

Research Data Systems Integration Specialist, Libraries  
 Affiliate Assistant Astronomer, Steward Observatory  
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## RESEARCH INTERESTS

- (1) Galaxy evolution and formation, star formation, chemical enrichment, diagnostic spectroscopy
- (2) Extragalactic radio jets on sub-parsec scales, high-resolution very long baseline interferometry

## EDUCATION

University of California, Los Angeles, **Ph.D.**, Astronomy 2010  
 Advisor: Matthew A. Malkan  
 Thesis: “*The Universe as Viewed from Star-forming Galaxies over the Past 10 Billion Years*”

University of California, Los Angeles, **M.Sc.**, Astronomy, *Summa Cum Laude* 2006  
 Advisor: Matthew A. Malkan  
 Thesis: “*The Luminosity Function and Star Formation Rate between Redshifts of 0.07 and 1.47 for Narrowband Emitters in the Subaru Deep Field*”

University of Arizona, Tucson, **B.Sc.**, Astronomy and Physics, *Magna Cum Laude* 2004

## APPOINTMENTS

Research Data Systems Integration Specialist, University of Arizona (Libraries) 09/2019 –  
 Affiliate Assistant Astronomer, University of Arizona (Steward Observatory) 06/2016 –  
 Queue/Professional Observer, MMT Observatory 09/2016 – 09/2019  
 NASA Postdoctoral Fellow, NASA GSFC (Advisor: Jane Rigby) 10/2013 – 09/2016  
 Visiting Fellow, STScI 10/2013  
 Giacconi Postdoctoral Fellow, STScI (Advisor: Ron Allen) 09/2010 – 10/2013  
 NASA Graduate Student Research Program (GSRP) Fellow, UCLA/JPL 09/2008 – 08/2010  
 (Advisors: Daniel Stern and Leonidas Moustakas)  
 Summer Graduate Student Researcher, Carnegie Observatories 06/2008 – 09/2008  
 Graduate Student Researcher, UCLA 03/2005 – 06/2008  
 Graduate Summer Researcher, NRAO–Socorro 06/2004 – 09/2004  
 NASA Arizona Space Grant Researcher, NOAO–Tucson 08/2003 – 05/2004  
 NSF REU Summer Researcher, NRAO–Socorro 06/2003 – 08/2003

## HONORS AND AWARDS

2013 – NASA Postdoctoral Fellowship, NASA GSFC  
 2010 – Giacconi Postdoctoral Fellowship, STScI  
 2009 – Chambliss Astronomy Achievement Student Award, American Astronomical Society  
 2008 – Graduate Student Research Fellowship, NASA  
 2008 – Incentive Award for Extramural Funding, UCLA's Astronomy Department  
 2006 – Graduate Research Mentorship Award, UCLA  
 2005 – Departmental Outstanding Teaching Award, UCLA

2004 – *Eugene V. Cota-Robles Fellowship*, UCLA  
 2003 – *Galileo Circle Scholarship*, U. Arizona  
 2002 – *Fred and Ida McCormick Scholarship*, U. Arizona  
 2002 – *San Diego Astronomy Association's Lucas Scholarship*, U. Arizona  
 2001 – *Phi Eta Sigma National Honor Society*, U. Arizona

#### SERVICE

Referee for *Astrophysical Journal*, *Astrophysical Journal Letters*  
 Referee for *Astronomy & Astrophysics*  
 Referee for *Research in Astronomy & Astrophysics*  
 Referee for *Monthly Notices of the Royal Astronomical Society*  
 NASA Astrophysics Data Analysis Program (ADAP), Peer Reviewer 2015  
*Hubble Space Telescope* Time Allocation Committee, Peer Reviewer 2014 (Cycle 22)  
 CFHT (Taiwan) Time Allocation, External Referee 2012–2014  
 China Telescope Access Program, External Referee 2013, 2015  
*Hubble Space Telescope* Time Allocation Committee, Support Staff 2011, 2012  
 Postdoctoral Researcher Mentoring Committee for STScI 2011 – 2012  
 JHU-STScI CoolSci/HotSci Colloquium, Organizer for STScI 2011  
 JHU-STScI Wine and Cheese Talk Series, Organizer for STScI 2011  
 STScI/JHU Very Wide Field Surveys Conference, Local organizer 2011

#### ADVISORSHIP AND EDUCATIONAL PUBLIC OUTREACH

Summary: I have mentored or am mentoring 11 undergraduate students and one data analyst with in-person interactions on a regular basis

Caroline McCormick, undergraduate at the University of Arizona 2018 –  
 Mentoring on the evolution of the mass–metallicity relation

Scott McKinley, University of Arizona, NASA Space Grant Undergraduate Researcher 2017–2018  
 Mentored on metallicity diagnostics and recalibrating such diagnostics for the high-*z* universe

Rafia Bushra, undergraduate at the University of Arizona 2017  
 Mentored on the evolution of the mass–metallicity relation

Reagen Leimbach, University of Arizona, NASA Space Grant Undergraduate Researcher 2017 –  
 Mentoring on metallicity diagnostics and recalibrating such diagnostics for the high-*z* universe

Drew Weldon, University of Arizona, NASA Space Grant Undergraduate Researcher 2016 – 2020  
 Mentoring on stellar population in dwarf galaxies. Project has culminated into a first-author *MNRAS* publication for Drew

Kaitlyn Shin, Stanford University, NASA Summer Student 2015 –  
 Mentored for 10 weeks on studying the environment effects on star-forming galaxies.  
 Project has culminated into a first-author paper submitted to *MNRAS*.

NASA's Hubble 25<sup>th</sup> Anniversary Family Day Event 2015  
 Answered questions from the general public at Smithsonian's National Air and Space Museum (Steven F. Udvar-Hazy Center)

Mithi de los Reyes, North Carolina State University, STScI Summer Student 2013 – 2015  
 Mentored for over a year on analyzing spectra. Project has culminated into a first-author

peer-review paper in the *Astronomical Journal* for Mithi.

Bryan Hilbert, Senior Research Instrument Analyst at STScI  
Advised for several months on reduction of ground-based near-infrared imaging data. 2013

Project ASTRO 2011 – 2013  
I visited a public school and spoke with over 100 4<sup>th</sup> and 5<sup>th</sup> graders about astronomy throughout the academic year.

Jesse Feddersen, Indiana University, STScI Summer Student 2012  
Mentored for 10 weeks on analyzing spectra. Attending Yale for Astronomy Ph.D.

Mary Christian, undergraduate student at UCLA 2009  
Mentored for 10 weeks on analyzing spectra.

Celestine Grady, undergraduate student at UCLA 2007 – 2008  
Mentored for a year on data reduction. Her work has contributed toward at least two co-authored papers. She received a M.Sc. from U. California–Davis.

Christopher Rodriguez, undergraduate student at UCLA 2005 – 2007  
Mentored for two years on space-based data reduction and analysis.

#### TEACHING EXPERIENCE

*Research Bazaar Arizona Instructor* May 2020

*Software/Data Carpentry Instructor; the Carpentries* July 2018 –

*Guest Lecturer, “The Gaseous Interstellar Medium” (UCLA)* Spring 2009  
Graduate-level course. Discussed nebular emission from ionized gas.

*Teaching Assistant, “Astrophysics II: Stellar Evolution and Galaxies” (UCLA)* Spring 2005  
A required course offered for astronomy and physics majors. Led weekly discussions and created in-course laboratory assignments for a classroom of ~30 students.  
Received an Outstanding Teaching Award in 2005.

*Teaching Assistant, “Astrophysics I: Stars and Nebulae” (UCLA)* Winter 2005  
A required course offered for astronomy and physics majors. Led weekly discussions and created in-course laboratory assignments for a classroom of ~30 students

*Teaching Assistant, “Nature of the Universe” (UCLA)* Fall 2004  
An introductory astronomy course for non-science majors. Led weekly discussions and laboratory exercises for a classroom of ~30 students.

#### PROFESSIONAL AFFILIATIONS

Member, International Astronomical Union 2018 –  
Member, NewH $\alpha$  Survey Science Collaboration 2008 –  
Member, Subaru Deep Field Science Collaboration 2005 –  
Member, American Astronomical Society 2004 – 2017

#### GRANTS AND OBSERVING PROPOSALS

Summary: Over 36 telescope nights approved as PI or Science PI, and nearly the equivalent of ~156

nights in total. Approximately \$300,000 in grants have been awarded as PI or Science PI.

| Role       | Source | Name                                   | Year | Amount    |
|------------|--------|--|------|-----------|
| PI         | NASA   | Keck PI grant                          | 2017 | \$12,500  |
| PI         | NASA   | <i>Spitzer</i> GO program              | 2015 | \$10,000  |
| Co-I       | NASA   | <i>Hubble</i> GO program               | 2015 | N/A       |
| Science PI | NASA   | Astrophysics Data Analysis Program     | 2015 | \$104,400 |
| PI         | NASA   | Keck PI grant                          | 2015 | \$16,000  |
| PI         | NASA   | Keck PI grant                          | 2015 | \$13,000  |
| PI         | NASA   | Postdoctoral Fellowship Travel Grant   | 2015 | \$8,000   |
| PI         | NASA   | Keck PI grant                          | 2014 | \$12,750  |
| PI         | NASA   | Postdoctoral Fellowship Travel Grant   | 2014 | \$8,000   |
| PI         | NASA   | Postdoctoral Fellowship Travel Grant   | 2013 | \$8,000   |
| PI         | NASA   | Giacconi Fellowship Start-up Grant     | 2010 | \$48,000  |
| Science PI | NASA   | Graduate Student Researcher Fellowship | 2009 | \$30,000  |
| Science PI | NASA   | Graduate Student Researcher Fellowship | 2008 | \$30,000  |

  

| Observatory             | Instrument  | Nights/Hours as PI<br>or Science PI | Total Nights or<br>Hours | Number of<br>Proposals |
|-------------------------|-------------|-------------------------------------|--------------------------|------------------------|
| <i>Hubble</i>           | WFC3        | –                                   | 20 orbits                | 1                      |
| <i>Spitzer</i>          | IRAC        | 16.5 hr                             | 16.5 hr                  | 1                      |
| 10-m Keck I             | MOSFIRE     | 2                                   | 5.5                      | 4                      |
| 10-m Keck II            | DEIMOS      | 4                                   | 10                       | 6                      |
| 10-m Keck II            | NIRSPEC     | 1                                   | 1                        | 1                      |
| 8.2-m Subaru            | FMOS        | 7                                   | 13                       | 6                      |
| 8.2-m Subaru            | Suprime-Cam | –                                   | 9.5                      | 4                      |
| 8.2-m Subaru            | MOIRCS      | –                                   | 4                        | 2                      |
| 8.2-m Subaru            | FOCAS       | –                                   | 2                        | 1                      |
| 8.2-m Subaru            | IRCS+A0188  | –                                   | 0.5                      | 1                      |
| 8.1-m Gemini-North      | GNIRS       | 36.1 hr                             | 36.1 hr                  | 3                      |
| 6.5-m Magellan          | FourStar    | –                                   | 4                        | 1                      |
| 6.5-m MMT               | Hectospec   | 3.5                                 | 3.5                      | 3                      |
| 6.5-m MMT               | MMIRS       | 2.5                                 | 2.5                      | 2.5                    |
| 4-m Kitt Peak–Mayall    | NEWFIRM     | 8                                   | 21                       | 6                      |
| 4-m Kitt Peak–Mayall    | MOSAIC      | 2                                   | 2                        | 1                      |
| 4-m Cerro Tololo–Blanco | NEWFIRM     | 5                                   | 14                       | 2                      |
| 4-m UKIRT               | WFCAM       | –                                   | 4                        | 2                      |

|           |                      |      |        |    |
|-----------|----------------------|------|--------|----|
| ALMA      | 450,880,1100 $\mu$ m | —    | 1.1 hr | 1  |
| CARMA     | 1.3mm imaging        | —    | 10 hr  | 1  |
| SMA       | 1100 $\mu$ m imaging | —    | 1      | 1  |
| NRAO VLBA | 7mm imaging          | 9 hr | 561 hr | 13 |
| NRAO VLA  | 21-cm imaging        | —    | 28 hr  | 1  |

#### PUBLICATIONS (As of Nov 1, 2020)

42 peer-review papers, 13 are first-authored

2563 citations to peer-review papers, 673 citations to first-authored papers

Hirsch  $h$ -index: 27 papers with  $\geq 27$  citations

A complete list of publications can be found here: <https://astrochun.github.io/publication/>

#### TALKS

##### Invited Talks or Colloquia:

| Event  | Date    |
|--|---------|
| Invited: <i>NOAO Science Talk</i> (Tucson, AZ)   | 04/2019 |
| Invited: Special talk, Internal Council of UNAM-Institute of Astronomy (Mexico City, Mexico) | 11/2015 |
| Invited: <i>NASA Sciences and Exploration Directorate Seminar</i> (Greenbelt, MD)            | 06/2014 |
| <i>Shanghai Astronomical Observatory Colloquium</i> (Shanghai, China)                        | 03/2014 |
| Invited: <i>NAOJ Subaru Seminar</i> (Hilo, HI)   | 03/2014 |
| <i>JHU-STScI HotSci Colloquium</i> (Baltimore, MD)   | 07/2013 |
| Invited: <i>Hubble Fellows Symposium</i> (Baltimore, MD)                                     | 03/2013 |
| Invited: <i>Dark Cosmology Centre</i> (Copenhagen, Denmark)                                  | 01/2013 |
| Invited: <i>NAOJ Subaru Seminar</i> (Hilo, HI)   | 04/2012 |
| Invited: <i>ASU Cosmology Seminar</i> (Tempe, AZ)  | 03/2012 |
| <i>JHU-STScI HotSci Colloquium</i> (Baltimore, MD)   | 08/2011 |
| <i>CTIO Science Colloquium</i> (La Serena, Chile)  | 03/2011 |
| Invited: <i>JPL Astrophysics Lunch Talk Series</i> (Pasadena, CA)                            | 06/2008 |
| Invited: <i>NOAO Scientific Lunch Talk Series</i> (Tucson, AZ)                               | 04/2007 |

##### Conference Talks:

| Event  | Date    |
|--|---------|
| MMT 40 <sup>th</sup> Symposium (Tucson, AZ)                  | 05/2019 |
| <i>Galaxy of Many Colours Conference</i> (Marstrand, Sweden) | 06/2015 |
| <i>AAS 225<sup>th</sup> Meeting</i> (Seattle, WA)            | 01/2015 |
| <i>Keck Science Meeting</i> (Pasadena, CA)                   | 10/2014 |

|  |         |
|--|---------|
| <i>European Week of Astronomy and Space Sciences</i> (Geneva, Switzerland) | 07/2014 |
| <i>AAS 223<sup>rd</sup> Meeting</i> (Washington, DC)                       | 01/2014 |
| <i>AAS 221<sup>st</sup> Meeting</i> (Long Beach, CA)                       | 01/2013 |
| <i>AAS 215<sup>th</sup> Meeting Dissertation Talk</i> (Washington, DC)     | 01/2010 |
| <i>Harvesting the Redshift Desert Conference</i> (Marseille, France)       | 07/2009 |

## Seminars and Other Talks (Since 2010):

| Event   | Date    |
|---|---------|
| <i>STScI Galaxy Journal Club</i> (Baltimore, MD)                              | 03/2016 |
| <i>East Asian Observatory Seminar</i> (Hilo, HI)                              | 03/2015 |
| <i>University of Maryland CARMA Seminar</i> (College Park, MD)                | 11/2014 |
| <i>STScI Galaxy Journal Club</i> (Baltimore, MD)                              | 11/2014 |
| <i>JHU CAS Wine and Cheese Seminar</i> (Baltimore, MD)                        | 11/2014 |
| <i>NASA Goddard Stellar and Extragalactic Astronomy Lunch</i> (Greenbelt, MD) | 12/2012 |
| <i>NOAO Scientific Lunch Talk</i> (Tucson, AZ)                                | 03/2012 |