Vida Saeedzadeh

Ph.D. Candidate

Department of Physics and Astronomy, University of Victoria, Victoria, BC., V8W2Y2, Canada | +1 (778) 636-9310
vidasaeedzadeh@uvic.ca | ADS Profile | Personal Website

Education

Ph.D. in Astrophysics - University of Victoria Victoria, BC | September 2019 - Expected April 2024

- Supervisor: Prof. Arif Babul, GPA: 8.0/9.0

M.Sc. in Astrophysics – Alzahra University Tehran, Iran | September 2015 - February 2018

- Supervisor: Prof. Taghi Mirtorabi, GPA: 4.0/4.0
- Dissertation title: "Study on the fully dynamical and aspherical solutions in modified gravity theories displaying the Vainshtein screening mechanism"

B.Sc. in Physics - Iran University of Science and Technology Tehran, Iran | September 2010 - September 2014

- GPA: 3.8/4.0

Research Experience

Research Assistant Victoria, BC | September 2019 - present
University of Victoria

- Exploring origin and dynamic of multiphase structure of circumgalactic medium, Investigating the statistics and properties of dual/multiple AGNs and their host galaxies in contrast to single AGNs, Exploring the properties of host galaxies of nano-Hertz Gravitational Wave sources using state-of-the-art Romulus cosmological simulations

Guest Researcher New York City, NY | September 2023 - October 2023
Simons Foundation, Center for Computational Astrophysics

- Developing a novel model for CGM refinement to enhance the resolution of CGM around galaxies without enhancing the galaxy resolution

Research Assistant Tehran, Iran | September 2018 - August 2018
Shahid Beheshti University

- Studied on dynamics of a scalar field which evolve from light-dark matter-like behavior to a combination of heavy dark matter-like and dark energy-like behavior

Research Assistant Tehran, Iran | September 2017 - September 2018
Alzahra University

- Studied on the fully dynamical and aspherical solutions in modified gravity theories displaying the Vainshtein screening mechanism

Publications

- S Lyla Jung, Douglas Rennehan, **Vida Saeedzadeh**, Arif Babul, Michael Tremmel, Thomas R Quinn, S Ilani Loubser, E O'Sullivan, Sukyoung K Yi, *Massive central galaxies of galaxy groups in the ROMULUS simulations: an overview of galaxy properties at z = 0*, Monthly Notices of the Royal Astronomical Society, Volume 515, Issue 1, September 2022, Pages 22–47
- **Vida Saeedzadeh**, S Lyla Jung, Douglas Rennehan, Arif Babul, Michael Tremmel, Thomas R Quinn, Zhiwei Shao, Prateek Sharma, Lucio Mayer, E O'Sullivan, S Ilani Loubser, *Cool and gusty, with a chance of rain: dynamics of multiphase CGM around massive galaxies in the Romulus simulations*, Monthly Notices of the Royal Astronomical Society, Volume 525, Issue 4, November 2023, Pages 5677–5701
- **Vida Saeedzadeh**, Suvodip Mukherjee, Arif Babul, Michael Tremmel, Thomas R Quinn, *Shining Light on the Hosts of the Nano-Hertz Gravitational Wave Sources: A Theoretical Perspective*, Monthly Notices of the Royal Astronomical Society, 2024;, stae513
- **Vida Saeedzadeh**, Arif Babul, Suvodip Mukherjee, Michael Tremmel, Thomas R. Quinn, Lucio Mayer, 2024. *Dual AGNs: Precursors of Binary Supermassive Black Hole Formation and Mergers* [Submitted to APJ]
- **Vida Saeedzadeh**, Arif Babul, Belaid Moa, 2024. *Modeling Circumgalactic Medium with a super-Lagrangian Refinement Scheme* [In prep]

Work Experience

Student Mentor Victoria, BC | September 2021 - present
University of Victoria

- Mentored two students and supervised their research projects

Communications Officer Victoria, BC | September 2021 - present
University of Victoria, Astronomy Research Centre

Lab Instructor Victoria, BC | September 2019 - September 2020
University of Victoria

- ASTRO-101, ASTRO-102

Teaching Assistant September 2013 - September 2021
[Multiple Universities]

- Student Seminar, University of Victoria
- Introduction to Cosmology, Alzahra University
- General Physics, Iran University of Science and Technology

Volunteer Experience

- Executive Board Member — N-Body Shop code of conduct | University of Victoria | 2021 – 2023
- Academic Mentor — Physics Dept Mentorship Program | University of Victoria | 2020 – present
- Academic Representative — PAGSA | University of Victoria | 2020 – 2022
- Event Organizer and Chair — Astronomy Seminar Series | University of Victoria | 2020 – present
- Organizer — International Orientation Day | University of Victoria | 2020
- Board of Directors Member — Students Scientific Association, School of Physics | IUST | 2010 – 2013

- Executive Board Member — Star Observation Tours | Loot Sky Astronomy Centre | 2010 – 2012
- Co-Founder — Astronomy Scientific Association | RCIEE | 2010 – 201

Awards

- Award to attend and present at CASCA 2023 — Canadian Space Agency, 2023
- Faculty of Graduate Student Award — University of Victoria, 2023
- Award to attend and present at COSPAR 2022 in Athens, Greece — Canadian Space Agency, 2022
- Fully Scholarship to Attend IHPC Summer School in Athens, Greece — SciNet HPC, 2022
- Criswick Award — University of Victoria, 2020
- Graduate Award — University of Victoria, 2020
- Graduate Fellowship — University of Victoria, 2019
- Graduate Merit Award — Alzahra University 2015 - 2017
- Undergraduate Merit Award — Iran University of Science and Technology, 2010 - 2014

Invited Talks

- Center for Computational Astrophysics – Simons Foundation, 2023: Shining Light on the Hosts of the Nano-Hertz Gravitational Wave Sources
- Princeton University, 2023: Supermassive binary blackhole and galaxy connection: Where do we expect the gravitational wave sources detectable from Pulsar Timing Array to reside?
- Yale University, 2023: Cool and gusty, with a chance of rain: Dynamics of multiphase CGM around massive galaxies in the Romulus simulations
- Max Planck Institute for Astronomy, 2023: Cool and gusty, with a chance of rain: Dynamics of multiphase CGM around massive galaxies in the Romulus simulations
- Center for Computational Astrophysics – Simons Foundation, 2023: Multiphase structure of CGM in Romulus simulations
- University of Wrocław, 2022: Dual AGNs: Detecting bright AGN pairs onto the path to binary black holes and black hole mergers
- Institute of Computational Science, University of Zurich, 2022: Dual AGNs: Detecting bright AGN pairs onto the path to binary black holes and black hole mergers

Presentations

- Canadian Astronomical Society AGM, 2023: Multiphase CGM around massive galaxies
- 44th Assembly of Committee on Space Research COSPAR, 2022: Dual AGNs: Detecting bright AGN pairs onto the path to binary black holes and black hole mergers
- International High-Performance Computing Summer School, 2022: Studying galaxies' circumgalactic medium by developing hyper refinement model using HPC
- 51st annual meeting of the Canadian Astronomical Society, 2021: Dual AGNs: Detecting bright AGN pairs onto the path to binary black holes and black hole mergers
- British Columbia's Cosmology Meeting, 2021: Dual AGNs
- Kavil Institute for Astronomy and Astrophysics Conference on Gas in Galaxies 2021: Resolving cold circumgalactic medium gas in Romulus simulations
- 50th annual meeting of the Canadian Astronomical Society, 2021: Resolving cold circumgalactic medium gas in Romulus simulations
- British Columbia's Cosmology Meeting, 2020: The origin of the multiphase structure in the intracluster medium
- Alzahra University Cosmology Forum, 2016: Experimental tests of general relativity