



# Jacob Bryon

## Curriculum Vitae

*"The thing that doesn't fit is the thing that's the most interesting: the part that doesn't go according to what you expected." - Richard Feynman*

### Education

- 2014–2018 **Bachelors in Physics, Honors**, *The University of California*, Berkeley, GPA – 3.6.  
Graduate with honors
- 2010–2014 **Community College**, *Cape Fear CC*, Wilmington, NC, GPA – 4.0.  
Dual enrollment while in High School
- 2010–2014 **High School**, *Eugene Ashley High School*, Wilmington, NC, GPA – 4.0.

### Honors Thesis

- Title *Effect of Strain on the Charge Density Wave State in Low Dimensional Materials*
- Supervisor Professor Alex Zettl
- Description Thesis explores the influence of strain applied to both quasi-one dimensional and quasi-two dimensional materials, specifically  $\text{NbSe}_2$  and  $\text{NbSe}_3$ . The project focusses on strains influence on sliding behavior in the charge density wave.

### Experience

#### Research

- May 2015– **Condensed Matter Physics Researcher**, ALEX ZETTL GROUP, UC Berkeley.
- Present Undergraduate Research. Research focused on electrical transport measurements of low dimensional materials, engineering equipment used in experimentation. Worked with machining, cryogenics, electrical measurements.
- Selected Projects:
- Design and Creation of High Vacuum systems
  - Crystal Synthesis via Chemical Vapor Transport
  - Design and Machine Heterostructure Transfer Station
  - Electrical Probe Design and Implementation

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- June 2017– **Nuclear Physics Researcher**, *Huan Huang Group*, UCLA.  
 Aug. 2017 Summer Program through UC LEADS. Research for the STAR collaboration at the Relativistic Heavy Ion Collider (RHIC). Work focused on data analysis and Monte Carlo simulation for AMPT models.
- Miscellaneous**
- June 2016 – **MCAT Physics Instructor**, *The Princeton Review*, Berkeley, CA.  
 Present Create lesson plans and teach a course preparing students to take the Physics portion of the MCAT
- Aug. 2014 – **Gallery Attendant**, *Berkeley Art Museum Pacific Film Archive*, Berkeley, CA.  
 Present Protect art work in exhibitions and act as a liaison to patrons
- May 2016 – **House President -Ridge House**, *Berkeley Student Cooperative*, Berkeley, CA.  
 Dec. 2016 Oversee motions and bylaw changes, manage house level managers and run house councils
- Aug. 2015 – **Administrative Committee Board Member**, *Berkeley Student Cooperative*.  
 Aug. 2016 Make administrative decisions on cases brought to the Berkeley Student Cooperative, to benefit both the students and the Berkeley Student Cooperative

## Publications

2017 TBA

## Research Presentations

- Aug. 2017 UCLA: Summer Research Symposium  
 Apr. 2017 UC Berkeley: Physics Undergraduate Research Showcase  
 Mar. 2017 UCLA: UC LEADS State Symposium  
 Aug. 2016 UC Berkeley: UC LEADS Berkeley Research Showcase  
 May 2016 UC Berkeley: NERDtopia: STEM Conference  
 Apr. 2016 UC Berkeley: Physics Undergraduate Research Showcase

## Awards

- 2016-2018 UC LEADS Scholar  
 Spring 2017 UC Berkeley: Dean's List  
 Spring 2017 Berkeley Physics Undergraduate Research Scholar  
 Fall 2016 UC Berkeley: Honors to Date  
 Fall 2016 Berkeley Physics Undergraduate Research Scholar  
 Spring 2016 Berkeley Physics Undergraduate Research Scholar

## Relevant Coursework

- Math Linear Algebra, Differential Equations, Multi-variable Calculus  
 Physics Classical and Quantum Mechanics, Electricity and Magnetism, Solid State Physics  
 Comp. Sci/ El. Eng Semi-Conductor Circuits, Integrated-Circuit Devices, Structure and Interpretation of Computer Programs

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## Computer skills

Basic Autocad, Microsoft Office  
Intermediate Mathematica, LaTeX, Python, JavaScript, CSS & HTML  
Advanced C/C++, ROOT

## Languages

English **Mothertongue**  
German **Intermediate**

*Con conversationally proficient*

## Affiliations

- UC LEADS Scholar
- CAL NERDS
- PEACE Tutoring
- Society of Physics Students
- UC Berkeley German Film Club