ZHAO SHIDI — Curriculum Vitae

Name Zhao ShiDi
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Scentific Education

2011.09 — University diploma(Physics) Zhiyuan College Shang Hai JiaoTong University

Zhiyuan College is an institute that provide an Elite-education for students it's aim to train them to become future leaders in science and technology.

2014.10 — 2015.05 Visiting Researcher Johns Hopkins University

Score

GRE 313/340(V 145 Q 168 W3.0)

TOEFL 97/120(Reading 27 Listening 26 Speaking 23 Writing 21)

Comupter Skills

Master Matlab,Gromacs,can use VMD and PyMOL

Research Experiences

program

1) get the mouse retina and used scanning electron microscope to get the date of optic cell for study the program **direction-selective circuitry in the mammalian retina**

2)used Matlab to Solved the characters of 3-D linear dynamic systems in an ODE study report

3)used Euler method in C language to achieve calculate Hodgkin-Huxley model

$$I = C_m \frac{dV_m}{dt} + \bar{g}_K n^4 (V_m - V_K) + \bar{g}_{Na} m^3 h (V_m - V_{Na}) + \bar{g}_l (V_m - V_l),$$

4)used Lax–Friedrichs method to calculate Euler equations in hydrodynamics

$$u_i^{n+1} = \frac{1}{2}(u_{i+1}^n + u_{i-1}^n) - \frac{\Delta t}{2\,\Delta x}(f(u_{i+1}^n) - f(u_{i-1}^n)).$$

5) join the university PRP (particpation in research program) No.T072PRP23010 ***Effect of Finite Boundaries on Energy Spectru Two-dimensional gas of Massless Dirac Fermions: Application of WKB method***，derive some characters when period limition was set on the boundary of 2-D Fermi-Dirac system material.

6)study the program **test and produce high-speed detector** by using cycle refirgerator and LIA (Lock-in Amplifier) to detect THZ and the output weak signal of the infrared devices in low temperature.

7)use gromacs466 to stimulate the system of EphA1 inserting into DOPC to study *the GXXXG motif to stability of dimerzation*

*8)*help to classify and analyze the various trajectories of transmembrane helixes
which contributes to the project **The simulation study on the interaction of charged molecules with biomembrane**

9)use gromacs466 to build a system of a special kinase receptors inserting into POPC to study **the spontaneous transmembrane protein insertion without translocon.**

10)use absorbance and CD technologies to study **the stability of protein folding in membrane with the changing of temperature**

2012.06— 2012.09

- joined Pro.He.S's Lab and worked on a project about optic nerve.
- joined the program direction-selective circuitry in the mammalian retina
- did experiment to get the mouse retina
- used scanning electron microscope to get the date of optic cell

2013.02 — 2013.06

- joined one university PRP (particpation in research program) No.T072PRP23010 *Effect of Finite Boundaries on Energy Spectru Two-dimensional gas of Massless Dirac Fermions: Application of WKB method*
- Prepare the knowledge by reading *Introduction to Solid State Physics .Charles Kittel*
- do derivation based on WKB method to get the charter while period limit ion was set on the boundary of 2-D Fermi-Dirac system material.

2013.03 — 2013.11

- became a member in Professor Liu, H.C.'s lab which is about QWIP(quantum well infrared photo-detector)
- join the program test and produce high-speed detector
- used cycle refirgerator and LIA (Lock-in Amplifier) to detect THZ and the output weak signal of the infrared devices in low temperature.
- used wire-bounder to design new device

2013.11

- became a member in Professor J. Ulmschneider's lab.
- learned molecular dynamics tutored by Ph.D. student Yun Kun Wang.
- join the program *studying the GXXXG motif to stability of dimerzation*
- use Gromacs466 to build the system EphA1 to study their dimerzation
- join the program The simulation study on the interaction of charged molecules with biomembrane
- help to classify and analyze the various trajectories of transmembrane helixes

2014.10 — 2015.05

Becoming a Visiting Researcher in Johns Hopkins University

- Become a member in Pro. Martin Ulmschneider's Lab at John Hopkins University
- An innovative muti-pepdite membrane insertion mechanism project (这个项目啥名字？)
- Built (已经做好了还是正在还是将要) a system including a special kinase receptors with 4 transmembrane domains and many charges using Gromace466
- Studying the stability of protein folding in membrane with other parameter changed using CD
- Modeling the date supporting the secondary resulting from Molecular Dynamics stimulation using Fluorescence and CD

Activity

February 7-11,2015 to join the Biophysical Society Annual Meeting (1 你的位置 2 这个会议的地位)

http://www.biophysics.org/2015meeting/Main/tabid/4837/Default.aspx

Research Interests

- Transmembrane protein
- Molecular Dynamics
- Protein foldng
- Ion channel