

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, University of Maryland, College Park

- Experiments on super- & sub-radiance and ∞ -range interactions in ultracold Rb 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

- 2017-2019: Precision measurement experiments on ultracold potassium in Rydberg states
- 2019-2020: 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, Physics & MathStats Sep 2017—Present

- Current course: Ordinary Differential Equations.
- Past courses: Linear Algebra, Modern Physics, EM & Optics, Intro to Mechanics
- Grading psets and conducting weekly TA sessions; Prepared lab equipment for EM & Optics

Physics & Math Tutor, Colby College, Dean of Studies Nov 2018—Present

- Providing academic assistance through reviewing course material and solving problems

Math Mentor, Colby College Department of Mathematics & Statistics Sep 2019—Present

Technician, Colby College ITS Aug 2017—Sep 2018

- Troubleshoot classroom equipment & provided help 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

Phi Beta Kappa Scholastic Achievement Award: Sep 2019

Bixler Scholar: Sep 2018, Sep 2019

Meritorious Winner: COMAP Mathematical Contest in Modeling, 2019

Dean's List: Fall 2017, Spring 2018, Fall 2018, Spring 2019

SKILLS

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

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)