

# Addishiwot Girma Woldesenbet

[addis.woldesenbet@seagate.com](mailto:addis.woldesenbet@seagate.com)  
(512) 207 0211

2018 21<sup>st</sup> ave S.  
Minneapolis, MN 55404

## EDUCATION

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### University of Minnesota

Ph.D. Physics

Minneapolis, MN

April 2015

### ICTP

Pre-Ph.D. Diploma

Trieste, Italy

August 2007

### Addis Ababa University

B.Sc. Major: Physics **GPA 4.0/4.0**

Minor: Mathematics **GPA 4.0/4.0**

Addis Ababa, Ethiopia

June 2005

*Highest ranking (gold medalist) in my graduating class in the most prestigious university in the country*

## RESEARCH EXPERIENCE

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### University Of Minnesota (Jan. 2008 – April 2015): Ph.D. Researcher

- Co-developed a novel statistical analysis to study the distribution of Dark Matter in galaxies and clusters of galaxies using Mathematica and MATLAB
- Discriminate between galaxy models using interpolation and regression fits of the distribution of gravitationally lensed images.
- Maintain and update codes that create synthetic galaxies in Fortran and Mathematica
- Studied the density profiles and dynamics of stars using Fortran
- Publications:
  - The Fundamental Surface of quad lenses: MNRAS Vol. 420, Issue 4, pp. 2944-2955
  - Model-free analysis of quads and sub-structured galaxies: MNRAS Vol. 454, pp. 862-875

### International Center for Theoretical Physics (ICTP) (Sep. 2006 -Dec 2007)

- Studied and derived a theoretical model for Dark Matter and Inflationary Universe

### Addis Ababa University (Sep. 2001 – June 2005)

- Completed a directed research on the basic foundations of quantum mechanics
- Accompanied an international team to install equipment used for data collection to study a major rifting episode in Red Sea rift in Ethiopia

## SKILLS AND EXPERIENCES

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### Programing languages and software

- Deep learning (Image classification and Segmentation), traditional Machine Learning algorithms for predictive analytics for machine health management, pricing optimization, demand forecasting.
- Python, R, Fortran, MATLAB, Mathematica for modeling galaxies, gravitational lensing data analysis, solving differential equations.

### **Strong Presentation skills**

- Presented my research to a wide range of audiences from middle school students (outreach program) to experts in the field (seminars)

### **WORK HISTORY**

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- Staff Data Scientist: Seagate Technology (Aug 2015 – Present)
- Adjunct Faculty: Concordia University (Jan 2015 – July 2015)
- Research Assistant: University of Minnesota (June 2008 – April 2015)
- Mentor Teaching Assistant: University of Minnesota (Sep. 2009 - Aug 2011)
- Teaching Assistant: University of Minnesota (Sep. 2008- Aug 2009, Sep. 2011 – Aug 2012, and Jan 2013 –Jan 2015)
- Volunteer Tutor: Addis Ababa University (Feb 2003 – May 2003)

### **HONORS /AWARDS**

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- Outstanding Teaching Assistant Award: University of Minnesota (May 2009)
- Physics graduate student fellowship: University Of Minnesota (Spring 2008)
- Abdus Salam International Center for Theoretical Physics (ICTP) scholarship: Trieste, Italy (2006-2007)
- Addis Ababa University gold medal for academic achievement (June 2005)
- Aklilu Lemma Foundation merit scholarship recipient (2002-2005)
- Nationally selected for outstanding academic performance by Women’s Affair of Ethiopian Prime Ministers Office (March 8, 2004)

### **LEADERSHIP EXPERIENCE**

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- Founding member of the Ethiopian Space Society and elected to the Board of Governors: June 2004 (Ref. [www.ethiosss.org](http://www.ethiosss.org))
- Founding president of Rotaract Club of Lewet (<http://www.rclewet.org/presidents/>)
- Officer: Women in Physics and Astronomy University of Minnesota
- Founding member and past president of the Union of Physics Students at Addis Ababa University Faculty of Science
- Founding member and first chair of Science faculty Girls’ club at Addis Ababa University
- Officer: Anti-AIDS movement at Addis Ababa University Faculty of Science