YIZHAO GUAN

Gender: Male Age: 24 Nationality: Chinese
Email: guan.y@nanolab.t.u-tokyo.ac.jp TEL: (081)080-2385-3768
Add: Room 202, Building 14, ZhongChun Road No. 8888 Shanghai, China.
Personal site: https://lgyz123.github.io/yizhao/cv/

EDUCATION

The University of Tokyo *October 2021 - September 2024 (expected)*

- Doctor degree in Precision Engineering. (In Japanese)

The University of Tokyo *October 2019 - September 2021*

- Master degree in Precision Engineering. (In Japanese)

Tohoku University *October 2015 - September 2019*

- Undergraduate degree in Mechanical and Aerospace Engineering (IMAC Program, an international course taught in English).

High School Afflicted to China Fudan University *September 2012 - August 2015*

RESEARCH EXPERIENCE

(Work with professors and doctors as several international groups from British, India, Indonesia, Thai, etc.)

Fluid Dynamic (Ohnish Lab) *Fall Semester 2016*

- Simulation of the airflow around the wing under applied laser beam and analyses lift improvement.

Fine Nano– Mechanics (Miura / Suzuki lab) *Academic year 2017*

- Ab initio simulation for Graphene

Optical super-resolution (Takahashi / Michihata lab) *Academic year 2019-2021*

- FDTD simulation for standing-wave illumination microscopy

CONFERENCES IN JAPAN

Japan Society of Mechanical Engineers (JSME) Tohoku *September 2018*
First Principle Calculation on the Electrical Conductivity of Dumbbell-shape Graphene Nano-Ribbon.

Japan Society of Mechanical Engineers Computational Mechanics Division (CMD) *September 2019*
Effect of Strain on the Gas Adsorption of Graphene: A First Principle Study

The Japan Society for Precision Engineering (JSPE) *September 2020*
The FDTD Analysis of Near-field Response for Microgroove Structure with Standing Wave Illumination

The Japan Society for Precision Engineering (JSPE) *March 2021*
The FDTD Analysis of Near-field Response for Microgroove Structure with Standing Wave Illumination (2nd)
-The Relationship of Microgroove Depth and Near-field Phase Response

Optics & Photonics Japan (OPJ) *September 2020*
Optical FDTD Analysis of Surface Microstructure for Coherent Structured Illumination Microscopy

The Japan Society for Precision Engineering (JSPE) *March 2022*
Near-field Phase Analysis of Periodic Microgroove Structure for Metasurface Design based on FDTD Simulation

The Japan Society for Precision Engineering (JSPE) *March 2022*
Study on the Detection of Nanoscale Foreign Objects by Autonomous Defect Exploration and Split-Type Multi-Probe (Report 11) - High Sensitivity Detection of Liquid Phase Probes by Spatial Optical Phase Modulation. (In Japanese)

INTERNATIONAL CONFERENCES

Manufacturing Science and Engineering Conference (MSEC 2021) *March 2021*
The FDTD Analysis of near-field response for microgroove structure with standing-wave illumination for the realization of coherent structured illumination microscopy (Published in Journal of Manufacturing Science and Engineering)

OPTICS & PHOTONICS International Congress (OPIC 2021) *April 2021*
The FDTD Analysis for Diffraction Limited Microgroove Structure with standing-wave illumination for the realization of coherent structured illumination microscopy

International Measurement Confederation (IMEKO 2021) *August 2021*
The FDTD Analysis for Dark Field In-process Depth Measurements of Fine Microgrooves (Published in Measurement: Sensors)

The 11th Global Conference on Materials Science and Engineering (CMSE 2022) *September 2022*
Smart optical measurement probe for autonomously detecting nano-defects on bare semiconductor wafer surface: highly sensitive observation system using phase-contrast microscopy with a spatial light modulator (Published in Journal of Physics: Conference Series)

Asian Society for Precision Engineering and Nanotechnology (ASPEN 2022) *November 2022*
Optical Depth Measurement for Microgrooves: A Self-interferometry Method based on Near-field Polarization Analysis (Best Paper Award)

TEAM WORKS

Team-based Research *Fall semester 2016*

- We proposed a line navigation robot and realized this idea using Robolab. I participated in the assembling and programming.

Professional development Consortium for Computational Materials Scientists (PCoMS) *September 2018*

- In this seminar, the topic "Computer-based DFT (Density functional theory) simulation for corrosion resistance of aluminum" was proposed by our team. I did the final presentation while team members (an assistant professor and a doctoral student) combined their ideas.

PART-TIME JOBS

Convenient store (Ministop Co., Ltd.) staff *September 2017 - October 2018*

- Be promoted from C level to A level staff in 3 months.

Freshman tutor *October 2017 - August 2018*

- Support a new international student from Singapore in his study and daily life.

MEKO Education Group *March 2020 -*

- Application Tutor

Internship

Sony Group *February 2023*

- R&D department, Tokyo, Optimization of grating coupler using FDTD

Mazda Motor Corporation *September 2019*

- R&D department, Hiroshima, Learning the jointing technology development of different metals

SKILLS & INTERESTS

- Technical Microsoft Office, C Language, Python, Matlab, Solid works (Design software), Blender.
- Language Native Chinese, Fluent in English (GRE 324) and Japanese (JLPT N1 level).
- Interests Running, Simulation Games, Taichi (Martial Arts), Badminton

Personal Achievements & Honors

- JSPS DC1 (2022-2024)
- Best Paper Award for ASPEN 2022
- Letter of thanks for attendance of EUSPEN Talent Program 2022
- Outstanding graduation thesis award（修士論文優秀賞）
- Graduation GPA: 2.7/3
- Scholarship from Sumitomo Electric Industries Social Contribution Foundation
- Finish undergraduate graduation courses in the 6th semester (normally 8th semester), and start taking graduate school lectures.
- Undergraduation GPA: 3.34/4 Core courses: Obtain AA (GPA=4) in lectures below:
  Heat Transfer (I,II)，Control Engineering (I,II), Quantum Mechanics, Computer seminar.
- Tohoku University Honor President Fellowship.
- The Monbukagakusho Honors Scholarship (JASSO).
- Membership of The Japan Society of Mechanical Engineers.
- Enrolled in "elite training program" a study tour in Zhangye High school, Gansu, China.
- Participated in voluntary support education in Xiji, Ningxia, China.