

# Curriculum Vitae

## 1. Name, position, department:

Ian Dell'Antonio, Professor, Physics Department

## 2. Home address:

11 Joann Drive, Barrington, RI 02806

## 3. Education:

B.S., Haverford College, 1989, Astronomy and Physics

Ph.D., Harvard University, 1995, Astronomy

Ph.D. Topic: Kinematics and Dynamics in Large Scale Structure

## 4. Appointments:

Postdoctoral Researcher Bell Laboratories, September 1995-August 1998

Observatory Fellow Kitt Peak National Observatory, September 1998-June 2000

Assistant Professor Brown University, July 1999 - June 2006

Associate Professor Brown University, July 2006 - June 2014

Professor Brown University, July 2014-

## 5. Completed Research

### Refereed Journal Articles:

Schmidt, B.P., *et al.*, 1993, "The Unusual Supernova SN1993J in the galaxy M81",  
Nature, **364**, 600

Dell'Antonio, I.P., Geller, M.J., & Fabricant, D.G., 1994, "X-Ray and Optical Properties of  
Groups of Galaxies", AJ, **107**, 427

Rybicki, G.B., & Dell'Antonio, I.P., 1994, "Lyman-Alpha Trapping in Hydrogen During

Recombination”, ApJ, **427**, 603

Dell'Antonio, I.P., Geller, M.J., & Fabricant, D.G., 1995, “Baryon Fractions for Poor Clusters”, AJ, **110**, 502

Dell'Antonio, I.P., Bothun, G.D., & Geller, M.J., 1996, “Peculiar Velocities for Galaxies in the Great Wall I. The Data”, AJ, **112**, 1759

Dell'Antonio, I.P., Geller, M.J., & Bothun, G.D., 1996, “Peculiar Velocities for Galaxies in the Great Wall II. Analysis”, AJ, **112**, 1780

Dell'Antonio, I.P., & Tyson, J.A., 1996, “Galaxy Dark Matter: Galaxy-Galaxy Lensing in the Hubble Deep Field”, ApJL, **473**, 17

Tyson, J.A., Kochanski, G.P., & Dell'Antonio, I.P., 1998, “Detailed Mass Map of CL 0024+1654 from Strong Lensing”, ApJL, **498**, 107

Wittman, D.M., *et al.*, 1998, “Big Throughput Camera: the First Year”, SPIE, **3355**, 626

Riess, A.G., *et al.*, 1999, “BVRI Light Curves for 22 Type IA Supernovae”, AJ, **117**, 707

Wittman, D.M., *et al.*, 2000, “Detection of Weak Gravitational Lensing Distortions in Distant Galaxies by Cosmic Dark Matter at Large Scales”, Nature, **405**, 143

Wittman, D.M., *et al.*, 2001, “Discovery of a Galaxy Cluster via Weak Lensing”, ApJL, **557**, 89

Platais, I., *et al.*, 2002, “WIYN Open Cluster Study VIII: The Geometry and Stability of the NOAO CCD Mosaic Imager”, AJ, **124**, 601

Wittman, D., *et al.*, 2003, “Weak-Lensing Discovery and Tomography of a Cluster at  $z=0.68$ ”, ApJ, **597**, 218

Becker, A.C., *et al.*, 2004, “The Deep Lens Survey Transient Search. I. Short Timescale and Astrometric Variability”, ApJ, **611**, 418

Moretti, A., *et al.*, 2004, “The Brera Multi-scale Wavelet HRI Cluster Survey. I. Selection of the Sample and Number Counts”, A&A, **428**, 21

Dell'Antonio, I.P., 2004, “The State of Wide Field Surveys and their Contribution to the study of Cluster Peripheries”, IAU Colloquium 195, A. Diaferio, editor, In press

Kling, T.P., Dell'Antonio, I.P., Wittman, D., Tyson, J.A., 2005, “Wide-Field Weak Lensing by

RXJ1347-1145", ApJ, **625**, 643

Geller, M.J., Dell'Antonio, I.P., *et al.*, 2005, "SHELS: The Hectospec Lensing Survey", ApJL, **635**, 125

Fabricant, D., *et al.*, 2005, "Hectospec, the MMT's 300 Optical Fiber-Fed Spectrograph", PASP, **117**, 1411

Wittman, D., Dell'Antonio, I., *et al.*, 2006, "First Results on Shear-Selected Clusters From the Deep Lens Survey: Optical Imaging, Spectroscopy, and X-Ray Followup", ApJ, **643**, 128

Levan, A.A., *et al.*, 2006, "Infrared and Optical Observations of GRB 030115 and its Extremely Red Host Galaxy: Implications for Dark Bursts", ApJL, **647**, 471

Kurtz, M.J. *et al.*, 2007, " $\mu$ -PhotoZ: Photometric Redshifts by Inverting the Tolman Surface Brightness Test", AJ **134**, 1360

Kubo, J.M., *et al.*, 2007, "The Mass of the Coma Cluster from Weak Lensing in the Sloan Digital Sky Survey", ApJ, **671**, 1466

Sehgal, N. *et al.*, 2008, "Probing the Relation Between X-ray-Derived and Weak-Lensing-Derived Masses for Shear-Selected Galaxy Clusters: I. A781", ApJ, **673**, 163

Kubo, J.M. & Dell'Antonio, I.P., "A method to search for strong galaxy-galaxy lenses in optical imaging surveys", 2008, MNRAS, **385**, 918

Khiabani, H., & Dell'Antonio, I.P., "A Multiple-Resolution Regularized Weak Lensing Mass Reconstruction Method", 2008, ApJ **684**, 794

Fabricant, D.G., *et al.*, "Spectrophotometry with Hectospec, the MMT's Fiber-Fed Spectrograph" 2008, PASP, **120**, 1222

Kubo, J., *et al.*, "Dark Matter Structures In the Deep Lens Survey" 2009, ApJ, **702**, 980

Abate, A., *et al.*, "Shear-Selected Clusters from the Deep Lens Survey. III. Masses from Weak Lensing", 2009, ApJ, **702**, 603

Westra, E., *et al.*, "Evolution of the  $H_\alpha$  Luminosity function" 2010, ApJ, **708**, 534

Geller, M.J., *et al.*, "SHELS: Testing Weak Lensing Maps with Redshift Surveys"

2010, ApJ, **709**, 832

Woods, D.F., *et al.*, “Triggered Star Formation in Galaxy Pairs at  $z= 0.08-0.38$ ”  
2010, AJ, **139**, 1857

Westra, E., *et al.*, “Empirical Optical k-Corrections for Redshifts  $< 0.7$ ”  
2010, PASP, **122**, 1258

Kurtz, M., *et al.*, “Testing Weak Lensing Maps with Redshift Surveys: A Subaru field”  
2012, ApJ **750**, 168

Geller, M.J., *et al.*, “The Faint End of the Luminosity Function and Low Surface Brightness Galaxies”  
2012, AJ, **143**, 102

Cook, R.I., & Dell’Antonio, I.P., “The Missing Weak Lensing Mass in Abell 781”  
2012, ApJ, **750**, 153

Hwang, H.S., *et al.*, “SHELS: Optical Spectral Properties of WISE 22  $\mu\text{m}$  Selected Galaxies”  
2012, ApJ, **758**, 25

Cook, R.I., & Dell’Antonio, I.P., “Probing Atmospheric Distortions Using Orthogonal Transfer Imagers”, 2013, MNRAS, **435**, 766

Utsumi, Y; *et al.*, “Reducing Systematic Error in Weak Lensing Cluster Surveys”  
2014, ApJ, **786**, 93

Starikova, S.; *et al.*, “Comparison of Galaxy Clusters Selected by Weak Lensing,  
Optical Spectroscopy, and X-Rays in the Deep Lens Survey”, 2014, ApJ, **786**, 125

Barnacka, A.; Geller, M.J.; Dell’Antonio, I.P.; & Benbow, W.; “Strong Gravitational  
Lensing as a Tool to Investigate the Structure of Jets of High Energies”, 2014, ApJ,  
**788**, 139.

Geller, M.J.; *et al.*; “SHELS: A Complete Galaxy Redshift Survey with  $R_j=20.6$ ”, 2014  
ApJS, **213**, 35.

Harbeck, D.R.; *et al.*; “The WIYN one degree imager 2014: performance of the partially  
populated focal plane and instrument upgrade path”; 2014; SPIE, **9147**, 1.

Barnacka, A.; Geller, M.J.; Dell’Antonio, I.P.; & Benbow, W.; “Strongly Lensed Jets, Time Delays,  
and the Value of  $H_0$ ”; 2015, ApJ, **799**, 48.

Newman, J.A.; *et al.*; “Spectroscopic Needs for Imaging Dark Energy Experiments”; 2015, *Astroparticle Physics*, **63**, 81.

McCleary, J; Dell’Antonio, I/; & Huwe, P.; “Mass Substructure in Abell 3128”, 2015, *ApJ*, **805**, 40.

Barnacka, Anna; Geller, Margaret J.; Dell’Antonio, Ian P/; & Benbow, Wytan; “Resolving the High-energy Universe with Strong Gravitational Lensing: The Case of PKS 1830-211”; 2015, *ApJ*, **809**, 100.

Skidmore, Warren; TMT International Science Development Teams; Science Advisory Committee, TMT; “Thirty Meter Telescope Detailed Science Case: 2015”; 2015; *RAA*, **15**, 1945.

Barnacka, Anna; Geller, Margaret J.; Dell’Antonio, Ian P.; Zitrin, Adi; “The Structure of the Strongly Lensed Gamma-ray Source B2 0218+35”, 2016, *ApJ*, **821** 58.

Geller, Margaret J.; Hwang, Ho Seong; Dell’Antonio, Ian P.; Zahid, Harus Jabran, Kurtz, Michael J.; & Fabricant, Daniel G.; “SHELS: Complete Redshift Surveys of Two Widely Separated Fields”, 2016, *ApJS*, **224**, 11.

Utsumi, Yousuke; *et al.*, “A Weak Lensing View of the Downsizing of Star-forming Galaxies”, 2016, *ApJ*, **833**, 156.

Hood, Callie E.; Kannappan, Sheila J.; Stark, David V.; Dell’Antonio, Ian P.; Moffett, Amanda J.; Eckert, Kathleen D.; Norris, Mark A.; Hendel, David, “The Origin of Faint Tidal Features around Galaxies in the RESOLVE Survey”, 2018, *ApJ*, **857**, 144.

Sohn, Jubeo; Geller, Margaret J.; Walker, Stephen A.; Dell’Antonio, Ian; Diaferio, Antonaldo; Rines, Kenneth J., “The Massively Accreting Cluster A2029”, 2019, *ApJ*, **871**, 129.

McCleary, Jacqueline; Dell’Antonio, Ian; & von der Linden, Anja, “Dark Matter Distribution of Four Low-z Clusters of Galaxies”, *ApJ*, **893**, 8.

Utsumi, Yousuke; Geller, Margaret J.; Zahid, Harus J.; Sohn, Jubeo; Dell’Antonio, Ian P.; Kawanomoto, Satoshi; Komiyama, Yutaka,; Koshida, Shintaro, & Miyazaki, Satoshi, “Velocity Dispersion of Massive Quiescent Galaxies from Weak Lensing and Spectroscopy” 2020, *ApJ*, **900**, 50.

Dell’Antonio, Ian; Sohn, Jubeo; Geller, Margaret J.; McCleary, Jacqueline; von der Linden, Anja, “Spectroscopic Tomography: A First Weak Lensing Detection Using Spectroscopic Redshifts Only”, 2020, *ApJ*, **903**, 64.

Hood, Callie E., Kannappan, Sheila J., Stark David V., Dell'Antonio, Ian P., Eckert, Kathleen D., Norris, Mark A., Hendel David, "Erratum: The Origin of Faint Tidal Features around Galaxies in the RESOLVE Survey", 2021, ApJ, **910**, 165.

Damjanov, I., Sohn, J., Utsumi, Y., Geller, M.J., & Dell'Antonio, I.P. "Quiescent Galaxy Size, Velocity Dispersion and Dynamical Mass Evolution", 2022, ApJ, **929**, 61.

Fu, Shenming, Dell'Antonio, I., *et al.*, "LoVoCCS I. Survey Introduction, Data Processing Pipeline, and Early Science Results", 2022, ApJ, **933**, 84.

Sheppard, Scott S., *et al.*, "A Deep and Wide Twilight Survey for Asteroids Interior to the Earth and Venus", 2022, AJ, **164**, 168.

Damjanov, I., Sohn, J., Geller, M.J., Utsumi, Y. & Dell'Antonio, I., "Size and Spectroscopic Evolution of HectoMAP Quiescent Galaxies", 2023, ApJ, In press.

#### **Non-Refereed articles:**

Rybicki, G.B. & Dell'Antonio, I.P., "Spectral Distortions in the CMB from Recombination", 1994, In *Observational Cosmology*, Astronomical Society of the Pacific Conference Series, vol. 51, eds. G. Chincarini, A. Iovino, T. Maccacaro, and D. Maccagni, p. 548. San Francisco: Astronomical Society of the Pacific, 1993.

Tyson, T., Kochanski, G., & Dell'Antonio, I., "Morphology of Gravitationally Lensed Galaxies", 1997, *The Ultraviolet Universe at Low and High Redshift : Probing the Progress of Galaxy Evolution : College Park, MD May 1997*. Edited by William H. Waller [et al.]. New York : American Institute of Physics, 1997. Also AIP Conference Proceedings, v.408., p.204

Windhorst, R.A., *et al.*, "The HST/WFPC2 B-Band Galaxy Counts vs. Type for  $19 < B < 29$  Mag", 1997, *The Ultraviolet Universe at Low and High Redshift : Probing the Progress of Galaxy Evolution : College Park, MD May 1997*. Edited by William H. Waller [et al.]. New York : American Institute of Physics, 1997. Also AIP Conference Proceedings, v.408., p.242

Dolan, C., Dell'Antonio, I., Jannuzi, B., & Rhoads, J., "GRB991216, Optical Observations", 1999, GCN **486**, 1

Joyce, D., Rhoads, J, Ali, B., Dell'Antonio, I., Jannuzi, B., "GRB 991216: j band spectrophotometry", GCN **501**, 1

Wittman, D., Dell'Antonio, I., *et al.*, "The Normal Cluster Weak Lensing Survey: Mass Profiles

and M/L Ratios of Eight Clusters at  $z=0.2$ ", 2000, In Constructing the Universe with Clusters of Galaxies. Edited by F. Durret & D. Gerbal. IAP 2000, Paris, p. 60.

Tyson, J.A., *et al.*, "Mass Distribution in Normal Clusters", 2001, in Gravitational Lensing: Recent Progress and Future Prospects, ASP Conference Proceedings Vol 237. Edited by T. Brainerd & C. Kochanek. San Francisco: Astronomical Society of the Pacific, p. 299.

Moretti, A., *et al.*, "The BMW Deep X-Ray Cluster Survey", 2001, in X-ray Astronomy 2000, ASP Conference Proceeding Vol. 234, Edited by Riccardo Giacconi, Salvatore Serio and Luigi Stella, San Francisco: Astronomical Society of the Pacific, p 393

Guzzo, L., *et al.*, "The BMW Deep X-Ray Cluster Survey", 2001, in Deep Fields, Proceedings of the ESO/ECF/STScI Workshop held at Garching, Germany, 9-12 October 2000. Stefano Cristiani, Alvio Renzini, Robert E. Williams (eds.). Springer, 2001, p. 207

Longhetti, M., *et al.*, "The BMW Deep X-Ray Cluster Survey", 2002, in Tracing Cosmic Evolution with Galaxy Clusters. ASP Conference Proceedings, Vol. 268. Edited by Stefano Borgani, Marino Mezzetti, and Riccardo Valdarnini. ISBN: 1-58381-108-7 San Francisco, Astronomical Society of the Pacific, 2002., p.399

Levan, A., *et al.*, "GRB 030115: Possible IR counterpart", 2003, GCN **1818**, 1

Wasserman, L.H., *et al.* "Minor Planet Observations", 2003, MPC **48899**, 7

Hughes, J.P., Dell'Antonio, I., *et al.* "The Chandra First Year Survey of DLS Shear-Selected Galaxy Clusters", 2004, HEAD **8** 02.06

Hughes, J.P., Dell'Antonio, I., *et al.* "X-Rays from the Most Massive DLS Shear-Selected Galaxy Clusters", 2004, 35th COSPAR Scientific Assembly, Paris, p. 3895

Wang, Y., *et al.*, "Joint Efficient Dark-energy Investigation (JEDI): a Candidate Implementation of the NASA-DOE Joint Dark Energy Mission (JDEM)", 2005, JEDI white paper for the Dark Energy Task Force, astro-ph/0507043

LSST Science Collaborations, "LSST Science Book, Version 2.0", 2009, astro-ph/09120201

LSST Dark Energy Science Collaboration, "Large Synoptic Survey Telescope: Dark Energy Science Collaboration", 2012, Dark Energy Survey White paper, astro-ph/12110310

Utsumi, Y., *et al.*, "Reducing Systematic Error in Cluster Scale Weak Lensing", 2013, astro-ph/13044656

Newman, J., *et al.*, “Spectroscopic Needs for Imaging Dark Energy Experiments: Photometric Redshift Training and Calibration”, DOE Snowmass White Paper 2013, astro-ph/1309.5384

Jain, B.; *et al.*; “The Whole is Greater than the Sum of the Parts: Optimizing the Joint Science Return from LSST, Euclid, and WFIRST”, 2015, astro-ph/1501.07897

The LSST Dark Energy Science Collaboration; Mandelbaum, Rachel; *et al.*, 2018, “The LSST Dark Energy Science Collaboration (DESC) Science Requirements Document”, 2018, astro-ph 1809.01669

Mantz, Adam; *et al.*, “The Future Landscape of High-Redshift Galaxy Cluster Science”, 2019, BAAS, **51**, 279.

Simon, Joshua; *et al.*, “Testing the Nature of Dark Matter with Extremely Large Telescopes”, 2019 BAAS, **51**, 153.

Pierce, Michael; Dell’Antonio, Ian; Myers, Adam, & Birrer, Simon, “Transverse Extragalactic Motions a New Method for Constraining Cosmological Parameters”, 2019, BAAS, **51**, 344.

Beaton, Rachael L.; *et al.*, “Measuring the Hubble Constant Near and Far in the Era of ELTs”, 2019, BAAS, **51**, 456.

Newman, Jeffrey; *et al.*, “Deep Multi-Object Spectroscopy to Enhance Dark Energy Science from LSST”, 2019, BAAS, **51**, 358

Wang, Yun; *et al.*; “Illuminating the Dark Universe with a Very High Density Galaxy Redshift Survey over a Wide Area”, 2019, BAAS, **51**, 508.

Sohn, J.; *et al.*; “VizieR Online Data Catalog: A redshift catalog of the galaxy cluster A2029” 2020, VizieR Online Catalogs.

Dell’Antonio, I.; “A Complete DECam Survey of Nearby Galaxy Clusters”, 2020, Mirror, Volume 1, 14

Gezari, S., *et al.*, “R2-D2: Roman and Rubin, from Data to Discovery”, 2022, ArXiv:220212311G

Blazek, J.A., *et al.*, “SNOWMASS2021 Cosmic Frontier White Paper: Enabling Flagship Dark Energy Experiments to Reach their Full Potential”, 2022, ArXiv:220401992B

### **Abstracts:**

Partridge, R.B., Dell’Antonio, I., & Sheth, R., 1989, AAS, 175.5009



- Dell'Antonio, I.P., Geller, M.J., & Fabricant, D., 1992, AAS, 181.1506
- Rybicki, G.B., & Dell'Antonio, I.P., 1996, AAS, 188.3202
- Dell'Antonio, I.P., Kochanski, G.P., & Tyson, J.A., 1996, AAS, 189.7301
- Kochanski, G.P., Dell'Antonio, I.P., & Tyson, J.A., 1996, AAS, 189.7302
- Cohen, S.H., *et al.*, 1997, AAS, 191.0314
- Dell'Antonio, I.P., 1997, AAS, 191.6203
- Kochanski, G.P., Dell'Antonio, I.P., & Tyson, J.A., 1997, AAS, 191.8312
- Dell'Antonio, I.P., *et al.*, 1998, AAS, 193.10806
- Tyson, J.A., *et al.*, 1999, AAS, 194.8806
- Kozhurina-Platais *et al.*, 2000, AAS, 196.5208
- Groch, H., *et al.*, 2000, AAS, 197.10501
- Dell'Antonio, I., *et al.*, 2001, AAS, 199.10112
- Becker, A., *et al.*, 2001, AAS, 199.10114
- Tyson, J.A., *et al.*, 2001, AAS, 199.10113
- Hennawi, J.F., *et al.*, 2001, AAS, 199.1608
- Kubo, J.M., & Dell'Antonio, I.P., 2004, AAS, 205.2807
- Wittman, D., Dell'Antonio, I., *et al.*, 2004, AAS, 205.14719
- Wang, Y., *et al.*, 2005, AAS, 207.10004
- Kubo, J.M., & Dell'Antonio, I.P., 2005, AAS, 207.14207
- Khiabanian, H., & Dell'Antonio, I.P., 2005, AAS, 207.17010
- Khiabanian, H., & Dell'Antonio, I.P., 2006, AAS, 209.2104

Kubo, J., Annis, J., Dell'Antonio, I., Khiabani, H., & Stebbins, A., 2006, AAS, 209.7724

Margoniner, V.E., *et al.*, 2006, AAS, 209.22508

Thorman, P., Jr., *et al.*, 2007, AAS, 209.25207

Thorman, P., Jr., *et al.*, 2007, AAS, 210.7808

Kubo, J., Dell'Antonio, I.P., & Khiabani, H., 2008, AAS, 211.16005

Thorman, P., Jr., *et al.*, 2009, AAS, 213.30301

Kubo, J., *et al.*, 2009, AAS, 213.32203

Choi, A., *et al.*, 2009, AAS, 213.47903

Dell'Antonio, I., 2009, AAS, 214.22003

Acaso, B. *et al.*, 2010, AAS, 215.43607

Thorman, P., Jr. *et al.*, 2010, AAS, 215.47006

Choi, A. *et al.*, 2011, AAS, 217.33532

Dell'Antonio, I. *et al.*, 2011, AAS, 217.25223

Cook, R. & Dell'Antonio, I, 2011, AAS, 218.31902

Bradshaw, A., *et al.*, 2012, AAS, 219.15601

Dell'Antonio, I.P. & McCleary, J.E., 2013, AAS, 222.10507

Snyder, E.M.; *et al.*, 2015, AAS, 225.33614

Snyder, E.M.; *et al.*, 2016, AAS, 227.31106

**Invited Lectures:**

1997, AAS Meeting 191, High-Energy Division session

1997, Harvard-Smithsonian Center for Astrophysics

1998, Rutgers University

1999, University of Arizona

1999, Wayne State University

1999, Brown University

2000, Arecibo Observatory

2002, Universidad Catolica, Santiago, Chile

2003, Roger Williams University

2003, Brown, UTRA-Hughes lecture

2004, Universita' di Torino

2004, Wesleyan University

2005, University of Connecticut

2005, Brown University

2006, Brown, SUMS conference

2006, Rhode Island College

2006, National Optical Astronomy Observatories

2007, Boston University

2008, National Optical Astronomy Observatories

2008, University of California, Davis

2009, Yale University

2009, American Astronomical Society 214th meeting (2 invited lectures)

2009, Yale University, ODI Survey Meeting

2009, Bryant University

2010, Wesleyan University

2010, University of Illinois

2010, Brown University

2011, National Optical Astronomy Observatories

2011, DECam Community Use Meeting, Tucson

2011, Brown University, Ladd Observatory

2012, Dartmouth College

2012, University of Pennsylvania, Dark Energy Science Collaboration Meeting

2012, Wesleyan University

2012, University of Rhode Island, Rhode Island Space Grant Meeting

2013, SLAC, Dark Energy Science Collaboration Meeting

2013, Harvard-Smithsonian Center for Astrophysics

2013, Yale University

2013, American Astronomical Society 222nd meeting, Indianapolis

2013, Fermilab, Dark Energy Survey Collaboration Software Meeting

2013, Pitt, Dark Energy Science Collaboration Meeting

2014, Harvard-Smithsonian Center for Astrophysics

2014, Wheaton College (Rhode Island Space Grant Meeting Keynote)

2014, TMT Forum, Tucson, AZ, Invited Presentation

2014, IFT Madrid, Clusters and Cosmology in the 21st Century

2015, SLAC, Dark Energy Science Collaboration Meeting

2015, TMT Forum, Washington, DC, Invited Presentation

2015, Marine Biology Laboratory, Woods Hole, Keynote Presentation

2015, Argonne National Lab, Dark Energy Science Collaboration Meeting

2016, Oxford University, Dark Energy Science Collaboration Meeting

2016, Invited Presentation, TMT Forum, Kyoto, Japan

2017, Plenary Presentation, SLAC, Dark Energy Science Collaboration Meeting

2017, Plenary presentation, TMT International Forum, Mysore, India

2017, Plenary presentation, Stony Brook, LSST DESC Summer meeting

2017, NYU/FlatIron Institute

2018, SLAC, DESC Collaboration Meeting

2018, Public Science with DECam Meeting, Tucson

2018, Invited Plenary, Shedding Light on the Dark Universe with Extremely Large Telescopes Conference

2018, Brandeis University

2018, Workshop on US ELT Science Cases, Tucson

2018, TMT Science Forum, Pasadena

2019, UC Berkeley, DESC Collaboration Meeting, Berkeley

2019, Invited talk, Sesto Conference on Galaxy Clusters", Sesto, Italy

2019, DESC Collaboration Meeting, APC, Paris, France

2020, DESC Collaboration Meeting, Tucson, Arizona

2022, DESC Remote Collaboration Meeting

2022, STSCI Spring Symposium, Baltimore, MD

2022, DESC Collaboration Meetin, Chicago, IL

2022, Rubin Observatory PCW, Tucson, AZ

**Research in Progress:**

co-PI, Deep Lens Survey

PI, LoVoCCS (NSF Funded NOAO Survey Program)

Head, Galaxy Clusters Analysis Group, LSST Dark Energy Science Collaboration (2012-2017)

Chair, Dark Energy Science Collaboration Council (2016-2019)

Member, RESOLVE collaboration (2013-2018)

HectoMAP collaboration member (2012-)

Research on gravitational lensing by clusters using HST and ground-based telescopes

Research on the properties of orthogonal transfer CCDs and the distortion of galaxy shapes.  
Head of the image quality verification team for the ODI camera (2012-2015)

Research on kinematical properties of galaxy “walls” using radio and optical observations

Research on the properties and evolution of galaxies and galaxy clusters through X-ray and IR observations

Research on properties of distant galaxies discovered via gravitational lensing

**6. Research Grants:**

**Current**

DOE: Fundamental Problems in Cosmology", 04/2019-03/2025, PI, \$ 256,941

NSF AST: "Collaborative Research: LoVoCCS: The Local Volume Complete Cluster Survey", PI 07/21-06/24, \$431,665

## **Pending**

## **Completed**

Brown Seed Fund Grant, 01/2017-05/2019, PI, \$ 49,500

DOE: Fundamental Problems in Cosmology", 04/2016-03/2019, PI, \$ 148,731

DOE: "Modeling and Correcting Systematic Errors in the Weak Gravitational Lensing Calibration" of Galaxy Cluster Masses", 05/2014-04/2017, PI, \$ 265,000

NASA: "ARCLETS for WFIRST", 03/2015-04/2018, PI, \$ 60,130

NASA Rhode Island Space Grant: "Support for an Exhibit at the Roger Williams Park Museum", 09/13-01/14, \$36,000

NSF: "GK-12: Physical Processes in the Environment" , 06/2007-05/2013, senior investigator, \$3,004,000

NASA Rhode Island Space Grant, "Weak Lensing Studies at High Source Density", 09/01/2011-08/31/2012, PI, \$80,812

NSF: AST-0708433: "Testing Gravitational Lensing as a Tool for Astrophysics and Cosmology" 09/2007-08/2011, PI, \$464,950

DOE: "Destiny, the Dark Energy Space Telescope, 09/2007-03/2009, co-I/subaward, \$35,001

NSF: AST-0134753 "PECASE: Measuring Cosmology and the Evolution of Structure via Gravitational Lensing", 09/2002-08/2007, PI, \$589,070

NASA: "Chandra Observations of the DLS Shear-Selected Cluster Survey", 03/2005-03/2006, co-I/subaward, subaward amount \$12,912

NASA: "XMM-Newton Observations of the DLS Shear-Selected Cluster Survey", 08/2003-08/2004, co-I/subaward, subaward amount \$5,404

## 7. Service:

### **Department Service:**

Astronomy Coordinator, 2000-2018,2019-

Colloquium Committee, 2001-2003

Chair Advising Committee, 2002-2004

Qualifying Exam Committee, 2002-2004, 2010, 2014

Department Computer Committee, 2004-2009, 2010-2015, 2019-

Honors Coordinator 2005-2008, 2010-2011

Curriculum Committee 2005-2009, 2011-2013, 2015

Undergraduate Concentration Advisor 2007-2010, 2016-

Chair, Theoretical Astrophysics Faculty Search Committee 2007-2008

Graduate Admissions Committee 2012, 2015-2016

Faculty Search Committee, Astrophysics/Cosmology, 2014-2015

Faculty Search Committee, High Energy Theory, 2014-2015

Chair, Physics Department DDIAP Preparation Committee, 2016

member, Diversity and Inclusion Committee, 2016-2019, 2022-

Faculty Search Committee, Experimental Particle Physics, 2022-2023

Associate Director, Center for the Fundamental Physics of the Universe, 2022-2023

### **University Service:**

FACC, 2001-2003

Computing Advisory Board 2004-2007



Freshman Advisor 2004-

Sophomore Advisor 2004-

Acting Ladd Observatory Director, April 2004

Committee on the Status of Women, 2006-2008

Search Committee for VP for Computing/CIO, 2006-2007

Subcommittee on Research Computing, 2008-2010

Brown Science Center Advisory Board, 2008-2018

Search Committee for E-Science Librarian, 2011

Vice-Chair, Library Advisory Board, 2012-2014

Ladd Observatory Advisory Committee, 2011-

CCV Advisory Committee, 2012-2016

Committee on Medical Faculty Appointments, 2015-2018

NEASC Reaccreditation Committee, 2016-2018

University Safety Committee 2020-2023

TPAC, 2018-2021

Faculty Advising Fellow 2018-2021

Faculty Executive Committee 2021-

Assistant Director, NASA Rhode Island Space Grant Consortium, 2021-

**Professional Service:**

WIYN Queue Time Allocation Committee, 1998-1999

LSST Science Planning Committee, 2000-2001

NOAO Time Allocation Committee, 2003-2006

NSF Panel Reviewer 2002, 2006, 2007, 2008, 2009, 2014, 2015, 2019

NSF External Reviewer, 2003,2004,2005,2007,2010,2020

DOE External Reviewer, 2008,2009,2016,2020

FONDECYT (Chilean NSF) Reviewer, 2006

European Research Council, External Reviewer, 2015,2017,2018

National Science Foundation of Belgium, External Reviewer, 2014-2015, 2020

NSF Astronomy Committee of Visitors, 2005

NOAO Director's Advisory Panel, 2006

NASA SPITZER Time Allocation Committee, 2006

NOAO User's Committee, 2006-2011

WIYN Telescope ODI Science Working Group, 2006-2014

NSF/DOE Joint Review Panel for the DES mission, 2007-2008,2010,2012,2013

ODI Systems Software Review, 2008

Chair, ODI Software Pipeline Requirements Committee, 2009

Dark Energy Survey Software Pipeline Review, 2010

Non-Advocate Review of DOE/NSF BigBoss Project, 2010

Chair, Directors' Review of Dark Energy Survey, 2011

DOE Review of the BigBOSS Project, 2011, 2012

NASA CHANDRA Time Allocation Committee, 2013

DOE Review of the National Laboratory Cosmic Frontier Initiatives, 2013

NSF Representative, Thirty Meter Telescope Science Advisory Committee, 2013-

DOE CD-1, CD-2, and CD-3 Review of the DESI Project, 2014-2019

Convener, TMT International Science Definition Team for Cosmology, 2017-

Coordinator, TMT International Science Definition Teams, 2021-

Convener, US ELT Key Science Projects Cosmology Team, 2018-2019

Member, Tri-Agency Astronomy and Astrophysics Advisory Committee, 2018-2021

Member, National Academies Committee on Astronomy and Astrophysics, 2022

## 8. Honors:

Departmental Honors, high honors in Astronomy/Physics, Haverford, May 1989

NSF CAREER award, 2002-2007

2002 Presidential Early Career Award in Science Engineering (PECASE) (awarded 2004)

Brown University Undergraduate Research Mentoring Award, August 2018

## 9. Teaching (2018-2022):

PHYS 0040: Spring 2018 (222 completed), Spring 2019 (249 completed)

PHYS 1250: Spring 2020 (17 enrolled), Spring 2022 (10 enrolled)

PHYS 1270: Fall 2019 (23 enrolled)

PHYS 1280: Fall 2018 (28 enrolled)

PHYS 0270: Fall 2021 (33 enrolled), Fall 2022 (28 enrolled)

PHYS 2280: Spring 2021 (12 enrolled)

Undergraduate Theses Supervised

Miguel Daal, Jennifer Gaskins, Albert Siryaporn (2002)

Dylan Spaulding (Berkeley), Christopher Mendillo, Rohit Hegde (2005)

Stefan Janiszewski (2007)  
Alexander Cerjan, Amandeep Gill, Nik Logan, Amy Lowitz,  
Teodor Moldovan, Ruslan Skomorohov (2009)  
Ariella Kirsch (2010)  
Daniel Munger, Erik Stayton (2011)  
Kate Alexander, Clarence Huynh (2012)  
Emmet Golden-Marx, Jesse Golden-Marx, Geoffrey Sedor, Cameron Hill,  
Austin Pfundheller (2013)  
Emily Gilbert, Andrew Armstrong (2014)  
Alexander Moskowitz, Sean Pike, Scott Underriner, Christopher Bonadonna  
Samantha Dallas, Soumya Ghosh, Kate Storey-Fisher (2016)  
Sarah Blunt, Alvaro Zamora, Laurent Remillard, Carl Romines, Evan Harris (2017)  
Jack Butler, Emily Yaruss, Joe Fichera, Cory Greer (2018)  
Nick Conroy, Tyco Mera Evans, Claire Hawkins, Andrea Minot, Katie Vasquez (2020)  
Stellan Bechtold, Quentin Edens, Aaron Jennis, Natalie Rugg, Leah Zuckerman (2021)  
Duncan Crane, Chace Hayhurst, Isabel Horst, Edgar Villegas (2022)

Graduate Students Supervised:

Phd Students:

Wessyl Kelly (2000-2003,2006-2010, PhD 2010), Jeff Kubo (2001-2006, PhD 2006),  
Hossein Khiabani (2002-2007, PhD 2007), Van Anh Dao (2008-2013),  
Paul Huwe (2008-2013),PhD 2013, Richard Cook (2008-2012, PhD 2012),  
Ryan Michney (2010-2015),PhD 2015, Jacqueline McCleary (2012-2017), PHD 2017  
Robert Liu (2014-2020),PhD 2020, Madeleine Zaleski (2016-2017), Shenming Fu (2016-2021),PhD 2021  
Mingbin Leng (2016-2018), Zacharias Escalante (2021-) Anthony Engleert (2022-),  
Soren Helhoski (2022-), Jessica Nelson (2022-)

Masters Students

Mengxin Du (2018-2019), Patchara Wongsutthikoson (2018-2019), Tianqi Tang (2018-2019)  
Forest Mathieu (2018-2020), oungik Kim (2022-), Rahul Shinde (2022-)

Advising:

Freshman advising: 5 students 2004-2005, 6 students 2005-2006 and 2006-2007,  
5 students 2007-2008, 6 students 2008-2009, 6 Students 2009-2010, 5 students in 2010-2011  
5 in 2011-2012, 6 students in 2012-2013, 6 students 2013-2014, 6 students 2014-2015  
5 students in 2015-2016, 7 students 2016-2017, 5 students 2017-2018, 5 students 2018-2019  
5 students in 2019-2020, 5 students in 2020-2021

Sophomore advising: 2 students 2004-2005 and 2005-2006, 4 students 2006-2007, 2007-2008,  
2008-2009, 6 students 2009-2010, 2010-2011 and 2011-2012, 5 students in 2012-2013,  
4 students 2013-2014, 5 students 2014-2015, 5 students 2015-2016, 5 students 2016-2017,

6 students 2017-2018, 7 students 2017-2018, 6 students in 2019-2020, 5 students in 2020-2021  
1 student in 2021-2022, 1 student in 2022-2023

**10. Date Prepared:**

January 29, 2023