GABRIEL GUIDARELLI

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EDUCATION

Rochester Institute of Technology *August 2016 - Present*
Masters in Astrophysical Sciences and Technology (Summer 2018)
Accretion disks formed from tidally-disrupted companions inside AGB stars
Ph.D. 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 assess 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

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. 2018, 473, 996.

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