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### Research Interests

- Study the  $z > 6$  Universe using Gamma-ray Bursts as probes of primordial ISM, chemical enrichment and cosmic Star-formation. In particular, using rapid Optical/NIR spectroscopic follow-up of GRB afterglows and host galaxies studies using ground and space-based observatories.
- Study of time-domain phenomena (GRBs, SNe, Tidal disruption events), Gravitational Wave electromagnetic counterparts
- Investigation of science gaps and workflow streamlining using Artificial Intelligence (AI) tools, generative AI, and agentic AI

### Current Duties

- Program Scientist Lead for the NASA Hubble Fellowship Program, the Future Investigator in NASA Earth and Space Science and Technology (FINESST) grant program, and for the NASA Fermi mission
- Lead for the Astrophysics Division implementation of Astro2020 “State of the Profession” recommendations

### Professional Experience

**April 2022 - Current:** NASA Astrophysics Division Program Scientist

**Aug. 2019 – Apr. 2022 :** Assistant Professor of Physics (College of Marin, COM)

**Aug. 2016 – Aug. 2019:** Assistant Professor of Physics and Astronomy (University of the Virgin Islands)

**Sep. 2015 – Aug. 2016:** Space Telescope Science Institute /NASA Postdoctoral Fellow

**Sep. 2013 – Sep. 2015:** NASA Postdoctoral Program Fellow (NASA/GSFC)

**Jun. 2010 – Aug. 2013:** Post-doctoral Scholar (UC Santa Cruz/UC Berkeley)

**Jan. 2005 – Apr. 2005:** Research at Perugia University: Fermi - LAT testing facility

### Education

**Jan 2006 – Aug 2010:** Ph.D. in Astronomy & Astrophysics. (Pennsylvania State University)

**Apr. 2005 – Dec. 2005:** Swift Mission Research Assistant (PennState University)

**Sep. 1998 – Sep. 2004:** Undergraduate/Master Studies (Milan, Italy)

### Teaching Experience

- Introduction to Physics I and II (algebra based) laboratory (COM and UVI)
- General Physics I and II (calculus based) laboratory (COM and UVI)
- Astronomy I and II: Galactic and Extragalactic Astronomy courses (UVI, developed and taught)
- Advance astronomy Lab I: observational astronomy lab (UVI, developed and taught).
- Physics Junior and senior Seminar (UVI)
- Classical Mechanics (UVI)
- Gen. Ed. Astronomy for non science majors (both COM and UVI)
- Gen. Ed. Conceptual Physics (COM)

## Professional Academic and Non-academic Service

- 2022-present: Inclusion, Diversity, Equity and Accessibility lead for the NASA Astrophysics Division
- 2022-present: NASA Office of STEM Engagement Internship Mentor
- 2022-present: Liaison for the NASA MOSAIC and RIA research program at under-resourced institution
- 2022-present: Lead for the NASA Hubble Fellowship Postdoctoral Program
- 2022-present: Lead for the NASA FINESST program
- 2022: Organized Astronomy-focused event at MLK Junior Academy open to the public
- 2017-2022: Mentoring 17 UVI and COM undergraduate students in physics and astronomy related research
- 2017: **Mentoring trainee** for the National Research Mentoring Network (NRMN)
- 2016-2017 at UVI: member of the IT and Library committee; member of the mentoring committee
- NSF Review Panelist
- NASA Proposal review panelist
- Performed **referee duties** for major international journals (*ApJ*, *MNRAS*, *Astronomy & Astrophysics*)
- Performed **panel duties** for NASA funding programs (*Swift* and *Fermi* missions, NASA Astrophysics Data Analysis Program).
- Summer 2015: mentored Master student from Cal-State Northridge.
- Summer 2014: co-mentoring two U. Maryland PhD students. One paper published (Toy et al. 2016)
- 2013-2014: co-mentoring one junior physics student from Pomona college on *Swift* satellite data.
- 2010: Graduate Council representative for the Graduate Student Association (GSA), delegate of the European Student Association (EuroClub) at the International Student Council at PennState

## Leadership

- 2022: Inclusion, Diversity, Equity and Accessibility working group lead for the NASA Astrophysics Division
- 2021: College of Marin Space Grant organizer and mentor
- 2019-2022: Member of the UMOJA team at College of Marin to foster interest in STEM among african-american and Latinex students. Mentor.
- 2017-2022: Member of the Vera C. Rubin collaboration, the Transient and Variable Stars Science Collaboration, and the Justice, Equity, Diversity and Inclusion group.
- 2017: SOC/LOC Chair of the conference "Generation-GW: Diving into Gravitational Waves" held at UVI
- 2017: LOC Chair of the conference "Unveiling the properties of Extreme AGNs", held at UVI
- 2014: NASA Goddard Association of Postdoctoral Scholars co-president
- 2012-2013: earned "Diversity and Inclusion program" certificate at UCSC (3 years validity)
- 2012: UCSC Astronomy dept. Postdocs representative
- 2010: Co-writer of the "Mentoring Tool-kit" for PennState Faculty, Grad-student and Postdocs<sup>1</sup>
- 2010: Social Chair for the GSA, Graduate Council representative for the Graduate Student Association (GSA), member of the Graduate Student and Faculty issues committee
- 2009: Vice president of the Euroclub, delegate of the EuroClub at the International Student Council at PennState
- 2008: President of the European Student Association (Euroclub) at PennState University.

## Academic Achievements

- 2021-2022: COM Space Grant Consortium summer internship
- 2021: Vera Rubin Observatory Kickstarter grant: **\$33,000**
- 2020: DoE Visting Faculty Program award:**\$15,000**
- 2018: NSF HBCU-UP Excellence in Research: **\$436,340**
- 2017: PI Department of Defense HBCU-MI grant for Undergraduate/High-school student research: **\$20,000**

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<sup>1</sup><http://www.gradschool.psu.edu/current-students/mentoring/>

- 2017: PI NASA-EPSCoR grant (Science PI): **\$744,996**
- 2017: PI NSF HBCU-UP TIP Grant (#1719265): **\$297,330**
- 2017: PI NASA EPSCoR Seed grant (Research Initiation Award): **\$20,000**
- 2017: PI Department of Defense HBCU-MI grant: **\$142,607**
- 2017: Member of the LSST collaboration - Time Domain Working group
- 2017: Observing proposal approved as PI for 12 hours on the Las Cumbres Observatory
- 2013-2017: Observing proposal approved as PI for 97 hours at Gemini-North/South telescopes for rapid follow-up of Gamma-ray burst as part of international collaboration.
- 2016: Member of the **Thirty-Meter Telescope Time-domain Science Definition Team**
- 2015: Member of the International Astronomical Union
- 2012: Observing proposal approved as PI for 4 nights at Lick Shane 3-meter
- 2008: Zaccheus Daniel Award for Astronomy Grad Students (PennState)

### First Author and “as-advisor” Publications

- “*The Expertise Finder: Using NASA ADS for Panel Reviewer Selection*” Volz, Máire and Hoare, Isabelle and Harris, Kaniyah and Helfenbein, Mallory and Cucchiara, Antonino, 2024, RNAAS 69, 69.
- “*Finding Fast Transients in Real Time Using a Novel Light-curve Analysis Algorithm*” Strausbaugh, Robert and Cucchiara, Antonino et al. 2022, AJ, 163, 95
- “*The CGM-GRB Study. I. Uncovering the Circumgalactic Medium around GRB Hosts at Redshifts 2-6*” Gatkine, Pradip and Veilleux, Sylvain and Cucchiara, Antonino et al. 2020, ApJ, 884, 66
- “*Enhancing Undergraduate Astronomy courses Through Technology at the University of the Virgin Islands*”, Fortenberry A., Cucchiara, A., 2019, National Institute of Science Annual meeting.
- “*A New Gateway to Astronomy: the University of the Virgin Islands Planetarium*” Liburd K., Cucchiara A., 2019 National Institute of Science Annual meeting.
- “*Exploring Damped Ly $\alpha$  System Host Galaxies Using Gamma-Ray Bursts*” Toy V. L., **Cucchiara A.** et al. 2016, ApJ 832, 175
- “*Happy Birthday Swift: Ultra-long GRB141121A and its broad-band Afterglow*” Cucchiara et al. 2015, ApJ, 812,122
- “*Unveiling the Secrets of Metallicity and Massive Star Formation Using DLAs along Gamma-ray Bursts*” Cucchiara et al. 2015, ApJ 804, 51
- “*Gemini Spectroscopy of the Short GRB 130603B Afterglow and Host*” Cucchiara et al. 2013, ApJ 777, 94
- “*An Independent Measurement of the Incidence of Mg II Absorbers along Gamma-Ray Burst Sight Lines: The End of the Mystery?*” Cucchiara et al. 2013, ApJ 773, 82
- “*Constraining Gamma-Ray Burst Emission Physics with Extensive Early-time, Multiband Follow-up*” Cucchiara et al. 2011, ApJ 743, 154
- “*A Photometric Redshift of  $z \sim 9.4$  for GRB 090429B*” Cucchiara et al. 2011, ApJ 736, 7
- “*Testing the Possible Intrinsic Origin of the Excess Very Strong Mg II Absorbers Along Gamma-Ray Burst Lines-of-Sight*” Cucchiara et al. 2009, ApJ 697, 345
- *on the Press: "Discovering the First Stars: Another Step Closer to the Beginning of the Universe"*, Gemini-Focus Newsletter, December 2011
- *on the Web: "The furthest object ever observed"*, <http://youtu.be/x8GjYnNdrvk>

### Astronomy Observing Experience

- 2014-2015: 18 nights at the Discovery Channel Telescope (Arizona)
- 2012: 12 nights at Lick Observatory (remote and on-site observing), with KAST and PrimeFocus Camera
- 2011: 4 nights at Keck Observatory (remote observing), with LRIS spectrograph, 3 nights at Lick (KAST)
- 2010: 7 nights at Lick Observatory (remote observing), with KAST spectrograph

- 2008: WIYN (3.5m) telescope at Kitt Peak National Observatory: 5 nights with Hydra instrument for planetary nebulae studies.
- 2007: Palomar Hale (5m) telescope: 2 nights for GRB host galaxy studies using DPSP.
- 2006: Palomar Hale (5m) telescope: 3 nights for supernovae and GRB host galaxy observations with DPSP instrument and WIRC.