Xi-yuan Bao

University of Science and Technology of China
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EDUCATION

University of Science and Technology of China September 2014 – June 2018
Bachelor of Science in Geophysics with Honors
GPA:3.64/4.00

GRADES OF CORE COURSES

Course	Grade	Course	Grade
Mechanics	87	Electrodynamics	95
Linear Algebra B1	88	College Physics Experiment I	92
Engineering Geology	98	Optics and Atomic Physics	87
Electromagnetism A	90	Regional tectonics in China	87
Theoretical Mechanics A	91	Ordinary astronomy	92
Thermodynamics and Statistical Physics B	89	Spectrum Analysis and Digits Signal Processing	93
Introduction to Atmospheric and Oceanic Science	89	Theory of Geoelectricity&Geomagnetism	95
The Gravity and the Tide of the Earth	95	Principle and Application of Seismology	92

Minor Certificate of Computer Science
Half credits of CS degree

CS RELATED COURSES: Computer Programing A, Computational Methods, C++
Data Structure, Discrete Mathematics I and II
Principles of artificial intelligence
Principles of Computer Organization and The Methodology of VR

STANDARD TESTS:
TOEFL: 107 (Reading: 29, Listening: 29, Speaking: 22, Writing: 27)
GRE: 321(Verbal: 152, Quantitative: 169, Analytical Writing: 3.0)

University of Illinois at Urbana-Champaign June 2017 - August 2017
Visiting Undergraduate Research Project

Research Interests

Geodynamics, Planetary Evolution, Visualization, Artificial Intelligence

ACADEMICAWARDS

- Membership of Jiuzhang Zhao Talent Program in Earth and Space Sciences(top30%,2015-Present)
- Earth Science Climbing Scholarship(top 5%,2015)
- Silver Scholarship for Outstanding Students(top 10%,2016)
- First Prize of College Physics Innovation Research Experiment Thesis Competition(top 5%,2016)
- Earth Science Climbing Scholarship(top 5%,2017)

RESEARCH EXPERIENCE

Summer visit to large-scale geodynamics group at UIUC June 2017 - August 2017
Advised by Prof. Lijun Liu

Constraining the nature of the LLSVPs using observations ofgeoid and dynamic topography

- Learned how to perform global geodynamic models with tomography input and variable viscosity.
- Implemented compositional tracers to explore the density and viscosity of the LLSVPs.
- Benchmarked tomography model S40RTS in predicting geoid and dynamic topography.
- Discovered that lateral viscosity variation (LVV) of the LLSVPs has large effects on surface observables, in contrast to earlier works suggesting little effect of LVV on gravity.

- Locating the bestfit LLSVP density and viscosity structures now.
- Got A back to USTC

National Innovation Program
September 2017 - May 2018

Advised by Prof. Daoyuan Sun and Wei Leng

Investigation of the Pacific LLSVP basing seismology and geodynamics

- funded by Ministry of Education of China (20,000 yuan)
- As leader of 3-member group
- My role is to examine the possibility of certain origin of LLSVPs
- Doing literature research now

Graduation Project
September 2017 - Present

Advised by Prof. Wei Leng

Benchmark on Citcom-Ellipsis

- Originated from Citcom& Ellipsis written by my adviser Wei Leng
- Support viscoelasticity and Lagrange particle tracking
- Benchmark needed after debugging
- Reading papers about finite element algorithm and interactions between viscosity and convection now

COURSES PROJECT

Freshman Seminar
2014 Fall

Advised by Prof. Huaiwei Ni

Preliminary study of the mechanism of volcanic eruption

- Leader of a four men group
- Course thesis and presentation
- Grade A+

College Physics Experiment IV
2016 Fall

Advised by Prof. Wei Zhao and Quan Zhang

Design of a thermoelectric cellphone charger and shower temperature switch

- Leader of a four men group
- Combination of simulation and experiment
- Course thesis and college presentation
- First prize in the university (top 5%)

Gravity Project
2016 Fall

Advised by Prof. Jinshui Huang

Calculation of gravity tide

- Calculate theoretical value the gravity tide using python
- Range from a week to half a year , in my hometown
- Plot results of different algorithms and visualize the errors
- Got 95 in The Gravity and the Tide of the Earth

Geomagnetism Project
2017 Spring

Western drift of the non-dipole part of geomagnetic field

Advised by Prof. Wu Xiaoping

- Processing data with Matlab from IGRF
- Plot GIF to observe the drifting from 1900 to 2015
- Got 95 in Theory of Geoelectricity and Geomagnetism

COMPUTER SKILLS

- C/C++/C#，Python, Matlab, Fortran
- Bash, GMT, SAC, Paraview, Citcom

SOCIAL AWARDS

- Third Prize of Freshman Volleyball Game(2014)
- Third Prize of group event in the College Competition (2014)
- First Prize of Essay Competition of Summer Vacation (2015)
- Third Prize of Essay Competition of Voluntary Services for the countryside (2015)
- Model in Voluntary Services for the countryside (2015)
- Outstanding Cadre of School Student Association(2015)
- Third Prize of Essay Competition of Summer Vacation (2017)

REFERENCES

Wei Leng, Professor of School of Earth and Space Science, USTC

My mentor in USTC, academic referee wleng@ustc.edu.cn

Lijun Liu, Associate Professor of Department of Geology, UIUC

My advisor in UIUC, academic referee ljliu@illinois.edu

Jinshui Huang, Professor of School of Earth and Space Science, USTC

My teacher of The Gravity and the Tide of the Earth, course referee jshhuang@ustc.edu.cn