

GABRIEL GUIDARELLI

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EDUCATION

Rochester Institute of Technology

August 2016 - Present

Masters in Astrophysical Sciences and Technology (Summer 2018)

Phd in Astrophysical Sciences and Technology (Fall 2018- Present)

State University of New York at Geneseo

September 2012 - May 2016

Bachelor of Arts, Physics

Bachelor of Arts, Mathematics

PROJECTS

Accretion Disks inside AGB stars

I use computation time awarded by XSEDE to simulate the interior of AGB stars and ultimately asses the validity of magnetic field amplification form tidal disruption events in such environments.

MHD Simulations of Pre-PN Binaries

Using Hubble data, I am analyzing objects, constructing the initial conditions, and evolving the systems with MHD codes to order to asses the validity the existing theories about the objects.

TECHNICAL STRENGTHS

Software

MS Office, Latex, Matlab, Mathematica, Visit

Programming Languages

FORTRAN, Java, Python, C++, C, http, LabVIEW

Modeling and Analysis

Autodesk Inventor

Hardware

Soldering

WORK EXPERIENCE

Rochester Institute of Technology

Fall 2016 - present

Graduate Research Assistant

- Guided by Dr. Jason Nordhaus. Positing theories about various astrophysical objects, writing code to simulate them and analyzing the results.

SUNY Geneseo

Summer 2015

Undergraduate Research Assistant

- Guided by Dr. Anne Pellerin. Using Hubble data, I constructed a catalogue of potential high star formation regions for several galaxies.

New Scale Technologies

June 2016

Control System Software Engineer

- Designed and programmed control systems to optimize efficiency of piezoelectric motor modules, created GUIs for various optical systems, tested and analyzed new products for research and development.

Rochester Institute of Technology

Fall 2016 - Spring 2018

Graduate Teachers Assistant

- Assisted during in-class exercises, answering students questions and providing feedback, graded assignments and responded to students questions.

PUBLIC DIALOGUE

Imagine RIT

Spring 2017 & 2018

General Presenter

- Designed and Showcased astronomy-related displays to the public, this event attracts tens of thousands of people each year and aims to introduce new cutting-edge science in a very approachable environment.

Victor Central High school

Spring 2017

Invited Speaker

- Spoke with students about my current research and answered questions about my educational trajectory.

Geneseo "GREAT Day"

Spring 2016

Presenter

- Prepared and Exhibited research to other students, faculty, and over a thousand visitors.

SUNY Geneseo

Spring 2019

Invited Speaker

- I will speak about my current research and experiences in graduate school.

REFEREED PUBLICATIONS

Messa et al. The young star cluster population of M51 with LEGUS - I. A comprehensive study of cluster formation and evolution. Monthly Notices of the Royal Astronomical Society. 473: 996-1018. January 2018.

AWARDS

XSEDE Comutation Time: AST180039

Awarded Resources: TACC Dell/Intel Knights Landing, Skylake System (Stampede2): 34,394.0 Node Hours TACC Long-term tape Archival Storage (Ranch): 20,000.0 GB

COURSES TAKEN

Computational Methods

Mathematical Methods

Electrodynamics I & II

Stellar Astrophysics I & II

General Relativity