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Education

1999 Ph.D., Astronomy, Harvard University
1996 A.M., Astronomy, Harvard University
1994 B.S., Physics and Mathematics, California Institute of Technology

Fellowships and Awards

2001-2004 Hubble Fellowship, University of Arizona
1999-2001 National Research Council Canada Research Associateship
1997-1998 Harvard Merit Fellowship
1994-1997 National Science Foundation Graduate Fellowship, Harvard University
1992-1994 Carnation Merit Scholar, California Institute of Technology
1991-1994 Summer Undergraduate Research Fellow, California Institute of Technology
1990-1991 Robert A. Millikan Scholar, California Institute of Technology

Research Interests

Galaxy evolution at low and high redshift; galaxy interactions and mergers; star formation in the earliest galaxies; formation of galactic bulges; galaxy pairs and compact groups; the relationship between star formation and galactic environment; galactic dwarf satellite populations; systematic comparison of low- and high-redshift observations; developing the next generation of large optical/infrared telescopes.

Professional Experience

09/2004 – present Assistant Professor, University of California, Irvine
09/2001 – 08/2004 Hubble Fellow, University of Arizona
08/1999 – 08/2001 Research Associate, Dominion Astrophysical Observatory,
Herzberg Institute of Astrophysics, Dr. James E. Hesser
07/1994 – 07/1999 Research Assistant, Harvard University
Advisor: Dr. Margaret J. Geller
02/1996 – 05/1996 Teaching Fellow, Harvard, Astronomy 1, Prof. Ramesh Narayan
09/1995 – 12/1995 Teaching Fellow, Harvard, Astronomy 14, Dr. Margaret Geller
01/1994 – 06/1994 Research Assistant, Caltech, Prof. S. George Djorgovski
06/1993 – 08/1993 Research Fellow, Caltech, Radio Astronomy, Dr. Gregory B. Taylor
09/1992 – 06/1993 Teaching Assistant, Caltech, Freshman Math, Prof. F. Brock Fuller
06/1992 – 08/1992 Research Fellow, Caltech, Radio Astronomy, Dr. Stephen Unwin
06/1991 – 08/1991 Research Fellow, Caltech, High-Energy Physics, Prof. David Hitlin

Professional Activities

- 09/2009 – present Member, Gemini Board, the governance board for the US National Gemini twin 8-meter telescopes.
- 04/2009 – present Member, Astro2010 Panel on Optical and Infrared Astronomy from the Ground. The panel recommends priorities for ground-based OIR facilities to the Astro2010 survey committee.
- 08/2009 – present Member, Governance Board, Southern California Center for Galaxy Evolution.
- 05/2008 – present Project Scientist, InfraRed Imaging Spectrograph (IRIS) for the Thirty Meter Telescope.
- 09/2008 – present Member, National Optical Astronomy Observatory Program Review Panel.
- 09/2008 – present Member, American Astronomical Society’s Committee on Employment.
- 01/2007 – 07/2007 Chair, Scientific and Local Organizing Committees of *Science in the Era of TMT*, an open workshop sponsored by the Thirty Meter Telescope Project (Irvine: July 23-25, 2007).
- 03/2006 – present Member, Science Advisory Committee for the Thirty Meter Telescope project.
- 05/2005 – present Member, Executive Board, the Center for Cosmology at the University of California, Irvine.
- 05/2005 Co-organizer/editor (with A. Cooray), *First Light and Reionization: Theoretical Study and Experimental Detection of the First Luminous Sources in the Universe*, a workshop through UC Irvine’s Center for Cosmology.
- 01/2005 – present Member, Science Team for *F2T2*, a tunable filter being designed for the *FLAMINGOS2* instrument under construction for the Gemini telescope (P.I. Roberto Abraham).
- 05/2001 – present Member, Time Allocation Committee for various observatories, including the *GALEX* mission, the *Hubble Space Telescope*, and the *Spitzer Space Telescope*.
- 07/2002 – present Member, Science Working Group for the Giant Segmented Mirror Telescope, created to advise the National Science Foundation about federal investment in an extremely large telescope.
(<http://www.nsf-gsmt-swg.noao.edu/>)
- 04/2005 – 09/2005 Member, Science Team for *TiPi: A Wide-field, partially AO-compensated, Multi-Object, Near-IR spectrograph for TMT*, an instrument under study for the Thirty Meter Telescope project (P.I. Richard Ellis).
- 01/2005 – 11/2006 Member, University of California Observatories Advisory Committee.
- 07/2003 – 08/2004 Participant in the Magellan consortium’s Giant Magellan Telescope Science Working Group.
- 06/2003 Participant in the “Formation and Evolution of Distant Galaxies and the High Redshift Universe” panel at the Gemini Future Instrumentation Workshop.
- 06/2000 – 08/2001 Participant in the science case studies for the Canadian initiative to develop a 20- to 30-meter telescope.
- 01/2000 – present Colloquia and scientific talks at several institutions, including Arizona State University, the University of Arizona, the Herzberg Institute of Astrophysics, the University of Toronto, the University of Washington, the University of British Columbia, The Ohio State University, Space Telescope Science Institute, Cornell University, Columbia University, the University of Texas at Austin, Harvard University, the University of Virginia, the University of California at Santa Cruz, the University of Chicago, the Observatories of the Carnegie Institution of Washington, the University of California, Los Angeles, the University of California, San Diego, California Institute of Technology, the University of California, Davis, the University of California, Riverside.

Education and Outreach Activities

- 09/2004 – present Instructor, **Physics 125 AB**, *Math Physics*, **Physics 20A**, *Introductory Astronomy*, **Physics 241C**, *Extragalactic Astrophysics*, **Physics 7D**, *Electricity & Magnetism*, UC Irvine.
- 07/2005 – present Instructor, *COSMOS* program for talented California High School Students.
- 01/2005 – present Graduate Admissions Committee, Dept. of Physics and Astronomy, UC Irvine.
- 08/2000 – present Presentations to general and student audiences at the University of Arizona, the Royal British Columbia Museum, Pearson College (British Columbia), Biosphere 2 (Arizona), the Laguna Woods Astronomy Club, the Lifelong Learning Institute (Irvine), the Orange County Astronomers, and the Institute of Electrical and Electronics Engineers Orange County Computer Society.
- 01/2005 – 09/2008 Faculty Advisor, *Society of Physics Students*, UC Irvine.
- 06/2000 – 08/2001 Organized a popular Introductory Astronomy Seminar Series at the Herzberg Institute of Astrophysics; the series was widely attended by summer students and the engineering and support staff.

Publications

Papers

- 2009 Berrier, H. D., Barton, E. J., Bullock, J. S., Berrier, J. C., Zentner, A. R., & Wechsler, R. H. ApJ, submitted
Counts-in-Cylinders as a Test of Galaxy Formation Models and the Excess of Isolated Galaxies
- 2009 Tollerud, E. J., Barton, E. J., van Zee, L., & Cooke, J., ApJ, submitted
The WHIQII Survey: Metallicities and Spectroscopic Properties of Luminous Compact Blue Galaxies
- 2009 Barton, E. J., & Cooke, J. AJ, submitted
Mg II Absorption Characteristics of a Volume-Limited Sample of Galaxies at $z \sim 0.1$
- 2009 Cooke, J., Sullivan, M., Barton, E. J., Bullock, J. S., Carlberg, R. G., Gal-Yam, A., & Tollerud, E., Nature, 460, 273
Type II_n supernovae at $z \sim 2$ from archival data
- 2009 Hicken, M., et al. ApJ, 700, 331
CfA3: 185 Type Ia Supernova Light Curves from the CfA
- 2009 Stewart, K. R., Bullock, J. S., Barton, E. J., & Wechsler, R. H. ApJ, 702, 1005
Galaxy Mergers and Dark Matter Halo Mergers in LCDM: Mass, Redshift, and Mass-Ratio Dependence
- 2009 Berrier, J. C., Stewart, K. R., Bullock, J. S., Purcell, C. W., Barton, E. J., & Wechsler, R. H. ApJ, 690, 1292
The Assembly of Galaxy Clusters
- 2008 Cooke, J., Barton, E. J., Bullock, J. S., Stewart, K. R., & Wolfe, A. M., ApJ Letters, 681, L57
A Candidate Brightest Protocluster Galaxy at $z = 3.03$
- 2007 Barton, E. J., Arnold, J. A., Zentner, A. R., Bullock, J. S., & Wechsler, R. H., ApJ, 671, 1538
Isolating Triggered Star Formation
- 2007 Trimble, V., & Barton, E. J., PASP, 119, 1208
Science in the Era of TMT
- 2006 Geller, M. J., Kenyon, S. J., Barton, E. J., Jarrett, T. H., & Kewley, L. J., AJ, 132, 2243
Infrared Properties of Close Pairs of Galaxies

- 2006 Berrier, J. C., Bullock, J. S., Barton, E. J., Guenther, H. D., Zentner, A. R., & Wechsler, R. H., ApJ, 652, 56
Close Galaxy Counts as a Probe of Hierarchical Structure Formation
- 2006 Barton, E. J., van Zee, L., & Bershad, M. A., ApJ, 649, 129
A Search for Low Surface Brightness Structure around Compact Narrow Emission-line Galaxies
- 2006 Freedman Woods, D., Geller, M. J., & Barton, E. J., AJ, 132, 197
Tidally Triggered Star Formation in Close Pairs of Galaxies: Major and Minor Interactions
- 2006 Yang, Y., Zabludoff, A. I., Davé, R., Eisenstein, D. J., Pinto, P. A., Katz, N., Weinberg, D. H., & Barton, E. J. ApJ, 640, 539
Probing Galaxy Formation with He II Cooling Lines
- 2006 Kewley, L. J., Geller, M. J., & Barton, E. J., AJ, 131, 2004
Metallicity and Nuclear Star Formation in Nearby Galaxy Pairs: Evidence for Tidally Induced Gas Flows
- 2006 Peng, C. Y., Impey, C. D., Ho, L. C., Barton, E. J., & Rix, H.-W., ApJ, 640, 114
Probing the Coevolution of Supermassive Black Holes and Quasar Host Galaxies
- 2006 Jha, S., et al. (83 co-authors) AJ, 131, 527
UBVRI Light Curves of 44 Type Ia Supernovae
- 2004 van Zee, L., Barton, E. J., & Skillman, E. D. AJ, 128, 2797
Stellar Populations of Dwarf Elliptical Galaxies: UBVRI Photometry of Dwarf Galaxies in the Virgo Cluster
- 2004 Kannappan, S. J. & Barton, E. J., AJ, 127, 2694
Tools for Identifying Spurious Luminosity Offsets in Tully-Fisher Studies: Application at Low Redshift and Implications for High Redshift
- 2004 Barton, E. J., Davé, R., Smith, J.-D. T., Papovich, C., Hernquist, L., & Springel, V., ApJ Letters, 604, 1
Searching for Star Formation Beyond Reionization
- 2004 Kannappan, S. J., Jansen, R. A., & Barton, E. J., AJ, 127, 1371
Forming Young Bulges Within Existing Disks: Statistical Evidence for External Drivers
- 2003 Barton Gillespie, E., Geller, M. J., & Kenyon, S. J., ApJ, 582, 668
Tidally-Triggered Star Formation in Close Pairs of Galaxies 2: Constraints on Burst Strengths and Ages
- 2001 Barton, E. J. & van Zee, L., ApJ, 550, L35
Possible Local Spiral Counterparts to Compact Blue Galaxies at Intermediate Redshift
- 2001 Barton, E. J., Geller, M. J., Bromley, B. C., van Zee, L., & Kenyon, S. J., AJ, 121, 625
The Tully-Fisher Relation as a Measure of Luminosity Evolution: A Low Redshift Baseline for Evolving Galaxies
- 2000 Barton, E. J., Geller, M. J., & Kenyon, S. J., ApJ, 530, 660
Tidally-Triggered Star Formation in Close Pairs of Galaxies
- 2000 Barton, E. J., Kannappan, S. J., Kurtz, M. J., & Geller, M. J., PASP, 112, 367
Rotation Curve Measurement using Cross-Correlation
- 1999 Jha, S., Garnavich, P. M., Kirshner, R. P., Challis, P., Soderberg, A. M., Macri, L. M., Huchra, J. P., Barmby, P., Barton, E. J., et al., ApJS, 125, 73
The Type IA Supernova 1998BU in M96 and the Hubble Constant
- 1999 Barton, E. J., Bromley, B. C., & Geller, M. J., ApJ Letters, 511, 25
Kinematic Effects of Tidal Interaction on Galaxy Rotation Curves
- 1998 Barton, E. J., de Carvalho, R. R., & Geller, M. J., AJ, 116, 1573
Environments of Redshift Survey Compact Groups
- 1996 Barton, E., Geller, M. J., Ramella, M., Marzke, R. O., & da Costa, L. N., AJ, 112, 871
Compact Group Selection from Redshift Surveys

- 1994 Taylor, G. B., Barton, E. J., & Ge, J., AJ, 107, 1942
Searching for Cluster Magnetic Fields in the Cooling Flows of 0745-191, A2029 and A4059
- 1994 Unwin, S. C., Wehrle, A. E., Urry, C. M., Gilmore, D. M., Barton, E. J.,
 Kjerulf, B. C., Zensus, J. A., ApJ, 432, 102
Inverse Compton X-ray Emission from the Superluminal Quasar 3C 345

Technical Papers and Presentations

- 2008 Mentuch, E., Scott, A., Abraham, R., Barton, E., et al., SPIE, 7014, 76
Optical-mechanical operation of the F2T2 filter: a tunable filter designed to search for First Light
- 2006 Scott, A., Javed, M., Abraham, R., Eikenberry, S., Barton, E., et al., SPIE, 6269, 176
Performance of the F2T2 Tandem Tunable Etalon
- 2005 Report prepared for the Astronomy Division of the NSF by the GSMT Science Working Group
A Giant Segmented Mirror Telescope: Synergy with the James Webb Space Telescope
- 2003 Report prepared for the Astronomy Division of the NSF by the GSMT Science Working Group
Frontier Science Enabled by a Giant Segmented Mirror Telescope
- 2003 Barton Gillespie, E., et al., presentation to the NSF Giant Segmented Mirror Telescope Science Working Group
The Birth and Assembly of Galaxies: the Case for a Large Ground-based Telescope
- 2002 Barton Gillespie, E., et al., presentation to the NSF Giant Segmented Mirror Telescope Science Working Group
The Galaxy Evolution Science Case for a Large Ground-based Telescope
- 2000 Report on the Next Generation CFHT
Renewing the Canada-France-Hawaii Telescope: A Wide-Field, High-Angular Resolution Telescope
- 2000 Barton Gillespie, E., et al. special appendix of the Canadian report *Renewing the Canada-France-Hawaii Telescope: A Wide-Field, High-Angular Resolution Telescope*, by Carlberg, R., et al.
Appendix: The Science Case and Instrumentation for Extra-large Telescopes

Selected Conference Abstracts

- 2009 Cooke, J., Sullivan, M., & Barton, E. J. American Institute of Physics Conference Series, 1111, 547
Detection of $z \sim 2$ Type II_n Supernovae
- 2008 Cooke, J., Barton, E. J., Bullock, J. S., Wolfe, A. M., BAAS, 39, 775
A Candidate Proto-Cluster Core Galaxy at $z = 3.03$ Vol. 39, p.775
- 2006 Arnold, J. A., & Barton, E. J., BAAS, 38, 1191
Analysis of Star Formation in Closely Interacting Galaxy Pairs
- 2006 Barton, E. J., Zentner, A. R., Bullock, J. S., & Wechsler, R. H., BAAS, 38,.956
Understanding Galaxies in Pairs
- 2006 Barton, E. J., Bullock, J. S., Cooray, A., & Kaplinghat, M., NewAR, 50, 1
First Light and Reionization: A Conference Summary
- 2004 Freedman Woods, D., Geller, M. J., & Barton, E., BAAS, 37
Tidally Triggered Star Formation in Close Pairs of Galaxies, III: Major and Minor Interactions
- 2003 Barton Gillespie, E., & van Zee, L., proceedings in *The Mass of Galaxies at Low and High Redshift*, eds. R. Bender and A. Renzini, p. 226
The Masses of Distant Galaxies from Optical Emission Line Widths
- 2002 Barton Gillespie, E., van Zee, L., & Bershadsky, M. A., BAAS, 34, 679

- Searching for Structure around Luminous Compact Blue Galaxies*
- 2002 Kannappan, S. J., Barton Gillespie, E., Fabricant, D. G., Franx, M., & Vogt, N. P., to appear in *Galaxy Evolution: Theory and Observations*, eds. Avila-Reese, Firmani, Frenk, and Allen
Interpreting Offsets from the Tully-Fisher Relation
- 2001 Barton, E. J., invited talk, proceedings in *Galaxy Disks and Disk Galaxies*, eds. J. G. Funes, S. J. and E. M. Corsini, p. 459
Interaction-Triggered Evolution of Galaxies in Pairs
- 2001 Geller, M. J., Barton, E. J., & Carter, B. J. proceedings in *The Starry Universe: The Cecilia Payne-Gaposchkin Century*, eds. A. G. D. Philip and R. A. Koopman, p. 99
Star Formation in the Nearby Universe
- 2000 Barton, E. J., poster presentation at *CFHT21, Celebrating 21 Years of CFHT Observations, Measuring the Masses of Distant Galaxies with Extremely Large Telescopes*
- 2000 Oke, J. B. & Barton, E. J., poster presentation at *CFHT21, Celebrating 21 Years of CFHT Observations, Probing the Evolutionary History of the Universe with Extremely Large Telescopes*
- 1999 Barton, E. J., Geller, M. J., & Kenyon, S. J., BAAS, 31, 1404
Tidally-Triggered Star Formation in Close Pairs of Galaxies
- 1999 Barton, E., Bromley, B. C., & Geller, M. J., proceedings in *Galaxy Dynamics*, eds. M. Valluri and J. A. Sellwood, p. 459
Kinematic Effects of Tidal Interaction on Galaxy Rotation Curves
- 1998 Barton, E. J., Bromley, B. C., & Geller, M. J., BAAS, 30, 1406
Kinematic Effects of Tidal Interaction on Galaxy Rotation Curves
- 1994 Djorgovski, S., de Carvalho, R., Schombert, J., Weir, N., Smith, J., Barton, E., Fayyad, U., & Roden, J., BAAS, 26, 915
Cataloging and Exploration of the Digitized POSS-II
- 1993 Unwin, S. C., Wehrle, A. E., Urry, C. M., Barton, E. J., Kjerulf, B. C., Zensus, J. A., & Rabaca, C., BAAS, 25, 791
Inverse-Compton X-rays from the Quasar 3C345

IAU Circulars

- 1998 Castro-Tirado, A., Gorosabel, J., Walton, N., Garcia, M. R., McClintock, J. E., Barton, E., & Callanan, P., IAUC 6931
XTE J2012+381
- 1998 Marshall, F. E., Strohmayer, T., Garcia, M. R., McClintock, J. E., Berlind, P., Barton, E., & Callanan, P., IAUC 6922
XTE J2012+381
- 1998 Wei, J.-Y., Li, W.-D., Garnavich, P., Jha, S., Kirshner, R., Berlind, P., Calkins, M., & Barton, E., IAUC 6858
Supernova 1998ab in NGC 4704
- 1998 Garcia, M. R., Berlind, P., Barton, E., McClintock, J. E., Callanan, P. J., McCarthy, J., IAUC 6865
XTE J0421+560 and CI Camelopardalis
- 1996 Garnavich, P., Berlind, P., Pantoja, C., Barton, E., IAUC 6503
Supernova 1996bt in Anonymous Galaxy
- 1996 Johnson, W., Benetti, S., Turatto, M., Moehler, S., Garnavich, P., Riess, A., Kirshner, R., Jansen, R., Barton, E., IAUC 6401
Supernova 1996Z in NGC 2935
- 1996 Johnson, W., Garnavich, P., Riess, A., Kirshner, R., Barton, E., IAUC 6403

Supernova 1996aa in NGC 5557

1996 Suntzeff, N. B., Ruiz, M.-T., Depoy, D., Wang, L., Wheeler, J. C., Benetti, S., Patat, F., Beuing, J., Schmidt, B., Freeman, K., Garnavich, P., Kirshner, R., & Barton, E., IAUC 6381

Supernova 1996aa in NGC 5557

1995 Lovas, M., Garnavich, P., Challis, P., Kirshner, R., Goodman, A., Barton, E., IAUC 6262

Supernova 1995am in Anonymous Galaxy