



# Thuong D. HOANG, Ph.D.

<https://hoangducthuong.github.io/>

## PERSONAL DETAILS

Degree	Ph.D. in Physics of the Universe at Paris University
Birth	April 12, 1989
Nationality	Vietnam
Email	hoang416@umn.edu
Address	School of Physics and Astronomy, University of Minnesota, Physics and Nanotechnology Building, 115 Union St SE, Minneapolis, MN 55455, USA.

## EDUCATION & EXPERIENCE

### Postdoctoral researcher

2023-present

*School of Physics and Astronomy, University of Minnesota (UMN), USA.*

- BICEP/Keck experiments, Advisor: Prof. Clement Pryke.  
(*BICEP/Keck are the state-of-the-art Cosmic Microwave Background polarimeters located at the South Pole in Antarctica. The collaboration consists of UMN, Harvard, Caltech, and Stanford.*)

### Postdoctoral researcher

2021-2023

*Kavli Institute for the Physics and Mathematics of the Universe (Kavli IPMU), The University of Tokyo, Japan.*

- Develop, characterize, and test the Polarization Modulator Unit (PMU) of the LiteBIRD Low-Frequency Telescope (LFT). Advisor: Prof. Tomotake Matsumura.  
(*LiteBIRD: The Lite (Light) satellite for the study of B-mode polarization and Inflation from cosmic background Radiation Detection. LiteBIRD collaboration consists of JAXA, NASA, ESA, CSA.*)

### Researcher/Lecturer

2020-2021

*Vietnam-France University (University of Science and Technology of Hanoi (USTH)), Vietnam.*

- Teaching modules: Basic programming; Data Analysis & Visualization (python); Modern cosmology; Advanced electronic system (Practical work)

### Postdoctoral researcher

2019-2020

*Department of Physics, Cornell University, USA*

- Testbed focal plane superconducting detectors for the Simons Observatory (SO). Advisor: Prof. Michael Niemack  
(*SO is a ground-based Cosmic Microwave Background experiment located in the Atacama Desert, Chile. SO collaboration formed between the Simons Foundation, the founding universities (University of Pennsylvania, Princeton University, the University of California, San Diego, the University of California, Berkeley, and the Lawrence Berkeley National Laboratory), and collaborating institutions across the globe.*)

### Ph.D. in AstroParticle and Cosmology (APC) laboratory

2015-2018

*Paris University-France*

- Title: Optimization of future projects for the measurement of Cosmic Microwave Background polarization. (*Bandpass filters mismatch systematic effect for LiteBird satellite & Interaction of particles with 256 superconducting Transition Edge Sensors array of QUBIC ground-based experiment*). Supervisors: Prof. Guillaume Patanchon. [[dissertation](#)]

- 21-22 December 2017 Paris-France, my initiative: 1st Meeting of Young Vietnamese Community of Astronomy (YVCA), APC, Paris University.

### **Master in Space Science & Applications**

**2012-2014**

*Double-Diploma: Observatoire de Paris and Vietnam-France University (University of Science and Technology of Hanoi (USTH) ).*

- 3/2014 - 9/2014: Master thesis: Cosmic ray interaction with Planck satellite detectors for the measurement of the Cosmic Microwave Background (CMB) radiation polarization with Prof. Guillaume Patanchon at the APC laboratory.

### **Electrical Engineering**

**2007-2012**

*Hanoi University of Science and Technology (HUST), School of Electrical Engineering.*

- Diploma: Degree of Engineer in Control and Automation Engineering.  
(2011 - 2012: Lab work: ABB - HUST training center (teamleader). (ABB is a global group in power and automation technologies.) )

### **High School: Hai Phong-Vietnam**

**2004-2007**

*The 1<sup>st</sup> ranked student in Maths, Physics, and Chemistry.*

## **LANGUAGE**

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- English: Fluent
- French: Intermediate
- Japanese: Beginner
- Vietnamese: Native

## **SKILLS [SIMULATION, INSTRUMENTATION & DATA ANALYSIS]**

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- Simulation of physical processes/ Data analysis.
- Cryogenic, Thermal, Optics, Electronic, and Mechanical (**CryoTherOptEleMec**) experiences.
- Python (Advanced), C/C++ (intermediate), Bash shell (Basic), Matlab (Intermediate), Labview (intermediate).
- TOAST (Time Ordered Astrophysics Scalable Tools) (intermediate), Root (Basic).
- Solidwork (Advanced), Catia v5/ v6 (Intermediate), AutoCAD (Intermediate).
- ANSYS (intermediate), RCWA (basic), OrCAD/Altium Designer (Intermediate), Layout Editor / Klayout (Basic).
- Window/Linux/Mac OS (Advanced), Microsoft Office/Open Office/Keynote (Advanced).

- Latex (Advanced).
- Adobe Photoshop/Lightroom/Premiere (Intermediate).
- WordPress/HTML/CSS (Intermediate).
  
- Google Scholar: [https://scholar.google.com/citations?hl=en&user=X6\\_u9x0AAAAJ&view\\_op=list\\_works&sortby=pubdate](https://scholar.google.com/citations?hl=en&user=X6_u9x0AAAAJ&view_op=list_works&sortby=pubdate)
- Photography (Intermediate), guitar player (Intermediate).
- Ping-pong/badminton (Intermediate).
- Astronomy Facebook fanpage ( $\approx 12000$  likers): <https://www.facebook.com/thienvanhoc.org/>