Master's Program in New Energy Material & Device

Title/degree: Master of Engineering (M.E)

Duration: 2.5-3 years, full-time

Start month: September

Language of instruction: English

I. Program Description

New energy will be needed to meet skyrocketing energy demand in the worldwide range. Donghua researchers are trying to lead efforts to support a scalable, innovative, clean energy and reliable energy sources. These technologies include, but are not limited to:

Energy storage device

Solar photoconversion

Plasma topic related with nuclear fusion energy

A solid, theoretical understanding of new energy materials and devices will be trained with plenty of attention for the wide range of its applications.

II. Why study New Energy Material & Device at Donghua University?

1. *Our approach is pragmatic as well as theoretical and experimental. As an academic, we not only expect you to understand and make use of the appropriate tools, but also to program and develop your own.*
2. *There are opportunities to do an internship for your Master's project in companies related with energy storage and solar photoconversion companies in Shanghai.*
3. *Currently, we have more than 700 undergraduates and 200 postgraduates enrolled in the College of science in Donghua University. They can enjoy the advantages of our faculty as there are:*
   - *Excellent support of the students from 25 professors and numerous scientific faculty members and tutors*
   - *Various courses of study, focused on different topics*
   - *Very good scientific platform with the unit member (Donghua University) of Magnetic Confinement Fusion Research Center, Ministry of Education, China, and other joint laboratories and enterprises in China*

III. Participating Professors and Junior Scientists

Prof. Dr. 张菁 Zhang Jing

Research Area: Functional Thin Solid Film; Low-temperature Plasma Physics and Applications; Material Structure and Properties.

jingzh@dhu.edu.cn

Prof. 何国兴 He Guoxing
Research Area: Spectral optimization of high performance white LEDs
gxhe@dhu.edu.cn

Prof. Dr. 薛绍林 Xue Shaolin
Research Area: semiconductor nanoimaterials; field emission; supercapacitor;; electrochemistry
slxue@dhu.edu.cn

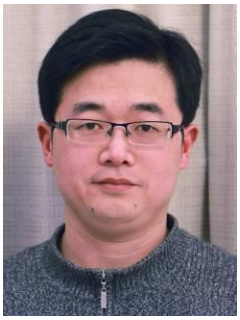
Prof. Dr 王春瑞 Wang Chunrui
Research Area: (1) Synthesis and optoelectronic properties of 1D and 2D materials; (2) 1D, 2D-materials based lithium ion battery; (3) 1D-2D hybrid material based optoelectronic and wearable devices.
crwang@dhu.edu.cn

Prof. Dr. 钟方川 Zhong Fangchuan
Research Area: fusion plasma, application of low temperature plasma,
fczhong@dhu.edu.cn

Prof. Dr. 石建军 Shi Jianjun
Research Area: Plasma physics and applications
JShi@dhu.edu.cn

Prof. Dr. 伍滨和 Wu Binhe
Research Area: theoretical investigation of quantum transport in nanostructures; numerical simulation of thermoplasmonics, photonics and optoelectronics devices
bhwu@dhu.edu.cn

Res. Prof. Dr. 杜诚然 Du ChengRan
Research Area: Complex (dusty) plasma physics, Plasma discharge and diagnostics, Atmospherical plasma and applications, Dust in fusion devices
chengran.du@dhu.edu.cn



Associate Prof. Dr. 丁可 Ding Ke
Research Area: Numerical simulation and experiment research of low temperature plasma applied technology
dingke@dhu.edu.cn

Associate Prof. 唐晓亮 Tang Xiaoliang
Research Area: Low-temperature Plasma physics; Plasma polymerization; Smart materials and Intelligent polymer
xltang@dhu.edu.cn

Associate Prof. Dr.卢洪伟 Lu Hongwei
Research Area: Tokamak Plasmas; Runaway electrons in tokamak; Nuclear Physics; Diagnostics system in tokamak.
hwlu@dhu.edu.cn

IV. Modules

C：compulsory course E：elective course CP：credit points

Consolidation Phase 1st Year			
C/E	*Topic*	*CP*	
C	*Integrated Chinese I*	*4*	*One needs to obtain 22CPs from compulsory courses and 12CPs from elective courses. These 34CPs should in general be acquired in the 1st year.*
C	*Integrated Chinese II*	*4*	
C	*China Survey*	*2*	
C	*Solid State Physics / Physics of Semiconductor Devices*	*4*	
C	*Plasma Physics and Technology*	*4*	
C	*Spectroscopy*	*4*	
C	*Seminar*		
E	*Plasma Diagnostics*	*3*	

E	*Thin Film Deposition*	*3*	
E	*Introduction of Fusion Plasma Physics*	*3*	
E	*Energy Band Theory of Solids*	*3*	
E	*LED Lighting Technology*	*3*	
E	*Computational Physics*	*3*	
E	*Literature Review*	*3*	

Scientific Phase			*During the research phase, one needs to pass thesis proposal and pre-defense in the 2nd year, and accomplish the dissertation, then pass concealed evaluation and final defense in the 3rd year.*
2nd Year	*Thesis Proposal*	*November*	
	Pre-defense	*June*	
3rd Year	*Concealed Evaluation*	*December*	
	Final Defense	*January*	

In case you experience any problems throughout your studies, please contact student advisor, Associate Professor Tang Xiaoliang. He is ready to help you personally for all situations you might encounter.

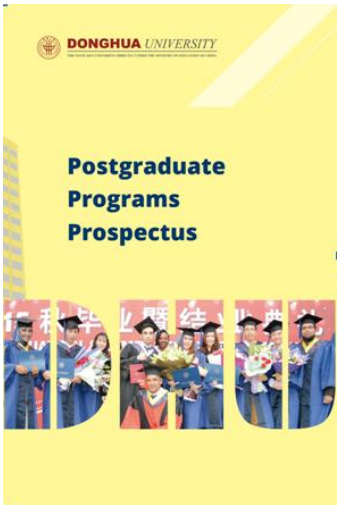
V. Application Information

1. Important deadlines for Applications

Mar.31 (scholarship applicants)
Jun.30 (self-funding applicants)
Only the application materials and application fee received before the deadline (Beijing time) are valid.

2. Application Details for international students

To be eligible for our Master program, you are required to graduate from Physics, chemistry, materials science and engineering, environmental science and engineering, information science and engineering, electronic science and technology, computer science and technology, mechanics, and other related fields of science and engineering.



3. Application Details Step-by-Step

Please refer to the postgraduate application guide Page 22-25 for details.

4. Important Notes

Once the documents are received, we will not send them back, so never supply any originals which you might need again. At the time of enrollment in our university, you will be required to present the original graduation or degree certificate (not the pending certificate but the final one).