




Alexander Gagliano

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RESEARCH INTERESTS

Real-time transient classification for large surveys • Transient-host galaxy correlations • Early-time transient phenomena (CSM interaction, flash-ionization, shock-breakout) • SN Ia cosmology • galaxy simulations • data analysis & visualization tools

EDUCATION

University of Illinois at Urbana-Champaign

PhD in Astronomy (expected)

Advisor: Gautham Narayan

Cum. GPA: 3.96/4.00.

Champaign, IL

Aug 2018 – Present

Virginia Polytechnic Institute & State University

BS in Computational Modeling & Data Analytics

Summa Cum Laude

Physics Minor, Honors Scholar

In-Major GPA: 4.00/4.00.

Blacksburg, VA

Aug 2013 – June 2017

RESEARCH POSITIONS

NSF Graduate Fellow | UIUC/NCSA

Advisor: Gautham Narayan

*An Early-Time Optical and Ultraviolet Excess in the type-Ic SN 2020oi
Using Host Galaxy Information to Accurately Distinguish Supernovae*

Aug 2018 – Present

Post-Bac. Researcher | Los Alamos National Lab

Advisors: Joseph Smidt, Aycin Aykutalp

Waternet: A Chemical Network for Cosmological-Scale Molecular Studies

Sept 2017 – Aug 2018

Comp. Physics Intern | Los Alamos National Lab

Advisors: Joseph Smidt, Brandon Wiggins

Probing The Cosmological Origins of Earth's Water

June 2017 – Sept 2017

Undergraduate Researcher | Social & Decision Analytics Lab.

Advisor: Stephanie Shipp, Gizem Korkmaz

Quantifying the Impact of Open Source Packages in R

Aug 2016 – May 2017

Software Intern | Network Dynamics & Simulations Lab.

Advisor: Eric Nordberg, Henning Mortveit

Developing Realistic Epidemiology Simulations from Public Data

Sept 2016 – May 2017

Undergraduate Researcher | Virginia Tech

Advisor: Shunsaku Horiuchi

Analyzing Gamma Ray Emission from Nearby non-AGN Galaxies

Aug 2015 – May 2017

Undergraduate Researcher | Cerro-Tololo Observatory

Advisor: Juan Madrid

A Wide-field Map of Intracluster Globular Clusters in Coma

Jan 2015 – Mar 2015

High-School Intern | NASA Goddard

Advisor: Jeremy Schnittman

Designing a Third-Generation Survey for Gravitational Microlensing Events

Aug 2011 – June 2013

FELLOWSHIPS AND AWARDS

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|---|-----------|
| • NSF Graduate Research Fellowship (\$102k) | 2020-2023 |
| • Illinois Distinguished Fellowship (\$75k) | 2018-2022 |
| • Center for Astrophysical Surveys Fellowship (\$30k) | 2019 |
| • ASA Astrostatistics Interest Group Best Paper Award, Finalist | 2021 |

• ASP Conference Scholarship	2020
• DPS/AAS Education and Outreach Grant (awarded for astro[sound]bites)	2020
• University-wide Fellowship Application Competition Award	2019
• SC18 Supercomputing Visualization Showcase (2 nd)	2018
• University of Illinois Travel Grant (\$350)	2018
• Virginia Tech Rhodes & Marshall Scholarship Nominee	2017
• Academy of Integrated Science Distinguished Senior (\$1.4k)	2017
• College of Science Outstanding Senior, Finalist (Top 1%)	2017
• Mathematical Contest in Modeling, Meritorious Winner (Top 7% Globally)	2017
• Astronomy Society of the Pacific Meeting Travel Grant	2016
• Wayne & Claire Horton Fellowship (\$10k)	2015
• Best Presentation, Virginia Honors Council	2015
• Sigma Phi Epsilon Balanced Man Scholarship (\$1k)	2015
• University Honors Norrine Bailey Spencer Strong Start Award	2013
• Loudoun Future Leaders Scholarship (\$1.5k)	2013
• International Space Olympics, Astrophysics Category (1 st /200)	2012
• Moody's Mega Math Competition, Honorable Mention (\$1k)	2012

REFEREED PUBLICATIONS

FIRST AUTHOR:

3. **An Early-Time Optical and Ultraviolet Excess in the type-Ic SN 2020oi.**
Gagliano, A. , Izzo, L., Kilpatrick, C.D., et al., 2021.
arxiv pre-print, doi:2105.09963.
2. **GHOST: Using Only Host Galaxy Information to Accurately Associate and Distinguish Supernovae.**
Gagliano, A. , Narayan, G., Engel, A., and Kind, M.C., 2021.
The Astrophysical Journal, 908(2), p.170.
1. **Waternet: A Non-Equilibrium Chemical Model for Tracking Molecules in Cosmological Simulations.**
Gagliano, A. , Smidt, J., Bialy, S., Jones, S., Wiggins, B., and Fields, J., 2021.
in prep.

CO-AUTHOR:

4. **Simulating Transient Host Galaxies for the PLASTiCC v2 Challenge.**
Lokken, M. and Gagliano, A. , 2021. *in prep.*
3. **Statistical Modeling of Galaxy Catalogs with Normalizing Flows.**
Crenshaw, J.F. Kalmbach, B., Malz, A. et al. (incl. Gagliano, A.), 2021. *in prep.*
2. **The Young Supernova Experiment: Survey Goals, Overview, and Operations.**
Jones, D.O., Foley, R.J., Narayan, G., et al. (incl. Gagliano, A.)
The Astrophysical Journal, 908.2 (2021): p.143.
1. **A Wide-field Map of Intracluster Globular Clusters in Coma.**
Madrid, J.P., O'Neill, C.R., Gagliano, A.T. and Marvil, J.R., 2018.
The Astrophysical Journal, 867(2), p.144

TELESCOPE PROPOSALS

James Webb Space Telescope (JWST) – 17.2 hours awarded (col) <i>Nucleosynthesis, Astrophysics, and Cosmology with IR Observations of a Gravitational Wave Counterpart</i>	GO Cycle 1, 2021
James Webb Space Telescope (JWST) – 9.3 hours awarded (col) <i>Detecting the Synthesis of the Heaviest Elements with Photometry of a Kilonova in the Optically Thin Phase</i>	GO Cycle 1, 2021
James Webb Space Telescope (JWST) – 14.9 hours awarded (col) <i>Nebular Spectroscopy of a Kilonova with JWST</i>	GO Cycle 1, 2021

SEMINARS & COLLOQUIA

LSST Transient and Variable Science Plenary, invited (<i>online</i>)	June 2021
DESC Photo-z Working Group, invited (<i>online</i>)	April 2021
DESC Supernova Working Group, invited (<i>online</i>)	April 2021
NCSA, invited (<i>Champaign, IL, USA</i>)	March 2020

CONFERENCE RESEARCH TALKS

JSM2021, invited (<i>Seattle, WA, USA</i>)	Aug 2021
Illinois Astrofest #2 (<i>online</i>)	May 2021
LSSTC Enabling Science Broker Workshop II, invited (<i>online</i>)	Apr 2021
LSST DESC plenary, invited (<i>online</i>)	Feb 2021
Rubin Project and Community Workshop (<i>online</i>)	Aug 2020
EAS 2020 (<i>online</i>)	Jul 2020
LSST DESC (<i>Tucson, AZ, USA</i>)	Jan 2020
American Astronomical Society Meeting #233 (<i>Seattle, WA, USA</i>)	Jan 2019
Los Alamos National Laboratory Student Symposium (<i>Los Alamos, NM, USA</i>)	Aug 2017
International Space Olympics, invited (<i>Korolyov, Russia</i>)	Oct 2012

JOURNAL CLUB TALKS

Yale Galaxy Lunch, invited (<i>online</i>)	Mar 2021
UIUC Journal Club	May 2021
—	Feb 2019

CONFERENCE POSTERS

Illinois Astrofest #1 (<i>Champaign, IL, USA</i>)	Apr 2019
Water Workshop (<i>Zurich, Switzerland</i>)	Feb 2018
American Astronomical Society Meeting #231 (<i>Baltimore, MD, USA</i>)	Jan 2018
Virginia Biocomplexity Institute Research Symposium (<i>Blacksburg, VA, USA</i>)	Nov 2016
American Astronomical Society Meeting #227 (<i>Kissimmee, FL, USA</i>)	Jan 2016
National Science Foundation REU Symposium (<i>Arlington, VA, USA</i>)	Oct 2015
Virginia Tech Undergraduate Research Symposium (<i>Blacksburg, VA, USA</i>)	Jul 2015
Virginia Collegiate Honors Council Spring Conference (<i>Richmond, VA, USA</i>)	Apr 2015

WORKSHOPS & SUMMER SCHOOLS

LSSTC Enabling Science Broker Workshop II (<i>online</i>)	Apr 2021
KROME Astrochemistry Bootcamp (<i>online</i>)	Feb 2021
LSSTC Enabling Science Broker Workshop I (<i>online</i>)	Oct 2020
DotDotAstronomy (<i>online</i>)	Aug 2020
GPAP Plasma Physics Summer School (<i>Swarthmore, PA, USA</i>)	Apr 2019
Summer School in Statistics for Astronomers XV (<i>State College, PA, USA</i>)	Jun 2019
La Serena School for Data Science (<i>La Serena, Chile</i>)	Aug 2018

SELECTED OUTREACH

Astro[Sound]Bites Founder and Co-Host	Nov 2019–Present
<ul style="list-style-type: none"> • Founded bi-weekly technical astronomy podcast • 36 episodes, >7k downloads, 200 listeners/episode in 55 countries 	
Astronomy on Tap, Champaign-Urbana Organizer	Aug 2020–Present
<ul style="list-style-type: none"> • Designing posters, emceeing and scheduling speakers for monthly public talks (remote as of 2020) 	
Astronomical Society of the Pacific Design Tester	Mar 2019 – May 2020
<ul style="list-style-type: none"> • Evaluated new outreach strategies for improving audience engagement in STEM events 	
Education Justice Project Workshop Coordinator	Jan 2019 – Present
<ul style="list-style-type: none"> • Designing data science workshops at Danville Correctional Center for 30 incarcerated students 	
Universe Awareness Astronomy Ambassador	Jan 2017 – Jun 2018
<ul style="list-style-type: none"> • Coordinated research talks, stargazing events in Los Alamos 	
The Story Of Foundation Exhibit Researcher	Dec 2016 – Dec 2017
<ul style="list-style-type: none"> • Spearheaded creation of sound-based astronomy exhibit in Goa, India using Python, Arduino; viewed by >2k students 	
Computational Modeling Club Vice President	Aug 2016 – May 2017
<ul style="list-style-type: none"> • Created and led student mentorship program • Coordinated 3-day hackathon of 100 students 	

IAU Office of Astronomy for Development Intern	Aug 2016 – Sept 2016
<ul style="list-style-type: none"> Designed and led secondary school science activities for National Science Week with SAAO, reaching >1.2k students 	
American Astronomical Society Astronomy Ambassador	Jan 2015 – Jan 2016
<ul style="list-style-type: none"> Participated in 2-day outreach training Hosted stargazing nights at Virginia Tech (in English) and Berthe et Jean, Gabon (in French) 	

OUTREACH TALKS

Virginia Tech Society of Physics Students, invited (<i>online</i>)	Aug 2021
Communicating Astronomy with the Public (<i>online</i>)	May 2021
Bay Area Science Festival, invited (<i>online</i>)	Oct 2020
Champaign-Urbana Astronomical Society, invited (<i>online</i>)	Oct 2020
PechaKucha Night Vol. 31, invited (<i>Champaign, IL, USA</i>)	Mar 2020
Astronomy on Tap Champaign-Urbana (<i>Champaign, IL, USA</i>)	Feb 2020
AAS Astronomy Ambassadors Alumni Panel, invited (<i>Seattle, WA, USA</i>)	Jan 2020
Communicating Astronomy with the Public (<i>Fukuoka, Japan</i>)	Mar 2018
UNM Community Education Program, invited (<i>Los Alamos, NM, USA</i>)	Feb 2018
The Story of Space, invited (<i>Goa, India</i>)	Nov 2017
Academy of Science Commencement Address, invited (<i>Sterling, VA, USA</i>)	Jun 2017
CMDA Commencement Address, invited (<i>Blacksburg, VA, USA</i>)	May 2017
Spark, Virginia TEDx Event (<i>Blacksburg, VA, USA</i>)	Nov 2016

ACADEMIC SERVICE

LSST/DESC APS-IDEA Team Member	Jan 2021–Present
<ul style="list-style-type: none"> Discuss collaboration-wide initiatives for increasing diversity 	
Society for Equity in Astronomy Journal Club Lead	Jan 2021–Present
<ul style="list-style-type: none"> Lead monthly department-wide discussions on DEI topics 	
Graduate Student Astro-ph Organizer	Aug 2019–Aug 2020
<ul style="list-style-type: none"> Coordinated graduate student presentations and discussions of recent publications 	
VT Honors Odyssey Fellowships Selection Committee Member	Mar 2018

MEDIA

PechaKucha Night CU. (2020). Alex Gagliano . YouTube.	
NCSA (2020). NCSA and U of I Announce new Center Surveys . NCSA/UIUC.	
Hille, K. (2018). Hubble Uncovers Thousands of Globular Star Clusters . NASA.	
UNAWWE. (2017). 'Story Of Space' Astronomy Festival By UNAWWE Ambassador . UNAWWE.	
VT (2017). Scholarship winners Alex Gagliano and Amy Harris honored . VT.	
TEDxTalks. (2017). Looking out to Look in . YouTube.	
Mackay, S. (2017). Undergraduates assist in economic impact study . Virginia Tech.	
Angelus, A. D. (2017). Virginia Tech group overcomes cultural seclusion . Collegiate Times.	
Madrid, J. (2016). Alex Gagliano presenting his AAS Poster . ATNF.	
Geddie, J. L. (2013). Alex Gagliano extends talent towards to the stars . Loudoun Times.	

ACTIVE COLLABORATIONS

LSST Transient and Variable Stars (TVS) Collaboration • Dark Energy Science Collaboration (LSST/DESC) • Young Supernova Experiment (YSE) • the ANTARES Project • the PLAsTiCC Team	
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