

# Haoyu TONG

## EDUCATION

### King Abdullah University of Science and Technology

Ph.D. student in Photonics Lab, CEMSE Division

01/2024 – Present Thuwal, Saudi Arabia

Subject: *Distributed Optical Fiber Sensing*

### Université Paris-Saclay & Institut Polytechnique de Paris

Master's degree in Optical Networks and Photonics Systems

09/2022 – 12/2023 Palaiseau, France

Lessons: *Digital Communications, Optical Networks, Digital Information Processing, Information Theory, Nanophotonic, Advanced Optical Transmission Systems ...*

### Institut d'Optique Graduate School - Université Paris-Saclay

Engineering degree of Theoretical and Applied Optics

09/2020 – 12/2023 Palaiseau, France

Lessons: *Conception of optical systems, Image Processing, Electromagnetism, Wave Guide, Fourier Optics, Quantum mechanics, Radiometry, Colorimetry, Detection Systems, Nonlinear Optics, Polarization, Project Management, Industrial Property ...*

### Huazhong University of Science and Technology

Bachelor of Science and Engineering in Photoelectric Information Science

09/2017 - 06/2021 Wuhan, China

Lessons: *Linear Algebra, Applied Optics, Physical Optics, Semiconductor Physics, Solid-state physics, Optical Fiber, Laser, Analog & Digital Circuits, Signal and Linear System ...*

## INTERNSHIP

### Stellantis & IMT Atlantique

03/2023 - 09/2023 France

<Floating image display for automotive applications>

Bibliographic search | Design and Characterization of Optical system

Diffraction Optical Elements Fabrication | Presentation Skill | Report writing

### Invisensing

05/2022 - 09/2022 France

< Distributed Acoustic Sensing (DAS) system for pipeline: Data Acquisition, Demodulation, Localization and Optimization of Spectrogram >

Demodulation Algorithm (Python, C) | Analysis and Optimization of Spectrogram (Octave)

Dynamic Link Library (C) | Algorithm of localization with GPS (Python)

### L'Institut Photovoltaïque d'Île-de-France

06/2021 - 08/2021 France

< Modeling of optical properties of electrodeposited ZnO nanorods with tunable orientation based on MATLAB and application to photo-electrodes and solar cells >

Cleanroom | Electrochemical deposition | Spectrometer | Data Analysis (Origin)

Modeling of nanorods | Rigorous Coupled-Wave Analysis (MATLAB.RETICOLO)

### Wuhan National Laboratory for Optoelectronics

04/2018 - 04/2019 China

< Chiral perovskite material and its circularly polarized light detection performance >

Publication: *Dimensional Control of Chiral Antimony Halide Compounds for Enhanced Circular Dichroism, Crystal Growth & Design* 2022 22 (9), 5552-5558

DOI: 10.1021/acs.cgd.2c00634

## PROJECT OF COURSE

### Computer-generated hologram and digital reproduction based on Fourier transform method and detour phase coding, HUST

\* Comparison of Computer-Generated Hologram algorithms

\* MATLAB Simulation and thesis writing

### Machine Vision: Automation of a sorting chain, IOGS

\* Drive a conveyor using a stepper motor and serial communication of computer & Nulceo

\* Algorithms of color and shape recognition based on MATLAB

### Optical system design for infrared aerial photography, IOGS

\* Investigation of infrared lens materials

\* Conception of optical system, optimization, and deduction of manufacturing tolerance



1999. 07. 31, Male



20, Cour Pierre Vasseur, Palaiseau  
91120



(+33) 06 98 30 79 92



haoyu.tong@kaust.edu.sa  
tonghaoyu1999@gmail.com



Chinese



www.linkedin.com/in/haoyu-tong -  
418540201

## MISCELLANEOUS

### Language:

Chinese (Native speaker)

English (C1)

French (B1)

### Programming:

Codes C

C++

MATLAB & Simulink

Python

Verilog HDL

### Software:

Microsoft Office

Microsoft Visual Studio

Keil

ZEMAX

FDTD Lumerical

AutoCAD

Origin

SolidWorks

### Interests:

Basketball

Swimming

Reading