

Curriculum Vitae

Linfeng Huang, PhD

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● Education

- 2004-09 **Ph.D. Biological Sciences**, The Sainsbury Laboratory, John Innes Centre, University of East Anglia, Norwich, UK
Thesis title: "A biochemical study of DNA-dependent RNA polymerase IV complex in plants"
Supervisor: Prof. Sir David Baulcombe
- 1999-2003 **B.Sc. Biological Sciences**, College of Biological Sciences, China Agricultural University, Beijing, China

● Academic Position

- 2020.09- **Associate Professor of Biology**, Duke Kunshan University, Kunshan, China
- 2020.10-21.06 **Visiting Associate Professor**,
- 2020.07-20.09 **Associate Professor (tenured)**,
- 2014-20 **Assistant Professor**, Department of Biomedical Sciences, Jockey Club College of Veterinary Medicine and Life Sciences, City University of Hong Kong, Hong Kong SAR, China
- 2009-14 **Research Fellow**, Prof. Judy Lieberman Laboratory, Program in Cellular and Molecular Medicine, Boston Children's Hospital & Department of Pediatrics, Harvard Medical School, Boston, USA
- 2008-09 **Visiting Student**, Department of Plant Sciences, University of Cambridge, Cambridge, UK
- 2003-04 **Visiting Researcher**, Dr. Hui Wang Laboratory, Centre for Ecology and Hydrology-Oxford, Oxford, UK

● Publication (*Corresponding author)

1. Yingxue Li, Wei Xu, Yutian Ren, Hung-Chi Cheung, Panpan Huang, Guneet Kaur, Chih-Jung Kuo, Sean P. McDonough, Susan L. Fubini, Stephen M. Lipkin, Xin Deng, Yung-Fu Chang*, & **Linfeng Huang***, Plakoglobin and HMGB1 mediate intestinal epithelial cell apoptosis induced by *Clostridioides difficile* TcdB, **posted on BioRxiv and under revision in mBio**, <https://www.biorxiv.org/content/10.1101/2021.07.02.450318v1>, Jul 2021.
2. Hampus Hedlund, Hampus Du Rietz, Johanna Johansson, Wahed Zedan, **Linfeng Huang**, Jonas Wallin, & Anders Wittrup, Absolute quantification and single-cell dose-response of cytosolic siRNA delivery, **posted on BioRxiv and under revision in Nature**

Communications, <https://www.biorxiv.org/content/10.1101/2021.04.21.440807v1>, Apr 2021.

3. Kai Xie, Zixun Wang, Lin Qi, Xi Zhao, Yuan Wang, Jin Qu, Ping Xu, **Linfeng Huang**, Wenjun Zhang, Yang Yang*, Xin Wang*, & Peng Shi*, Profiling microRNAs with associated spatial dynamics in acute tissue slices, **ACS Nano**, Mar 2021, 23;15(3):4881-4892.
4. Shanwei Shi, Huigen Luo, Lihong Wang, Hua Li, Yujie Liang, Juan Xia, Zhi Wang, Bin Cheng, **Linfeng Huang**, Guiqing Liao, & Baoshan Xu, Combined inhibition of RNA polymerase I and mTORC1/2 synergize to combat oral squamous cell carcinoma, **Biomedicine & Pharmacotherapy**, Jan 2021, 133:110906.
5. Wang Yuan, Wang Zixun, Xie Kai, Zhao Xi, Jiang Xuezhen, Chen Bing, **Huang Linfeng**, Zhang WenJun, Yang Yang, & Shi Peng, High-efficiency cellular reprogramming by nanoscale puncturing, **Nano Letters**, Jul 2020, 8;20(7):5473-5481.
6. Zixun Wang[†], Lin Qi[†], Yang Yang[†], Mingxing Lu, Kai Xie, Xi Zhao, Elvis Hung Chi Cheung, Xuezhen Jiang, Wenjun Zhang*, **Linfeng Huang***, Xin Wang*, & Peng Shi*, High-throughput intracellular biopsy of microRNAs for dissecting the temporal dynamics of cellular heterogeneity, **Science Advances**, Jun 2020, 6:eaba4971.
7. **Linfeng Huang***, Pdraig Deighan, Jingmin Jing, Yingxue Li, Hung-chi Cheung, Elaine Lee, Shirley S. Mo, Heather Hoover, Sahar Abubucker, Nancy Finkel, Larry McReynolds, Ann Hochschild, & Judy Lieberman*, *Tombusvirus* p19 captures RNase III-cleaved double-stranded RNAs formed by overlapping sense and antisense transcripts in *E. coli*, **mBio**, Jun 2020, 11(3):e00485-20.
8. Luyen Tien Vu[†], Boya Peng[†], Daniel Xin Zhang, Victor Ma, Camille A. Mathey-Andrews, Chun Kuen Lam, Theodoros Kiomourtzis, Jingmin Jin, Larry McReynolds, **Linfeng Huang**, Andrew Grimson, William C. Cho, Judy Lieberman, & Minh TN Le*, Tumor-secreted extracellular vesicles promote the activation of cancer-associated fibroblasts via the transfer of microRNA-125b, **Journal of Extracellular Vesicles**, Apr 2019, 8(1), 1599680.
9. Cai Li[†], Tianzhong Li[†], **Linfeng Huang***, Mengsu Yang*, & Guangyu Zhu*, Self-assembled lipid nanoparticles for ratiometric codelivery of cisplatin and siRNA targeting XPF to combat drug resistance in lung cancer, **Chemistry - An Asian Journal**, May 2019, 14(9):1570-1576.
10. Tianzhong Li, Jianbo Yue, **Linfeng Huang***, & Mengsu Yang*, Autophagy inhibitor Vacuolin-1 interferes with lipid-based small interference RNA delivery, **Biochemical and Biophysical Research Communications**, Mar 2019, 510: 427-434.
11. Guneet Kaur, Hung-chi Cheung, Wei Xu, Jun Vic Wong, For Fan Chan, Yingxue Li, Larry McReynolds, & **Linfeng Huang***, Milligram scale production of potent recombinant small interfering RNAs in *Escherichia coli*, **Biotechnology and Bioengineering**, Sep 2018, 115(9):2280-2291.
12. Zhen Xu, Wei Wang, Yutian Ren, Wenchong Zhang, Peilin Fang, **Linfeng Huang**, Xin Wang, & Peng Shi, Regeneration of cortical tissue from brain injury by implantation of defined molecular gradient of semaphorin 3A, **Biomaterials**, Mar 2018, 157, 125-135.
13. **Linfeng Huang*** & Judy Lieberman*, Production of highly potent recombinant siRNAs in *Escherichia coli*, **Nature Protocols**, Dec 2013, 8(12), 2325-2336.
14. **Linfeng Huang**, Jingmin Jin, Pdraig Deighan, Evgeny Kiner, Larry McReynolds, & Judy Lieberman, Efficient and specific gene knockdown by small interfering RNAs produced in

bacteria, *Nature Biotechnology*, Apr 2013, 31, 350–356 (commented in “Renewable RNAi” of the same issue; highlighted in SciBX, Mar 2013, 6(11)).

15. Thien Ho, Liang Wang, **Linfeng Huang**, Zhigang Li, Denise W. Pallett, Tamas Dalmay, Kazusato Ohshima, John A. Walsh, & Hui Wang, Nucleotide bias of DCL and AGO in plant anti-virus gene silencing, *Protein & Cell*, Sep 2010, 1(9), 847-858.
16. **Linfeng Huang**, Alexandra M E Jones, Iain Searle, Kanu Patel, Hannes Vogler, Nina C Hubner, & David C Baulcombe, An atypical RNA polymerase involved in RNA silencing shares small subunits with RNA polymerase II, *Nature Structural & Molecular Biology*, Jan 2009, 16(1), 91-93.
17. H. Wang, **L. F. Huang** & J. I. Cooper, Analyses on mutation patterns, detection of population bottlenecks, and suggestion of deleterious-compensatory evolution among members of the genus *Potyvirus*, *Archives of Virology*, Aug 2006, 151(8):1625-33.
18. Wei E. Huang, **Linfeng Huang**, Martin Naylor, John P. Carr, Yanhong Li, Andrew C. Singer, Andrew S. Whiteley, & Hui Wang, Quantitative *in situ* assay of salicylic acid in tobacco leaves using genetically modified *Acinetobacter sp.* ADP1 biosensor, *The Plant Journal*, Jun 2006, 46(6):1073-1083.
19. D.W. Pallett, **L. Huang**, J.I. Cooper, & H. Wang, Within-population variation in hybridisation and transgene transfer between wild *Brassica rapa* and *Brassica napus*, *Annals of Applied Biology*, Apr 2006, 148(2):147-155.
20. **L. F. Huang**, Naylor, M., Pallett, D.W., Reeves, J., Cooper, J.I., & Wang, H, The complete genome sequence, organization and affinities of carrot red leaf virus, *Archives of Virology*, Sep 2005, 150(9):1845-55.
21. Wei E. Huang, Hui Wang, Hongjun Zheng, **Linfeng Huang**, Andrew C. Singer, Ian Thompson, & Andrew S. Whiteley, Chromosomally located gene fusions constructed in *Acinetobacter sp.* ADP1 for environmental detection of salicylate, *Environmental Microbiology*, Sep 2005, 7(9):1339-48.
22. H. Zhou, H. Wang, **L. F. Huang**, M. Naylor, & P. Clifford, Heterogeneity in codon usages of *Sobemovirus* genes, *Archives of Virology*, Aug 2005, 150(8):1591-605.

● Book Chapter

1. Wei Xu, Xuezhen Jiang, & **Linfeng Huang**, ‘RNA Interference Technology’ in *Comprehensive Biotechnology*, Vol. 5, Moo-Young, M., Ed., Elsevier: Pergamon, 2019; pp 560–575. <https://dx.doi.org/10.1016/B978-0-444-64046-8.00282-2>. ISBN: 9780444640468.

● Patent

1. ‘Method of treating clostridium difficile infection or its associated symptoms’ **Linfeng Huang**, Yung-fu Chang, Yingxue Li, Yutian Ren, & Wei Xu **US patent pending** (16/541,331), Aug 2019.
2. ‘Method of Determining Target Nucleic Acid’ Peng Shi, Zixun Wang, Wenjun Zhang, Xin Wang, & **Linfeng Huang** **US patent pending** (5/875,385), Jan 2018.
3. ‘Small-interfering RNA expression systems for production of small-interfering RNAs and their use’

Linfeng Huang, Yutian Ren, Hung-chi Cheung, & Guneet Kaur

US patent pending (15/351,768); **PRC patent pending** (201711122069.1), Nov 2016.

4. 'Methods and compositions for the production of siRNAs'

Judy Lieberman & **Linfeng Huang**

US patent: 9,840,703, Jan 11, 2013.

● External Research Grant

As Principle Investigator (PI) or Co-PI

1. 2021.12-24.12, **Kunshan Innovation Talent Award**, 'Smart biomanufacturing of siRNAs', Kunshan Government, **RMB1,000,000 as PI**.
2. 2020.04-23.03, **Collaborative Research Fund (Research Grants Council)**, C2009-19GF, 'Non-canonical NAD-capped RNAs in Arabidopsis: mechanisms of capping and decapping and molecular and physiological functions', **Total fund HK\$6,087,995, Allocated fund HK\$500,000 as Co-PI**.
3. 2020.01-23.12, **General Research Fund (Research Grants Council)**, 11102119, 'Investigation on the determinants of RNase III processing in bacteria', **HK\$1,096,258, as PI**.
4. 2019.08-22.07, **Health and Medical Research Fund**, 18170552, 'Investigation of host genes involved in the functions of *Clostridium difficile* toxins', **HK\$1,499,700, as PI**.
5. 2019.01-22.12, **National Natural Science Foundation of China**, 31870128, 'The investigation of the functions of non-coding antisense RNAs in bacteria', **RMB590,000, as PI**.
6. 2017.06-20.06, **Shenzhen City Science and Technology Grant for Basic Research**, JCYJ20170413141236903, 'RNAi screen for drug target genes and RNAi drug delivery', **RMB2,500,000, as PI**.
7. 2016.01-18.12, **National Natural Science Foundation of China**, 31500689, 'The Investigation of an siRNA Production and Delivery System Based on the pro-siRNA Technology', **RMB200,000, as PI**.
8. 2015.03-17.05, **Innovation and Technology Fund (ITS Tier3)**, ITS/280/14, 'pro-siRNA for highly potent and cost-effective RNAi therapeutics', **HK\$1,342,047, as PI**.

As Co-investigator

1. 2015.01-16.07, **Health and Medical Research Fund**, 03141186, 'Targeting Oncogenic MicroRNA-125 in Acute Myeloid Leukemia', **HK\$995,000**.

● Internal Competitive Grant

As PI

1. 2021.07-22.06, **Kunshan Government Research Special Fund**, 'The next generation of RNAi therapeutics', **RMB500,000**.
2. 2019.05-21.04, **CityU Applied Research Grant**, 9667187, 'Enabling Functional Genomics for Any Species', **HK\$250,000**.
3. 2015.11-18.06, **CityU Teaching Start-up Grant**, 6000565, 'The power of textbook: an experimental approach', **HK\$47,030**.

- **Entrepreneurship**

2018- **Founder and Scientific Advisor, Xiaomo Biotech Limited (www.xiaomobio.com)**

- Incubatee of the Incu-Bio Programme of Hong Kong Science Park (with a HK\$4 million start-up grant in 4 years)
- Recipient of three Technology Start-up Support Scheme for Universities (TSSSU) grants (in total HK\$1,610,000)
- Industrial awards:
 1. Bronze Medal in National Internet+ Entrepreneurship Competition.
 2. Second Prize in HK University Student Innovation & Entrepreneurship Competition (National 'Challenge Cup' competition in HK region).
 3. A Top 100 Enterprises in Guangdong-Hong Kong-Macau Greater Bay Area High Value Patent Competition.
 4. A Highly Promising Enterprise in the 2nd Top 50 of Innovative Biotechnology Enterprises in Guangdong-Hong Kong-Macau Greater Bay Area.