Sarah Chase

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(805) 895-6401

EDUCATION

University of California, Los Angeles
2017 - 2023

Doctor of Philosophy (PhD), Physics
Master of Science (MS), Physics
GPA: 3.9

University of California, Berkeley
2013 - 2017

Bachelor of Arts (BA), Physics
Bachelor of Arts (BA), Statistics
GPA: 3.4

EXPERIENCE

Google
June 2019 - September 2019

Software Engineering Intern

- Design and implement an automated experiment to test artificial intelligence ads prediction technology
- Analyze experimental data in Python and determine actionable results for a backend engineering team

TEACHING

UCLA Physics & Astronomy
2017 - 2022

Teaching Assistant

- Introduction to Plasma Electronics (Fall 2019, Fall 2022)
- Quantum Mechanics (Spring 2019)
- Physics for Scientists and Engineers: Oscillations, Waves, E&M Fields (Winter 2019, Fall 2018, Spring 2018)
- Conceptual Physics (Summer 2018)
- Physics for Life Science Majors: Light, Fluids, Thermodynamics, Modern Physics (Winter 2018, Fall 2017)

RESEARCH

Particle-in-Cell and Kinetic Simulation Software Center
2020 - present

Graduate Student Researcher

- Thesis Committee: Warren Mori (advisor), Paulo Alves, Denise Hinkel, Chan Joshi, George Morales
- Model laser-electron interactions with 2 high-performance simulation codes on 3 supercomputers
- Design new diagnostic to reveal angular momentum of light and plasma waves based on foundational theory
- Predict performance of new lasers for laser-driven fusion experiments
- Present research results through talks and posters at 4 national conferences

Lawrence Livermore National Laboratory
2019 - 2022

High Energy Density Physics Graduate Student Researcher

- Compare simulation results across teams and institutions
- Prepare collaborative publications and present research findings at national conferences
- Determine the relevance of angular momentum to fusion experiments at the National Ignition Facility

Basic Plasma Science Facility
July 2017 - September 2017

Graduate Student Researcher

- Collect measurements from linear discharge plasma devices using automated and manual probes
- Investigate probe design and configuration
- Analyze data with IDL and fit to mathematical theory with Python
- Use CAD software to model device structure

UC Berkeley Space Sciences Laboratory
July 2016 - December 2016

Undergraduate Student Researcher

- Research solar wind plasma creation and behavior
- Analyze 20 years of data from the WIND spacecraft
- Study evolution of plasma parameters with IDL

LEADERSHIP

UCLA Physics & Astronomy

Graduate Student Representative 2020 - 2021

- Represent graduate students on 2 department committees and oversee 8 student programs organizers

Women in Physics Chair 2019 - 2020

- Organize panels, mentorship programs, and outreach activities to support gender minority physicists

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AWARDS

Lawrence Livermore National Laboratory
2020 - 2022

Graduate Student Research Fellow

American Physical Society Division of Plasma Physics
October 2022

Student Travel Grant November 2021

American Physical Society Advancing Graduate Leadership
August 2022

Student Travel Grant

UCLA Physics & Astronomy
2017 - 2021

Regents Stipend

Google
October 2019

Intern Travel Grant

PUBLICATIONS AND PRESENTATIONS

64th Annual Meeting of the American Physical Society Division of Plasma Physics

Oral Presentation: “Stimulated Raman backscatter in the kinetic regime of lasers with orbital angular momentum”

Spokane, WA

October 17, 2022

- Published Abstract: **Chase SE**, Winjum BJ, Tsung FS, Miller KG, Mori WB, Hinkel DE. Stimulated Raman backscatter in the kinetic regime of lasers with orbital angular momentum [abstract]. 64th Annual Meeting of the APS Division of Plasma Physics; October 17-21, 2022; Spokane, WA.

Poster: “New developments in the OSIRIS simulation framework”

Spokane, WA

October 18, 2022

- Published Abstract: Fonseca RA, Bilbao PJ, **Chase SE**, Cruz F, Del Gaudio F, Dilorio S, Fiuza F, Grismayer T, Helm A, Lee R, Li F, Lindsey ML, Martinez B, May JJ, Miller KG, Nie Z, Pardal M, Pierce JR, Schoeffler K, Tableman AR, Torres RP, Tsung FS, Vranic M, Wen H, Winjum BJ, Xu X, Decyk VK, Mori WB, Silva LO. New developments in the OSIRIS simulation framework [abstract]. 64th Annual Meeting of the APS Division of Plasma Physics; October 17-21, 2022; Spokane, WA.

50th Annual Anomalous Absorption Conference

Poster: “Stimulated Raman backscatter in the kinetic regime of lasers with orbital angular momentum”

Skytop, PA

June 9, 2022

- Published Abstract: **Chase SE**, Winjum BJ, Tsung FS, Miller KG, Mori WB, Hinkel DE. Stimulated Raman backscatter in the kinetic regime of lasers with orbital angular momentum [abstract]. 50th Annual Anomalous Absorption Conference; June 6-10, 2022; Skytop, PA.

63rd Annual Meeting of the American Physical Society Division of Plasma Physics

Oral Presentation: “Stimulated Raman backscatter in the kinetic regime of lasers with orbital angular momentum”
Pittsburgh, PA
November 11, 2021

- Published Abstract: **Chase SE**, Winjum BJ, Tsung FS, Miller KG, Mori WB, Hinkel DE. Stimulated Raman backscatter in the kinetic regime of lasers with orbital angular momentum [abstract]. 63rd Annual Meeting of the APS Division of Plasma Physics; November 8-12, 2021; Pittsburgh, PA.

Poster: “New developments in the OSIRIS simulation framework”
Pittsburgh, PA
November 10, 2021

- Published Abstract: Fonseca RA, Bilbao PJ, **Chase SE**, Cruz F, Del Gaudio F, Dilorio S, Fiuza F, Grismayer T, Helm A, Lee R, Li F, Lindsey ML, Martinez B, May JJ, Miller KG, Nie Z, Pardal M, Pierce JR, Schoeffler K, Tableman AR, Torres RP, Tsung FS, Vranic M, Wen H, Winjum BJ, Xu X, Decyk VK, Mori WB, Silva LO. New developments in the OSIRIS simulation framework [abstract]. 63rd Annual Meeting of the APS Division of Plasma Physics; November 8-12, 2021; Pittsburgh, PA.

62nd Annual Meeting of the American Physical Society Division of Plasma Physics

Oral Presentation: “Stimulated Raman backscatter in the kinetic regime of lasers with orbital angular momentum”
Remote
November 11, 2020

- Published Abstract: **Chase SE**, Winjum BJ, Tsung FS, Miller KG, Mori WB, Hinkel DE. Stimulated Raman backscatter in the kinetic regime of lasers with orbital angular momentum [abstract]. 62nd Annual Meeting of the APS Division of Plasma Physics; November 9-13, 2020; Remote.
