Yi Li

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Dept. of NanoEngineering, University of California, San Deigo · CA 92093

EDUCATION

University of California, San Deigo — *La Jolla, CA*
M.S. in NanoEngineering — Expected Jun 2022
- Fields: Molecular & Nanomaterials

China Pharmaceutical University — *Jiangsu, China*
B.S. in Pharmaceutical Science, Honors research program — Jun 2020
- GPA: 3.67/4.00
- Thesis: "*Applying Drug-delivering-drug Strategies to Overcome Multidrug Resistance (MDR)* in *Non-small Cell Lung Cancer (NSCLC)*"
- Fields: Biomedical nanotechnology, Drug combination

University of Strathclyde — *Glasgow, UK*
International Students Exchange Program — Jul-Aug 2018
- Related courses: Immunology, Molecular biology, Pharmaceutical analysis

RESEARCH EXPERIENCE

Independent Undergraduate Researcher | China Pharmaceutical University — *Jiangsu, China*
Advisor: Dr. Lifang Yin, *Key Laboratory for Druggability of Biopharmaceuticals* — Aug 2018-Jul 2020
- Designed and fabricated hybrid nanocrystals for efficient MDR reversal and enhanced apoptosis
- Conducted DLS analysis and spectroscopic studies for crystal morphology confirmation
- Developed protocols for quantitative analysis of individual component and drug release rate
- Evaluated *in vitro* apoptosis induction in A549 cell and explored MDR reversal mechanism by analyzing correlation between mitochondrion ROS level and activity of drug efflux protein
- Prepared manuscript independently and published results in journal as first author

Research Assistant | China Pharmaceutical University — *Jiangsu, China*
Collaborated with senior graduates, *Department of Pharmaceutics* — Apr 2017-Jul 2018
- Executed 2 collaborated projects, studying the self-assembly of rod shaped nanoparticles (NPs), and caveolin-mediated non-lysosomal endocytosis of NPs
- Established subcutaneous tumor model and tested efficacy of thermosensitive liposomes
- Optimized intratumoral injection and reduced systematic drug toxcicity
- Conducted extensive data analysis via MatLab and prepared results visualization

Visiting Student | Peking University — *Beijing, China*
Advisor: Dr. Wanliang Lu, *State Key Laboratory of Natural and Biomimetic Drugs* — Jul-Aug 2019
- Utilized TargetScan to investigate and confirm the regulator of Slug gene
- Synthesized and amplified the target gene via CRISPR-Cas9 and PCR, and conducted gene sequencing
- Constructed functional miRNA liposomes to treat TNBC by silencing the Slug gene

Visiting Student | Fujian Medical University — *Fujian, China*
Advisor: Dr. Changxi Yu, *Provincial Drug Target Discovery Center* — Feb 2020-Present
- Screened potential leukemia target genes and predict mechanism by searching TCGA database
- Designed and executed novel biochemical experiments to investigate applications of LincRNA in DNA damage repair in acute myeloid leukemia cells
- Performed network meta-analysis regarding *Comparative Efficacy and Safety of Drug Interventions against COVID-19*

PUBLICATIONS

- Lyu Y, Xiao Q, **Li Y**, Wu Y, He W, Yin L. "Locked" cancer cells are more sensitive to chemotherapy. *Bioeng Transl Med*. 2019;4(2):e10130. Published 2019 Jun 10. doi:10.1002/btm2.10130
- Li D, Yu Z, Wang T, **Li Y**, Chen X, Wu L. The role of the novel LincRNA uc002jit.1 in NF-kB-mediated DNA damage repair in acute myeloid leukemia cells. *Exp Cell Res*. 2020;391(2):111985. doi:10.1016/j.yexcr.2020.111985
- **Li Y**, Lyu Y, He W, Yin L. A drug-delivering-drug strategy for efficient MDR reversal and enhanced apoptosis of non-small cell lung cancer. *Int J Pharm*. (In press)
- **Li Y,** He W, Yin L. Non-Invasive Ocular Posterior Segment Delivery System Based on Nanomedicine: A Systematic Review. *Acta Pharm Sin B*. (In press)
- Zhang H, **Li Y**, Ruan D, Gene Mutation Analysis of a Family Pedigree with Familial Adenomatous Polyposis and Clinical Bile Duct Polyp Phenotype. *Int J Nurs Stud.* (In press)
- **Li Y**, He W, Yin L. Comparative efficacy and safety of drug treatment against COVID-19: a systmatic review and network meta-analysis. *J Clin Med.* (In press)
- Gan Y, Wu B, Ruan D, Huang J, **Li Y.** A study on the function of novel PHEX mutations p.Glu145* and p.Trp749Arg in families with X-linked hyphosphatemic rickets. *Artif Cells Nanomed Biotechnol.* (In press)

PROFESSIONAL DEVELOPMENT

Teaching Assistant | Learning Strategies Center, China Pharmaceutical University Oct 2017-Jun 2018

- Review concepts and answer questions for students from *General Chemistry* and *Advanced Mathematics*
- Facilitated faculty with *General Chemistry* experiment and administrative tasks
- Organized seminars bimonthly to aid first year college student in learning *General Chemistry*

Student Attendee | 4th CASNN conference, Zhejiang, China Aug 2019

- Assisted in preparing media and posters on *Nanoplatforms for Dual-targeting of TME and Cancer Cells*
- Interpreted material for non-professional audience at nanomedicine branch venue

Project Leader | National College Students' innovation and entrepreneurship program Oct 2018-Jun 2019

- Spearheaded collaboration of 5 students to study on the treatment for pulmonary hypertension (PAH)
- Applied drug combination strategy based on baicalein (BCL) and p53 gene for combined therapies
- Examined the effects of BCL-p53 complex on the model of rats with PAH

Medical Service Assistant | National Hospice Service Program, Provincial Hospital Jan-Mar 2019

- Supported physicians to conduct palliative treatment to patients with advanced illness

SKILLS AND INTERESTS

- **Programming**: Hugo, R, MATLAB, Python, GitHub
- **Software**: ChemDraw, Stata, SPSS, Origin, Photoshop, Cinema 4D, 3Ds Max, DesignExpert, LaTeX
- **Language**: Mandarin (native), Cantonese (native), English (proficient), Japanese (fluent)
- **Interests**: Piano, UAV racing, LEGO design, Kendo