Evert Nasedkin

Curriculum Vitae

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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

06 2017 EIROForum, *5th EIROForum School on Instrumentation*. 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

Languages

English Native speaker

French Basic Conversation, A2

German Beginnner