Gabriel Guidarelli

my website | RIT website
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EDUCATION

ROCHESTER INSTITUTE OF TECHNOLOGY

PhD in Astrophysical Sciences and Technology
expected: May 2021 | Rochester , NY
MS in Astrophysical Sciences and Technology
May 2018 | Rochester , NY

SUNY GENESEO

BA in Physics & BA in Mathematics
May 2016 | Geneseo, NY
Cum. GPA: 3.5 / 4.0
Major GPA: 3.8 / 4.0

LINKS

Personal:// **guidarelli.github.io**
RIT:// **gabriel.guidarelli**
Github:// **guidarellig**
LinkedIn:// **gabriel-guidarelli**

COURSEWORK

GRADUATE

Advanced General Relativity
Fluid Dynamics
Electrodynamics I&II
Computational Methods
Mathematical Methods

UNDERGRADUATE

Vector Analysis
Complex Analysis
Classical Mechanics
Quantum Mechanics
Instrumentation & Interfacing
(Research Asst. & Lab instructor 3x)

SKILLS

PROGRAMMING

Over 5000 lines:
Python • Shell • Java • Mathematica
LaTeX• Labview
Over 1000 lines:
C • C++
Familiar:
CSS • PHP • MATLAB

RESEARCH

RIT CENTER FOR COMPUTATIONAL RELATIVITY AND GRAVITATION | Graduate Research Assistant

Aug 2016 – present | Rochester, NY
With **Dr. Jason Nordhaus** and **U of R Astrophysics Department**, I create 3D Magneto-Hydrodynamic (MHD) simulations of post-main-sequence stellar interactions to refine and extend current theories about various object formation. Simulations are done with the multi-physics code **Astrobear** and the output is reduced with the visualization software **Visit**.

RIT NATIONAL INSTITUTE FOR THE DEAF | Graduate Research Assiatant

May 2020 – present | Rochester, NY
With a small group of Physicists and Deaf Education specialists at the NTID, we are working to construct a new library of signs to improve the clarity of physics communication to deaf and hard of hearing students. My responsibilities include providing input for lesson plans and directing/editing of video teaching aids.

GENESEO PHYSICS DEPARTMENT | Undergraduate Researcher

May 2015 – Aug 2015 | Geneseo, NY
Worked with a team of undergraduates to train a machine learning code to identify various objects in a the Hubble Legacy Extragalactic Survey **(LEGUS)**.

EXPERIENCE

NEW SCALE TECHNOLOGIES | Software Engineer

May 2016 - Aug 2016 | Victor, NY

- Designed and programmed control systems to optimize efficiency of piezoelectric motor modules.
- Created Labview GUIs to control various products.
- Tested and analyzed new products for research and development.

AWARDED GRANTS

2019 XSEDE Comutation Time AST180039 Renewal:
TACC Dell/Intel Knights Landing, Skylake System (Stampede2): 41,856.4 Nhrs
TACC Long-term tape Archival Storage (Ranch): 20,000.0 GB
2018 XSEDE Comutation Time AST180039:
TACC Dell/Intel Knights Landing, Skylake System (Stampede2): 34,394.0 Nhrs
TACC Long-term tape Archival Storage (Ranch): 20,000.0 GB

PUBLICATIONS

[1] M. Messa, A. Adamo, G. Östlin, D. Calzetti, K. Grasha, E. K. Grebel, and ...**Guidarelli, G.**... The young star cluster population of M51 with LEGUS - I. A comprehensive study of cluster formation and evolution. , 473(1):996–1018, Jan. 2018.

[2] **Guidarelli, G.**, J. Nordhaus, L. Chamandy, Z. Chen, E. G. Blackman, A. Frank, J. Carroll-Nellenback, and B. Liu. Hydrodynamic simulations of disrupted planetary accretion discs inside the core of an AGB star. , 490(1):1179–1185, Nov. 2019.