VISAL SO

Email: vs39@rice.edu

EDUCATION

2019 - Present | **Doctor of Philosophy, Physics**
Rice University, Houston, TX
GPA: 3.94/4.00 | Advisor: Prof. Guido Pagano
with **Master of Science, Physics** (conferred May 2023)
and **Graduate Certificate in Teaching and Learning** (completed May 2025)

2015 - 2019 | **Bachelor of Science, Physics (Professional)**
University of Oklahoma, Norman, OK
Summa Cum Laude with Honors
GPA: 3.98/4.00 | Advisor: Prof. Eric R. I. Abraham
Thesis: "Magneto-optical cooling and trapping of neutral Rubidium-87 gas"
Davis United World College Scholarship

2013 - 2015 | **International Baccalaureate (Bilingual)**
United World College of Adriatic, Trieste, Italy
Scholarship from the Italian Ministry of Foreign Affairs

RESEARCH EXPERIENCE

2020 - Present | **Graduate Research Assistant**
Rice University, Houston, TX
Advisor: Prof. Guido Pagano
● Designed, constructed, and maintain a room-temperature trapped-ion apparatus for quantum simulation and computing (first in Texas, United States)
● Lead and perform quantum simulation experiments of excitation and charge transfer dynamics with engineered reservoirs
● Collaborate with Prof. Norbert Linke's group at Duke University and Translume Inc. on the development of next-generation ion traps and contributed as a co-inventor to the ***Monolithic Three-Dimensional Ion Trap*** (U.S. Patent Application US20260038790A1)
● Supervise, mentor, and support undergraduate and graduate research assistants
● Assist with precision spectroscopy projects, theoretical investigations, and literature reviews
● Report findings in peer-reviewed journals and at scientific conferences
● Peer-review original research articles for *Nature Communications*, *PRX Quantum*, and *Physical Review Applied*

2019 | **Graduate Research Assistant**
Rice University, Houston, TX
Advisor: Prof. Randall G. Hulet
● Worked on generating ultraviolet light for laser-cooling Lithium atoms using a bowtie-configuration doubling cavity

2017 - 2019 | **Undergraduate Research Assistant**
University of Oklahoma, Norman, OK
Advisor: Prof. Eric R. I. Abraham
● Designed and constructed a tri-axial magnetic coil system for ultracold atom apparatus
● Assisted with the experiment on the transfer and conversion of images based on electromagnetically induced transparency (EIT) in ultracold Rubidium atoms
● Studied the propagation of Laguerre-Gaussian beams created by diffractive optics

TEACHING EXPERIENCE

2020 - 2021 | **Teaching Assistant**
Rice University, Houston, TX

● Held laboratory sessions and evaluated reports for General Physics I and II

2016 - 2019 | **Peer Learning Assistant** *and* **Study Skills Consultant**
Student Learning Center, University of Oklahoma, Norman, OK
● Held tutoring sessions for Physics I and II for Engineering and Science Majors
● Held one-on-one and group tutoring appointments for Elementary and Intermediate Algebra and General Physics I and II for all Majors
● Held one-on-one consultations and group presentations on time management, test-taking, reading comprehension, and note-taking
● Assisted with study skills development at *Test Prep Nights*
● Attended annual conferences and semester trainings

SERVICE EXPERIENCE

2021 - 2022 | **Elected Secretary,** Physics and Astronomy Graduate Student Association
Rice University, Houston, TX
● Prepared meeting agendas and minutes
● Communicated with members and assisted with application forms

2017 - 2018 | **Elected Secretary,** Student Association of Southeast Asian Nations
University of Oklahoma, Norman, OK
● Prepared meeting agendas and minutes
● Communicated with members and assisted with application forms
● Designed publicity materials including posters, flyers, and banners
● Won the 2018 Most Active Cultural Association on OU-Norman Campus Award

RESEARCH PRESENTATIONS

Invited Talk (Finalist), *Quantum Talents Symposium in Munich* (Munich, Germany; 2025)
Poster Presentation, *Rice Thematic Working Interest Group Meeting* (Texas, United States; 2025)
Poster Presentation, *Texas Quantum Submit* (Texas, United States; 2025)
Oral Presentation, *QSim Conference* (New York City, United States, 2025)
Oral Presentation, *Rice SCI Summer Research Colloquium* (Texas, United States; 2025)
Oral and Poster Presentations, *APS DAMOP Meeting* (Oregon, United States; 2025)
Invited Talk, *Rice Quantum Group Meeting Seminar Series* (Texas, United States; 2025)
Poster Presentation, *Rice Thematic Working Interest Group Meeting* (Texas, United States; 2024)
Poster Presentation, *North American Conference on Trapped Ions* (California, United States; 2024)
Oral and Poster Presentations, *Rice SCI Summer Research Colloquium* (Texas, United States; 2024)
Oral Presentation, *APS DAMOP Meeting* (Texas, United States; 2024)
Poster Presentation, *Rice SCI Summer Research Colloquium* (Texas, United States; 2023)
Poster Presentation, *APS DAMOP Meeting* (Washington, United States; 2023)
Oral Presentation, *Rice SCI Summer Research Colloquium* (Texas, United States; 2022)
Poster Presentation, *APS DAMOP Meeting* (Florida, United States; 2022)
Oral Presentation, *Rice SCI Summer Research Colloquium* (Texas, United States; 2021)
Poster Presentation, *APS DAMOP Meeting* (Remote; 2021)

SELECTED HONORS, AWARDS, AND CERTIFICATIONS

2026 | Ignite Entrepreneurship Trek to Silicon Valley
Issued by Rice Alliance for Technology and Entrepreneurship
Selected participants have the opportunity to meet with successful & up-and-coming entrepreneurs and visit startups, high-tech companies, and venture capital firms in Silicon Valley

2025 | Quantum Talents Award
Issued by IMPRS-QST, Munich Quantum Valley, MCQST, Women in Quantum Optics, Max-Planck Institute for Quantum Optics
Sponsored by planqc

	Selected as one of five awardees for the outstanding work on "Quantum Simulation of Open-System Chemical Dynamics with Trapped Ions" from twelve finalists, chosen from a global pool of applications by outstanding, driven early-career researchers in quantum computing
2025	Henry F. and Margaret Dunlap Fellowship *for two upper-level physics graduate students showing exceptional performance in scholarship and research at Rice University*
2019	4.0 Medallion *for undergraduate students with an overall 4.0 GPA at the University of Oklahoma (one of only two international students)*
2019	J. Clarence Karcher Award *for the outstanding senior in physics and astronomy at the University of Oklahoma*
2018	Duane E. Roller Award *for the outstanding junior in physics and astronomy at the University of Oklahoma*
2018	Phi Beta Kappa Honor Society's Elected Membership
2018	Ian and Richard Crawford Outstanding Study Consultant Award
2017	Master Certified Tutor, Level III from CRLA's International Tutor Training Program

PATENTS

2024	U.S. Patent Application US20260038790A1, "Monolithic three-dimensional ion trap" Inventors: G. Pagano, R. Zhuravel, V. So, M. Duraisamy Suganthi, A. Sheffield, A. Menon, H. De Luo, M. Strauss, N. M. Linke, and M. Dugan