

### **Education Background**

**Tianjin University** 09/2013-06/2016

Major: Biology Engineering GPA: 86.99 Rank: 4 /160

Expected Degree: Master of Engineering

**Tianjin University** 09/2009-07/2013

Major: Biological Engineering GPA: 3.79 Rank: 2/48

Degree: Bachelor of Engineering

### **Standardized Tests**

TOEFL: 102 (R: 29+ L: 30+S: 20+W: 23) 05/30/2015

GRE: 328(V158+ Q170) +AW3.0 10/17/2015

### **Research Experiences**

#### **Establishment of Chinese Traditional Medicine small molecule Database**

Graduation Project 02/2013-06/2013

- Built database for Chinese Traditional Medicine small weight molecules as a preparation to screen small molecular inhibitors with functions of the inhibition against amyloid  $\beta$ -protein(A $\beta$ ) aggregation
- Designed inhibitor to inhibit misfolding or aggregation of A $\beta$  to treat Alzheimer disease (AD)
- Established an online database by MySQL, Apache, PHP language; by biochemical software Marvin Sketch, Molinspiration Cheminformatics and Visual Molecular Dynamics
- Collected information and data relevant to Chinese Traditional Medicine molecules through database such as Web of science and PubPed
- Identified data categories of Chinese Traditional Medicine molecules such as physicochemical properties (molecular weight, molecular volume, H-bond donor, H-bond acceptor, and numbers of rotating bonds), origin of molecules, molecular SMILE structural formula, and mol. structure files of molecules
- Input useful information to the database

#### **Design of Chinese Traditional Medicine Serum Medicine Molecule Database**

(Furthered study based on graduation project) 09/2013-09/2014

- Deepened research on pharmacodynamic material basis of Chinese Traditional Medicine and selected Chinese Traditional Medicine serum molecule as the object of study
- Improved research with a focus on Chinese Traditional Medicine small molecules that could be directly absorbed into serum after administration
- Collected information about Chinese Traditional Medicine serum molecule
- Designed and built database with the use of computer and biology methods

#### **Aggregation Inhibitors Screening for A $\beta$ in Alzheimer's Disease**

09/2014-02/2015

- Used molecular simulation, THT fluorescence, transmission electron microscope (TEM), and cell experiment methods to screen aggregation inhibitors from built databases

**Screening of Stabilizer for Mutant p53 Based on Database**

03/2015-06/2015

- Cultivated genetically engineered bacterium with mutant p53 secretion
- Adopted chromatography to separate and purify the mutant protein
- Characterized target protein by electrophoresis experiment
- Used ThT fluorescence, TEM to screen stabilizer molecules

**Inhibition effects of small organic molecules on the conformational transition and aggregation of amyloid- $\beta$  protein on the membrane**

Advisor: Liu Fufeng, NSFC project

09/2015-present

- Select 3 types of cell membrane with different layers and structures including simulated cell membrane, living cell SH-SY5Y membrane, and hippocampal neurons membrane
- Apply molecular simulation and single molecule experiments to study interactions between micromolecule, A $\beta$ , and cell membrane
- Study acting sites and disciplines in the reaction between small molecules and cell membrane
- Reveal molecular mechanism of micromolecule inhibitor inhibiting A $\beta$  polypeptide interconversion of conformations and A $\beta$  aggregation on the surface of cell membrane
- Explore methods and routes for designing inhibitors *in vivo* to provide new strategies for treating Alzheimer's Disease

**Internship Experiences**

**Novozymes (China) Biotechnology Co., LTD**

07/2014-09/2014

Experienced the microbial fermentation process in industry and learned conditions of fermentation

Joined separation and extraction of enzyme after a series of cell disruption

**Honors & Awards**

Third Prize of Social Practice Report	2010, 2011
Scholarship of Tianjin People's Government	2011, 2012
National Scholarship	2010, 2011
Scholarship of Shanghai Pudong Development Bank	2010
Merit student in Tianjin University	2010, 2011
Second Prize in Athletic Contest in Tianjin	2000