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OBJECTIVE Obtain a PhD degree in Materials Science in the field of *computer simulations*.

EDUCATION FUDAN UNIVERSITY, Shanghai, China
Candidate for B.S. Department of Materials Science, 2006 - 2010
Major: Electronic and Information Engineering
GPA: 3.96 / 4.0 RANK: 1 / 62

CURRENT RESEARCH *First Principle Prediction of Superhard Materials* **Oct.2009 to present**
Supervisor: Prof. Xijing Ning

- Used VASP to calculate the bulk modulus as well as the ideal strength of superhard materials as OsB₂ and OsN₂.

RELEVANT RESEARCH EXPERIENCES *Inverse Scattering Problems* **Jul. 2009 to Sept. 2009**
Supervisor: Prof. Jijun Liu

- Designed a trigonometric interpolation algorithm for numerical integration to deal with hyper singular integral core.
- Implemented the Tichonov regularization method together with generalized cross-validation (GCV) algorithm to solve Fredholm integral equation of first kind.

Glow Discharge Plasma **Nov. 2008 to Jan. 2009**
Supervisor: Prof. Yongkang Le

- Modeled the plasma in equilibrium with magnetohydrodynamics equations and designed a finite difference scheme to solve this coupled partial differential equations.
- Used Langmuir probe method to measure the electron temperature of the glow discharge plasma with different discharge currents, voltages and air pressures.

Fractal Growth of Electro-deposition **May 2007 to Mar. 2008**
Supervisor: Prof. Qi Sun

- Used the diffusion limited aggregation (DLA) Monte Carlo method to simulate the fractal growth of electro-deposition.
- Carried the electro-deposition experiments of Copper in different concentrations and voltages.
- Adopted the sandbox method to calculate the fractal dimensions of the growth patterns from simulations and experiments.

OTHER RESEARCH EXPERIENCES *Transparent Conductive Oxide (TCO) Films* **Mar. 2009 to Oct. 2009**
Supervisor: Prof. Qun Zhang

- Deposited In₂O₃ : W TCO films by pulsed electron deposition (PED) method. Changed the oxide partial pressure, deposition time and concentration of W in In₂O₃ to achieve optimal optical and electrical properties.
- Adopted XRD, four point probe method and spectrophotometry to characterize the structure, conductivity as well as the transmittance of the deposited In₂O₃ : W TCO films.

Positron Mobility in Semiconductors

Jan. 2008 to May 2008
Supervisor: Prof. Chris Beling

- Used LabVIEW to build a PC-based experiment control systems with electronic modules.
- Adopted the Doppler shift method as well as the Ge-detector to measure the positron mobility in GaN.

ADVANCED MATHEMATICS AND PHYSICS COURSES	CURRICULUM	CREDITS	GRADE
	Methods of Mathematical Physics A	4	A
	Solid State Physics	4	A
	Classical Physics A	4	A
	Thermodynamics and Statistical Physics I	3	A
	Numerical Solution of Differential Equations	3	A
	Inverse Problems in Mathematical Physics	*	*
	Quantum Mechanism II	3	**
	Computational Condensed Matter Physics	3	**
	Group Theory	3	**

* *summer school*
** *registered this semester*

SPECIAL SKILLS	PROGRAMMING LANGUAGES	Acquainted with Fortran, C/C++, Matlab programming languages for scientific computations as well as LabVIEW language to design PC-based control systems.
	OPERATING SYSTEMS	Familiar with using Windows and Linux systems to do office work. Good at editing with \LaTeX as well.
	SCIENTIFIC COMPUTATIONS	Skilled at the implementation of finite difference method, finite element method and other basic numerical computation algorithms.

PRESENTATIONS *Numerical Simulation Methods in Modern Physics Experiments*, the 104th Anniversary Academic Report of Fudan University, 2009
(only EIGHT undergraduates are honored to give a report.)

STANDARD TESTS **GRE:** Verbal: 470 (53%) Quantitative: 800 (94%) Analytical Writing: 4.0 (37%)
TOEFL: Reading: 28 Listening: 23 Speaking: 22 Writing: 22 Total: 95

AWARDS **FUDAN UNIVERSITY**
☆ National Scholarship, 2006-2007, 2008-2009
(highest national award for TOP 1% undergraduates.)
☆ Samsung's Scholarship, 2007-2008
(highest enterprise scholarship for TOP 5% undergraduates.)
☆ National Innovative Experiment Grant for Undergraduate, 2007-2008
THE UNIVERSITY OF HONG KONG
☆ Fung's Scholarship, 2008
(less than TEN students in Fudan are awarded each year.)