

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 <i>Summa Cum Laude</i> with Honors GPA: 3.98/4.00 Advisor: Prof. Eric R. I. Abraham Thesis: "Magneto-optical cooling and trapping of neutral Rubidium-87 gas" <i>Davis United World College Scholarship</i>
2013 - 2015	International Baccalaureate (Bilingual) United World College of Adriatic, Trieste, Italy <i>Scholarship from the Italian Ministry of Foreign Affairs</i>

RESEARCH EXPERIENCE

2020 - Present	Graduate Research Assistant Rice University, Houston, TX Advisor: Prof. Guido Pagano <ul style="list-style-type: none">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 reservoirsCollaborate with Prof. Norbert Linke's group at Duke University and Translume Inc. on the development of next-generation ion traps and contributed as a <u>co-inventor</u> to the Monolithic Three-Dimensional Ion Trap (U.S. Provisional Patent 63/471,173)Supervise, mentor, and support undergraduate and graduate research assistantsAssist with precision spectroscopy projects, theoretical investigations, and literature reviewsReport findings in peer-reviewed journals and at scientific conferencesPeer-review original research articles for <i>Nature Communications</i>, <i>PRX Quantum</i>, and <i>Physical Review Applied</i>
2019	Graduate Research Assistant Rice University, Houston, TX Advisor: Prof. Randall G. Hulet <ul style="list-style-type: none">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 <ul style="list-style-type: none">Designed and constructed a tri-axial magnetic coil system for ultracold atom apparatusAssisted with the experiment on the transfer and conversion of images based on electromagnetically induced transparency (EIT) in ultracold Rubidium atomsStudied the propagation of Laguerre-Gaussian beams created by diffractive optics

TEACHING EXPERIENCE

2020 - 2021	Teaching Assistant Rice University, Houston, TX
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	<ul style="list-style-type: none"> • Held laboratory sessions and evaluated reports for General Physics I and II
2016 - 2019	<p>Peer Learning Assistant and Study Skills Consultant Student Learning Center, University of Oklahoma, Norman, OK</p> <ul style="list-style-type: none"> • 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 <i>Test Prep Nights</i> • Attended annual conferences and semester trainings

SERVICE EXPERIENCE

2021 - 2022	<p>Elected Secretary, Physics and Astronomy Graduate Student Association Rice University, Houston, TX</p> <ul style="list-style-type: none"> • Prepared meeting agendas and minutes • Communicated with members and assisted with application forms
2017 - 2018	<p>Elected Secretary, Student Association of Southeast Asian Nations University of Oklahoma, Norman, OK</p> <ul style="list-style-type: none"> • 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

2025	<p>Quantum Talents Award <i>Issued by</i> IMPRS-QST, Munich Quantum Valley, MCQST, Women in Quantum Optics, Max-Planck Institute for Quantum Optics <i>Sponsored by</i> planqc <i>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</i></p>
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

- 2023 | U.S. Provisional Patent 63/471,173, "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