

Huan Q. Bui

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EDUCATION

Colby College, Waterville, ME

Bachelor of Arts, Majors: Physics & Mathematics, Minor: Statistics, June 2021

GPA: 4.14/4.00

Relevant Coursework:

- Physics: Topics in Classical Field Theory, Quantum Mechanics, General Relativity, Classical Mechanics, Electromagnetism, Thermodynamics & Statistical Mechanics, Special Relativity & Quantum Physics
- Mathematics: Matrix Analysis, Linear Algebra, Abstract Algebra, Probability, Ordinary & Partial Differential Equations, Complex Analysis, Vector Calculus, Honors Calculus
- Statistics: Applied Longitudinal Data Analysis, Statistical Modeling, Introduction to Statistics

EXPERIENCE

Research Assistant, Joint Quantum Institute - NIST & Univ. of Maryland, College Park Jun 2019—Present
PI: **Steven Rolston Lab**, University of Maryland, College Park

- Experiments on super- & sub-radiance and infinite-range interactions in ultracold rubidium near an optical nanofiber
- Built a standing-wave optical dipole trap for future nanofiber experiments
- Developed an stand-alone experimental control program with NI-DAQmx in Python

Research Assistant, Colby College, Department of Physics & Astronomy

Nov 2017—Present

PI: **Charles Conover**, Colby College

- Precision measurement experiments on ultracold potassium in Rydberg states
- Lifetime measurements of ultracold potassium $4p$.
- Data acquisition & analysis, building frequency-stabilizer circuits & external-cavity diode lasers
- Controlling photon-counting modules & waveform generators for spectroscopy and MOT fast field-switching

Teaching Assistant, Colby College, Department of Mathematics & Statistics

Feb 2019—Present

- Current course: Ordinary Differential Equations. Past course: Linear Algebra
- Grading problem sets and conducting weekly study sessions

Teaching Assistant, Colby College, Department of Physics & Astronomy

Sep 2017—May 2019

- Past courses: Modern Physics, E&M and Optics, Intro to Mechanics
- Graded weekly problem sets; Prepared laboratory equipment for E&M and Optics

Math & Physics Tutor, Colby College, Dean of Studies

Nov 2018—Present

- Meeting students from Modern Physics, Mechanics, and Calculus on a regular basis
- Providing academic assistance through reviewing course material and solving problems

Technician, Colby College ITS

Aug 2017—Sep 2018

- Troubleshoot classroom equipment, hard/software, and networking problems
- Provided help to students, staff, and faculty both over the phone and in person

Tutor, 7AStar Tutoring

Jun 2017—Aug 2017

- Prepared Vietnamese high school students for the SAT Subject and AP tests

HONORS & AWARDS

Bixler Scholar: 2017 - 2018, 2018 - 2019

Dean's List: F'17, S'18, F'18, S'19

Meritorious Winner: COMAP Mathematical Contest in Modeling, 2019

SKILLS

Technical: IGOR Pro, R, Python, Mathematica, \LaTeX , Adobe Illustrator, MS Office, HTML & CSS

Languages: English (fluent/proficient), Vietnamese (native)

CONFERENCES/PRESENTATIONS

DAMOP19: Millimeter-wave precision spectroscopy of d-d transitions in potassium Rydberg states

CLAS 2019: Matrices in Quantum Computing: A 2-qubit entanglement circuit

CUSRR2018: Precision measurement of potassium energy levels at highly excited states

PROJECTS

Personal Website/Archive, huanqbui.com

Nov 2018

- A space for my notes from class and independent readings plus other works. [Github](#) repository

Experimental physics

Sep 2019 —Present

- Advisor: Charles Conover. Topic: Lifetime measurements of ultracold potassium $4p$.

Theoretical physics

Sep 2019 —Present

- Advisor: Robert Bluhm. Topic: Massive gravity

ACTIVITIES

Colby Ultimate Frisbee, Colby Photography Club, Colby Society of Physics Students (board member)