan, "Excellent Performance on Intellectual Property & Technology Transfer" by his school three times (2012, 2013, 2015), and "Ta-You Wu Memorial Award" fromMinistry of Science and Technology in Taiwan. He was also an invited attendee for the NAS Sackler Colloquium at the National Academy of Sciences, and his research was highlighted in the National Academies–Keck Futures Initiative, Scientific American, Chemistry World, New York Times, and Lab on a Chip (along with a number of other media outlets). In addition, eight journal papers and reviews have been selected as journal cover articles. His general research interests focus on low-cost diagnostic devices for public health involving translational medicine, nanofabrication for cellular and molecular biology, and cellular and molecular biomechanics. He has been currently an Acting Member for International Affairs/Globalization Committee at Biomedical Engineering Society (BMES), an Editorial Board Member in *Sensor Letters, Journal of Cellular and Molecular Medicine* and *Scientific Reports*. He also served as the Guest Editor in *Journal of Cellular and Molecular Medicine* (with Prof. Ming-Jer Tang at National Cheng Kung University), *Science and Technology of Advanced Materials* (with Prof. Kevin Chia-Wen Wu at National Taiwan University), *Microfluidics and Nanofluidics*, and *Talanta*.

Dr. Cheng's longstanding career goal is to bridge engineering with biology and medicine. Following his return to Taiwan, he began collaborations with several medical doctors at different hospitals/medical schools (Chang Gung Memorial Hospital, Taichung General Veteran Hospital and National Cheng Kung University Medical School) to develop low-cost point-of-care diagnostic devices using inexpensive materials (paper, wood, and cotton). His goal is to create diagnostic devices for use in a variety of settings, including home healthcare (to monitor chronic diseases for seniors and pediatric diseases for children), nursing homes, athletic events (to monitor dehydration), blood banks (to quickly and inexpensively screen for diseases), and other situations where simplicity, portability, and low-cost are desired. These devices could provide tremendous impact in less economically developed regions, including rural Taiwan, as a low-cost method for detecting diseases and disease states in individuals and populations.Dr. Cheng's ongoing, committed efforts continue to achieve progress in this area and will provide numerous interesting commercial possibilities in economically developed and economically developing nations. While designing experiments for these studies, he and his colleagues adhered to U.S. FDA regulations, especially with respect to *in-vitro* diagnostic device performance evaluations and appropriate data analysis (potentially moving toward the co-development of a drug and diagnostic tool for specific diseases), thus coming closer to achieving translational medicine goals. Through strongly integrated approaches, Dr. Cheng ardently pursues the goal of advancing from laboratory-based studies to clinically relevant applications. Such efforts further demonstrate the strength and suitability for these applications to be translated into real-world applications and provide significant benefits to not only academia, but pursue the amelioration of real

healthcare concerns. In addition to his many academic contributions, Dr. Cheng serves as a consultant for biotechnologically relevant companies around the world (IDEXX Laboratories, U.S.A.; Eternal Chemical, Taiwan; Phoenix Silicon, Taiwan) with approximately 21 patent families granted or pending (in Taiwan, China, U.S.). He is currently in discussions to collaborate with Roche Diagnostics (Germany) Novartis (Switzerland) to further international projects.

Publication List

January 2020

期刊論文

1. C.-Y. Wang, Z.-K. Kuo, M.-K. Hsieh, L.-Y. Ke, C.-C. Chen, C.-M. Cheng and P.- L. Lai (2019, Dec). Cell migration of preosteoblast cells on a clinical gelatin sponge for 3D bone tissue engineering. Biomedical Materials, Vol. 15, pp. 015005 (12 pages). (SCI, 21/80, Engineering, Biomedical). MOST 107-2628-E007-001-MY3. 本人為通訊作者.
2. C.-Y. Tsai, H.-S. Chu, C.-M. Cheng and W.-L. Chen (2019, Nov). The neural differentiation potential of limbal stem cells. Cornea, Vol. 38, pp. S4-S10. (SCI, 23/60, Ophthalmology).
3. X.-F. Wu, C.-F. Shen and C.-M. Cheng (2019, Nov). Integration of mobile devices and point-of-care diagnostic devices—the case of C-reactive protein diagnosis. Diagnostics, Vol. 9, pp. 181 (3 pages). (SCI, 46/160, Medicine, General & Internal). 本人為通訊作者. (Editorial for the Special Issue).
4. Z.-K. Kuo, T.-H. Chang, Y.-S. Chen, C.-M. Cheng and C.-Y. Tsai (2019, Nov). Two potential clinical applications of origami-based paper devices. Diagnostics, Vol. 9, pp. 203 (11 pages). (SCI, 46/160, Medicine, General & Internal). MOST 108-2622-E-007-020-CC3. 本人為通訊作者.
5. J.-H. Hsiao, J.-Y. Chang and C.-M. Cheng (2019, Oct). Soft medical robotics: clinical and biomedical applications, challenges, and future directions. Advanced Robotics, Vol. 33, pp. 1099-1111. (SCI, 25/26, Robotics). 本人為通訊作者.
6. K. Matsuura, W.-H. Wang, A. Ching, Y. Chen and C.-M. Cheng (2019, Jul). Paper-based resazurin assay of inhibitor-treated porcine sperm. Micromachines, Vol. 10, pp. 495 (9 pages). (SCI, 25/61, Instruments & Instrumentation). MOST 104-2628-E-007-001-MY3. 本人為通訊作者.
7. B.-Y. Chen, C. W.-H. Sung, C. Chen, C.-M. Cheng, D. P.-C. Lin, C.-T. Huang and M.-Y. Hsu (2019, Jun). Advances in exosomes technology. Clinica Chimica Acta, Vol. 493, pp. 14-19. (SCI, 8/29, Medical Laboratory Technology).
8. Y.-K. Wu, N.-C. Cheng and C.-M. Cheng (2019, May). Biofilms in chronic wounds: pathogenesis and diagnosis. Trends in Biotechnology, Vol. 37, pp. 505- 517. (SCI, 4/162, Biotechnology & Applied Microbiology). MOST 107-2628-E007-001-MY3. 本人為通訊作者. (selected as the Cover).
9. C.-Y. Lee, H.-T. Chen, Y.-J. Hsueh, H.-C. Chen, C.-C. Huang, Y.-J. J. Meir, C.- M. Cheng and W.-C. Wu (2019, Mar). Perioperative topical ascorbic acid for the prevention of phacoemulsification-related corneal endothelial damage: two case reports and review of literature. World Journal of Clinical Cases, Vol. 7, pp. 642- 649. (SCI, 99/160, Medicine, General & Internal).
10. T.-H. Chang, K.-H. Tung, P.-W. Gu, T.-H. Yen and C.-M. Cheng (2018, Nov). Rapid simultaneous determination of paraquat and creatinine in human serum using a piece of paper.

Micromachines, Vol. 9, pp. 586 (11 pages). (SCI, 22/61, Instruments & Instrumentation). MOST 104-2628-E-007-001-MY3.

11. Y.-K. Wu, N.-C. Cheng and C.-M. Cheng (2018, Nov). Biofilms in chronic wounds: pathogenesis and diagnosis. Trends in Biotechnology, DOI:https://doi.org/10.1016/j.tibtech.2018.10.011. (SCI, 3/160, Biotechnology & Applied Microbiology). MOST 107-2628-E-007-001-MY3. 本人為通訊作者.
12. S.-J. Lo, C.-M. Kuan, M.-W. Hung, Y. Fu, J. A. Yeh, D.-J. Yao, C.-M. Cheng (2018, Aug). A simple imaging device for fluorescence-relevant applications. Micromachines, Vol. 9, pp. 328248 (10 pages). (SCI, 22/61, Instruments & Instrumentation). MOST 105-2221-E-007-053-MY3. 本人為通訊作者.
13. F.-C. Hsieh, Y.-F. Lu, I. Liau, C.-C. Chen, C.-M. Cheng, C.-D. Hsiao and S.-P. L. Hwang (2018, May). Zebrafish VCAP1X2 regulates cardiac contractility and proliferation of cardiomyocytes and epicardial cells. Scientific Reports, Vol. 8, pp. 7856 (17 pages). (SCI, 12/64, Multidisciplinary Sciences).
14. M.-Y. Hsu, C.-C. Chiu, J.-Y. Wang, C.-T. Huang, Y.-F. Huang, J.-C. Liou, C. Chen, H.-C. Chen and C.-M. Cheng (2018, May). Paper-based microfluidic platforms for understanding the role of exosomes in the pathogenesis of major blindness-threatening diseases. Nanomaterials, Vol. 8, pp. 310 (7 pages). (SCI, 71/284, Materials Science, Multidisciplinary). MOST 104-2628-E-007-001-MY3. 本人為通訊作者.
15. T.-Y. Wei, Y. Fu, K.-H. Chang, K.-J. Lin, Y.-J. Lu and C.-M. Cheng (2018, Apr). Point-of-care devices using disease biomarkers to diagnose neurodegenerative disorders. Trends in Biotechnology. (SCI, 3/160, Biotechnology & Applied Microbiology). MOST 105-2221-E-007-053-MY3. 本人為通訊作者.
16. T.-Y. Wei, T.-H. Yen and C.-M. Cheng (2018, Jan). Point-of-care testing in the early diagnosis of acute pesticide intoxication: the example of paraquat. Biomicrofluidics, Vol. 12, pp. 011501 (15 pages). (SCI, 10/31, Physics, Fluids & Plasmas). MOST 104-2628-E-007-001-MY3. 本人為通訊作者.
17. T.-Y. Wei, Y. Fu, K.-H. Chang, K.-J. Lin, Y.-J. Lu and C.-M. Cheng (2017, Dec). Point-of-care devices using disease biomarkers to diagnose neurodegenerative disorders. *Trends in Biotechnology.* (SCI, 5/160, Biotechnology & Applied Microbiology). MOST 105-2221-E-007-053-MY3. 本人為通訊作者.
18. C.-K. Hsu, H.-H. Lin, H.-I. Harn, R. Ogawa, Y.-K. Wang, Y.-T. Ho, W.-R. Chen, Y.-C. Lee, J. Y.-Y. Lee, S.-J. Shieh, C.-M. Cheng, J. A. McGrath and M.-J. Tang (2017, Sep). Caveolin-1 controls hyperresponsiveness to mechanical stimuli and fibrogenesis-associated RUNX2 activation in keloid fibroblasts. *Journal of Investigative Dermatology.* (SCI, 2/63, Dermatology).
19. T.-T. Tsai, C.-Y. Huang, C.-A. Chen, S.-W. Shen, M.-C. Wang, C.-M. Cheng and C.-F. Chen (2017, Aug). Diagnosis of tuberculosis using colorimetric gold nanoparticles on a paper-based analytical device. *ACS Sensors*, Vol. 2, pp. 1345-1354.
20. K. Matsuura, H.-W. Huang, M.-C. Chen, Y. Chen and C.-M. Cheng (2017, Apr). Relationship between porcine sperm motility and sperm enzymatic activity using paper-based devices.

Scientific Reports, Vol. 7, pp. 46213 (9 pages). (SCI, 10/64, Multidisciplinary Sciences). MOST 105-2221-E-007-053-MY3. 本人為通訊作者.

21. M. Y.-C. Wu, M.-Y. Hsu, S.-J. Chen, D.-K. Hwang, T.-H. Yen and C.-M. Cheng (2017, Apr). Point-of-care detection devices for food safety monitoring: proactive disease prevention. *Trends in Biotechnology*, Vol. 35, pp. 288-300. (SCI, 5/160, Biotechnology & Applied Microbiology). MOST 105-2221-E-007-053-MY3. 本人為通訊作者.
22. H.-W. Su, Y.-C. Yi, T.-Y. Wei, T.-C. Chang and C.-M. Cheng (2017, Feb). Detection of ovulation, a review of currently available methods. *Bioengineering & Translational Medicine*, Vol. 2, pp. 238-246. MOST 105-2221-E-007-053- MY3. 本人為通訊作者.
23. Z.-K. Kuo, M.-Y. Fang, T.-Y. Wu, T. Yang, H.-W. Tseng, C.-C. Chen and C.-M. Cheng (2017, Feb). Hydrophilic films: how hydrophilicity affects blood compatibility and cellular compatibility. *Advances in Polymer Technology*. (SCI, 79/134, Engineering, Chemical). 本人為通訊作者.
24. S.-C. Lin, C.-Y. Tzeng, P.-L. Lai, M.-Y. Hsu, H.-Y. Chu, F.-G. Tseng and C.-M. Cheng (2016, Dec). Paper-based CRP monitoring devices. *Scientific Reports*, Vol. 6, pp. 38171 (8 pages). (SCI, 10/64, Multidisciplinary Sciences). MOST 105-2221-E-007-053-MY3. 本人為通訊作者.
25. M.-Y. Hsu, Y.-C. Hung, D.-K. Hwang, S.-C. Lin, K.-H. Lin, C.-Y. Wang, H.-Y. Choi, Y.-P. Wang and C.-M. Cheng (2016, Sep). Detection of aqueous VEGF concentrations before and after intravitreal injection of anti-VEGF antibody using low-volume sampling paper-based ELISA. *Scientific Reports*, Vol. 6, pp 34631 (8 pages). (SCI, 10/64, Multidisciplinary Sciences). MOST 104-2628-E-007-001-MY3. 本人為通訊作者.
26. Z.-K. Kuo, P.-L. Lai, E. K.-W. Toh, C.-H. Weng, H.-W. Tseng, P.-Z. Chang, C.-C.Chen and C.-M. Cheng (2016, Sep). Osteogenic differentiation of preosteoblasts on a hemostatic gelatin sponge. *Scientific Reports*, Vol. 6, pp. 32884 (12 pages).(SCI, 10/64, Multidisciplinary Sciences). MOST 105-2221-E-007-053-MY3. 本人為通訊作者.
27. S.-C. Lin, M.-Y. Hsu, C.-M. Kuan, F.-G. Tseng, C.-M. Cheng (2016, Aug). Fabricating cotton analytical devices. *Journal of Visualized Experiments*, Vol. 114, pp. e53480. (SCI, 28/64, Multidisciplinary Sciences). MOST 104-2628-E-007-001-MY3. 本人為通訊作者. http://www.jove.com/video/53480/fabricating-cotton-analytical-devices.
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38/289, Biochemistry & Molecular Biology). MOST 105-2221-E-007-053-MY3. 本人為通訊作者.

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35. A. C. Glavan, J. N, Z. Chen, F. Güder, C.-M. Cheng, D. R. Liu, and G. M. Whitesides (2015, Dec). Analytical devices based on direct synthesis of DNA on paper. *Analytical Chemistry*, Vol 88, pp. 725-731. (SCI, 4/75, Chemistry, Analytical).
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39. C.-M. Cheng (2015, Jul). Preface – Low-cost devices for point-of-care, food, and environmental analysis. *Talanta*, Vol. 145, pp. 1. (SCI, 9/75, Chemistry, Analytical). 本人為第一作者、通訊作者. (Editorial Foreword in Talanta).
40. C.-M. Shih, C.-L. Chang, M.-Y. Hsu, J.-Y. Lin, C.-M. Kuan, H.-K. Wang, C.-T.Huang, M.-C. Chung, K.-C. Huang, C.-E. Hsu, C.-Y. Wang, Y.-C. Shen, C.-M. Cheng (2015, Jul). Paper-based ELISA to rapidly detect Escherichia coli. *Talanta*, Vol. 145, pp. 2-5. (SCI, 9/75,

Chemistry, Analytical). 本人為通訊作者.

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45. D.-J. Yao and C.-M. Cheng (2015, Apr). Preface to Special Topic: Select papers from the 8th IEEE International Conference on Nano/Molecular Medicine and Engineering held in Kaohsiung, Taiwan. *Biomicrofluidics*, Vol. 9, pp. 022301 (1 page). (SCI, 6/30, Physics, Fluids & Plasmas). NSC 101-2628-E-007-011-MY3.本人為通訊作者. (Editorial Foreword in Biomicrofluidics).
46. H.-I. Harn, Y.-K. Wang, C.-K. Hsu, Y.-T. Ho, Y.-W. Huang, W.-T. Chiu, H.-H. Lin, C.-M. Cheng, M.-J. Tang (2015, Apr). Mechanical coupling of cytoskeletal elasticity and force generation is crucial for understanding the migrating nature of keloid fibroblasts. *Experimental Dermatology*, Vol. 24,pp. 579-84. (SCI, 11/61, Dermatology). (Editorial highlighted in Experimental Dermatology).
47. T.-J. Lin, K.-W. Lu, W.-H. Chen, C.-M. Cheng, Y.-W. Lin (2015, Apr). Roles of syndecan-4 and relative kinases in dorsal root ganglion neuron adhesion and mechanotransduction. *Neuroscience Letters*, Vol. 592, pp. 88-93. (SCI, 171/256, Neurosciences).
48. L. Harhaus, J.-J. Huang, S.-W. Kao, Y.-L. Wu, G. A. Mackert, B. Höner, M.-H. Cheng, U. Kneser and C.-M. Cheng (2015, Mar). The vascularized periosteum flap as novel tissue engineering model for repair of cartilage defects. *Journal of Cellular and Molecular Medicine*, Vol. 19, pp. 1273-83. (SCI, 17/124, Medicine, Research & Experimental).
49. J.-Y. Sun, C.-M. Cheng and Y.-C. Liao (2015, Jan). Screen printed paper-based diagnostic devices with polymeric inks. *Analytical Sciences*, Vol. 31, pp. 145-151. (SCI, 56/75, Chemistry, Analytical). 本人為通訊作者.
50. Y.-H. Chen, Z.-K. Kuo and C.-M. Cheng (2015, Jan). Paper - a potential platform in

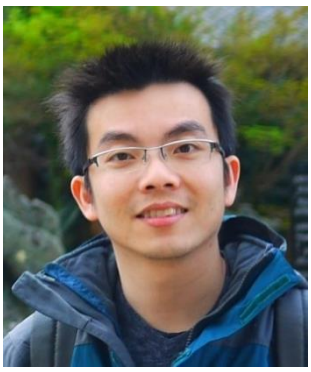
pharmaceutical development. *Trends in Biotechnology*, Vol. 33, pp. 4-9. (SCI, 3/161, Biotechnology & Applied Microbiology). NSC 101-2628-E-007-011- MY3. 本人為通訊作者.

專書

1. C.-M. Cheng, M.-Y. Hsu and M. Y.-C. Wu. *Point-of-Care Diagnostics – New Progresses and Perspectives* (ISBN: 978-953-56942-4-3). IAPC. Jan, 2017.
2. C.-M. Cheng, C.-M. Kuan and C.-F. Chen. *In-Vitro Diagnostic Devices - Introduction to Current Point-of-Care Diagnostic Devices* (ISBN: 978-3-319-19737-1). Springer. Sep, 2015.

專書論文

1. C.-Y. Sung, J.-A. Yeh and C.-M. Cheng. Fabricating in vitro nanomaterial scaffolds through IC-compatible microfabrication to modulate mammalian cellular behaviors. *Nanomaterials and Regenerative Medicine* (ISBN: 978-953-56942-3-6). IAPC. Feb, 2016: pp. 93-122.



魯才德 Tsai-Te Lu, Ph.D.

Assistant Professor
Institute of Biomedical Engineering
National Tsing Hua University
Hsinchu, Taiwan
Email: ttlu@mx.nthu.edu.tw
Website: https://sherry7509.wixsite.com/luresearchgroup

Dr. Tsai-Te Lu received his Ph.D. degree (2009) from Department of Chemistry inNational Tsing Hua Universityunder the support from NTHU President's Scholarship.After one-year postdoctoral research experience in Prof. Wen-Feng Liaw's group, he received the Postdoctoral Research Abroad Program Fellowship to pursue the postdoctoral research in Prof. Stephen J. Lippard's lab (Department of Chemistry, MIT) through 2011 to 2013. After the training in bioinorganic chemistry, Dr. Lu started his independent research in Department of Chemistry in Chung Yuan Christian University aiming at the development of innovative inorganic compounds and materials for the novel biomedical application. In particular, Dr. Lu explored dinitrosyl iron complexes (DNICs) for the controlled delivery of nitric oxide and metal-organic framework for drug delivery. To establish a bioinorganic engineering lab, Dr. Lu joined Institute of Biomedical Engineering in National Tsing Hua University in 2017. As a rising star in bioinorganic chemistry society, he received Rising Star Award in 43rd International Conference on Coordination Chemistry (2018), Graeme Hanson-AsBIC Early Career Researcher Award (2018), and Young Investigator Award from Chao-Jen Lee (李昭仁) Biomaterial Research Foundation (2019). Currently, the research interest in his lab focused on the bioinorganic engineering of NO-delivery DNICs for tissue regeneration and of porous coordination polymer for drug delivery, bioimaging, and biosensor.

Publication List

January 2020

A. Refereed Journal Papers (*Corresponding Author)

1. Sung Y.-C.; Jin, P.-R.; Chu, L.-A.; Hsu, F.-F.; Wang, M.-R.; Chang, C.-C.; Chiou, S.-J.; Qiu, J. T.; Gao, D.-Y.; Lin, C.-C.; Chen, Y.-S.; Hsu, Y.-C.; Wang J.; Wang, F.-N.; Yu, P.-L.; Chiang, A.-S.; Wu, A. Y.-T.; Ko, J. J.-S.; Lai, C. P.-K.; **Lu, T.-T.***; Chen, Y.* "Delivery of nitric oxide with a nanocarrier promotes tumour vessel normalization and potentiates anti-cancer therapies" *Nat. Nanotechnol.* **2019**, *14*, 1160-1169 (SCI IF 33.407; ranking 4/293 = 1.37%, MATERIALS SCIENCE, MULTIDISCIPLINARY).
2. Chen, Y.-J.; Wu, S.-C.; Wang, H.-C.; Wu, T.-H.; Yuan, S.-S. F.*; **Lu, T.-T.***; Liaw, W.-F.*; Wang, Y.-M.* "Activation of Angiogenesis and Wound Healing in Diabetic Mice Using NO-Delivery Dinitrosyl Iron Complexes" *Mol. Pharmaceutics* **2019**, *16*, 4241-4251 (SCI IF 4.396; ranking 39/267 = 14.61%, PHARMACOLOGY & PHARMACY).
3. Cho, S.-L.; Liao, C.-J.; **Lu, T.-T.*** "Synthetic methodology for preparation of dinitrosyl iron complexes" *J. Biol. Inorg. Chem.* **2019**, *24*, 495-515 (SCI IF 3.632; ranking 8/45 = 17.78%, CHEMISTRY, INORGANIC & NUCLEAR).
4. Hsiao, H.-Y.; Chung, C.-W.; Santos, J. H.; Villaflores, O. B.; **Lu, T.-T.;*** "Fe in Biosynthesis, Translocation, and Signal Transduction of NO: Toward Bioinorganic Engineering of Dinitrosyl Iron Complexes into NO-delivery Scaffolds for Tissue Engineering" *Dalton Trans.* **2019**, *48*, 9431-9453. (Invited Review Article in themed issue: d Block Chemistry) (SCI IF 4.052; ranking 7/45 = 15.56%, CHEMISTRY, INORGANIC & NUCLEAR)
5. Huang, H.-C.; Ching, W.-M.; Tseng, Y.-T.; Chen, C.-H.* **Lu, T.-T.;*** "Transformation of Hydride-Containing Dinitrosyl Iron Complex $[(NO)_2Fe(\eta^2\text{-}BH_4)]^-$ into $[(NO)_2Fe(\eta^3\text{-}HCS_2)]^-$ via Reaction with CS_2" *Dalton Trans.* **2019**, *48*, 5897-5902 (SCI IF 4.052; ranking 7/45 = 15.56%, CHEMISTRY, INORGANIC & NUCLEAR)
6. **Lu, T.-T.;*** Wang, Y.-M.;* Hung, C.-H.;* Chiou, S.-J.;* Liaw, W.-F.* "Bioinorganic Chemistry of the Natural $[Fe(NO)_2]$ Motif: Evolution of a Functional Model for NO-Related Biomedical Application and Revolutionary Development of a Translational Model" *Inorg. Chem.* **2018**, *57*, 12425-12443 (SCI IF 4.850; ranking 4/45 = 8.89%, CHEMISTRY, INORGANIC & NUCLEAR).
7. Huang, H.-W.; Lin, M.-H.; Lin, Y.-H.; Huang, Y.-R.; Chou, C.-H.; Hong, H.-C.; Wang, M.-R.; Tseng, Y.-T.; Liao, P.-C.; Chung, M.-C.; Ma, Y.-J.; Wu, S.-C.; Chuang, Y.-J.*; Wang, H.-D.;* Wang, Y.-M.;* Huang, H.-D.;* **Lu, T.-T.;*** Liaw, W.-F.* "Development of Dinitrosyl Iron Complexes for the Controlled Delivery and Selective Physiological Activity of Nitric Oxide

vs. Nitroxyl" *J. Biol. Inorg. Chem.* **2018**, *23*, 775-784 (SCI IF 3.632; ranking 8/45 = 17.78%, CHEMISTRY, INORGANIC & NUCLEAR).

8. Chiou, T.-W.*; Tseng, Y.-M.; **Lu, T.-T.**; Weng, T.-C.; Sokaras, D.; Ho, W.-C.; Kuo, T.-S.; Jang, L.-Y.; Lee, J.-F.; Liaw, W.-F.* "[Ni^{III}(OMe)]-mediated reductive activation of CO_2 affording a Ni(k^1-OCO) complex." *Chem. Sci.* **2016**, *7*, 3640-3644 (SCI IF 9.556; ranking 19/172 = 11.05%, CHEMISTRY, MULTIDISCIPLINARY).
9. Tseng, Y.-T.; Chen, C.-H.; Lin, J.-Y.; Li, B.-H.; Lu, Y.-H.; Lin. C.-H.; Chen, H.-T.; Weng, T.-C.; Sokaras, D.; Chen, H.-Y.; Soo, Y.-L.; **Lu, T.-T.*** "To Transfer or Not to Transfer? Development of a Dinitrosyl Iron Complex as a Nitroxyl Donor for the Nitroxylation of an Fe^{III}–Porphyrin Center." *Chem. Eur. J.* **2015**, *21*, 17570-17573 (SCI IF 5.160; ranking 37/172 = 21.51%, CHEMISTRY, MULTIDISCIPLINARY).
10. Chiou, T.-W.*; **Lu, T.-T.***; Wu, Y.-H.; Yu, Y.-J.; Chu, L.-K.; Liaw, W.-F.* "Development of a Dinitrosyl Iron Complex Molecular Catalyst into a Hydrogen Evolution Cathode." *Angew. Chem.* **2015**, *54*, 14824-14829 (SCI IF 12.257; ranking 17/172 = 9.88%, CHEMISTRY, MULTIDISCIPLINARY).
11. **Lu, T.-T.***; Weng, T.-C.*; Liaw, W.-F.* "X-Ray Emission Spectroscopy: A Spectroscopic Measure for the Determination of NO Oxidation States in Fe–NO Complexes." *Angew. Chem.* **2014**, *53*, 11562-11566 (SCI IF 12.257; ranking 17/172 = 9.88%, CHEMISTRY, MULTIDISCIPLINARY).

B. Seminar and Conference Presentations

- Invited Speaker in "Innovative Uses of Metals in Medicine" at Pacifichem 2020 in Honolulu, HI (USA), December 2020.
- Seminar at Department of Chemistry, Kaohsiung Medical University, March 2020.
- Seminar at Department of Chemistry, Chung Yuan Christian University, March 2020.
- Seminar at Department of Chemistry, Tunghai University, March 2020.
- Seminar at Department of Chemical Engineering, National Cheng Kung University, December 2019.
- Seminar at Department of Chemistry, Chung Shan Medical University, November 2019.
- Seminar at Department of Molecular Science & Engineering, National Taipei University of Technology, October 2019.

- Young investigator competition in 2019 International Advanced Drug Delivery Symposium & Annual Meeting of Biomaterials and Controlled Release Society in Taiwan (Young Investigator Award from Chao-Jen Lee (李昭仁) Biomaterial Research Foundation)
- Award Lecture in the 9th Asian Biological Inorganic Chemistry Conference, Singapore, December 2018 (Graeme-Hanson-AsBIC Early Career Researcher Award).
- Seminar at Department of Biomedical Engineering and Environmental Science, National Tsing Hua University, October 2018.
- Invited Speaker in 24th User's Meeting and Workshop at National Synchrotron Radiation Research Center, Taiwan, September 2018.
- Invited Speaker in the 43rd International Conference on Coordination Chemistry (ICCC2018), Sendai, Japan, August 2018 (Rising Star Award).
- Invited Speaker in the 4th Japan-Korea-Taiwan Bioinorganic Chemistry Symposium, Daejeon, South Korea, May 2018.
- Seminar at Department of Chemistry, Chonbuk National University, South Korea, May 2018.
- Seminar at Chung Shan Medical University, Taiwan, May 2018.
- Seminar at College of Engineering, National Tsing Hua University, Taiwan, May 2018.
- Seminar at Department of Chemistry, National Chiao Tung University, Taiwan, March 2018.
- Seminar at Center for Tissue Engineering, Chang Gung Memorial Hospital, Taiwan, February 2018.
- Seminar at Department of Biological Science & Technology, National Chiao Tung University, Taiwan, April 2017.
- Invited Speaker in the Annual Meeting of Chinese Chemical Society Located in Taipei, Chiayi, Taiwan December 2017.

C. Patents

- **魯才德**、黃小紋、林嘉和、曾宇霆、廖文峰、黃悉雅、邱秀貞、"雙亞硝基鐵錯合物、包含該錯合物之藥學組合物或複合材料及其用途" 中華民國 (專利號碼：I666214).
- **Tsai-Te Lu**、Hsiao-Wen Huang、Chia-Her Lin、Yu-Ting Tseng、Wen-Feng Liaw、His-Ya Huang、Show-Jen Chiou、"DINITROSYL IRON COMPLEX, PHARMACEUTICAL

COMPOSITION COMPRISING THE SAME, COMPOSITE MATERIAL COMPRISING THE SAME, AND USES THEREOF" USA (under NOA).

國立清華大學 生物醫學工程研究所
National Tsing Hua University
Institute of Biomedical Engineering

TEL: +886 (3) 5715131 Ext 35500
FAX or Direct Dial: +886 (3) 5162595
101, Section 2, Kuang-Fu Road, Hsinchu, Taiwan 30013