

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 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 <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 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 <i>Nature Communications</i> and <i>PRX Quantum</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 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 <ul style="list-style-type: none">• Held laboratory sessions and evaluated reports for General Physics I and II
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2016 - 2019	<p>Peer Learning Assistant and Study Skills Consultant</p> <p>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
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SERVICE EXPERIENCE

2021 - 2022	<p>Elected Secretary, Physics and Astronomy Graduate Student Association</p> <p>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</p> <p>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

- Poster Presentation, *Rice Thematic Working Interest Group Meeting* (2025)
- Poster Presentation, *Texas Quantum Submit* (2025)
- Oral Presentation, *QSim Conference* (2025)
- Oral Presentation, *Rice SCI Summer Research Colloquium* (2025)
- Oral and Poster Presentations, *APS DAMOP Meeting* (2025)
- Invited Talk, *Rice Quantum Group Meeting Seminar Series* (2025)
- Poster Presentation, *Rice Thematic Working Interest Group Meeting* (2024)
- Poster Presentation, *North American Conference on Trapped Ions* (2024)
- Oral and Poster Presentations, *Rice SCI Summer Research Colloquium* (2024)
- Oral Presentation, *APS DAMOP Meeting* (2024)
- Poster Presentation, *Rice SCI Summer Research Colloquium* (2023)
- Poster Presentation, *APS DAMOP Meeting* (2023)
- Oral Presentation, *Rice SCI Summer Research Colloquium* (2022)
- Poster Presentation, *APS DAMOP Meeting* (2022)
- Oral Presentation, *Rice SCI Summer Research Colloquium* (2021)
- Poster Presentation, *APS DAMOP Meeting* (2021)

SELECTED HONORS, AWARDS, AND CERTIFICATIONS

2025	<p>Quantum Talents Symposium in Munich Finalist</p> <p><i>selected from a pool of applications submitted by outstanding, driven early-career researchers around the world in quantum computing</i></p>
2025	<p>Henry F. and Margaret Dunlap Fellowship</p> <p><i>for two upper-level physics graduate students showing exceptional performance in scholarship and research at Rice University</i></p>
2019	<p>4.0 Medallion</p> <p><i>for undergraduate students with an overall 4.0 GPA at the University of Oklahoma (one of only two international students)</i></p>
2019	<p>J. Clarence Karcher Award</p> <p><i>for the outstanding senior in physics and astronomy at the University of Oklahoma</i></p>

- 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