

Celia Sagastume

PhD Student, Vision Science | University of Waterloo

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RESEARCH INTERESTS

I study how the eye sees and how we image it. My PhD work includes building an AOSLO for retinal imaging research with Dr. Roorda and designing and fabricating slanted grating waveguides, building on four years of psychophysics and hardware research in industry.

EDUCATION

University of Waterloo — PhD, Vision Science (in progress)

2026 – present

School of Optometry & Vision Science. Advisor: Dr. Austin Roorda

- Research: retinal imaging (AOSLO build); slanted grating waveguide design and fabrication (RCWA simulation, GDS layout, electron beam lithography)

San Francisco State University — MA, Psychology Research

2015 – 2017

Georgia Institute of Technology — Graduate coursework in Computer Science

RESEARCH EXPERIENCE

Applied Vision Researcher, Google (contract)

Nov 2023 – May 2026

Previously Applied Vision Research Assistant, Apr 2022 – Nov 2023 (contract)

- Designed and ran psychophysics and usability studies on the visual perception of light and sensitivity to artifacts in AR and VR displays
- Developed psychophysical paradigms to measure visual artifacts
- Led the design and construction of research platform reference systems for AR/VR vision research
- Built Matlab and Python tools that automated experiment and demo workflows
- Built data dashboards (SQL, Python, Tableau) and coordinated clinical research studies with over 100 participants

Clinical Research Coordinator, UCSF

Jun 2017 – Jul 2018

- Tested and tracked participants at 3 sites for an HIV prevention study (125+ participants), managing study data in an electronic health records platform; moderated focus groups

Graduate Student Researcher, San Francisco State University

Oct 2015 – Jun 2017

- Developed a qualitative codebook and conducted interviews for a national longitudinal clinical research study

PRESENTATIONS

Sagastume, C. (2026, August). *Wave aberration report* [Talk]. CfAO Adaptive Optics Summer School, University of California, Santa Cruz, Santa Cruz, CA. August 10–14, 2026.

Sagastume, C., & Tate, C. (2018, March). *Think like a man: Salient manhood threat effect on cognition* [Poster M-082]. Society for Personality and Social Psychology Annual Convention, Atlanta, GA.

TEACHING

Teaching Assistant, University of Waterloo

Fall 2026

OPTOM 109: Visual Perception 1, Perception of Light

- Teach lab sections on visual acuity, the spatial contrast sensitivity function, scotopic spectral sensitivity, and signal detection theory

Teaching Assistant, Metis

Feb 2022 – May 2022

- Tutored and mentored students in an asynchronous data science bootcamp; taught machine learning in Python for data acquisition, organization, and analysis

Lecturer, San Francisco State University

Aug 2018 – Dec 2018

- Undergraduate statistics for psychology majors: research data literacy, experimental design, inferential statistics, regression

Lecturer, Palo Alto University

Aug 2018 – Dec 2018

- Undergraduate course on the psychology of gender

Graduate Student Teaching Assistant, San Francisco State University

Aug 2015 – Dec 2015

- Cognitive Psychology: graded coursework and lectured on Bayesian statistics

SKILLS

Technical: Matlab, Python, SQL, Tableau, hardware prototyping, RCWA simulation (Python, TORCWA), KLayout (GDS layout for lithography)

Nanofabrication (Quantum-Nano Fabrication and Characterization Facility, University of Waterloo): spin coating and baking, dicing (DISCO saw), electron beam lithography (Raith, 30 kV)

Research: psychophysical methods, visual perception, light adaptation, visual sensitivity, temporal and spatial resolution, data collection and analysis

EARLIER EXPERIENCE

Worker-owner and conflict resolution mediator, Arizmendi Bakery and the Arizmendi Association of Cooperatives, San Francisco, 2010 – 2015