

Evert Nasedkin

Curriculum Vitae

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Nationality - Canadian

Research Interests

Exoplanet Atmospheres, Habitability, Planet Formation, Spectroscopy, High-Contrast Imaging, Astronomical Instrumentation.

Education

- 2018–2020 **Candidate for Masters of Science in Physics, ETH Zürich.**
- Master's Thesis: "Simulated Instrumental Constraints on Sub-Stellar Atmospheric Retrievals for the James Webb Space Telescope's Mid Infrared Instrument". *Sup. Sascha Quanz.*
 - Semester Project: "Processing JUPITER Hydrodynamics Simulation Data for Visualisation in Paraview." *Sup. Judit Szulágyi.*
- 2013–2018 **Bachelors of Science, Honours Co-Operative Physics, University of Waterloo.**
- Bachelor's Thesis: "Characterising Filamentary Structure in Planck Galactic Cold Clumps with the SCOPE dataset". *Sup. Michel Fich*
 - Specialisation in Astrophysics
- 2010–2013 **International Baccalaureate Diploma, Grande Prairie Composite High School.**
- Honours with Distinction

Research Experience

- 05-08 2017 **Research Assistant, Institute for Astronomy, ETH Zürich, Zürich, CH.**
- Designed and performed experiments characterising cryogenic stepper motor performance for ERIS at the Very Large Telescope
 - Assembled high vacuum cryogenic test facility and analysed cooling performance
 - Developed LabVIEW interface for data acquisition system
- 08-12 2016 **Research Assistant, nEXO Collaboration, McGill University, Montreal, QC.**
- Wrote simulations to calculate scintillation photon yield in xenon gas
 - Simulated and constructed analogue circuits to produce nanosecond pulses in LEDs
 - Assembled an electroluminescent source used to test and calibrate photodetectors for nEXO
 - Presented findings to the nEXO hardware team
- 2015-2016 **Undergraduate Research Assistant, DEAP-3600 Dark Matter Search, Sudbury, ON.**
- Implemented and automated analysis routine for characterising afterpulsing in photomultiplier tubes using CERN's ROOT framework
 - Calibrated muon veto PMTs and implemented data structure for time and charge information
 - Monitored, tested and improved hardware data acquisition systems
 - Followed safe practices preparing radioactive sources for detector calibration
- 2014-2016 **Aerodynamics Team Member, FSAE Student Design Team, Waterloo, ON.**
- Researched the effects of aerodynamics on vehicle dynamics and set design targets based on simulation
 - Assisted in design and manufacturing of the aerodynamic system

Work Experience

- 2019-2020 **Private Tutor, Zürich, CH.**
- Tutored International Baccalaureate students in physics and mathematics.

- 02-04 2018 **Teaching Assistant**, *University of Waterloo*, Waterloo, ON.
 - Organised and led tutorial section for first year physics course
- 2017-2018 **Private Tutor**, Waterloo, ON.
 - Tutored students in a variety of physics subjects and levels
- 01-04 2015 **English Second Language Teacher**, *TOBB University of Economics and Technology*, Ankara, TR.
 - Planned and instructed lessons on English as a second language
- 05-08 2014 **Floorhand**, *Farmboy's Oilfield Services*, Grande Prairie, AB.
 - Performed oil well servicing in compliance with safe work practices for high pressure equipment

Publications

Liu, T., Li, P. S., Juvela, M. et al. (2018) "A holistic perspective on the dynamics of G035.39-00.33: the interplay between gas and magnetic fields." *ApJ*, 859, 2. arXiv: 1803.09457

Reports

Nasedkin, E. (2019). "Processing JUPITER hydrodynamics simulation data for visualisation in Paraview." (Semesterarbeit). ETH Zürich, Zürich, CH.

Nasedkin, E. (2018). "Characterising filamentary structure in Planck Galactic Cold Clumps with the SCOPE dataset." (Bachelor's thesis). University of Waterloo, Waterloo, ON.

Nasedkin, E. (2017) "Characterisation of a cryogenic stepper motor for ERIS." (Work Report). Zürich, CH.

Nasedkin, E. (2016). "Developing a xenon electroluminescent source for the nEXO collaboration" (Work Report). Montréal, QC.

Nasedkin, E. "Afterpulsing in Photomultiplier Tubes for DEAP-3600" (Work Report). Sudbury, ON.

Acknowledged

DEAP Collaboration. (2017). In-situ characterization methods for the Hamamatsu R5912 photomultiplier tubes used in the DEAP-3600 experiment. *Journal of Instrumentation*. arXiv: 1705.10183

Conferences and Workshops

- 02 2020 *Tackling the Complexities of Substellar Objects: From Brown Dwarfs to (exo-)Planets*. Lorentz Centre, Leiden, NL
- 01 2020 *Deep Learning Meets (Astro)physics*. ETH Zürich, Zürich, CH
- 06 2017 *5th EIROForum School on Instrumentation*. EIROForum, Hamburg, DE

Technical Skills

- Programming** Python, C++, ROOT, LabVIEW, Mathematica, Assembly, Latex, Linux
- Electronics** Digital and Analogue Circuits, Soldering, Cryogenic wiring
- Hardware** Mechanical Design, Thermal Design, Cryogenic systems