

# JARED TAYLOR

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7018 Whitlow Dr  
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## EDUCATION

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<b>PhD</b>	Louisiana State University Medical Physics	8/2018 – 6/2023 (Expected)
<b>BS</b>	Pacific Union College Physics	9/2014 – 6/2018
<b>AS</b>	Pacific Union College Engineering	9/2014 – 6/2018

## RESEARCH EXPERIENCE

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**Louisiana State University**, Baton Rouge, LA 70808  
Dr. Jeff Chancellor

9/2020 – Present

- I am currently working on developing a framework to design radiation shielding for spacecraft that will maximize the efficiency of the resources allowed. This combines numerous computational techniques to provide an optimal solution.

**Louisiana State University – Mary Bird Perkins Cancer Center**, Baton Rouge, LA 70808  
Dr. Jonas Fontenot

8/2019 – 12/2019

- I evaluated the dosimetric differences between MLC leaf widths of 5mm and 3mm for 2-arc VMAT SRS treatment of spine lesions. This involved anonymizing patient data, contouring spine lesions, and creating treatment plans. The dosimetric differences were then compared using a paired t-test.

**Oak Ridge National Laboratory**, Oak Ridge, TN 37830  
Dr. Charles Havener

7/2017 – 8/2017

- I participated in a summer internship in the laboratory of Dr. Charles Havener at Oak Ridge National Laboratories. Dr. Havener's laboratory was studying the cross sections of hydrogen and hydrogen ions at various energies. During my time in his lab I assisted in assembly of the beamline. I also contributed in taking measurements for different energies. This work is important because it can help bridge the gap between current theoretical calculations of cross sections and data from experimentation.

**Lawrence Livermore National Laboratory**, Livermore, CA 94550 11/2017 – 3/2018  
Dr. Peter Beiersdorfer

- I participated in a partnership with Dr. Beiersdorfer and my advisor Dr. Vola Andrianarijaona at Pacific Union College. I went to Lawrence Livermore National Laboratory a few times a month to observe their work with ion traps and cross section of hydrogen and hydrogen ions. My contributions included researching different types of ion sources to compare features and costs.

## **WORK AND TEACHING EXPERIENCE**

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**Louisiana State University**, Baton Rouge, LA 70808 8/2020 – Present  
**SpaRTAN Physics - Graduate Research Assistant**

- Research assistant in the Space Radiation Transport and Applied Nuclear Physics Laboratory (SpaRTAN Physics). This includes 3D Monte Carlo particle transport, computational modeling, and other advanced techniques for studying radiation interactions.

**Louisiana State University**, Baton Rouge, LA 70808 8/2018 – 7/2020  
**Teaching Assistant, Physics**

- Teach two sections of undergraduate laboratories for first semester physics. This includes explaining physics concepts, assisting students, and grading lab reports.
- Tutor physics students in a variety of physics courses.

**Pacific Union College**, Angwin, CA 94508 4/2015 – 6/2018  
**Teaching Assistant, Physics and Astronomy**

- Teach two sections of undergraduate laboratories for general physics and introduction to physics. This includes explaining physics concepts, assisting students, and grading lab reports and homework.
- Teach two sections of laboratories for Astronomy. This includes explaining concepts and operating telescope at the observatory during lab periods and bimonthly for the campus and community.
- Group tutoring students in Astronomy and Introduction to Physics.

## **PRESENTATIONS AND INVITED TALKS**

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**SpaceX**, Hawthorne, CA 90250 12/15/2020  
“Computational Methods to Improve Understanding of Space Radiation”

**Pacific Union College Mathematics and Physics Colloquy**, Angwin, CA 94508 2/4/2021  
“Graduate School, Medical Physics, and SpaRTAN Research”

**Louisiana State University Astrophysics Seminar**, Baton Rouge, LA 70808 11/3/2020  
“An AI Framework to Design Radiation Shielding for Spacecraft Using Machine Learning and Topology Optimization”

## HONORS, AWARDS, AND MEMBERSHIPS

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<b>AAPM Membership</b>	2018-2021
<b>President's Scholarship</b> – Pacific Union College	2014-2018
<b>Tonge Scholarship</b> – Pacific Union College	2014-2018
<b>Dean's List</b> – Pacific Union College	2014-2017
<b>SPS Reporter Award</b> – Physcon	2016
Worked with a team to interview, photograph, and write an article on an event at Physcon 2016 in San Francisco, California.	

## REFERENCES

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**Dr. Vola Andrianarijaona,**  
Math, Physics, and Engineering Department  
Pacific Union College  
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Email: vola@puc.edu

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