

## Yunching (Becky) Chen

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### Education

Institution and location	Degree	Month /year	Field of study
National Sun Yat-Sen University, Kaohsiung, Taiwan	BS	06/02	Biology
National Taiwan University, Taipei, Taiwan	MS	06/04	Pathology
University of North Carolina, Chapel Hill, NC	PhD	05/10	Pharmaceutical Sciences

### Positions and Employment

2005-2006	Research Assistance	Department of Biomedical Sciences, Academia Sinica, Taiwan
2010-2013	Research fellow	Massachusetts General Hospital and Harvard Medical School, Boston, MA, USA
2013-2016	Assistant Professor,	Institute of Biomedical Engineering, National Tsing Hua University, Hsinchu, Taiwan
2016-2020	Associate Professor,	Institute of Biomedical Engineering, National Tsing Hua University, Hsinchu, Taiwan
2020-present	Professor	Institute of Biomedical Engineering, National Tsing Hua University, Hsinchu, Taiwan
2021-present	Associate Editor	Journal of Controlled release (JCR).
2022-present	Director	Biomedical Science and Engineering Center National Tsing Hua University, Hsinchu, Taiwan

## Brief Biography

Dr. Yunching (Becky) Chen has received her Ph.D. degree in Pharmaceutical Sciences from the University of North Carolina at Chapel Hill in May 2010, under the supervision of Dr. Leaf Huang. After completing postdoctoral training at the Department of Radiation Oncology at Harvard Medical School and Massachusetts General Hospital, where she worked with Drs. Rakesh Jain and Dan Duda, she discovered the important role of tumor stroma in immunosuppression, drug resistance, and cancer cell survival and metastasis. In 2013, Dr. Chen joined the faculty of National Tsing Hua University as a tenure-track Assistant Professor and rose through the ranks to Full Professor in 2020. She is currently the Director of Biomedical Science and Engineering Center and the leader of Drug Targeting Laboratory in the Institute of Biomedical Engineering at National Tsing-Hua University. Her research focuses on the development of novel and effective formulations to deliver DNA, RNA and protein therapeutics and chemotherapy drugs for the treatment of cancer and inflammatory diseases such as renal fibrosis and liver cirrhosis. Her work has been widely recognized and published in prestigious journals such as Journal of Controlled Release, Advanced Drug Delivery Reviews, Nature Nanotechnology, Nature Protocols, Advanced Materials, Gut, and Hepatology. Dr. Chen is also the Chair of the International Chapter Committee of the Controlled Release Society and an Associate Editor of Journal of Controlled Release. Her dedication to her research and her commitment to advancing the field of pharmaceutical sciences have made her a leader in her field.

## Honors

2008	Young Investigator Award, 11 <sup>th</sup> Liposome Research Days Conference, Japan
2009	Graduate Scholar Award, University of North Carolina, Chapel Hill, NC,
2010	AAPS Biotechnology Graduate Student Symposium Awards
2015	Distinguished Young Investigator Research Grant, Ministry of Science and Technology, Taiwan
2015	Yong Investigator Award, The 5 <sup>th</sup> Asian Biomaterials Congress
2016	Distinguished Young Investigator Research Grant Ministry of Science and Technology, Taiwan
2016	Biomedical Engineering Yong Investigator Award
2017	Young Faculty Research Award, Engineering College of NTHU, Taiwan
2017	Young Faculty Research Award, NTHU, Taiwan
2018	Excellent Teaching Award in College of Engineering, NTHU, Taiwan
2019	Ta-You Wu Memorial Award, MOST, Taiwan
2020	Future Tech Award, Ministry of Science and Technology, Taiwan
2020	Promising Women in Science Award
2020	The 16th Young Investigator Award, TienTe Lee Biomedical Foundation

2021	Academia Sinica Early-Career Investigator Research Achievement Award
2023	Outstanding Research Award, National Science Council, Taiwan.

### Journal papers ( \*Corresponding author )

1. Hsuan-Yu Mu, Yen-Nhi Ngoc Ta, Max Jing Rui Tham, Fu-Fei Hsu, Yu-Chieh Lin, Hsi-Chien Huang, Yun-Chieh Sung, Chih-I Huang, Ching-Ling Wu, Chao-Hung Chang, Sheng Yang, Tsung-Ying Lee, Dehui Wan, Jane Wang, Dan G. Duda, Yves Boucher, Jen-Huang Huang\*, Wee Han Ang\*, Yunching Chen\* (2023) A chemioimmunotherapy nanogel enables efficient delivery of interleukin-2 and induction of immunogenic cell death for effective cancer therapy. ***Advanced Functional Materials*** (minor revision)
2. Yunching Chen\* (2023) Nanotechnology for next-generation cancer immunotherapy: State of the art and future perspectives. ***Journal of Controlled Release*** 28;356:14-25.
3. Tsung-Ying Lee, Hung-Hsun Lu, Hui-Teng Cheng, Hsi-Chien Huang, Yun-Jen Tsai, I-Hsiang Chang, Chao-Peng Tu, Chieh-Wei Chung, Tsai-Te Lu\*, Chi-How Peng\*, **Yunching Chen\*** (2023) Delivery of Nitric Oxide with a pH-Responsive Nanocarrier for the Treatment of Renal Fibrosis. ***Journal of Controlled Release*** 354, 417-428
4. Hsin-Tzu Hsieh, Hsi-Chien Huang, Chieh-Wei Chung, Cheng-Chin Chiang, Tiffany Hsia, Hsin-Fang Wu, Rui-Lin Huang, Chi-Shiun Chiang, Jane Wang, Tsai-Te Lu\*, **Yunching Chen\*** (2022) CXCR4-Targeted Nitric Oxide Nanoparticles Deliver PD-L1 siRNA for Immunotherapy against Glioblastoma. ***Journal of Controlled Release*** 14;352:920-930
5. Bryan John Abel Magoling, Anthony Yan-Tang Wu, Yen-Ju Chen, Wendy Wan-Ting Wong, Steven Ting-Yu Chuo, Hsi-Chien Huang, Yun-Chieh Sung, Hsin Tzu Hsieh, Poya Huang, Kang-Zhang Lee, Kuan-Wei Huang, Ruey-Hwa Chen, **Yunching Chen,** Charles Pin-Kuang Lai\* (2022) Membrane Protein Modification Modulates Big and Small Extracellular Vesicle Biodistribution and Tumorigenic Potential in Breast Cancers In Vivo. ***Advanced Materials***, 2208966
6. Hsi-Chien Huang, Yun-Chieh Sung, Chung-Pin Li, Dehui Wan, Po-Han Chao, Bowen Liao, Hui-Teng Cheng, Fu-Fei Hsu, Chieh-Cheng Huang, Yu-Hui Liao, Hsin Tzu Hsieh, Yu-Chuan Shih, I-Ju Liu, Han-Chung Wu, Tsai-Te Lu\*, Jane Wang\*, **Yunching Chen\*** (2022) Reversal of Pancreatic Desmoplasia by a Tumor Stroma-targeted Nitric Oxide Nanogel Overcomes TRAIL Resistance in Pancreatic Tumors. ***Gut*** 71 (9), 1843-1855

7. Hung-Hsun Lu, Hsueh Wen Liu, Trinh Kieu Dinh, Cheng-Hung Huang, Hsi-Chien Huang, Ya-Ching Tseng, Man-Hsuan Ku, Fu-Sheng Wang, **Yunching Chen\*** and Chi-How Peng\* (2022) pH-Responsive, two-in-one doxorubicin and Bcl-2 siRNA-loaded micelleplexes for triple-negative breast cancer therapy. *Polym. Chem.* 2022,13, 5568-5578
8. Jai-Shin Liu, Wei-Kai Fang, Shan-Min Yang, Meng-Chen Wu, Tsan-Jan Chen, Chih-Ming Chen, Tung-Yueh Lin, Kai-Lun Liu, Chien-Ming Wu, **Yun-Ching Chen**, Chih-Pin Chuu, Ling-Yu Wang, Hsing-Pang Hsieh, Hsing-Jien Kung, Wen-Ching Wang (2022) Natural product myricetin is a pan-KDM4 inhibitor which with poly lactic-co-glycolic acid formulation effectively targets castration-resistant prostate cancer. *Journal of biomedical science* 2022, 29, 29
9. Hui-Teng Cheng, Yun-Chieh Sung, Hsi-Chien Huang, Tsung-Ying Lee, Yu-Hui Liao, Yi-Hua Sheng, Pei-Ru Jin, Kuan-Wei Huang, Ling-Hsuan Chen, Yi-Ting Chen, Zi-Yan Liu, Tzu-Chieh Lin, Hsueh-Cheng Wang, Cheng-Han Chao, I Pu Juang, Chi-Ting Su, Kuo-How Huang, Shuei-Liong Lin, Jane Wang, **Yunching Chen \*** (2022) Delivery of Sorafenib by Myofibroblast-targeted Nanoparticles for the Treatment of Renal Fibrosis. *Journal of Controlled Release* 2022, 346:169-179
10. Pei-Hsuan Hsieh, Huan-Chih Wang, Hsi-Chin Wu, Lu-Chieh Huang, Shao-Chi Chen, Ting-Yun Shiue, **Yunching Chen**, Tzu-Wei Wang\* (2022) Dual-responsive Polypeptide Nanoparticles Attenuate Tumor-associated Stromal Desmoplasia through Programming Dissociation. *Biomaterials* 2022, 284:121469
11. Yong-Huei Hong, Manmath Narwane, Lawrence Yu-Min Liu, Yi-Da Huang, Chieh-Wei Chung, Yi-Hong Chen, Bo-Wen Liao, Yu-Hsiang Chang, Cheng-Ru Wu, Hsi-Chien Huang, I-Jui Hsu, Ling-Yun Cheng, Liang-Yi Wu, Yu-Lun Chueh, **Yunching Chen**, Chia-Her Lin, and Tsai-Te Lu\* (2022) Enhanced Oral NO Delivery through Bioinorganic Engineering of Acid-Sensitive Prodrug into a Transformer-like DNIC@MOF Microrod. *ACS Appl. Mater. Interfaces* 2022, 14, 3, 3849–3863
12. Cheng-Yun Wu, Yu-Hsuan Hsu, **Yunching Chen**, Ling-Chu Yang, Shao-Chin Tseng, Wan-Ru Chen, Chieh-Cheng Huang, Dehui Wan (2021) Robust O<sub>2</sub> Supplementation from a Trimetallic Nanozyme-Based Self-Sufficient Complementary System Synergistically Enhances the Starvation/Photothermal Therapy against Hypoxic Tumors. *ACS Appl. Mater. Interfaces*, 13, 32, 38090-38104.
13. Venkanagouda S Goudar, Manohar Prasad Koduri, Yen-Nhi Ngoc Ta, **Yunching Chen**, Li-An Chu, Long-Sheng Lu, Fan-Gang Tseng (2021) Impact of a Desmoplastic Tumor Microenvironment for Colon Cancer Drug Sensitivity: A Study with 3D Chimeric Tumor Spheroids. *ACS Appl. Mater. Interfaces*, 13, 41, 48478-48491.

14. Pei-Ru Jin, Yen-Nhi Ngoc Ta, Yan-Ning Yu, Hsin Tzu Hsieh, Shang-Ying Hsieh, Tiffany Hsia, Hao Liu, Chan-Wei Hsu, Jeng-Liang Han\*, **Yunching Chen\*** (2021) A Cinchona Alkaloid-Inspired Urea-Containing Autophagy Inhibitor Shows Single-agent Anticancer Efficacy. *J. Med. Chem.*, 2021, 64, 19, 14513–14525.
15. Jen-Shin Song, Chih-Chun Chang, Chien-Huang Wu, Trinh Kieu Dinh, Jiing-Jyh Jan, Kuan-Wei Huang, Ming-Chen Chou, Ting-Yun Shiue, Kai-Chia Yeh, Yi-Yu Ke, Teng-Kuang Yeh, Yen-Nhi Ngoc Ta, Chia-Jui Lee, Jing-Kai Huang, Yun-Chieh Sung, Kak-Shan Shia\* and **Yunching Chen\*** (2021). A Highly Selective and Potent CXCR4 Antagonist for Hepatocellular Carcinoma Treatment. *Proc. Natl. Acad. Sci. U.S.A.*, 118 (13) e2015433118.
16. Fang-Ying Wang, **Yunching Chen**, Yi-You Huang, Chao-Min Cheng (2021) Transdermal drug delivery systems for fighting common viral infectious diseases. *Drug Delivery and Translational Research* 11 (4), 1498-1508
17. Cheng-Ru Wu, Yi-Da Huang, Yong-Huei Hong, Ya-Hsin Liu, Manmath Narwane, Yu-Hsiang Chang, Trinh Kieu Dinh, Hsin-Tzu Hsieh, Yi-Jen Hseuh, Ping-Ching Wu, Chih-Wen Pao, Ting-Shan Chan, I-Jui Hsu, **Yunching Chen**, Hung-Chi Chen, Ting-Yu Chin, Tsai-Te Lu\* (2021) Endogenous Conjugation of Biomimetic Dinitrosyl Iron Complex with Protein Vehicles for Oral Delivery of Nitric Oxide to Brain and Activation of Hippocampal Neurogenesis. *JACS Au* 2021, 1, 7, 998–1013
18. Anthony Yan-Tang Wu, Yun-Chieh Sung, Yen-Ju Chen, Steven Ting-Yu Chou, Vanessa Guo, Jasper Che-Yung Chien, John Jun-Sheng Ko, Alan Ling Yang, Hsi-Chien Huang, Ju-Chen Chuang, Syuan Wu, Meng-Ru Ho, Maria Ericsson, Wan-Wan Lin, Chantal Hoi Yin Cheung, Hsueh-Fen Juan, Koji Ueda, **Yunching Chen**, Charles Pin-Kuang Lai\* (2020). Multiresolution Imaging Using Bioluminescence Resonance Energy Transfer Identifies Distinct Biodistribution Profiles of Extracellular Vesicles and Exomeres with Redirected Tropism. *Adv Sci*, 16;7(19):2001467.
19. Chih-Chun Chang, Trinh Kieu Dinh, Yi-An Lee, Fu-Nien Wang, Yun-Chieh Sung, Pei-Lun Yu, Shao-Chieh Chiu, Yu-Chuan Shih, Cheng-Yun Wu, Yi-Da Huang, Jane Wang, Tsai-Te Lu, Dehui Wan, **Yunching Chen\*** (2020). Nanoparticle Delivery of MnO<sub>2</sub> and Antiangiogenic Therapy to Overcome Hypoxia-Driven Tumor Escape and Suppress Hepatocellular Carcinoma. *ACS Appl. Mater. Interfaces*, 12, 40, 44407–44419.
20. Kuan-Wei Huang, Fu-Fei Hsu, Jiantai Timothy Qiu, Guann-Jen Chern, Yi-An Lee, Chih-Chun Chang<sup>1</sup>, 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\*** (2020). Highly Efficient and Tumor-Selective Nanoparticles for Dual-Targeted Immunogene Therapy against Cancer. *Science Advances*, 6(3), eaax5032.

21. 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.
22. 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).
23. 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. (IF=9.0)
24. 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. (IF=5.8)
25. 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.
26. 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.
27. 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.
28. **Yunching Chen**\*, Ya-Chi Liu, Yun-Chieh Sung, Rakesh R. Ramjiawan, Ts-Ting Lin, Chih-Chun Chang, Kuo-Shyang Jeng, Chiung-Fang Chang, Chun-Hung Liu, Dong-Yu Gao, Fu-Fei Hsu, Annique M. Duyverman, Shuji Kitahara, Peigen Huang, Simona Dima, Irinel Popescu, Keith T. Flaherty, Andrew X. Zhu, Nabeel Bardeesy, 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.

29. Liying Wang, **Yunching Chen**, Hsin Yao Lin, Yung-Te Hou, 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.
30. Ts-Ting Lin#, Dong-Yu Gao#, Ya-Chi Liu, Yun-Chieh Sung, Dehui Wan, Jia-Yu Liu, Tsaiyu Chiang, Liying Wang, **Yunching Chen\*** (2016) Development and Characterization of Sorafenib-Loaded PLGA Nanoparticles for the Systemic Treatment of Liver Fibrosis. *Journal of Controlled Release.* 10, 211:62~70.
31. 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-angiogenic siRNA ameliorate liver fibrosis. *Molecular Pharmaceutics.* 13 (7), 2253–2262.
32. 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.
33. 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.
34. 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.
35. **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. *Oncimmunology.* 27;4(10).
36. Thomas Reiberger, **Yunching Chen**, Rakesh R. Ramjiawan, Tai Hato, Christopher Fan, Rekha Samuel, Sylvie Roberge, Peigen Huang, Gregory Y. Lauwers, Andrew X. Zhu, Nabeel Bardeesy, Rakesh K. Jain, Dan G. Duda (2015). An orthotopic mouse model of hepatocellular carcinoma with underlying liver cirrhosis. *Nature Protocol.* 10: 1264–1274.

37. **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.
38. Hee-Sun Hana, Elisabeth Niemeyer, Yuhui Huang, Walid S. Kamoun, John D. Martin, Jayeeta Bhaumik, **Yunching Chen**, Sylvie Roberge, Jian Cui, Margaret R. Martin, Dai Fukumura, Rakesh K. Jain, Mounji G. Bawendi, and Dan G. Duda (2014). Novel quantum dot/antibody conjugates for in vivo cytometric imaging in mice. *Proceedings of the National Academy of Sciences*, 112(5):1350-5.
39. **Yunching Chen\***, Dong-Yu Gao, Leaf Huang (2014). In Vivo Delivery of miRNAs For Cancer Therapy: Challenges and Strategies. *Advanced Drug Delivery Reviews*, 81:128–141.
40. **Yunching Chen**, Yuhui Huang, Thomas Reiberger, Annique M. Duyverman, Peigen Huang, Rekha Samue, Lotte Hiddingh, Sylvie Roberge, Christina Koppel, Gregory Y. Lauwers, Andrew X. Zhu, Rakesh K. Jain, Dan G. Duda\* (2014). Differential effects of sorafenib on liver versus tumor fibrosis mediated by SDF1 $\alpha$ /CXCR4 axis and Gr-1+ myeloid cell infiltration in mice. *Hepatology*, 59(4):1435-47.

#### **Prior to NTHU**

41. **Yunching Chen\***, Surendar Reddy Bathula, Jun Li and Leaf Huang (2010). Multi-functional nanoparticles delivering siRNA and doxorubicin overcome drug resistance in cancer. *J Biol Chem*, 285(29): p. 22639-50.
42. **Yunching Chen**, Xiaodong Zhu, Xiaoju Zhang, Bin Liu and Leaf Huang (2010). Nanoparticles modified with tumor-targeting scFv Deliver siRNA and miRNA for Cancer Therapy. *Mol Ther*, 18(9): p. 1650-6.
43. **Yunching Chen**, Qi Yang, Surendar Reddy Bathula and Leaf Huang (2010). Targeted nanoparticles deliver siRNA to melanoma. *J Invest Dermatol*, 130 (12): p.2790-8.
44. **Yunching Chen**, Jinzi Wu and Leaf Huang. Nanoparticles Targeted with Tumor Homing peptide Motif Deliver c-Myc siRNA And Doxorubicin for Targeted Anticancer Therapy (2010). *Mol Ther*, 18(4): p. 828-34.
45. **Yunching Chen**, J.S., Qi Yang, Raffaella Fittipaldi, Surendar Reddy Bathula and Leaf Huang (2009). Novel Cationic Lipid That Delivers and Enhances Therapeutic Activity of siRNA in Lung Cancer Cells. *Mol Pharm*, 6(3): p. 696-705.
46. Jun Li; **Yun-Ching Chen**; Yu-Cheng Tseng; Leaf Huang (2010). Biodegradable Calcium Phosphate Nanoparticle with Lipid Coating for Systemic siRNA Delivery. *Journal of Controlled Release*, 142(3): p. 416-21.



47. **Yunching Chen** and Leaf Huang (2009). Tumor-targeted delivery of siRNA by non-viral vector: safe and effective cancer therapy. *Expert Opin Drug Deliv* 5, (12), 1301-11.
48. I-Ju Liu, Chien-Yu Chiu, **Yun-Ching Chen** and Han-Chung Wu (2011). Molecular mimicry of human endothelial cell antigen by autoantibodies to nonstructural protein 1 of dengue virus. *J Biol Chem*, 18;286(11):9726-36.
49. Shyh-Dar Li, **Yun-Ching Chen**, Michael J. Hackett and Leaf Huang (2008). Targeted Delivery of siRNA by Self-assembled Nanoparticles. *Mol Ther* 16 (1): 163-169, 2008.
50. **Yun-Ching Chen**, Hsien-Neng Huang, Chin-Tarng Lin, Yi-Fang Chen, Chwan-Chuen King, and Han-Chung Wu\* (2007). Generation and characterization of monoclonal antibodies against dengue virus type 1 for epitope mapping and serological detection by epitope-based peptide antigens. *Clin Vaccine Immunol* 14, 404-411.
51. Ding-Yen Lin, Yen-Sung Huang, Jen-Chong Jeng, Hong-Yi Kuo, Che-Chang Chang, Ting-Ting Chao, Chun-Chen Ho, **Yun-Ching Chen**, Tong-Ping Lin, Hsin-I Fang, Chih-Chang Hung, Ching-Shu Suen, Ming-Jing Hwang, Kun-Sang Chang, Gerd G. Maul and Hsiu-Ming Shih\* (2006). Role of SUMO-interacting motif in Daxx SUMO modification, subnuclear localization, and repression of sumoylated transcription factors. *Mol Cell* 24, 341-354.
52. Kang Lu, Cheng-Loong Liang, Han-Jung Chen, Shang-Der Chen, Huan-Chen Hsu, **Yun-Ching Chen**, Fu-Fei Hsu, and Chung-Lung Cho (2003). Nuclear factor-kappaB-regulated cyclooxygenase-2 expression in surgery-associated paraspinal muscle injury in rats. *J Neurosurg* 98, 181-187.
53. Kang Lu, Cheng-Loong Liang, Chung-Lung Cho, Han-Jung Chen, Huan-Chen Hsu, Shuenn-Jiun Yiin, Chi-Liang Chern, **Yun-Ching Chen**, and Tao-Chen Lee (2002). Oxidative stress and heat shock protein response in human paraspinal muscles during retraction. *J Neurosurg* 97, 75-81.

### **Book Chapter**

Kohei Shigeta, Tai Hato, **Yunching Chen**, and Dan G. Duda (2017) Anti-VEGFR Therapy as a Partner for Immune-Based Therapy Approaches in HCC. *Immunotherapy of Hepatocellular Carcinoma* pp 85-102.

### **Conference papers and invited talk ( \*Corresponding author )**

1. Yunching Chen\* (2023) Nucleic Acid Delivery: A Promising Strategy for Precision Cancer Immunotherapy. EMBO workshop: Non-coding RNA medicine (invited talk)

2. Yunching Chen\* (2022) Tumor-targeting NO Delivery for Cancer Therapy. 2022 Engineering Bioscience Symposium Challenges & Opportunities in Post-Pandemic Era (invited talk)
3. Hsin-Tzu Hsieh, Hsi-Chieh Huang, Yunching Chen\* (2022) CXCR4-Targeted Nitric Oxide Nanoparticles Deliver PD-L1 siRNA for Immunotherapy against Glioblastoma. Annual Meeting of Biomaterials and Controlled Releases Society in Taiwan. (selected as The Honorable Mention Poster Presentation.)
4. Hsin-Min Chen & Yunching Chen\* (2022) Development of Nanoparticles Delivering CXCR4 Antagonist for the Treatment of Liver Cancer. The International Conference on Precision Nanomedicine in Theranostics & The Annual Meeting of Taiwan Nanomedicine Society (selected as The Best Poster Award)
5. Tsung-Ying Lee & Yunching Chen\* (2022) Delivery of Sorafenib by Myofibroblast-targeted Nanoparticles for the Treatment of Renal Fibrosis. The International Conference on Precision Nanomedicine in Theranostics & The Annual Meeting of Taiwan Nanomedicine Society (selected as The Best Poster Award)
6. Yunching Chen\* (2022) Tumor-targeting NO Delivery for Cancer Therapy. The International Conference on Precision Nanomedicine in Theranostics & The Annual Meeting of Taiwan Nanomedicine Society (invited talk)
7. Yunching Chen\* (2021) Multifunctional Nanocarriers for Efficient Cancer Immunotherapy. The 32nd World Congress of International Associations of Surgeons, Gastroenterologists, and Oncologists (IASGO 2021, invited talk)
8. Yunching Chen\* (2021) Multifunctional Nanocarriers for Efficient Cancer Immunotherapy. 2021 Virtual CRS 2021 (invited talk)
9. Yen-Nhi N. Ta and Yunching Chen\* (2021) Development of Highly Selective and Potent CXCR4 Antagonist for Hepatocellular Carcinoma Treatment and Beyond. Controlled Release Society 2021 Virtual Annual Meeting (oral presentation)
10. Van-Anh Thi Nguyen, Pei-Ru Jin, Yen-Nhi Ngoc Ta, Jeng-Liang Han\*, Yunching Chen\* (2021) A Novel Autophagy Inhibitor Shows Single-agent Anticancer Efficacy for Hepatocellular Carcinoma Treatment. 2021 Annual Meeting of Taiwanese Society of Biomedical Engineering (selected as The Best Poster Award)
11. Hsi-Chien Huang, Yun-Chieh Sung, Tsai-Te Lu, Jane Wang, Yunching Chen\* (2021) Reversal of Pancreatic Desmoplasia by a Tumor Stroma-targeted Nitric Oxide Nanogel Overcomes Drug Resistance in Pancreatic Tumors. Annual

- Meeting of Biomaterials and Controlled Release Society in Taiwan (This paper was selected as The Best Oral Presentation.)
12. Yunching Chen\* (2021) Multifunctional Nanocarriers for Efficient Cancer Immunotherapy. 2021 Virtual MRS Spring Meeting & Exhibit <https://mrs.org/meetings-events/spring-meetings-exhibits/2021-mrs-spring-meeting> (invited talk)
  13. Yan-Ning Yu, Yunching Chen\* (2020) A Novel Cinchona-Alkaloid-Inspired Urea Autophagy Inhibitor Has Single-agent Anticancer Efficacy in Hepatocellular Carcinoma in Mice. The 2020 Annual Meeting of Taiwan Nanomedicine Society. (selected as The Best Poster Award)
  14. Kuan-Wei Huang, Yunching Chen\* (2020) Co-Delivery of Dual-Specific Genes for Cancer Immunogene Therapy. The 2020 Annual Meeting of Taiwan Nanomedicine Society. (selected as The Best Poster Award)
  15. Yen-Nhi Ngoc Ta, Yunching Chen\* (2020) Development of highly selective and potent CXCR4 antagonists for hepatocellular carcinoma treatment and beyond. 2020 Annual meeting of Biomaterials and Controlled Release Society in Taiwan. (selected as The Best Poster Award)
  16. 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. (selected as The Best Poster Award)
  17. Kuan-Wei Huang, Yunching Chen\* (2019) A Multifunctional Nanocarrier for Efficient Gene Therapy against Hepatocellular Carcinoma. 2019 Cancer Nanotechnology Gordon Research Conference.
  18. Yun-Chieh Sung, Tsai-Te Lu, Yunching Chen\* (2019) Delivery of Nitric Oxide Promotes Tumor Vessel Normalization. 2019 Cancer Nanotechnology Gordon Research Conference.
  19. 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 (selected as Student Best Oral Presentation Award)
  20. Chih-Chun Chang, Yunching Chen\* (2018) Amelioration of CCl<sub>4</sub>-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
  21. 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

22. 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
23. Yunching Chen\* (2017) Nanoscale combination treatment targeting resistance mechanisms associated with cancer therapy 2017 Taiwan Biological Inorganic Chemistry Symposium. (invited talk)
24. 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.
25. 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.
26. Yunching Chen\* (2017) A new way to conquer liver diseases: Development of nanoscale combination treatment targeting microenvironment. 2017 Cancer Nanotechnology Gordon Research Conference.
27. 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.
28. 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. 2017 ISOMRM. (selected as Student Best Poster Award)
29. Chih-Chun Chang, Yunching Chen\* (2016) Overcoming Sorafenib Evasion in Hepatocellular Carcinoma Using CXCR4-targeted Nanoparticles to Co-deliver MEK-inhibitors. 3<sup>rd</sup> International Conference on Biomaterials Science in Tokyo.
30. 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. 3<sup>rd</sup> International Conference on Biomaterials Science in Tokyo.
31. 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)
32. 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.
33. 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.
  34. Jia-Yu Liu, Tsaiyu Chiang and Yunching Chen\* (2015). Lipid-Based Nanoparticles Inhibiting SDF1-a/CXCR4 axis and Delivering Anti-angiogenic siRNA for treating liver fibrosis. The 5th Asian Biomaterials Congress. (selected as Student Best Poster Award)
  35. 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. (selected as Student Best Poster Award)
  36. 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.
  37. 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.
  38. 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.
  39. 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, 魯才德, 宋雲傑 “Nanoparticle, preparation process and uses thereof” 美國專利發明 US 11,517,588 2022年12月6日起至2040年7月3日止
2. 陳韻晶, 魯才德, 宋雲傑 “奈米粒子及其製備方法與用途” 中華民國專利發明 I772766 (2022年08月01日至2040年 03月22日)

3. 陳韻晶, 張智鈞 “NANOPARTICLE, PREPARATION PROCESS AND USES THEREOF” U.S. Pat. 證書號US 10,675,250 ( 2020年6月9日起至2039年3月27 )
4. 陳韻晶, 張智鈞 “奈米粒子及其製備方法與用途” 中華民國專利發明第 TW I744584號 (2021年11月01日至2038年 12月21日)
5. 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 ( 2017/07/11 - 2034/12/10 )
6. 陳韻晶、劉家瑜及高棟禹 “Method for treatment of liver cancer and inhibition of metastasis with cxc-chemokine-receptor 4-targeted nanoparticle” U.S. Pat. No. 9,415,011 ( 2016/08/16 – 2035/10/13 )
7. 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 ( 2016/11/11 - 2035/04/07 )
8. 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.
9. 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.