



Application Information for International Students

at School of Materials Science and Engineering,
Peking University



CONTENTS





PART 1: OVERVIEW OF THE PROGRAM	01
PART 2: COURSE LIST	03
PART 3: PROGRAM FACULTY	05
PART 4: LIFE IN YANYUAN	31
PART 5: CREDIT AND THESIS REQUIREMENTS	36
PART 6: TUITION FEES AND SCHOLARSHIPS	37
PART 7: APPLICATION	39

OVERVIEW OF THE PROGRAM

PART ①

School of Materials Science and Engineering, Peking University



Ranking

ESI

top **1.4**‰

US News

6th

QS

15th

Peking University (PKU) is a comprehensive research university with disciplines ranging from philosophy, literature, history, law, economics and education to science, engineering, medicine, management and art.

Peking University admits students on the principle of “merit-based enrollment, quality before quantity” and is dedicated to educating innovation-minded scholars with a global perspective and understanding of China. Peking University enrolls international students to study for master's and Ph.D. degrees through the "**Application+Examination**" method, assessing the applicant's comprehensive quality and ability.

The materials department of Peking university was established in 2005 and now has been ranked **top 1.4‰ of ESI, the 6th of US News, the 15th of QS** by subject in the world.

MSE emphasizes research for subjects in **Energy Materials, Optoelectronic Materials, Biomaterials, Composite Materials, and Emerging Materials**. We warmly welcome talented international students to join us!



Basic Study Period

Master's Degree
Students

3 years

Doctoral
Students

4–5 years

The basic study period for master's degree students is 3 years; the basic study period for doctoral students is 4 years; Excellent undergraduate students can directly apply for Ph.D. degree, in which basic study period is 5 years. After graduation, you will receive an equivalent **Master's or Doctoral degree of engineering** currently to Chinese students.

COURSE LIST

PART ②

Fall Semester

Course ID	Course Name	Credits
23200040	Materials Analysis and Characterization	3
23200060	English Scientific Writing	2
23200070	Mathematics for Materials Science	2
23200100	Advanced Materials Chemistry	3
23200130	Safety Knowledge of Laboratory	1
23200020	Energy Materials	2
23200030	Flexible Electronics	3
23200050	Flexible Devices and Device Fabrication	2
23200080	Low-dimensional Functional Materials Physics	2
23200090	Introduction to Electronic Structure Calculations	3
23200110	Molecular Assembly and Aggregation	2
23200150	Red Avenue Materials Science Forum I	1
23200120	Modern Optical Spectroscopy	2
23200140	Optoelectronic Functional Materials and Devices	2
23203261	Materials for Electromagnetic Waves Shielding and Stealth	2
23203272	Polymer Physics	3
23203549	Frontiers in Materials Science & Engineering	1
23203783	Frontiers in Biomedical polymers	3



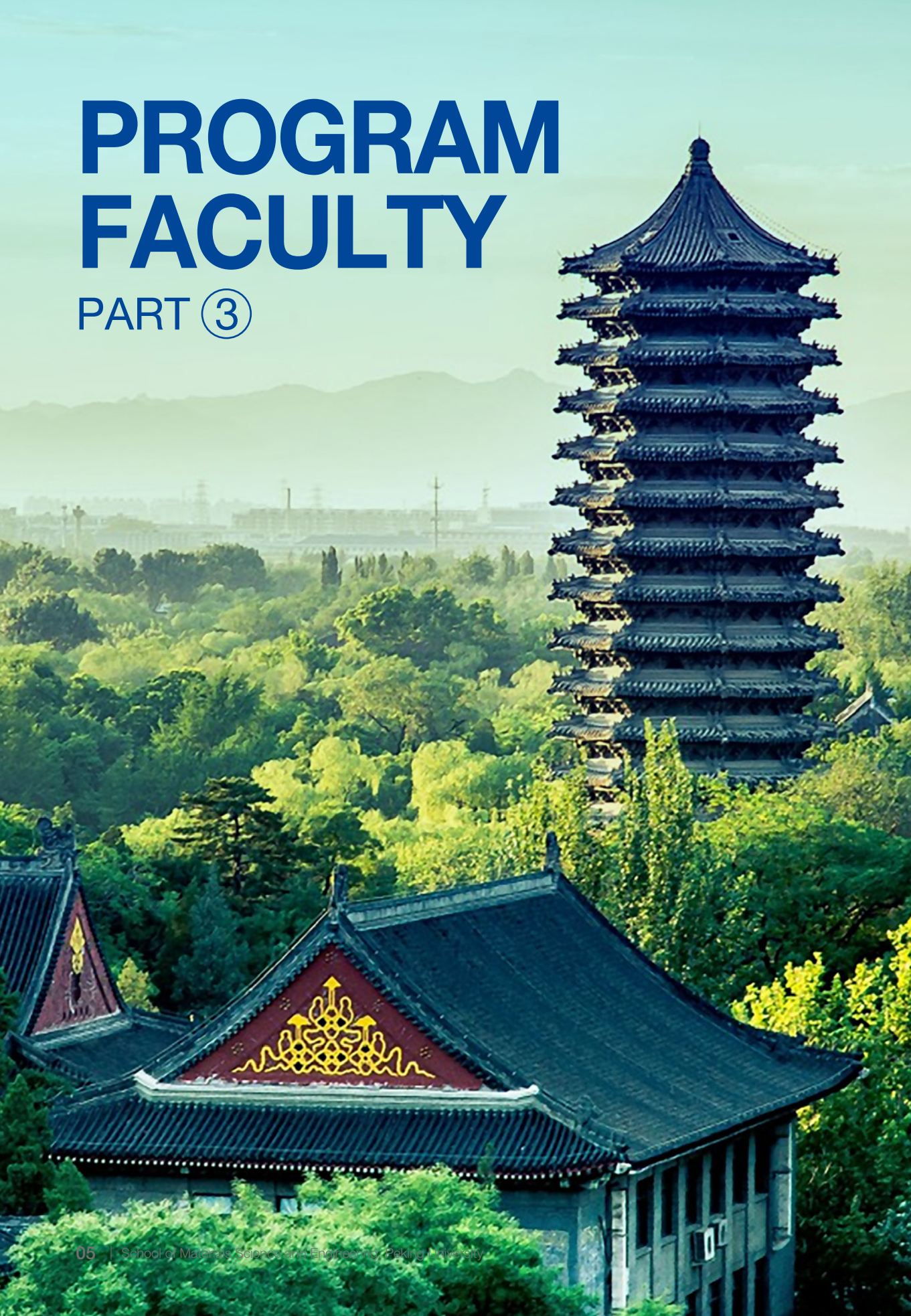
23203817	Fabrication and Application of Fiber Materials	3
23203846	"Materials+" Innovation and Entrepreneurship Lecture	1
23203906	Advanced Electron Microscopy	2
23203912	External Source-excited Materials for Biomedical Applications	2
23203975	Material Self-assembly and Nanomanufacturing	3

Spring Semester

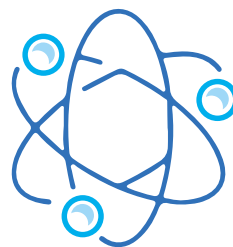
Course ID	Course Name	Credits
23200160	Red Avenue Materials Science Forum II	1
23203009	Materials Physics: Basic Principle and Frontiers	3
23203012	Advanced Liquid Crystalline Materials	2
23203013	Biomedical Materials	2
23203015	Solid State Electronics	3
23203549	Frontiers in Materials Science & Engineering	1
23203780	Materials Simulations Assisted by Machine Learning	2
23203679	Magnetoelectric Functional Materials and Devices	2
23203785	Synchrotron Radiation Techniques and Applications in Material Characterization	3

PROGRAM FACULTY

PART ③



Energy Materials



DINGGUO XIA

Research interests:

Cathode materials for lithium-ion batteries, Functional intermetallic compounds, and Material calculation.

Email address: dgxia@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1221/1248.htm>





HUANPING ZHOU

Research interests:

Controllable synthesis of functional nanomaterials, Inorganic, organic/inorganic hybrid optoelectronic functional materials, and Optoelectronics and energy devices (solar cells, light-emitting diodes, detectors).

Email address: happy_zhou@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1223/1255.htm>



SHAOJUN GUO

Research interests:

Fuel Cells, Green Hydrogen, CO₂ Conversion Materials and Battery.

Email address: guosj@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1204/1242.htm>





FENG PAN

Research interests:

- (1) Exploring materials genomics through establishing big data system with interdisciplinary knowledge; developing graph theory as a new methodology for structural chemistry research; developing world-class scientific infrastructure for accurate in-situ structural analyzing systems.
- (2) Establishing correlations between materials performance and structure based on the ordering and interactions of "structural units", and the utilization of these knowledge on developing new energy materials.
- (3) Developing high-performance battery materials and catalysts through tuning the chemical/electrochemical reconstruction of their interfacial structure.

Email address: panfeng@pkusz.edu.cn

Website: <http://www.pkusam.cn/>



QIANG SUN

Research interests:

Design of new materials with machine learning, Topological quantum materials for energy applications, and Cluster physics and cluster-assembled materials.

Email address: sunqiang@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1216/1246.htm>





QUANQUAN PANG

Research interests:

Beyond Lithium-ion battery technologies and Solid state batteries.

Email address: qqpang0213@gmail.com

Website: <http://pang-eetl-pku.com/>



SHENZHEN XU

Research interests:

Ab-initio modeling of electrochemical surface reactions, and development of simulation methods for materials' surface reactions based on statistical physics.

Email address: xushenzhen@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1221/1273.htm>



BIAO LI

Research interests:

Cathode materials of Li(Na)-ion batteries; Solid-state electrolyte; All-solid-state batteries; Interfaces between solid-state electrolyte and electrode materials; Advanced characterization techniques in batteries.

Email address: biaoli@pku.edu.cn

Website: <https://scholar.google.com/citations?user=UxmaBMMAAAAJ&hl=zh-CN&oi=ao>



MINGCHUAN LUO

Research interests:

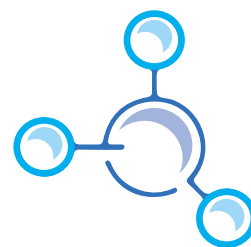
Aiming for carbon neutrality and sustainability, our group is interested in developing technologies for the electrochemical conversion of renewables by: (1) understanding fundamental electrochemistry; (2) innovating electrocatalytic nanomaterials; (3) engineering electrochemical systems and devices.

Email address: m.luo@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/info/1209/2391.htm>



Emerging Materials



JIN ZHANG

Research interests:

Our research focuses on the controlled synthesis and assembly of carbonene materials, discovering their novel physic-chemical properties, and exploring frontier applications. Synthesis determines the future. We devote ourselves to developing the synthesis methodology, bridging between the micro- and macro- structures, revealing the transmission law of properties between nanomaterials and macro assemblies, and finally achieving demand-oriented customized research of carbonene materials.

Email address: jinzhang@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1223/1256.htm>





YUE ZHANG

Research interests:

Low-dimensional semiconductor materials for advanced applications

Email address: yuezhang@ustb.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1223/1257.htm>



RUQIANG ZOU

Research interests:

Functional porous materials for electrochemical energy storage and conversion, Nanoconfined phase change materials for energy storage and thermal management, Emergent porous materials for molecular adsorption and separation: Hydrogen storage/purification and carbon capture.

Email address: rzou@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1223/1254.htm>





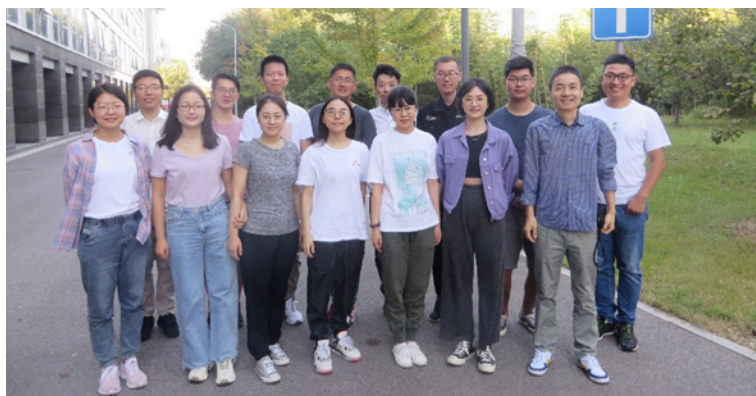
ANYUAN CAO

Research interests:

Carbon Nanomaterials: Synthesis and Applications

Email address: anyuan@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1200/1321.htm>



QIAN WANG

Research interests:

Computational design of novel carbon-based materials, lightweight functional materials and superatoms, and theoretical study on their electronic, thermoelectric, magnetic, piezoelectric and optoelectronic properties and potential applications.

Email address: qianwang2@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1220/1331.htm>





YANFENG ZHANG

Research interests:

Controlled growth and transfer of wafer-scale monolayer or few-layer 2D materials, STM/STS explorations of their atomic-scale structures, electronic states and novel physical properties, and novel physical and chemical properties and application explorations of 2D materials.

Email address: yanfengzhang@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1223/1258.htm>



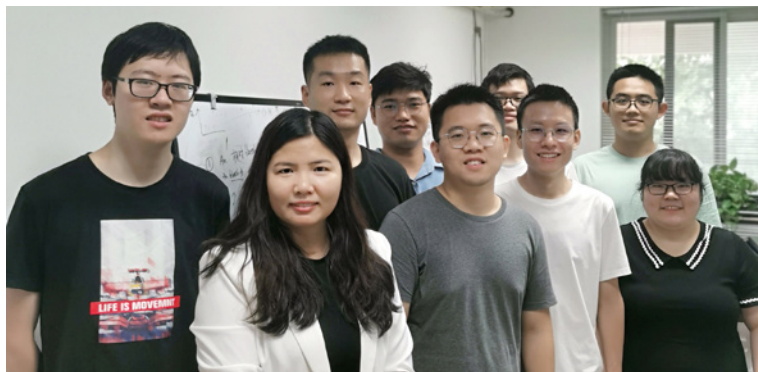
QING ZHANG

Research interests:

Emergent semiconductor materials (halide perovskites, two dimensional semiconductors), Optical properties and spectroscopies of low-dimensional semiconductors, Optoelectronic applications of low-dimensional semiconductors.

Email address: q_zhang@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1223/1250.htm>







LEI LIU

Research interests:

The isotope engineering of 2D materials, emerging 2D light-element quantum materials, and the synthesis and application of low-dimensional amorphous materials.

Email address: l_liu@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1209/1245.htm>



LI LIN

Research interests:

Aims to explore frontier sciences and industrial applications of graphene films and graphene-based heterostructures, including membrane- and device-based applications via chemical modification and surface engineering.

Email address: linli-cnc@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1209/1431.htm>



YUANLONG SHAO

Research interests:

High strength and thermal conductivity wet-spun carbon nanotube fiber, Carbonese hybrid phase change thermal management fiber material, and Human body temperature microenvironmental management and thermal protection applications.

Email address: shaoyuanlong@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1216/1429.htm>



XIAOXU ZHAO

Research interests:

Aberration corrected scanning transmission electron microscopy, Advanced image analysis and processing, and Novel low-dimensional materials synthesis.

Email address: xiaoxuzhao@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1223/1428.htm>





YONGGANG WANG

Research interests:

New in-situ high-pressure characterization technologies, Temperature- / pressure-induced multi-stable switching phenomena and materials, and Phase-change storage and energy storage materials.

Email address: ygw@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1220/1434.htm>



LICONG PENG

Research interests:

Lorentz Transmission Electron Microscopy; Spintronic Devices; Condensed Matter Experiment; Micromagnetic Simulations. Materials include Magnetic materials, 2D materials, Nanomaterials, Thin film, and Superconductor etc.

Email address: licong.peng@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/info/1213/2411.htm>



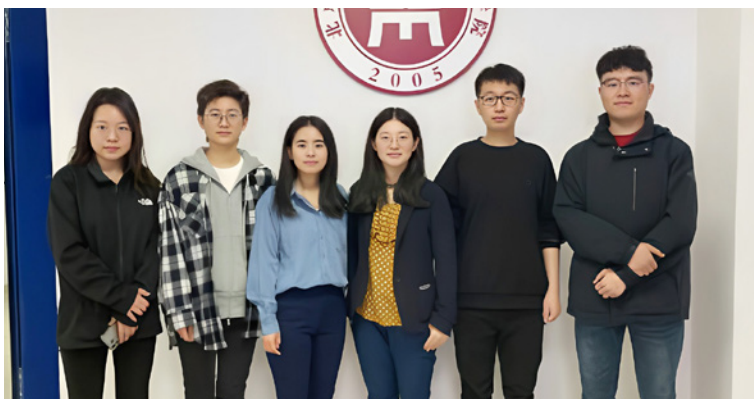
XIN GAO

Research interests:

Controllable preparation of advanced low-dimensional carbon materials and their applications in high-energy density rechargeable batteries.

Email address: gaoxin-cnc@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/info/1204/2531.htm>



ZEHUAN HUANG

Research interests:

Precise construction and comprehensive control of high-performance supramolecular polymeric materials with tailored structures and mechanical properties for biomedical applications.

Email address: zehuan@pku.edu.cn

Website: <https://www.zehuangroup.com/en/>





Optoelectronic Materials



HUAI YANG

Research interests:

Our group focuses on the design of novel flexible displays and intelligent materials using liquid crystalline materials with multiple responses to the external stimuli. We are also interested in the design and scale process technology of high-performance polymer electrolytes with specific microstructure, and liquid crystalline polymer/carbon fiber (or two-dimensional material) composites with excellent mechanical properties based on the high degree of molecular orientation of liquid crystals.

Email address: yanghuai@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1222/1249.htm>



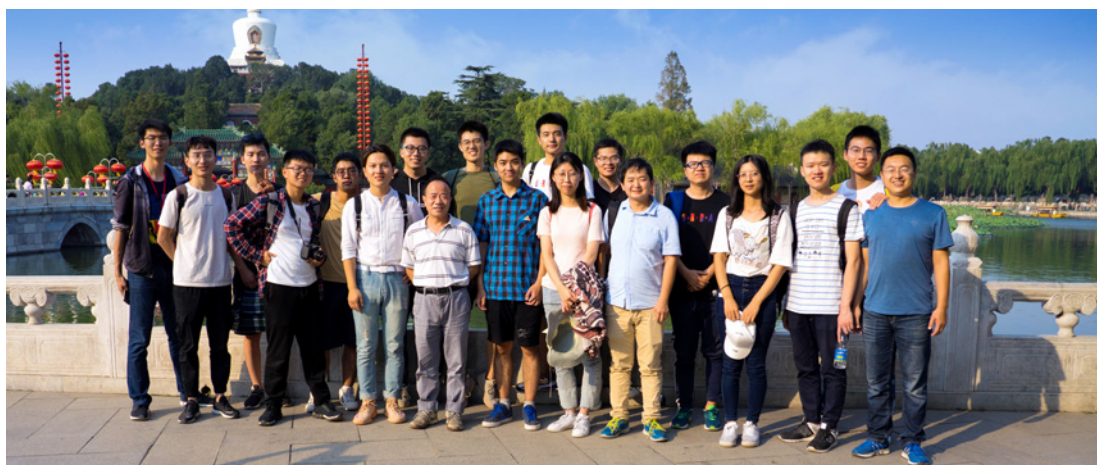
XIAOWEI ZHAN

Research interests:

Design and synthesis of organic semiconductors, fabrication and applications of organic solar cells and other optoelectronic devices.

Email address: xwzhan@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1223/1251.htm>





TING LEI

Research interests:

Organic/polymer functional materials, Organic electronics, Bioelectronics, and Flexible/wearable devices.

Email address: tinglei@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1209/1244.htm>



JINHU DOU

Research interests:

Exotic physical properties of electronically coupled 2D Metal-Organic Frameworks, Novel supercapacitor electrodes based on porous, electrically conductive materials, and Macroscale bioinformatic materials.

Email address: doujinhua@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1201/1464.htm>



FANYANG MO

Research interests:

Organic-inorganic Hybrid Material, Molecular Electronics, and Robotic chemistry driven by artificial intelligence.

Email address: fmo@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1210/1271.htm>



Composite Materials



XIANGBAO CHEN

Research interests:

Advanced resin based structural composites and integrated structural/functional composites

Email address: xiangbao.chen@biam.ac.cn

Website: <https://www.mse.pku.edu.cn/en/info/1200/1381.htm>



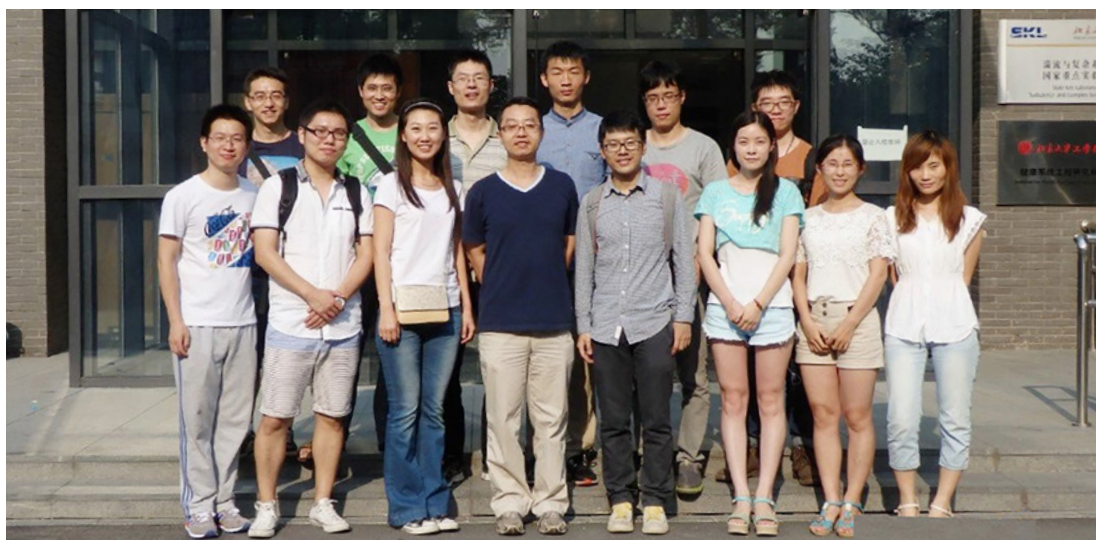
HAIFENG YU

Research interests:

Micro-Nano structural design and applications of polymer materials, Light-driven smart and biomimetic polymer materials, and Light energy storage and conversion polymer materials.

Email address: yuhaifeng@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1222/1252.htm>





HONG MENG

Research interests:

Research areas in the Meng Group include synthesis of functional organic and polymer materials, organic electronic device design and fabrication, and applications development for organic electronics.

Email address: menghong@pku.edu.cn

Website: <https://web.pkusz.edu.cn/menghong/>





Biomaterials



XUESI CHEN

Research interests:

Synthesis, processing and characterization of polymer materials, Research and development of medical implant polymer materials and devices, and A new method for the detection of tumor and its application by polymeric carrier.

Email address: xschen@ciac.ac.cn



YUFENG ZHENG

Research interests:

Metallic Biomaterials

Email address: yfzheng@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1223/1253.htm>





SHUILIN WU

Research interests:

Development and application of biomedical antibacterial and antiviral materials, Multifunctional Design of Exogenously Excited Smart Responsive Nanomaterials, Material-herbology, Materioherbology, and Bone Implant Materials and Surface Modification.

Email address: slwu@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1220/1433.htm>



YUE CUI

Research interests:

Electrochemical biosensors for the detection of diseases, and Immunoassay papers for the detection of diseases.

Email address: ycui@pku.edu.cn

Website: [https://www.mse.pku.edu.edu.cn/en/info/1200/1261.htm](https://www.mse.pku.edu.cn/en/info/1200/1261.htm)





SHIXIAN LV

Research interests:

Polymeric biomaterials, Nanomedicines, and Cancer therapy.

Email address: lvshixian@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/info/1209/1432.htm>



LIFE IN YANYUAN

PART ④



Post-graduation Careers in MSE

Continue to study in China	57%
Continue to study abroad	21%
Employment	22%



Andrea dal Mas

a Italian graduate of Peking University



In the future, I would like to stay in China and be part of its development. Because I am still curious about China's future and want to personally participate in the rapid development of China.



ANANDA DAVI

a Indonesia freshman of Peking University



Chinese culture is complex but not complicated, diverse and unified, especially urban culture. We can feel the intersection of different regional customs and food cultures in a city.



Kyle Obermann

an America graduate of Peking University



After graduation, Kyle stayed on to work as a conservation photograph and writer, showcasing the efforts of environmental protection and conservation in China. He is the founder of Explore to Conserve, a Chinese social media movement dedicated to connecting China's outdoor industry and environmental movement.



- ① They learned to make zongzi at the Dragon Boat Festival Garden Party.
- ② When visiting Kashgar, international students of PKU danced with the local people.
- ③ Peking university international culture festival 2022.







CREDIT AND THESIS REQUIREMENTS

PART ⑤



Credit

3-year Master' degree Program	35 credits
4-year Ph.D. degree Program	18 credits
5-year Ph.D. degree Program	40 credits



Thesis

In order to obtain the degree, students must complete the thesis relating to materials and pass the thesis defense.



Certificate

After being approved by the Peking University Degree Committee, the students can receive the **Master's or Ph.D. Program's graduation certificate** and the **degree certificate for the Master's or Ph.D. of Engineering**.

TUITION FEES AND SCHOLARSHIPS

PART ⑥



Tuition Fees (per person per year)

Master's Degree Program

33,000 CNY (≈4604 U.S. dollars)

Doctoral Program

40,000 CNY (≈5581 U.S. dollars)

We encourage and support all the successful candidates to apply for scholarships at PKU.



Scholarship

100% Chinese Government Scholarship (CGS) for new international students

- Tuition waiver
- For free accommodation
- 4100-4500 CNY (≈ 561-616 U.S. dollars) monthly living expenses
- Medical insurance provided in accordance with the regulations

Rich types of scholarships for registered international students

(1) PKU International Students Academic Award:

categorized into 3 categories with different amount.

First Prize for PhD Candidates

10,000 CNY (≈1419 U.S. dollars)

Second Prize for PhD Candidates

5,000 CNY (≈710 U.S. dollars)

Prize for Master's Students

5,000 CNY (≈710 U.S. dollars)

(2) Asian Future Leaders Scholarship:

for Japanese students, amount of scholarship is **USD 25,000 / Recipient**.

(3) MSE International Students Academic Award:

categorized into 3 categories with different amount.

First Prize for PhD Candidates

10,000 CNY (≈1419 U.S. dollars)

Second Prize for PhD Candidates

5,000 CNY (≈710 U.S. dollars)

Prize for Master's Students

5,000 CNY (≈710 U.S. dollars)

Note: The evaluation of scholarships will be carried out in accordance with the relevant regulations of the government and the university.

For more information, please pay close attention to notices posted at <http://www.isd.pku.edu.cn>.

APPLICATION

PART ⑦

Application Prerequisites

- 1) Applicants must be non-Chinese citizens with a valid passport. Residents of the Chinese mainland, Hong Kong, Macau or Taiwan who have emigrated to other countries and are applying to Peking University as international students.
- 2) Applicants should be healthy, both physically and psychologically, with no criminal record, friendly to China and must abide by the laws and decrees of China.
- 3) Applicants for master's degree programs must have attained a bachelor's degree, and those who graduated from non-Chinese universities must hold a bachelor's degree from a university accredited by the Ministry of Education of China. (Grade skipping or joining in the middle of the course is not permitted.)
- 4) Applicants for doctoral programs must have

attained a master's degree, and those who graduated from a non-Chinese institution must have a master's degree from an institution recognized by the Ministry of Education of China.

Application Period

Usually from October to December.

Please follow the website:

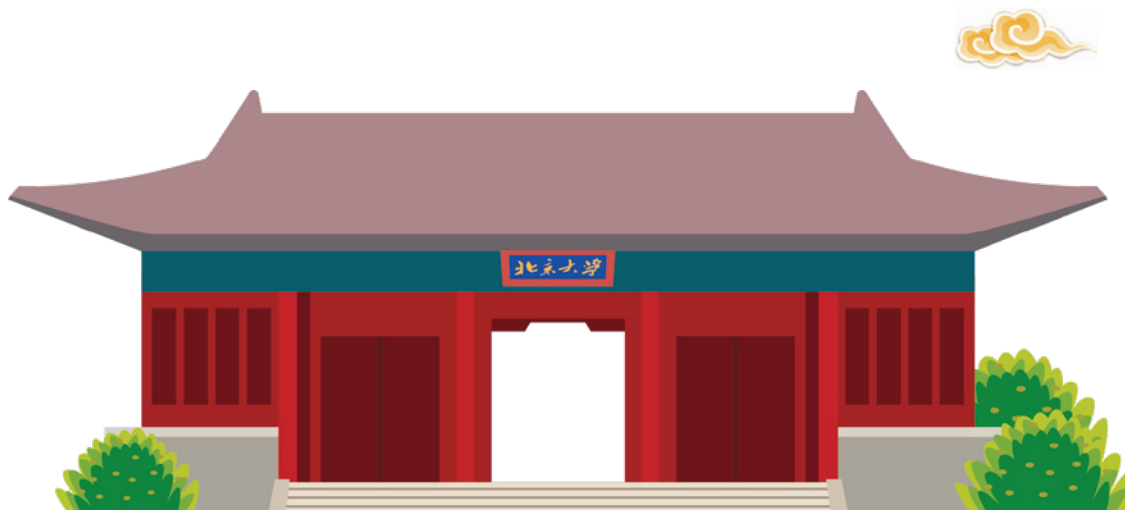
www.isd.pku.edu.cn; www.oir.pku.edu.cn

Address: Room 330, New Sun Student Center
International Students Division
Office of International Relations
Peking University, Beijing 100871
People's Republic of China

Tel: (+86-10) 6275 1230

Fax: (+86-10) 6275 1233

Email: study@pku.edu.cn



Application Materials

- 1) Peking University Application Form for International Students (master's degree and doctoral programs) with a photograph affixed.
- 2) Graduation and degree certificates, which must be original documents or notarized copies either in Chinese or English.
- 3) Official transcripts of the applicant's most recent academic achievement, including courses taken and standards achieved. These must be original documents or notarized copies either in Chinese or English.
- 4) A personal statement (including a research plan: 1500 words for the master's degree program, 3000 words for the doctoral program).
- 5) Two recommendation letters from professor(s) or associate professor(s) related to the applicant's major (or equivalent professionals with relevant academic title).
- 6) Original or photocopy of the applicant's language test scores:
 - For Chinese-taught programs, applicants whose mother tongue is not Chinese are required to submit HSK 6 (200 points above) scores or other certificate to prove their Chinese language proficiency.
 - For English-taught programs, applicants whose mother tongue is not English are required to submit TOEFL, iBT (100 points or above) or GRE (315 points or above) scores or other certificate to prove their English language proficiency.
- 7) One photocopy of your valid passport (passport type must be ordinary).
- 8) Table of contents and abstracts of the applicant's academic publications and any other original achievements in his/her field (if applicable).

Application Fee

The application fee for each program is **800 RMB** (≈114 U.S. dollars).



CONTACT INFORMATION

We are there to give you guidance and support before and during your stay at MSE and look forward to welcoming you!

Tel: (+86-10) 6275 6697

Email: gmsezb@pku.edu.cn

Website: <https://www.mse.pku.edu.cn/en/index.htm>

