

## EDUCATION



### **M.Sc. in New Dosage Forms and Technologies**

09/2020 - 06/2023

*School of Traditional Chinese Medicine, China Pharmaceutical University*

- GPA: 3.96 / 4.00 (89.6 / 100.00) (Ranked 4<sup>th</sup> out of 120 in the major)



### **B.Sc. in Pharmaceutical Engineering**

09/2016 - 06/2020

*School of Pharmacy, Shandong University of Traditional Chinese Medicine*

- GPA: 3.20 / 4.00 (82.29 / 100.00) (Ranked 3<sup>rd</sup> out of 247 in the major)

## ACADEMIC EXPERIENCE

### ➤ **3D Printed Combination Tablet for Quad-Therapy**

**Group Leader**

10/2021 - 06/2023

*Supervisor: Prof. Yuan Gao*

- Found H. pylori therapy's dosing complex and patient adherence low from literature.
- Designed and assembled the first HDM Printer for quad-therapy tablets.
- Printed combination tablets for 'rocket-separation' drug delivery.
- Developed HPLC and dissolution method, and assessed tablet quality and drug release.
- Discussed experimental results with professors and completed graduation thesis and paper.

### ➤ **Development of 3D printed OP tablet**

**Group Member**

02/2022 - 06/2023

*Supervisor: Prof. Jianjun Zhang*

- Selected suitable polymers and plasticizers to innovate formulation than the original one, successfully achieving hot-melt extrusion combined with 3D printing.
- Designed an optimized tablet structure that significantly reduced volume, solved patient swallowing difficulties, and matched the dissolution profile of the original research tablet.

### ➤ **Laboratory 3D Printing Preparation Platform Design and Construction**

**Group Leader**

07/2021 - 07/2023

*Supervisor: Prof. Yuan Gao*

- Studied the operation principles of various types of 3D printers, and independently completed the hardware design and assembly of 4 structural 3D printers such as I3 and Core-XY.
- Independently completed program writing and debugging, firmware rewriting and brushing, built the first 3D printing preparation research platform for our laboratory.

### ➤ **Study on the Properties of Microcrystalline Cellulose Powder**

**Group Member**

07/2021 - 12/2021

*Supervisor: Prof. Jianjun Zhang*

- Conducted a comparative analysis of the impact of microcrystalline cellulose from different sources on tablet compressibility and dissolution outcomes.

### ➤ **Formulation Development of Generic Anti-cancer Drug**

**Group Member**

09/2020 - 07/2021

*Supervisor: Prof. Jianjun Zhang*

- Participated in R&D pilot scale-up and methodological validation of quality standards.
- Completed the stability studies of in-house samples compared to the reference formulations.

## WORK EXPERIENCE

### ➤ **Formulation Development of The Original Drug AC017 Tablet**

**Group Member**

07/2023 - Present

*Position: Formulation Scientist*      Jiangsu Aidea Pharmaceutical Co., Ltd.

- Conducted pre-formulation studies including API particle size distribution, hygroscopicity, polymorph analysis, and pH-solubility experiments.
- Completed pilot phase studies on formulation and process parameters.

## **PUBLICATIONS**

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### **1. PAPERS**

- [1] *Hybrid Deposition Modeling Technology for Preparing Rocket-separation 3D-print Tablet with Greater Compliance for the Treatment of Helicobacter Pylori Infection* (**Lead Author**, In Submission)
- [2] K. Zhang, D. Zheng, **A. Li**, S. Liu, Z. Wang, Chen Yu, J Yu, Y Gao, J Zhang, *Recent Advances of Pharmaceutical 3D Printing Extrusion Molding Technology*, Acta Pharm Sin.58 (2023) 2640-2655.
- [3] F. Ding, W. Cao, R. Wang, N. Wang, **A. Li**, Y. Wei, S. Qian, J. Zhang, Y. Gao, Z. Pang, *Mechanistic Study on Transformation of Coamorphous Baicalein-Nicotinamide to Its Cocrystal Form*, J. Pharm. Sci. 112 (2023) 513–524.

### **2. PATENTS**

- [1] Y. Gao, **A. Li**, K. Zhang, Z. Wang, J. Zhang, S. Qian, Y. Wei. *3D Printed Combined Tablet for Treating Helicobacter Pylori Infection*: CN 116019776 A[P]. 2023-04-28.

### **3. MONOGRAPH**

- [1] **A. Li**, H. Zhu, S. Qian. *Research on Formulated Granules of Traditional Chinese Medicine* [J]. China Yearbook of Traditional Chinese Medicine (Academic Volume), 2021, 16 (05): 423-424.
- [2] M. Huang, **A. Li**, S. Qian. *Study on the Transdermal Properties of Chinese Medicine Plasters* [J]. China Yearbook of Traditional Chinese Medicine (Academic Volume), 2022, 17 (06): 426.

## **HONORS AND AWARDS**

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|---|-------------|
| • The First Prize, CPU Scholarship (Top 5%)   | 10/2021     |
| • Outstanding Research Poster, Jiangsu Graduate TCM Innovation Forum                    | 12/2020     |
| • Team First Prize, the Jiangsu Province Graduate Industrial Innovation Competition     | 12/2020     |
| • The First Prize, CPU Freshman Graduate Student (Top 5%)                               | 09/2020     |
| • Shandong Province Outstanding Undergraduate Student Award (Top 1%)                    | 06/2020     |
| • SDUTCM First Prize Scholarship Winner for 3 Consecutive Years (Top 2%)                | 2016 - 2019 |
| • SDUTCM Excellent Student Cadre Winner for 3 Consecutive Years                         | 2016 - 2019 |
| • Provincial Team Silver Award, “Internet+” Innovation and Entrepreneurship Competition | 09/2019     |
| • Outstanding Student, SDUTCM “Si Yuan Cup” Scholarships (Top 1%)                       | 09/2019     |
| • Second Prize, the 1 <sup>st</sup> SDUTCM Tai Chi Competition                          | 04/2019     |
| • Gold Award, SDUTCM Outstanding Student Scholarship (Top 1%)                           | 12/2018     |
| • Provincial Team Third Prize, the 5 <sup>th</sup> Shandong Tech Innovation Contest     | 12/2018     |
| • Outstanding Work, Communist Youth League of China Social Practice Competition         | 11/2017     |
| • Second Prize, the 16 <sup>th</sup> SDUTCM Brush Calligraphy Contest                   | 11/2016     |

## **PROFESSIONAL SKILLS**

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**Instruments:** HPLC, XRD, UV-Vis, FTIR, LPS, Dissolution Apparatus

**Equipment:** Skilled in assembling 3D printers, with the ability to operate pharmaceutical equipment

**IT Skills:** Proficient in Office, Zotero, PS, Ai, Origin, Sketch UP, Simplify3D, ChemDraw

**Language Competence:** Chinese Mandarin (Level II, Grade A), English

## **EXTRACURRICULAR ACTIVITIES**

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| • Shandong Candlelight Volunteer Association Member           | 08/2018 - Present |
| • Director of the Network Department, SDUTCM Student Union    | 09/2018 - 09/2019 |
| • Director of the Propaganda Department, SDUTCM Student Union | 09/2017 - 09/2018 |