

Bezia Laderman

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Citizenship: USA

Education

Expected 2015 **MSc Nuclear Fusion and Engineering Physics**, *Universiteit Gent*, Gent, Belgium

- 2013 **B.S. Physics**, *New York University, College of Arts & Science*, New York, NY USA
- Temperature dependent polymer depletion and flocculation dynamics, and dilation of granular packings of non-spherical particles.
 - Advisor: Paul M. Chaikin

Research and Lab Experience

- Summer 2012 **DAAD Research Internship for Science and Engineering (RISE)**
Aachen Institute for Computational Engineering Science, RWTH Aachen, Germany
- Computational aerodynamics, studying shock capturing schemes for a Discontinuous Galerkin method.
 - Advisor: Georg May and Aravind Balan

- Spring 2012 **NSF REU**
Cerro Tololo Inter-American Observatory, La Serena, Chile
- Observations and analysis of interacting binary white dwarf systems using the SMARTS telescopes at CTIO.
 - Advisor: Tim Abbott

- 2011 - 2012 **Independent Research**
Center for Cosmology and Particle Physics, New York University, Department of Physics
- Computational fluid dynamics, including AMR, Hybrid high-order WENO schemes, and unstructured moving voronoi meshes in three-dimensions.
 - Advisor: Andrew MacFadyen

- Summer 2011 **U.S. Department of Energy Summer Fellowship**
Istituto Nazionale Fisica Nucleare, Laboratori Nazionali del Sud, Sicilia, Italy
- Calibration of multi-element detector MEDEA after Scintillator extension to allow neutron detection. Coding of analysis packages to interpret results.
 - Advisor: Cettina Maiolino

Publications, Presentations, and Posters

- 2014 Lang Feng*, Bezia Laderman*, Stefano Sacanna and Paul Chaikin, "Reentrant phase transition in a simple colloid-polymer solution", *to be published*
- 2013 Presentation at American Physical Society Meeting, "Temperature dependent depletion interaction from PEO and other polymers", Boston, Massachusetts, USA
- 2013 Poster at American Astronomical Society Meeting, "Time Series Photometry of Two Southern Hemisphere AM CVn Stars", Long Beach, California, USA

Employment

- 2013 **Junior Research Scientist**
NYU Center for Condensed Matter Physics, New York, NY, USA
- 2010 - 2013 **Senior Webmaster**, *Courant Institute*, New York, NY, USA

- 2012 - 2013 **Adjunct Instructor**, *NYU Department of Physics*, New York, NY, USA
General Physics I & II
- 2011 **Adjunct Instructor**, *NYU Department of Physics*, New York, NY, USA
General Physics I
- 2008 - 09 **Active Service**, *United States Air Force*, Colorado Springs, CO, USA
United States Air Force Academy

Awards and Honors

- 2012 **Department of Energy** - Summer Exchange Fellowship
- 2012 **National Science Foundation** - Research Experience for Undergraduates (REU)
- 2012 **New York University** 38th Annual Undergraduate Research Conference Panel Winner
- 2011 **New York University** Dean's Undergraduate Research Fund Scholar

Computer Experience

- Programming Languages C, C++, C#, Fortran 90, Visual Basic, IDL, Java, Javascript, Ruby, MATLAB, Python, SQL, PHP, HTML, CSS, and BASIC
- Computing Packages GEANT4, Mathematica, Node.js, NumPy, ROOT, SciPy, OpenGL, IRAF
- Operating Systems Multiple distributions of Mac OS, Linux, Unix and Windows
- Limited Experience MongoDB, Perl and Assembly

Relevant Courses

Advanced Electricity & Magnetism, Applied Electricity & Magnetism, Astrophysics, Atmosphere & Ocean Fluid Dynamics, Atomic & Molecular Physics, Calculus III, Classical & Quantum Waves, Computational Physics, Computational Wave Solutions, Condensed Matter Physics, Dynamics, Electricity & Magnetism I, General Chemistry I-II, Mathematical Physics, Nuclear Instrumentation, Linear Algebra, Physics II-III, Plasma Physics, Plasma & Fusion Technology, Organic Chemistry I, Quantum Mechanics I, Thermal and Statistical Physics, Topology

Courses with Lab Experience:

Advanced Experimental Physics, Classic and Quantum Waves Lab, Engineering Design Lab II, Engineering I, General Chemistry I-II Lab, Organic Chemistry I Lab, Physics II-III Lab

Language Proficiency

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| English | Native Speaker | |
| German | Conversational | <i>2 Intensive Semesters, A Summer Course, and an Internship in Germany</i> |
| Japanese | Conversational | <i>6 Semesters of University Level Instruction</i> |
| Dutch | Basic | <i>1 Semester, and a year of study in Belgium</i> |
| Hebrew | Basic | <i>Spoken by my family</i> |

References

Available upon request