# Kyle Dawson
# CURRICULUM VITAE

## CONTACT INFORMATION

Kyle Dawson
Professor
Department of Physics and Astronomy
University of Utah
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## EDUCATION

**University of California - Berkeley**, Berkeley, CA
PhD, Physics, 2004
Thesis – "**BIMA Survey of Arcminute Scale CMB Anisotropy**"

**Cornell University**, Ithaca, NY
BA, Physics, 1998

## RESEARCH INTERESTS

Observational Cosmology (large-scale structure)
Large Spectroscopic Surveys

## PROFESSIONAL EXPERIENCE

Professor, 2019 – present
Associate Professor, 2015 – 2019
Assistant Professor, 2009 – 2015
University of Utah, Salt Lake City, UT

Postdoctoral Researcher, 2004 – 2008
Lawrence Berkeley National Laboratory**,** Berkeley, CA
Supernova (SN) Cosmology Project: HST Studies of z>1 SNe and Galaxy Clusters
SN Acceleration Probe (proposed): CCD Detector Development

Graduate Student Researcher, 2000 – 2004
University of California - Berkeley, Berkeley, CA
30 GHz studies of CMB Anisotropy and Sunyaev-Zel'dovich in Clusters

## AWARDS and RECOGNITION

2023 Giuseppe and Vanna Cocconi Prize in cosmology; awarded to the SDSS/BOSS/eBOSS collaborations. Received by Dawson, Eisenstein, and Percival from the High Energy and Particle Physics Division of the European Physical Society.

2014 Early Career Teaching Award: University of Utah

**External GRANTS and SUPPORT - $5,906,100 total since 2009**

**DESI Experimental Studies and Novel Searches for New Physics at the University of Utah**
DOE-HEP Comparative Review, 2022–2025, $785,000
**DESI Experimental Studies: co-Spokesperson and Data Mirror**
DOE-HEP Continuing FOA, 2022–2023, $80,000
**DESI Spokesperson**
LBNL, DESI Project Office, 2021–2022, $106,500
**BOSS/eBOSS/DESI Research: Recurring Grant**
DOE-HEP Comparative Review, $1,614,000, 2013–2022
**Observing Strategy, Commissioning, and Survey Validation for DESI**
LBNL, DESI Project Office, 2017–2019, $260,000
**Conference Support for 2016 SnowPAC: The Galaxy/Halo Connection**
NSF & DOE-HEP, 2016, $14,900
**The Extended Baryon Oscillation Spectroscopic Survey (eBOSS)**
DOE-High Energy Physics – Operations, 2015–2020, $2,190,000
**eBOSS PI and Instrument Scientist Support**
Astrophysical Research Consortium, SDSS-IV, 2013–2018, $570,700
**Survey Planning for BigBOSS Research and Development**
DOE/LBNL, 2012, $35,000
**The Effect of Host Galaxy Environment on Type Ia Supernovae**
SWIFT Guest Investigator Grant (PI: Peter Brown, postdoc), 2011, $15,000
**Ultra-Violet Effects of Environment on Type Ia SNe**
SWIFT Guest Investigator Grant (PI: Peter Brown, postdoc), 2010, $35,000
**BOSS Survey Scientist Support**
Astrophysical Research Consortium, SDSS-III, 2009–2014, $200,000

**PRIVATE and LOCAL GRANTS - $1,325,400 total since 2009**

**Postdoc Fellowship in Astronomical Data Sciences**
W.L. Eccles Foundation (on behalf of Astronomy group) 2019–2021, $150,000 + match
**Applications in Topology and Machine Learning to Lyman-alpha Forest Measurements**
University of Utah Seed Grant, 2018–2019, $20,000
**General Outreach Activities in the Department of Physics and Astronomy**
Local foundations (on behalf of Department), 2015–2019, $255,000
**Astronomy Research Support in the Department of Physics and Astronomy**
Non-local foundation (on behalf of Astronomy group), 2015–2020, $300,000
**Cosmology with eBOSS**
University of Utah Seed Grant, 2014–2015, $33,000
**University of Utah Membership to SDSS-IV**
W.L. Eccles Foundation (with Adam Bolton, on behalf of Astro), 2013, $350,000
**Augmentation Grant for Development of Frisco Peak Observatory**
NASA Space Grant Consortium of Utah, 2012, $10,000 + $10,000 U match
**Upgrade to South Physics and Frisco Peak Observatories and Dedicated 4x4 Truck for Access**
W.L. Eccles Foundation (With Anil Seth and Wayne Springer), 2010-2012, $125,000
**Development of Remote Capabilities for the Willard L. Eccles Observatory**
NASA Space Grant Consortium of Utah, 2010, $25,000+$25,000 U match
**First Observations with the Southern Utah Astronomical Observatory**
University of Utah Seed Grant, 2009, $22,400

**PUBLICATIONS** (233 publications; ~44,000 citations; h-index = 89)

https://ui.adsabs.harvard.edu/public-libraries/2JQZfLBBT8GUHTIWOkIHCA

Topics include CMB, galaxy clusters, SNe, large-scale structure cosmology, and instrumentation. A full list of publications divided by field of research can be found through links at the bottom of this page: http://www.astro.utah.edu/~kdawson/research.html

**A subset reflecting efforts of local research group since 2009** (~4,700 citations, group members in bold)

33. *The Galaxy-Halo Connection of DESI Luminous Red Galaxies with Subhalo Abundance Matching*
**Berti, Angela M.; Dawson, Kyle S.; Dominguez, Wilber,** 2023, ApJ, 954, 2, id.131
32. *Performance of the Quasar Spectral Templates for the Dark Energy Spectroscopic Instrument*
**Brodzeller, Allyson; Dawson, Kyle;** et al., 2023, AJ, 166, 2, id.66
31. *Validation of the Scientific Program for the Dark Energy Spectroscopic Instrument*
DESI Collaboration; **(Kyle Dawson primary contributor)**, 2023, accepted by AJ, arXiv: 2306.06307
30. *Snowmass2021 Cosmic Frontier White Paper: High Density Galaxy Clustering in the Regime of Cosmic Acceleration*
**Dawson, Kyle;** Hearin, Andrew; Heitmann, Katrin et al., 2022, arXiv:2203.07291
29. *The DESI N-body simulation project - I. Testing the robustness of simulations for the DESI dark time survey*
Grove, C., **Chuang, C.-H.**, et al., 2022, MNRAS, 515, 1854.
28. *The DESI N-body Simulation Project - II. Suppressing sample variance with fast simulations*
Ding, Z., **Chuang, C.-H.**, et al., 2022, MNRAS, 514, 3308.
27. *Model BOSS and eBOSS luminous red galaxies at 0.2 < z < 1.0 using SubHalo Abundance Matching with three parameters*
Yu, J., Zhao, C.**, Chuang, C.-H.**, et al., 2022, MNRAS, 516, 57.
26. *Modeling the Spectral Diversity of Quasars in the Sixteenth Data Release from the Sloan Digital Sky Survey*
**Brodzeller, A., & Dawson, K.**, 2022, AJ, 163, 110.
25. *World's Largest Map of Space Offers Clues on Dark Energy*
**Dawson, K.** & Percival, W., 2021, Scientific American
24. *The Completed SDSS-IV extended Baryon Oscillation Spectroscopic Survey: Cosmological Implications from two Decades of Spectroscopic Surveys at the Apache Point observatory*
eBOSS Collaboration; **Dawson; K. PI,** 2021, Phys Rev D, 103, 8, 083533
23. *The Completed SDSS-IV extended Baryon Oscillation Spectroscopic Survey: Baryon acoustic oscillations with Lyman-alpha forests*
**du Mas des Bourboux, H.** et al., 2020, ApJ, 901, 2, 153
22. *Measurement of Redshift Evolving Mean Transmission of Lyman-alpha Photons at 2<z<4*
**Kamble, V.; Dawson, Kyle;** et al., 2020, ApJ, 892, 1, 70
21. *SpecTel: A 10-12 meter class Spectroscopic Survey Telescope (astro2020)*
Ellis, Richard; **Dawson, Kyle;** et al., 2019, arxiv:11907.06797
20. *Maintaining Capabilities in CCD Production for the Astronomy Community (astro2020)*
**Dawson, Kyle;** Holland, Stephen; and Schlegel, David, 2019, arxiv:1907.06798
19. *The extended Baryon Oscillation Spectroscopic Survey: measuring the cross-correlation between the MgII flux transmission field and quasars and galaxies at z=0.59*
**du Mas des Bourboux, H.; Dawson, Kyle;** et al., 2019, ApJ, 878, 47
18. *Spectral Variability of High Redshift Quasars Through Multi-Epoch Analysis*
**Dyer, Jamie; Dawson, Kyle;** et al., 2019, ApJ, 880, 78
17. *Rapidly varying Mg II broad absorption line quasar: SDSS J133356.02+001229.1*

**Vivek, M**.; Srianand, R.; and **Dawson, K.S**., 2018, MNRAS, 481, 5570

16. *The SDSS-IV extended Baryon Oscillation Spectroscopic Survey: Baryon Acoustic Oscillations at redshift of 0.72 with the DR14 Luminous Red Galaxy Sample*
**Bautista, Julian E.**; Vargas-Magaña, Mariana; **Dawson, Kyle S.**; and 16 coauthors, 2018, ApJ,
15. *Measurement of BAO correlations at z = 2.3 with SDSS DR12 Lyα-Forests*
**Bautista, Julian E**.; and 26 coauthors, 2017, A&A, 603, 12
14. *Spectral Evolution in High Redshift Quasars from the Final Baryon Oscillation Spectroscopic Survey Sample*
**Jensen, Trey W.; Vivek, M.; Dawson, Kyle S.**; and 17 coauthors, 2016, ApJ, 833, 199
13. *Redshift Measurement and Spectral Classification for eBOSS Galaxies with the redmonster Software*
**Hutchinson, Timothy**; Bolton, Adam;, **Dawson, Kyle**; and 14 coauthors, 2016, AJ, 152, 205
12. *Improved Spectrophotometric Calibration of the SDSS-III BOSS Quasar Sample*
Margala, Daniel; Kirkby, David; **Dawson, Kyle**; Bailey, Stephen; Blanton, Michael; and Schneider, Donald P., 2016, ApJ, 831, 157
11. *The Composite Spectrum of BOSS Quasars Selected for Studies of the Lyman-alpha Forest*
**Harris, D.; Jensen, Trey**; and 19 coauthors, 2016, AJ, 151, 155
10. *The SDSS-IV Extended Baryon Oscillation Spectroscopic Survey: Overview and Early Data*
**Dawson, Kyle S.**; and 144 coauthors, 2016, AJ, 151, 44
9. *Mock Quasar-Lyman-α forest data-sets for the SDSS-III Baryon Oscillation Spectroscopic Survey*
**Bautista, Julian E.;** and 17 coauthors, 2015, JCAP, 05, 60
8. *The Sloan Digital Sky Survey Reverberation Mapping Project: Technical Overview*
Shen, Yue; Brandt, W. N.; **Dawson, Kyle S.**; and 36 coauthors, 2015, AJ, 216, 4
7. *Host Galaxy Spectra and Consequences for Supernova Typing from the SDSS SN Survey*
**Olmstead, Matthew D.; Brown, Peter J.**; and 30 coauthors, 2014, AJ, 147, 75
6. *The Baryon Oscillation Spectroscopic Survey of SDSS-III*
**Dawson, Kyle S.**; and 164 coauthors, 2013, AJ, 145, 10
5. *A Swift Look at SN 2011fe: The Earliest Ultraviolet Observations of a Type Ia Supernova*
**Brown, Peter J.; Dawson, Kyle S.**; and 9 coauthors, 2012, ApJ, 753, 22
4. *Constraints on Type Ia Supernova Progenitor Companions from Early Ultraviolet Observations with Swift*
**Brown, Peter J.; Dawson, Kyle S.**; **Harris, David W.; Olmstead, Matthew;** Milne, Peter; Roming, Peter W. A., 2012, ApJ, 749, 18
3. *Scaling Relations and Overabundance of Massive Clusters at z >~ 1 from Weak-lensing Studies with the Hubble Space Telescope*
Jee, M. J.; **Dawson, Kyle S.**; and 23 coauthors, 2011, ApJ, 737, 59
2. *An Intensive Hubble Space Telescope Survey for z>1 Type Ia Supernovae by Targeting Galaxy Clusters*
**Dawson, Kyle S.**; and 60 coauthors, 2009, AJ, 138, 1271
1. *Discovery of an Unusual Optical Transient with the Hubble Space Telescope*
Barbary, K.; **Dawson, Kyle S.**; and 28 coauthors, 2009, ApJ, 690, 1358

## SYNERGISTIC ACTIVITIES

DESI Collaboration: co-Spokesperson (2020 – present)
DESI Science: Chair of working group on Survey Design (2014 – 2018)
DESI Science: Lead of Survey Validation Key Project (2019 – 2022)
DESI Project: Survey Design Lead (2013 – 2018); Survey Validation Scientist (2016 – 2020)
SDSS-IV: eBOSS Principal Investigator (2017 – 2020), eBOSS Instrument Scientist (2014 – 2017)
SDSS-III: BOSS Survey Scientist (2010 – 2014)

Member DOE-HEP Cosmic Visions Dark Energy panel (2017-2020; planning for future surveys)
Astronomy and Astrophysics Advisory Committee (2019-2023, deputy chair 2020-2022, chair 2022-2023)
Basic Research Needs for Future Dark Energy Research (High Energy Physics Instrumentation; 2019-2020)
External Reviewer for NASA (Postdoc Fellowships, time allocation for Keck Telescope)
External Reviewer for DOE-HEP – Cosmic Frontiers Comparative Review, Early Career, Dark Matter R&D, SCGSR
External Reviewer for NSF – AAG
External Reviewer for LSST – Operations, Dark Energy Science Collaboration
External Reviewer for CMB-S4 – Science requirements
External Reviewer for Swiss NSF
External Reviewer for Canada-France-Hawai'i telescope
External Reviewer for Dutch Research Council
Scientific Organizing Committee for SnowPAC conference - 2009, 2010, 2011, 2016, 2018
Scientific Organizing Committee for conferences: Cosmic Visions (LBL; 2018), Spec-S5 Instrumentation (University of Chicago; 2024), and Fundamental physics from future spectroscopic surveys (LBL; 2024)
Local Organizer for multiple DESI/eBOSS workshops
Referee (Astrophysical Journal, Phys Rev D, Astronomy and Astrophysics, Reports on Progress in Physics, Astronomical Journal, Monthly Notices of the Royal Astronomical Society)

## COMMUNITY INVOLVEMENT/ VOLUNTEER WORK

**Public Lectures –** College of Science, SL Astronomy Society, Whittier Elementary, Utah Film Center
Physics associated with film, popular-level astronomy, and cosmology
**Fundraising** – In support of Dept. priorities since 2010
Maintain relations with private donors for support of outreach, graduate education, and research
**Consultant –** Exhibit on "The Sky" at the Natural History Museum of Utah, 2010
**Osher Series Lecturer –** Adult education, astronomy and cosmology, 2009, 2010, 2016
**Astronomy writer** for NPR/KQED QUEST series, (www.kqed.org/quest), 2007 – 2008
Wrote astronomy articles as part of a multi-media campaign in the SF Bay Area
**Math instructor** – San Quentin Prison, 2003
Taught High School equivalency algebra and problem solving to inmates

## SELECTED TALKS (Including all talks in 2017-2023)

**"Science Requirements and Perspectives on a Stage-V Spectroscopic Facility",** NOIRlab Workshop for Spec-S5, Tucson, Arizona, 2023
**"The Giuseppe and Vanna Cocconi Prize",** European Physical Society Conference on High Energy Physics, Hamburg, Germany, 2023
**"DESI-2"**, Rubin/LSST Community Workshop (virtual), Tucson, 2023
**"AAAC Annual Report 2023"**, June Meeting of the Astronomy and Astrophysics Advisory Committee (AAAC), NSF Headquarters (virtual), 2023
**"DESI-II and New Directions in Cosmology with a Next Generation Spectroscopic Facility"**, Science with the future Wide Field Spectroscopic Telescope, Vienna, Austria, 2023
**"AAAC Annual Report 2023"**, U.S. House of Representatives (Congressional Staff), D.C., 2023
**"DESI-II"**, P5 Community Workshop: Cosmic Frontier, LBNL, 2023
**"Cosmology from Spectroscopic Surveys",** University of Chicago**,** Kavli Seminar, 2023

**"Tensions in Spectroscopic Surveys"**, Exploring the Dark Side of the Universe, Reunion Island, 2022
**"Status of DESI"**, Primordial Physics with Spectroscopic Surveys, UC San Diego, CA, 2022
**"Large-Scale Structure with DESI"**, Intersections of Particle and Nuclear Physics, Orlando, FL, 2022
**"The Dark Energy Spectroscopic Instrument"**, CMB-S4 Community meeting, U. Chicago, IL, 2022
**"The Next 20 Years in Cosmic Surveys"**, Snowmass Cosmic Frontier Plenary, Seattle, WA, 2022
**"DESI2: Introduction, FoM, and DESI-I"**, DESI-II workshop, Asilomar, CA, 2022

**"Cosmology with >100M Spectra"**, Snowmass Cosmic Frontier Colloquium, 2022
**"Final Results and Cosmological Interpretation from eBOSS",** Fermilab Astro Seminar, 2022
**"The Completed SDSS-IV Baryon Oscillation Spectroscopic Survey",** LIneA Webinar, 2022

**"Golden Webinar: Richard Ellis — The Quest for Cosmic Dawn: When Did Galaxies First Emerge from Darkness?",** panelist, Pontificia Universidad Catolica de Chile, 2021
**"Implementation techniques for massive MOS surveys"**, The future of MOS technologies (virtual/ESO), 2021
**"Dark Energy Spectroscopic Instrument (DESI)-On Sky",** April APS meeting, Chair: mini-symposium, Virtual, 2021

**"Implications of Stage-III Spectroscopic Dark Energy Surveys for the Cosmological Model"**, DESI virtual collaboration meeting, 2020
**"DESI Overview"**, BASS/DESI Imaging Survey Science Workshop, NAOC Beijing, 2020
**"Final Results and Cosmological Interpretation from eBOSS",** Colloquium, U. Wyoming, 2020
**"SpecTel: Cosmology with Hundreds of Millions of Spectra in the 2030's",** SLAC, 2020
**"What Constitutes a Stage-V Spectroscopy Survey in the 2030-2040's?",** Snowmass seminar, 2020
**"Final Results and Cosmological Interpretation from eBOSS",** RPM Seminar, LBNL, 2020
**"Final Results and Cosmological Interpretation from eBOSS",** April APS meeting, featured talk in mini-symposium, Washington D.C., 2020
**"eBOSS: Cosmology with Baryon Acoustic Oscillations and Redshift Space Distortions",** Kavli IPMU, Cosmic Acceleration Conference, 2020
**"SpecTel: A ~12 meter Telescope Optimized for Multiplexed Spectroscopy",** UC Berkeley, BCCP workshop on Future Surveys, 2020
**"eBOSS Final Results: Special Session",** AAS, Honolulu, 2020

**"DESI Program for Survey Validation",** DESI workshop, Ohio State University, 2019
**"Path to Final SV Planning",** DESI Commissioning and SV Review, NOAO - Tucson, 2019
**"Survey Validation Operations",** DESI Commissioning and SV Review, NOAO - Tucson, 2019
**"Survey Validation and Program",** DESI Collaboration meeting, LBNL, 2019
**"Status of eBOSS",** SDSS-IV Collaboration meeting, Ensenada - Mexico, 2019
**"The Extended Baryon Oscillation Spectroscopic Survey",** Colloquium, Penn State University, 2019
**"Cosmology with Spectroscopic Surveys",** Colloquium, Idaho State University, 2019

**"Cosmology from Spectroscopic Surveys",** Department Colloquium, University of Utah, 2018
**"Modeling Quasar Spectra for Enhanced Cosmological Studies",** seminar, University of Utah, 2018
**"Stars, Galaxies, and the History of the Universe",** Frontiers of Science, University of Utah, 2018
**"DESI PSF Modeling and Calibration"**, Gunnfest, Princeton, NJ, 2018
**"Large-scale Spectroscopy After DESI",** SUGAR-RUSH conference, Shanghai, China, 2018
**"Lessons Learned from BOSS, eBOSS, and DEEP2",** DESI workshop, Tucson, AZ, 2018
**"R&D for the Next Generation Spectroscopic Survey",** SnowPAC, Snowbird Utah, 2018
**"Extended Baryon Oscillation Spectroscopic Survey",** DOE Portfolio Review, Maryland, 2018
**"Survey Validation and Operations",** DOE Operations Review, LBNL, Berkeley, 2018
**"Survey Validation",** DOE Review – DESI Construction Closeout, LBNL, Berkeley, 2018
**"Survey Validation",** Director's Review - DESI Construction Closeout, LBNL, Berkeley, 2018
**"Survey Validation",** DOE Review - Operations, LBNL, Berkeley, 2018
**"DESI Survey Validation",** DESI Collaboration Meeting, Barcelona, Spain, 2018
**"Survey Validation",** DESI Director's Review - Operations, LBNL, Berkeley, 2018

**"Roadmap for Spectroscopy in the 2020's",** Cosmic Visions Workshop, LBNL, Berkeley, 2017
**"Cosmology from eBOSS",** Cosmology Seminar, Ohio State University, Columbus, 2017
**"DESI Survey Validation",** DESI Collaboration meeting, LBNL, Berkeley, 2017
**"DESI Survey Design",** DESI Collaboration meeting, LBNL, Berkeley, 2017

**"Survey Validation Planning",** DESI Project Review, NOAO, Tucson, 2017
**"DESI Survey Validation During Operations",** DESI Director's Review, LBNL, Berkeley, 2017
**"DESI Survey Software",** DESI Director's Review, LBNL, Berkeley, 2017

**"DESI Survey Design and Optimization",** 15–20 reviews, LBNL, 2013-2016

**"Survey Validation for DESI",** DESI/eBOSS Collaboration meeting, Ohio State, 2016
**"eBOSS: Status and Lessons Learned"**, DESI/eBOSS Collaboration meeting, Ohio State, 2016
**"High Density Galaxy Survey: BOA",** Future Cosmic Surveys Workshop, U Chicago, 2016
**"The Extended Baryon Oscillation Spectroscopic Survey",** SnowPAC, Snowbird, UT, 2016

**"Spectroscopic Surveys: High Density Clustering After DESI; aka Billion Object Apparatus (BOA)",** Cosmic Visions Workshop for future facilities, Fermi Lab, 2015
**"eBOSS: Survey and Challenges",** CPAD DOE Workshop, Grand Challenges for Detector Development over the next Ten Years, 2015, University of Texas-Arlington

**"BOSS Operations",** DOE Operations Review, 2014, Bethesda
**"eBOSS: Proposal for Six Years of Funding",** DOE Operations Review, 2014, Bethesda
**"eBOSS: Survey Status and Development Efforts",** eBOSS Collaboration meeting, 2014, Cloudcroft, NM
**"Next Ten Years of Cosmology with Spectroscopic Surveys",** Cosmology Workshop, 2014, Corfu, Greece
**"Survey Planning and Operations",** Cosmology Workshop, 2014, Corfu, Greece
**"Improving the Standard Candle",** HEAP seminar, University of Utah, 2014
**"Cosmology with Supernovae, Galaxies, and Quasars",** Colloquium, University of Utah, 2014

**"eBOSS and eBOSS Planning",** eBOSS project review, 2013, Berkeley
**"The Extended Baryon Oscillations Spectroscopic Survey",** DOE-HEP, Snowmass, 2013, Minneapolis
**"Clusters and Supernovae with HST**", Cosmology Seminar, Brookhaven National Laboratory, Brookhaven, NY, June, 2011.
**"Clusters and Supernovae with HST**", SnowPAC, Snowbird, UT, Feb., 2011.
**"Cosmology with Supernovae and Galaxy Clusters"** Fermi National Laboratory, Astrophysics Colloquium, Batavia, IL, Dec, 2010.
**"Supernova Cosmology with the Hubble Space Telescope**", Utah Valley University, Department Colloquium, Orem, UT, May, 2010.
**"Supernova Cosmology**", University of Wyoming, Department Colloquium, Wyoming, February, 2010.
**"Supernova Cosmology with the Hubble Space Telescope**", Brigham Young University, Department Colloquium, Provo, UT, February, 2010.
**"HST Survey for High Redshift SNe",** 43rd Rencontres de Moriond, La Thuile Italy, March 15, 2008.
**"Decelerating and Dustfree: Targeting SNe in Very High Redshift Galaxy Clusters**", LBNL Dept of Energy Review, Berkeley, CA – 2007.
**"Radiation Tolerance of High-Resistivity LBNL CCDs**", IEEE Nuclear Science Symposium, San Diego, CA – 2006.
**"Final Results from the BIMA Survey of Arcminute Scale CMB Anisotropy**", INPA colloquium, LBNL, Berkeley, CA – 2004.
**"A BIMA Survey of Arcminute Scale CMB Anisotropy**", Kavli Institute for Cosmological Physics, University of Chicago, Chicago, IL – 2003.

## COURSES TAUGHT

Astr/Phys 1060, "The Universe", Spring 2022, 2023
Phys 2210, "Physics for Engineers: Mechanics", Fall 2017, 2X effort, 300 students,
Semi-flipped classroom, group problem solving to improve student interaction
Phys 2220, "Physics for Engineers: Electricity and Magnetism", Spring 2018, 2X effort, 300 students,
Semi-flipped classroom, group problem solving to improve student interaction

Phys 3740, “Introduction to Quantum Mechanics and Special Relativity”, Spring 2011, 2013
Group problem solving to improve student interaction
Astr/Phys 4080, “Introduction to Cosmology”, Spring 2009
Astr/Phys 4080, “Introduction to Cosmology”, Spring 2010, 2012, 2014
Introduced new textbook: “Introduction to Cosmology” by Barbara Ryden
Astr/Phys 5015, “Observational Methods and Data Analysis”, Fall 2010, 2011, 2013
New course developed around Frisco Peak Observatory

## STUDENTS/POSTDOCS SUPERVISED at UNIVERSITY OF UTAH

### Research Scientists

Chia-Hsun (Albert) Chuang, 2021 – 2022

### Postdoctoral Researchers

Angela Berti, 2020 – 2023
Sarah Eftekharzadeh, 2018 – 2020 (Instrument Scientist, NASA Ames)
Hélion Du Mas des Bourboux, 2017 – 2019 (Data Scientist, private sector)
Julian Bautista, 2014 – 2017 (Postdoc: Portsmouth; Tenure track scientist: Marseille)
Vivek Mariappan, 2014 – 2017 (Postdoc: Penn State, Tenure Track: Indian Institute of Astrophysics)
Peter Brown, 2009 – 2012, (Postdoc, research scientist: Texas A&M)

### Graduate Students

Joshua Ratajczak, 2023 – present
Tyler Hagen, 2022 – present
Allyson Brodzeller, 2020 – 2023 (currently postdoc in Dawson group)
Alec Lovlein (Master’s), 2018 – 2019 (Data Scientist, private sector)
Aishwarya Ashok, 2017
Timothy Hutchinson (Master’s), 2015–2017 (Data Scientist, private sector)
Donna Taylor, 2015 (Transferred to CS)
Vikrant Kamble, 2014–2019 (Data Scientist, private sector)
Suchit Maindola (EECS), 2011
Matthew Olmstead, 2009–2014, (Assistant Professor: King’s College)
David Harris, 2009–2015, (Lecturer: US Coast Guard Academy, Florida Gulf Coast University)

### Undergraduate Students

Darshika Ravulapalli (UCSC), REU at University of Utah, 2023
Luke Phillips, 2023
Russel Moore, 2023
Wilber Dominguez (Swarthmore), REU at University of Utah, 2021
Philippe Bruce-Woods David, 2018
Jamie Dyer, 2016 – 2017 (PhD program, Colorado State University)
Trey Jensen, 2013 – 2016 (PhD program: NYU, NSF Graduate Fellowship recipient)
Sarah Moran (Barnard College), REU at University of Utah, 2013 (PhD program: JHU)
Chris Ahn, 2012 – 2013 (PhD: University of Utah)
Erika Loertscher (Mathematics), freshman ACCESS program, 2012
Dennis Della Corte, 2010 – 2011 (PhD: Forschungszentrum Julich; Assistant Professor at BYU)
Nic Ramsrud, 2010 – 2011 (engineer, private sector)

## UNIVERSITY COMMITTEES

Executive Committee – 2019-2021
Development – 2010-present
Multimessenger Astrophysics Faculty Search – 2023
Astronomy Faculty Search – 2009, 2011, 2016, 2019, 2021
High Energy Theory Faculty Search – 2018, 2020
Physic and Astronomy Department Chair Faculty Search – 2020
Faculty search: Director of Scientific Computing and Imaging Institute – 2020
Future's - 2019-2023 (Chair, 2021-2023)
IT Staff hire - 2019
Policy Board – 2017-2020
Student Awards – 2013, 2014, 2016, 2020-2023
Lecturer and Outreach Staff hire - 2011
Curriculum Committee – 2010
Graduate Student Admissions Committee – 2009, 2010, 2014, 2016
HEAP/BOWTIE Seminar – 2009-2011, 2017, 2018
Astronomy Task Force – 2009-present

**TELESCOPE EXPERIENCE**

Hubble Space Telescope
Subaru Observatory
Caltech Submillimeter Observatory
Kitt Peak National Observatory 4-m
Keck Observatory
Apache Point Observatory 3.5-m
Apache Point Observatory 2.5-m
University of California Lick 3-m
Owens Valley Radio Observatory
Very Large Array
Berkeley-Illinois-Maryland Association Array

**FORMER ADVISORS**

William Holzapfel, PhD advisor, 2000 – 2004, UC-Berkeley
Natalie Roe, postdoctoral advisor, 2004 – 2008, Lawrence Berkeley National Laboratory