Erika T. Hamden

University of Arizona
Steward Observatory
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EDUCATION

Columbia University, New York, NY
Ph.D., Astronomy, July 2014
Thesis: FIREBall, CHαS, and the diffuse universe
Advisor: David Schiminovich
M.Phil, Astronomy, 2010
M.A., Astronomy, 2009

Harvard College, Cambridge, MA
A.B., Astronomy & Astrophysics, June 2006
Cum Laude with High Honors
Thesis: A Radial Velocity Survey of the Orion Nebula Cluster using Hectochelle
Advisor: Andy Szentgyorgyi

APPOINTMENTS

Director, University of Arizona Space Institute, 2023 - Present
Associate Professor, University of Arizona, 2023 - Present
Assistant Professor, University of Arizona, 2018 - 2023
Postdoctoral Fellow, California Institute of Technology, 2014 - 2018
R.A. & G.B. Millikan Prize Postdoctoral Fellowship in Experimental Physics, 2017-2018
NSF Astronomy and Astrophysics Postdoctoral Fellowship, 2014-2017
Faculty Sponsor: D. Christopher Martin

RESEARCH INTERESTS

Observational astronomy, UV optics and detector technology, Galactic molecular clouds, star formation, the interstellar, intergalactic and circumgalactic media, galactic outflows, integral field spectroscopy

RESEARCH GRANTS

>$29 Million USD
Mount Cuba Astronomical Foundation 2023: Studying Space Explosions in the Ultra-violet from the Ground: Installing a NUV CCD Camera on the Super-LOTIS Telescope on Kitt Peak, (PI: Peter Milne **Co-I: Hamden, $100K**)
Heising-Simons Foundation 2023: Skipper CCD Development, (**PI, $1.3M**)
NASA ADAP 2022: Revisiting FUSE: O VI Emission Survey in Nearby Galaxies, (PI: Haeun Chung, **Co-I: Hamden, $423K**)
NASA SAT 2022: A High-Performance Ultraviolet Photon Counting Detector for Strategic Astrophysics Missions, (PI: Shouleh Nikzad, JPL **Institutional-PI, $400K)**
NASA APRA 2022: High-Resolution Spectroscopy of Far UV Hydrogen Emission from Star Forming Regions using Spatial Heterodyne Interferometry (PI: Jason Corliss, **Co-I: Hamden, $4.3M)**
NASA APRA 2022: FIREBALL-2: The Next Generation of UV Science, Technology, and Leadership, (PI: Chris Martin, **Institutional PI Hamden, $600K)**
NASA ADAP 2021: Taming the Sharks: Dynamics and Dust in the High-Latitude 3D ISM With GALEX (PI: Josh Peek,**Co-I: Hamden, $63K**)
NASA FINESST Fellowship 2021: Understanding the Dark Current Plateau in Silicon CCDs (**PI,**

135K funding for graduate student)
NASA APRA 2021: High Efficiency, High-dynamic range UV blazed Gratings (PI: Keri Hoadley, Institutional **PI, $75K**)
NASA PIONEERS 2021: Aspera is a mission concept for a SmallSat focused on imaging emission from OVI coronal gas in nearby edge-on galaxies. (PI: Dr. Carlos Vargas. **Deputy PI, $20M**)
Heising-Simons Foundation 2020: Training in Mission Concept Development Across SMD (**PI, $100K**)
JPL SURP 2020: Advancing Ultraviolet Detectors: Dark current characterization towards fundamental understanding of silicon detectors for future astronomical missions (PI: Shouleh Nikzad, **Institutional PI, $45K**)
Heising-Simons Foundation 2019: Training in Mission Concept Development Across SMD (**PI, $100K**)
NASA 2019, Advanced Photon-Counting Detectors for UV-VIS Astronomical Use (**PI, $200K**
NASA APRA 2018 (18-APRA18-0150): FIREBall-2: Trailblazing the discovery of CGM Emission in the low-redshift universe (**Institutional PI, $605K**)
NASA APRA 2018 (18-APRA18-0022): Advanced Filter Solutions for Multiband and Broadband Imaging (PI: A. Jewell, JPL, **Co-I: Hamden**)
NSF AAG 2016 (1716907): Protogalactic Disks: A New Window on Galaxy Formation (**Co-PI** with D. C. Martin, **$716K**)
NASA APRA 2015: The Faint Intergalactic-Medium Redshifted Emission Balloon (FIREBall-2): Trailblazing the Discovery of CGM Emission in the Low-Redshift Universe with Nasa Ground-Breaking Instrumentation and Innovative UV, (**PI, $600K**)
NASA RTF 2015 (15-RTF15-0005): EMCCD technology for ultraviolet astronomy and high resolution spectroscopy (**PI, $600K**)
NASA APRA 2015 (15-APRA15-0147): FIREBall-2: Trailblazing observations of the space UV circumgalactic medium. (PI: C. Martin, **Co-I: Hamden, $1.9M**)
NASA RTF 2014: Advance Photon-Counting Detectors for UV/VIS Astronomical Use,(**PI, $350K**
NSF AAPF 2014 (1402206): Understanding galaxy growth and history through innovative instruments (**PI, $267K**)
NASA APRA 2014 (14-APRA14-0150): FIREBall-2: Pioneering Space UV Baryon Mapping (Lead Institution). (PI: C. Martin,**Co-I: Hamden, $650K**)

AWARDS AND HONORS

Galileo Circle Curie Award, Galileo Circle University of Arizona, 2023.
Tucson Hispanic Chamber of Commerce, 40 Under 40, Tucson, Arizona, 2022.
Women of Impact Award in Research and Innovation, University of Arizona, 2022.
Honorable Mention for the Excellence in Postdoctoral Mentoring Award, University of Arizona, 2021.
NASA Group Achievement Award, FIREBall-2 Detector Team, 2020.
NASA Early Career Public Achievement Medal, 2020.
AAAS If/Then Ambassador, 2019.
Presidential Early Career Award for Scientists and Engineers (PECASE), 2019.
Nominated by NASA
TED Fellow 2019.
Nancy Grace Roman Technology Fellowship in Astrophysics for Early Career Researchers-
Concept Study, 2016 & Development Phase, 2017.
R.A. & G.B. Millikan Prize Postdoctoral Fellowship in Experimental Physics at Caltech 2017-2018.
NASA Group Achievement Award to Advanced UV/Optical Detector Arrays & Systems Team-2014.
NSF Astronomy and Astrophysics Postdoctoral Fellowship 2014-2017
NASA Earth and Space Science Fellowship (NESSF), 2011-2014.

CURRENT RESEARCH

Hyperion/Eos
Principal Investigator An Explorer-class space telescope mission concept for a FUV long slit-spectrograph to observe molecular hydrogen at the boundaries of molecular clouds in nearby, galactic star-forming regions. Prof. Hamden is partnered with Ball Aerospace and JPL for the mission. Proposed to SMEX AO in August 2019. Proposed to MIDEX AO, Dec 2021, Category 1 but not selected. Formulating a new mission, Eos for SMEX 2025 opportunity

Launchpad
Founder and Organizer an ongoing workshop series to provide potential future PIs with training and networking opportunities to develop their own space mission concepts. Potential PIs come from all branches of the Science Mission Directorate, which includes Astrophysics, Earth Science, Heliophysics, and Planetary Science. The first workshop was held at the University of Arizona in **November, 2019** with 40 participants out of 200 who applied. It was conducted by Prof. Hamden, in partnership with NASA Science Mission Directorate, funded by the Heising-Simons foundation. The second virtual workshop was held on **June 2021** was a success with 41 participants, over two weeks. A third workshop at the University of Michigan, Ann Arbor was held on **July 2023**.

Aspera
Deputy PI. Aspera is a mission concept for a SmallSat focused on imaging emission from OVI coronal gas in nearby edge-on galaxies. The Aspera team has submitted its Concept Study Report (Aug 2021) and completed Phase A and SRR/Site Visit (Oct 2021), and received authorization to proceed to phase B in January 2022. Aspera successfully completed PDR in Sept 2022. Scheduled to launch in 2025. PI: Dr. Carlos Vargas. Previously proposed to the NASA AS3 AO. Funded by NASA PIONEERS **($20M)** 2021.

Hamden UV/VIS Detector Lab, (HUVD)
Funded by a Nancy Grace Roman Technology Fellowship. The lab is working to test UV optimized EMCCDS for use on future space missions. This testing includes characterizing QE, noise, dark current, radiation hardness, as well as optimizing electronics for readout. The lab is also seeking to expand into using Skipper CCDs for astronomical purposes and technology development for UV applications. This lab is a continuation of work started at Caltech.

Faint Intergalactic Redshifted Emission Balloon (FIREBall-2)
Institutional-PI, Successful launch Sept 2023 and 2018 from CSBF facility in Fort Sumner, NM. Overseeing optical re-alignment and optimization, system calibration.

PAST WORK

Technology: Design, testing, and growth of high efficiency anti-reflection coatings for use on delta-doped CCDs at UV/VIS wavelengths.

Observation: Diffuse Galactic FUV background and dusty Galactic clouds with GALEX; Observations of diffuse Hα emission from galactic nebulae and nearby galaxies with proto-type Circumgalactic H-α spectrograph (CHαS). A systematic survey of giant Lyα blobs in extreme over-dense fields using PCWI and KCWI.

Instrumentation: proto-type CHαS: built and commissioned narrow-band Hα IFU for MDM telescopes at Kitt Peak; surface metrology and thermal contraction testing for proto-type LSST CCDs; Keck Cosmic Reionization Mapper (KCRM) Project Scientist.

TEACHING

The Physical Universe, Spring 2023, University of Arizona, 25 Students
Astronomy 418/518: Astrophysical Instrumentation, Fall 2021, University of Arizona, 18 Students

Astronomy 520: Special Topics in Extragalactic Astrophysics, Spring 2021, University of Arizona, 4 students
The Physical Universe, Fall 2020, University of Arizona, 190 Students
The Physical Universe, Spring 2020, University of Arizona, 60 Students
The Physical Universe, Fall 2019, University of Arizona, 70 Students

ADVISING

Postdoctoral Program Coordinator 2019-present
Oversees all Steward Observatory postdocs (>30), runs secondary mentoring program, and provides advice/support for postdocs within the department. As Co-Coordinator of the program, I developed a 15 week long in-depth seminar to teach postdocs how to apply for faculty jobs. This seminar includes a discussion of all parts of the job application writing process, panels from faculty at a range of institutions, startup negotiation, interview practice, and grant writing.

Stamps Scholarship Mentor 2021-2022

Postdoctoral Scholars
Jin-Ah Kim, 2023-present

Miriam Keppler, 2022-present

Nicole Melso, 2021-present

Haeun Chung, 2019-2021, now faculty at University of Arizona

Carlos Vargas, 2018-2021, now faculty at University of Arizona

Keri Hoadley, 2017-2021, now faculty at University of Iowa

Gillian Kyne, 2015-2019, now staff at JPL

Graduate Students
Brock Parker, University of Arizona Astrophysics, PhD, 2022-present

Ethan Potthoff, University of Arizona Computer and Electrical Engineering, Masters, 2022-present

Simran Agarwal, University of Arizona Optical Science PhD, 2019-present

Aafaque Khan, University of Arizona Astrophysics PhD, 2019-present

Jessica Li, University of Arizona Physics PhD, 2018-present

Trenton Brendel, University of Arizona Optical Science PhD, 2023

Donal O'Sullivan, Caltech Astronomy PhD, 2020

Zeren Lin, Caltech Physics PhD, supervised 2018-2020

Nicole Lingner, Caltech Physics PhD, 2017

Prachi Parihar, Caltech Astronomy Masters, 2017

Undergraduate Students
Jacob Vider, Columbia University, 2023-present (Lab Tech)

Shashank Varna, University of Arizona, 2023-present

Ipek Kerkeser, University of Arizona, 2022-present

Hina Goto, University of Arizona, 2021-present (Post-Bac Researcher)

Olivia Jones, University of Arizona, 2021-2023

Harrison Bradley, University of Arizona, 2022-2023 (Lab Tech)

Alex Romero-Lozano, University of Arizona, 2022-2023

SKILLS

Languages & Software: python, IDL, Lab View, TFCalc, Zemax, Solid Works, LaTex, Altium
Machinery and Technology: JPL MDL class 1000 clean room certified (2008-present), atomic layer deposition (Beneq and Oxford), AJA dielectric sputtering, ellipsometry, thermal evaporation, reflectance/transmittance measurement, surface metrology

PUBLIC OUTREACH & SPEAKING

Keynote Panel Moderator: TENWEST Festival, Tucson, AZ. November 2023

Invited Speaker: G-Research After Hours Talk, June 2023

Keynote Speaker: Women in Leadership Signature Series Virtual Event, May 2023

Invited Speaker: OC Astronomy Club General Meeting, "Observing the Universe in Ultraviolet", Orange County, CA, April 2023

Invited Speaker: SXSW Talk, "A Guide to Inventing the Future", Austin, TX, March 2023

Speaker: Cepheid Astronomy Club, "All about UV astronomy", IIT Hyderabad, November 2022

Speaker: Celebrity Beyond, Cruise with the CEO Enrichment Speaker, September 2022

Invited Speaker: Mission Unstoppable Twitch Stream, "Science N' Stuff", August 2022

Invited Speaker: Viking Jupiter, Viking Resident Astronomer, August 2022

Keynote Speaker: 3M Inc., Failure Symposium, August 2022

Panelist: San Diego Comic-Con 2022 "Futurists", "The Science of the Expanse", "The Science of Spider-man and the Multiverse", July 2022

Panelist, San Diego Comic-Con STEAM Fair, July 2022.

Speaker, Frontiers of Flight Museum, June 2022.

Convocation Speaker, Montclair State University, College of Science and Mathematics, June 2022.

Speaker Mission Unstoppable Twitch Stream, "STEM Besties", May 2022.

Panelist Convo with Cantwell: Building Your Brand, March 2022.

Speaker Viking Orion, Viking Resident Astronomer, March 2022.

Keynote Speaker Zebra Inc, Sales Convention, Las Vegas, Feb 2022.

Speaker Celebrity Cruises Enrichment Program, Dec 2021.

Keynote Speaker Arizona G&T Cooperatives, October 2021.

Featured UV Club Invited Talk, October 2021

Featured The Mitre Corporation, Spirit Week Virtual Talk, Sept, 2021

Featured The National Math + Science Initiative Curriculum, 2021

Featured, Orlando Science Center, July 2021

Panelist, Comic-Con@Home 2021 Panel, "The Science of Art", July 2021 Link Here

Featured, Camp Goldieblox Link Here

Speaker, Frontiers of Flight Museum, July 2021

Speaker, Celebrity Cruises Enrichment Program, July 2021

Featured, Mission Unstoppable Twitch Stream, June 21st."Space is weird" Link Here

Featured, CBS Mission Unstoppable with Miranda Cosgrove, May 2021 Link Here

Panelist, Atlanta Science Festival, March 2021

Consulting, Brighthouse, February 2021

Speaker, Oracle Data Cloud, Winter Hacking Event, December 2020

Speaker, Aryabhat Astronomy Quiz: Result Declaration, September 2020

Speaker, Warrior-Scholar Program, University of Arizona, "What it takes to build a telescope", June 2020

Speaker, TEDxTucson, "Chasing Hydrogen Clouds", September 2019 Link Here

Keynote Speaker, John Hancock, "What it takes to build a telescope" and Q&A, July 2019

Speaker, Warrior-Scholar Program, University of Arizona, "What it takes to build a telescope", June 2019

Panelist, Phoenix Fan Fusion, "Stars of AZ Science" Panel, May 2019

Storyteller, Story Collider LA, "The Falcon is a Metaphor", May 2019

Speaker, 2019 TED Conference, April 2019 Link Here

Lecturer, Steward Observatory Public Evening Lecture Series, University of Arizona, 2019
Lecture: "The Ridiculous World of Scientific Ballooning"

Volunteer, Organizer, and Lecturer, Public Outreach, California Institute of Technology, 2016-2018

Telescope Coordinator for monthly outreach program. Program consists of 30 minute public lectures with 90 minutes of stargazing afterwards.

Lecture: "How to prepare for the Great American Eclipse of 2017", *California Institute of Technology*, Pasadena, CA, November 2016

Volunteer for Pasadena Astronomy on Tap lecture series. Program consists of 2 short 20 minute lectures in a casual, bar setting, with Q & A after

Lecture: "An ode to a lost spacecraft: Cassini at Saturn", *Astronomy on Tap*, Pasadena, CA, October 2017

Presenter, Caltech Reel Science Series & Science Saturdays, California Institute of Technology, 2015-2017

Presentation of *Planet Earth: Caves*, with scientific introduction and discussion afterward. Directed towards middle school aged students.

Presenter, Caltech Explorer's Club, California Institute of Technology, 2014

Presentation on light, the multi-wavelength universe, and how colors are perceived for after-school club meeting of elementary school aged students.

Mentor & Organizer, Rooftop Variables, Columbia University, 2008 - 2014

Mentored Anthony Finney, high school science teacher, and his class in astronomy education, telescope and CCD usage.

Helped design more general curriculum to teach public school science teachers the basics of observational astronomy and telescope/CCD use.

Volunteer & Lecturer, Public Outreach, Columbia University, 2007 - 2014

Telescope and lecture volunteer for twice monthly outreach program

Lecture: "Comet of the Century?", *Columbia University*, New York, NY, Dec 2013

Lecture: "Strange Shapes: Spirals, Polygons, and Fractals in the Universe" *Columbia University*, New York, NY, February 2008

Weston Science Scholars Program Mentor, Montclair State University, 2006-2012
Mentor for 4-8 high school students for a six week research project. Developed curriculum and research project. Topics included "The Physics of Baseball", "Astrophotography", and "Solar Observing".

Head Teaching Assistant, Columbia University, 2009-2010
Oversaw all undergraduate astronomy lab classes; organized graduate student teaching assistants; coordinated mid-term and final grading for all undergraduate astronomy classes; handled enrollment and final grades.

Lab Instructor, Columbia University, 2007 - 2010
Astronomy 1403: "Earth, Moon & Planets"
Astronomy 1404: "Beyond the Solar System"

MEDIA FEATURES

When and How to Watch the Lyrid Meteor Shower Tonight, Wall Street Journal, April 2022 Link Here

#IfThenSheCan-The Exhibit Mar 5-27, 2022 Link Here

How Should We Handle Failure? Compiler, January 2022. Link Here

TED Radio Hour, October 2021. Link Here

The Bird and The Balloon Telescope, Tumble, February 2021. Link Here

Fireball Astronomer Erika Hamden's discovery through failure, NPR, January 2021.

How to move on after failure and rebuild your confidence, Ideas.TED.com, January 2021.Link Here

Four UA women in STEM selected for inaugural class of AAAS ambassadors, The Daily Wildcat, November 2020. Link Here

Radio conversation on confidence and resilience, DOVE, 2020.

Fast Forward Girls, YouTube Episode GEM Sisters Miss Space Challenge, June 2020. Link Here

TED Fellow Erika Hamden Draws a Crowd, Montclair University, May 2019. Link Here

Podcast: Astrophysicist Erika Hamden says we understand only 4 percent of the universe, recode, April 2019. Link Here

TED Blog: Looking at stars: Notes from Session 2 of TED2019 Fellows talks, TED April 2019. Link Here

Scientists Need to Talk More About Failure, WIRED, April 2019. Link Here

Podcast, Erika Hamden Shares What Launching Telescopes Into Space Taught Her About Failure, TP, April 2019. Link Here

If Then She Can Digital Exhibit. Link Here

Podcast, How Astrophysicists Understand Our Origins and Search for Alien Life While Building a Better World for All of Us — Erika Hamden, The Disruptors, August 2019. Link Here

Podcast, University Dropout To NASA Project Leader -The Story Of Dr. Erika Hamden, 2019. Link Here

Confused Baby Falcon Rescued from Inside Balloon Telescope, LiveScience, June 2018. Link Here

ACADEMIC SERVICE & MEMBERSHIP

Assistant Editor JATIS 2022-Present

Review Panels:
NASA FINESST Fellowship: 2022, 2023, 2024
NASA Pioneers Reviewer and Subpanel Chair: 2022
National Academies "Advancing Diversity and Inclusion in the Leadership of Competed Space Missions": 2022
NASA Space Technology Graduate Research Opportunities (NSTGRO): 2021
NASA DALI: 2019, 2020
HST TAC: 2020-2023
NASA APRA: 2016, 2018, 2021 (Subpanel Lead)
NASA NESSF: 2016-2019
Caltech Optical Observatories TAC: 2017A & 2017B

Article Reviewer:
Nature Astronomy: 2019
JATIS: 2018-present

Scientific Organizing Committee: Image Sensors for Precision Astronomy, March 2024

Reviewer for National Research Council Canada Small Teams Initiative: 2023

Particle Physics Faculty Search Committee: 2023-2024

Ultraviolet Science and Technology Interest Group: Member of executive committee: 2023-present

Diffuse Gas in Cosmic Ecosystems Science Interest Group: Founder, Head of executive committee: 2023-present

Strittmatter Prize Postdoctoral Fellowship Committee: 2022-2023

Graduate Admissions Committee: 2018-2020, 2022-2023, 2023-2024

Bezos Scholars Selection Committee: 2022, 2023, 2024

Brass Prize Postdoctoral Fellowship Search Committee: 2021-2022

Optics Faculty Search Committee: 2021-2022

The Astrophysics Advisory Committee (APAC): 2021-present

Balloon Working Group member: 2019-2023

AAS Weber Award Committee: 2018-2021

Editor for JATIS Special Issue: 2019

Prize Postdoc Hiring Committee: University of Arizona: 2018-2019

Faculty Hiring Committee: University of Arizona: 2018-2021

Review Panel Member: SPARCS CubeSat Systems Requirements Review: 2018 & Preliminary Design Review: 2019

Local Organizing Committee: Image Sensors for Precision Astronomy, Dec 2018

Caltech Colloquium Committee: Postdoc Representative, 2017-2018

Workshop Organizer, panel moderator, speaker: July 28, 2015
Astronomical Spectroscopy with Electron-Multiplied CCDs (EMCCDs)
Caltech and JPL one day workshop discussing applications, challenges, and future uses for EMCCDS in astronomical spectroscopy. Thirty participants.

Member:
Steward Observatory/Department of Astronomy Advisory Committee, 2020-2022
American Astronomical Society, 2008-present
SPIE, 2008-present
American Geophysical Union, 2018-present

CONFERENCES and TALKS

Panelist: Commercial LEO R&D, Arizona Space Summit, Tempe, AZ, March 2024

Panelist: Stars n' Space, Arizona Science Center, Phoeniz, AZ, March 2024

Panel Moderater: AZPM OSIRIS-REx Documentary Screening, February 2024

Invited Speaker: Huachuca Astronomy Club, February 2024

Invited Speaker: Make Your Own Fun Podcast, February 2024

Invited Speaker: George Mason Observatory, January 2024

Invited Speaker: Cosmic Origins Program Analysis Group Joint Session at the AAS, "How to start mapping the CGM in emission without waiting 20 years", January 2024

Panelist: CUWiP Biosphere 2, January 2024

Invited Speaker: TEDWomen 2023, Atlanta, Dine Around Dinner Host, October 2023

Colloquium University of Texas, Austin, October 2023

Invited Speaker: LPL Conference, "The Arizona Space Institute", August 2023

Invited Speaker: Rockville Center Science Cafe, "How to Build a Telescope", August 2023

Invited Speaker: UA Space Institute Symposium, "Eos: Daughter of Hyperion" May 2023

Invited Speaker: New Horizons Science Team Meeting, "The rich galactic FUV background" May 2023

Colloquium Berkeley University, Astronomy Department, "New Frontiers in UV Astrophysics" Dec, 2022

Colloquium University of Arizona College of Optical Sciences, October 2022

Keynote Speaker: NASA Innovative Advanced Concepts Symposium, September 2022

Plenary Panelist: "Astro2020 Decadal Report Panel", SPIE Astronomical Telescopes and Instrumentation, July 2022

Invited Speaker: UA Warrior Scholar Program, "How to build a telescope", July 2022

Special Session: Early Career Opportunities to Learn Science Mission Design at the AAS Meeting, June 2022

Invited Speaker: Space Telescope Constellations workshop at the AAS Meeting, "The exciting possibilities for UV astrophysics with low-cost SmallSats" June 2022

Invited Speaker Center for Computational Astrophysics Colloquium, May 2022

Colloquium Agnus Scott Physics Colloquium, May 2022 Virtual

Colloquium University of Mississippi, Physics Department, "Build your own UV telescope" April 2022

Invited Speaker Wolfe Symposium 2022, "Aspera Technical Overview and why you should build your own SmallSat" March 2022

Invited Speaker 2022 Arizona Photonics Days, "A FUV High-Resolution Spectrograph: Hyperion" January 2022

Invited Speaker UVSTIG Splinter Session at the AAS Meeting, "Broadening the PI Base" January 2022

Invited Speaker APS Four Corners Meeting, October 2021

Invited Speaker UV Club Talk, "Hyperion, Aspera, and how to build a space telescope", September 2021

Keynote Panelist NIAC Symposium, September 2021

Colloquium: Auburn University Physics Department, "How to build a space telescope", September 2021

Invited Speaker: JPL Science and Visitor Colloquium Program, "New Frontiers in UV Space Astrophysics", April 2021

Invited Speaker: NASA Astrophysics Advisory Committee "PI Launchpad Update", March 2021

Invited Speaker: National Academies "Discussion of the Successes and Challenges of the Mission Proposal Process" for a study on "Increasing the Diversity and Inclusion of the Leadership of Competitively-Selected Missions" Committee, February 2021

Town Hall: PI Launchpad, AGU, December 2020

Invited Talk: Oracle Data Cloud, Winter Hacking Event, December 2020

Conference Talk: "Observing H_2 in the ISM with UV fluorescence", AAS Annual Meeting, Virtual Meeting, June 2020

Invited Talk: "So you want to PI a large proposal?", ExoPAG 22 Meeting, Virtual Meeting, June 2020

Invited Talk: "PI Launchpad Update", NAC Science Committee Meeting, Virtual Meeting, March 2020

Invited discussion: "PI Launchpad Update", OPAG Meeting, Houston, TX, February 2020

Workshop: "So you think you want to be a NASA PI?", AAS Annual Meeting, Honolulu, HI, January 2020

Workshop: "So you think you want to be a NASA PI?", American Geophysical Union Meeting, San Francisco, CA, December 2019

Colloquium: UCLA Astrophysics, Los Angeles, CA, November 2019

Colloquium: Goddard Astrophysics Science Division, Goddard Space Flight Center, Greenbelt, MD, November 2019

Colloquium: Bates College Physics Department, Lewiston, ME, September 2019

TEDx Talk: TEDxTucson, Tucson, AZ, September 2019

Invited Talk: GMT Community Science Meeting, Carlsbad, CA, September 2019

Conference Talk: "2018 flight of the faint intergalactic medium redshifted emission balloon", *SPIE Optics and Photonics*, San Diego, CA, August 2019

Invited Seminar: Montclair State University College of Sciences, Montclair, NJ, May 2019

TED Talk: Technology, Entertainment, Design Conference, Vancouver, CA, April 2019

Colloquium: Northwestern University, Evanston, IL, March 2019

Technical Seminar: Arizona State University, Tempe, AZ, February 2019

Colloquium: Arizona State University, Tempe, AZ, February 2019

Colloquium: Laboratoire d'Astrophysique de Marseille, France, February 2019

Conference Talk: "The FIREBall-2 UV balloon telescope and 2018 flight", *AAS*, Seattle, WA, January 2019

Conference Talk: "Advancing UV Spectroscopy and Technology through NASA's Balloon Telescope Program", *AGU*, Washington, DC, December 2018

Talk and LOC member: "EMCCDs for astrophysical use." Image Sensors for Precision Astronomy, Pasadena, CA, December 2018

Invited participant: NASA's Pathways to Mission Leadership: Mission PI Diversity Workshop, Washington, DC, November 2018

Colloquium: University of Michigan Ann Arbor, Ann Arbor, MI, November 2018

Delegate: Early Career Focus Session for the Decadal Survey, Washington, DC, October 2018

Invited Panelist: New Directions in Optical/Near-IR Spectrographs and wide-field imagers workshop, Princeton, NJ, August 2018

Conference Talk: "Development and flight testing of UV optimized Photon Counting CCDs", *AAS*, Denver, Co, June 2018

Colloquium: Cal State Los Angeles, Los Angeles, CA, October 2017

Colloquium: University of California, Santa Cruz, CA, May 2017

Colloquium: Pomona College, Claremont, CA, March 2017

Colloquium: Carnegie Observatories, Pasadena, CA, March 2017

Colloquium: Columbia University, New York, NY, February 2017

Invited Seminar: University of Chicago, Chicago, IL, January 2017

Invited Seminar: University of Toronto, Toronto, Ontario, Canada, January 2017

Colloquium: University of Arizona, Tucson, AZ, January 2017

Colloquium: California Institute of Technology, Pasadena, CA, November 2016

Colloquium: University of California, San Diego, CA, October 2016

Colloquium: Montclair State University, Montclair, NJ, October 2016

Conference Talk: "FIREBall: future UV observations of the circumgalactic medium", *From Wall to Web*, Berlin, Germany, July 2016

Conference Talk: "The faint intergalactic medium redshifted emission balloon: FIREBall-2 ready for flight", *SPIE Astronomical Telescopes and Instrumentation*, Edinburgh, Scotland, June 2016

Conference Talk: "FIREBall: future UV observations of the circumgalactic medium", Carnegie Observatories Lunch Talk, Pasadena, CA, March 2016

Conference Talk: "Noise and dark performance for the FIREBall-2 EMCCD delta-doped UV optimized detector", *AAS*, Kissimmee, FL, January 2016

Conference Talk and Paper: "Noise and Dark Performance for the FIREBall-2 EMCCD detector", *SPIE Optics and Photonics*, San Diego, CA, August 2015

Conference Talk: "The Faint Intergalactic Redshifted Emission Balloon: future UV observations of the circumgalactic medium.", Dunlap Institute, University of Toronto, Toronto, Canada, August 2015

Conference Talk: "The Faint Intergalactic Redshifted Emission Balloon: future UV observations of the circumgalactic medium.", KNI/MDL Seminar, Pasadena, CA, May 2015

Lunch Talk: "FIREBall: UV observations of the circumgalactic medium at z$\sim$0.7", NOAO Friday Scientific Lunch Talks, Tucson, AZ, March 2015

Poster and Paper: "High efficiency CCD detectors at UV wavelengths", *SPIE Astronomical Telescopes and Instrumentation*, Montreal, Canada, July 2014

Poster: "The circumgalactic H-alpha spectrograph", *SPIE Astronomical Telescopes and Instrumentation*, Montreal, Canada, July 2014

Dissertation Talk: "FIREBall, CHαS, and the diffuse Universe", *AAS*, Washington, DC, January 2014

Poster: "The Diffuse Galactic Far Ultraviolet Sky", *Phases of the ISM*, Heidelberg, Germany, July 2013

Conference Talk: "FUV Signatures of Diffuse Galactic Clouds", *GALEXFest*, Pasadena, CA, September 2012

Conference Talk and Paper: "UV photon-counting CCD detectors that enable the next generation of UV spectroscopy missions: AR coatings that can achieve 80-90% QE", *SPIE Astronomical Telescopes and Instrumentation*, Amsterdam, The Netherlands, July 2012

Conference Talk: "FUV Signatures of Dusty Galactic Clouds", *AAS*, Austin, TX, January 2012

Attendee: *KISS Closing Workshop*, Pasadena, CA, Dec 2011

Poster: "UV Anti-Reflection Coatings", *KISS Workshop*, Pasadena, CA, August 2011

Conference Talk, Poster, and Paper: "Anti-Reflection Coatings for Silicon Ultraviolet Detectors" *Optical Interference Coatings*, Tucson, AZ, June 2010

Attendee: Single Photon Counting Detector Workshop, Pasadena, CA, January 25-29, 2010

Conference Talk and Poster: "The First Steps to a High Efficiency CCD Based UV Detector: Anti-Reflection Coatings for Increased Performance in the Space Ultraviolet" & "Rooftop Variables: Connecting New York City Astronomers with Public School Teachers" *AAS*, Washington, DC, January 2010

Attendee: *Canary Island Winter School on Local Group Cosmology*, Tenerife, Spain, November 2008

COMPETITIVELY OBTAINED TELESCOPE TIME, as PI

Keck II, 2018B: *KCWI Deep Field Pilot Study*, 1 night
Keck II, 2017B: *KCWI Deep Field Pilot Study*, 1 night
Palomar 200 inch, 2017B: *A systematic survey of giant Lyα blobs in over-dense fields*, 3 nights
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2. "Filamentary Molecular Cloud Formation via Collision-induced Magnetic Reconnection in Cold Neutral Medium". Shuo Kong, R. Smith, D. Whitworth, and **E. T. Hamden**. Submitted *The Astrophysical Journal*, February 2024.
3. "FIREBall-2 UV balloon telescope in-flight calibration system". Jessica Li, N. Kerkeser, A. Khan, S. Agarwal, **E. T. Hamden**, T. Brendel, H. Chung, V. Picouet, D. Schiminovich, D. Miles, K. Hoadley, I. Cevallos-Aleman, M. Sitaram, Z. Lin, H. Bradley, O. Jones, D. Martin, F Cruz Aguirre, C. A. Chevrier, P. Balard, P. Blanchard, N. Bray, G. Davis, X. Deng, F. Harmand,

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