

MENGQIAO DI

Postgraduate student at Department of Atomic Physics, Lund University

Think like a proton, always positive



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INTERESTS

Atomic and Molecular spectroscopy

Laser diagnostics

Synchrotron radiation

Biophotonics

Catalyst

Mechanics

Electronics

Programming

EDUCATION

Master's Degree Program in Photonics

Lund University

09/2016 – 06/2018

Lund, Sweden

Thesis and courses

- Thesis: Preparation of materials for deep tissue imaging with slow light (90%), which was conducted in the Quantum Information group under the supervision of Prof. Stefan Kröll
- Combustion related: Laser-based Combustion Diagnostics(68%), Molecular physics(96%), Fundamental of Combustion(100%)
- Photonics related: Advanced Laser and Optics, Lasers, Optoelectronics and Optical Communications, Optical and optical design
- Spectroscopy related: Atomic and Molecular Spectroscopy, Multi-spectral imaging
- Other courses: Quantum information, Experiments in Research and Society, Quantum mechanics

Bachelor's Degree in Optical-Electrical Information Engineering

University of Shanghai for Science and Technology (USST)

09/2011 – 06/2015

Shanghai, China

Thesis and courses (GPA: 85%)

- Thesis: Sub-wavelength grating investigation for anti-counterfeiting (Supervisor: Prof. Dawei Zhang)
- Mathematics: Advanced mathematics, Linear algebra, Probability and Statistics.
- Engineering optics and electric: Engineering Optics, Analog Electronic Technique, Digital Electronic Technique, Laser, Optical Information Technology, Optical Fiber Sensing Technology, Optoelectronic Devices Design and Manufacture, Optoelectronics(in English), Engineering Electromagnetic(in English), Weak signal Detection, Signals and system, Infrared Physics.
- Other courses: Matlab, Autocad, Visual C, Protel, Zemax.

PERSONAL PROJECTS

Master thesis: Preparation of materials for deep tissue imaging with slow light (Supervisor: Prof. Stefan Kröll)
(06/2017 – 06/2018)

- This project is motivated by Ultrasound Optical Tomography: a medical imaging to detect deep tissue inside the human body and the blood oxygenation in heart and brain with high resolution and high contrast.
- Being able to make phantoms with specific absorption and scattering coefficient to mimic human tissue. (Experiment conducted at the lab of Biophotonics group in atomic physics using photon time of flight system.)
- Using spectral hole burning technique to generate slow light effect in Praseodymium doped Y2SiO5 crystal. (Experiment will conduct at the lab of Quantum information group in atomic physics using 606nm laser system.)
- Combining spectral hole burning technique with ultrasound (Experiment will conduct at the lab of biomedical engineering in LTH using Philips Epiq 7 ultrasound system).

TEACHING EXPERIENCE

Lab supervisor

Lund University

04/2018 – 05/2018

Lund, Sweden

Tasks

- Worked as a lab supervisor for Photon Time-of-Flight (PTOF) experiment in Medical Optics course

Contact: Dr. Cord Arnold – Cord.Arnold@fysik.lth.se

Volunteer teacher

Zhuping elementary school, Guizhou, China

06/2014 – 09/2014

Guizhou, China

Tasks

- Literature teaching in poor mountainous area.

WORK EXPERIENCE

Intern in Marketing communication group

Dow Corning (China) Investment Co. LTD

12/2014 – 06/2015

Shanghai, China

Tasks

- Was an integral part of a team of 8 that coordinated the department's internal communication.

Contact: Capri Jin – +86 138 1650 4919

Online IELTS Tutor

Xiaozhan Education

08/2015 – 06/2016

Shanghai, China

Tasks

- Worked as an English tutor that helped undergraduates with the IELTS exam and focused on the reading section.

SKILLS

Ultrasound Optical Tomography (UOT)



Monte Carlo method



Molecular Spectroscopy



FRED



Microsoft Office



MATLAB



C/C++



Computer Aided Design (CAD)



Protel



ACHIEVEMENTS

Patent of Manufacturing method of anti-counterfeiting photo-etched two-dimensional code labels (07/2014)

Third Prize in China Undergraduate Mathematical Contest in Modeling (09/2013)

Scholarship at University of Shanghai for Science and Technology (06/2011 – 09/2014)

President of the Optical Society in Lund Chapter (04/2018 – Present)

REFERENCES

Prof. Stefan Kröll (Department of Physics, Lund University)

Contact: stefan.kroll@fysik.lth.se – 0046-46-2229626

Prof. David Zhang

Contact: dwzhang@usst.edu.cn – 0086 13764694608