

David B Fisher

Curriculum Vitae

- Contact** e-mail: dfisher@swin.edu.au
Web: <http://astro.umd.edu/~dbfisher/>
- Current** Postdoctoral Scientists (2013-present)
Swinburne University of Technology
Centre for Astrophysics & Supercomputing
- Previous** CARMA Postdoctoral Fellow (2010-present)
University of Maryland
Joint Space Science Institute Scientist
- Education** University of Texas at Austin
PhD (2010)
Thesis Advisor: John Kormendy
Thesis Topic: *Star Formation and Structure of Bulges in Nearby Disk Galaxies*
- University of Texas at Austin,
B.S. Physics (2004)
- Würzburg Universität in Würzburg, Germany
Summer Abroad Program (2002)
- Awards, Press, & Grants**
- Primary Investigator Herschel Space Observatory & Grant (2011)
 - Paper highlighted in *Nature* (16 July 2009)
 - David Allen Benfield Memorial Scholarship (2008)
 - Featured and Interviewed in *Daily Texan* Newspaper Article (8 October 2008)
Interviewed via telephone for a half page article in newspaper.
 - Featured on 4 National Public Radio programs (15-18 September 2008)
My research was chosen to be outlined on 4 daily segments on NPR.
 - Science Magazine 'Editors Choice Award' (10 August 2007)
 - Primary Investigator Hubble Space Telescope Observations & Grant (2007)
Awarded research funds and observations for targeted campaign of 'Bulge Ages in Nearby Galaxies.'
 - AAS Press Release 'Bulges Alter Theories of Galaxy Evolution' (2007)
At suggestion of AAS personnel, based on my abstract, I wrote and submitted a press release at the January 2007 meeting.
 - 'Best 2nd Year Project and Defense' U. Texas Astronomy Dept. (2006)
 - Primary Investigator Spitzer Space Telescope Observations & Grant (2006)
Awarded research funds and observations for targeted campaign of 'Bulge Growth in Nearby Galaxies.' Results published in Fisher et al. (2009) and follow up paper Fisher & Drory (2009 submitted)

Positions

- CARMA Postdoctoral Fellow, U. of Maryland (2010-2013)
- Graduate Researcher, U. Texas (2006 – 2010)
Self funded thesis research on bulges in nearby disk galaxies.
- Teaching Assistant, U. Texas (Fall 2005)
Led discussion sections for introductory astronomy course.
- Graduate Researcher, U. Texas (Spring – Summer 2005)
Measured surface photometry on elliptical galaxies for J. Kormendy
- Teaching Assistant, U. Texas (Fall 2004)
Led discussion sections for astronomy course for journalism students, “Astronomy in the News”

Observing Facilities

- Hubble Space Telescope
I planned and organized targeted observations, as well as extensive archive use
- Spitzer Space Telescope
I planned and organized targeted observations, as well as extensive archive use.
- Herschel Space Observatory
I planned and organized targeted observations on my own program. As well I carried out image analysis to the KINGFISH photometric data.
- CARMA mm array
Managed observing program, served as site observer for 3 weeks a year.
- GALEX
Familiarity with data taken from archive
- McDonald Observatory 0.8 m
~100 nights photometric observing campaign
- McDonald Observatory 2.7 m
Made observations using new instrument, VIRUS-P IFU
- Hobby Eberly Telescope 9.8 m
I planned and organized targeted queue scheduled observing campaign

Outreach & Service

- U.S. National Science Foundation funding review panel (2013)
- Twice Member of CARMA Time Allocation committee
- Maintain Pointing of CARMA Telescopes (2010-2013) –
Check telescope pointing status daily. Participate in weekly teleconferences. Occasionally generate new models for telescope pointing.
- Organized group seminar at U of Maryland
- Twice SOC member for CARMA Conference (Feb. 2011 and July 2013)
- Served as Referee for journal articles in *ApJ*, *ApJ Letters*, *MNRAS* and *A&A*
- CARMA Open House (June 11, 2011).
Served as tour guide describing CARMA telescope operations and observer experience to public.
- Volunteer Wikipedian for astronomy related content
- Member of ‘Science Advisory Council’ in for daily podcast ‘Too Beautiful To Live’ (2010) *When relevant I contributed descriptions of popular scientific topics (e.g. LHC, comets impacting Jupiter).*
- Participated in Script writing of 4 NPR *Stardate* programs (15-18 September 2008)
I participated in interview process as well as editing the final manuscript for 4 programs (roughly 5 minutes each) describing my research.

Collaborations

DYNAMO collaboration member

Group studying low redshift analogues of high redshift clumpy galaxies.

VENGA collaboration member

This group is studying optical IFU data of 30 disk galaxies.

MANGA collaboration member

“After Sloan 3” program studying optical IFU data of 10,000 galaxies.

KINGFISH collaboration member

A group studying a representative set of galaxies with Herschel data

David B. Fisher - Publication List

Refereed Journal Articles:

- **Fisher, D.B.**, Bolatto, A.D., Herrera-Camus, R., Draine, B.T., Donaldson, J., Walter, F., Sandstrom, K.M., Leroy, A.K., Cannon, J., Gordon, K. (2013) *Nature Accepted* “Dust May Be More Rare Than Expected in Metal Poor Galaxies”
- Wong, T., Xue, R., Bolatto, A.D., Leroy, A.K., Blitz, L., Rosolowsky, E., Bigiel, F., **Fisher, D.B.**, Ott, J., Rahman, N., Vogel, S.N., Walter, F. (2013) ApJ 777 L4 “CARMA Survey toward Infrared-bright Nearby Galaxies (STING). III. The Dependence of Atomic and Molecular Gas Surface Densities on Galaxy Properties”
- Bolatto, A.D., Warren, S.R., Leroy, A.K., Walter, F., Veilleux, S., Ostriker, E.C., Ott, J., Zwaan, M., **Fisher, D.B.**, Weiss, A., Rosolowsky, E., Hodge, J, (2013) *Nature* 499, Volume 7459 pp. 450-453 “Suppression of star formation in the galaxy NGC 253 by a starburst-driven molecular wind”
- Blanc, G.A., Weinzirl, T., Song, M., Heiderman, A, Gebhardt, K., Jogee, S., Evans II, N.J., van den Bosch, R.C.E., Luo, R., Drory, N., Fabricius, M., **Fisher D.B.**, Hao. L., Kaplan K., Marinova, I., Vutisalchavakul, N., Yoachim, P. (2013) AJ 145 138 “The VIRUS-P Exploration of Nearby Galaxies (VENGA): Survey Design, Data Processing, and Spectral Analysis Methods”
- **Fisher, D.B.**, Bolatto, A., Drory, N., Combes, F., Blitz, L., Wong., T. (2013) ApJ 764 174 “The Molecular Gas Density in Galaxy Centers and How It Connects to Bulges”
- Blanc, G.A. Schrubba, A. Evans II, N.J., Jogee, S., Bolatto, A., Leroy, A.K., Song, N., van den Bosch, R., Drory, N. Fabricius, M., **Fisher, D.B.**, Gebhardt, K., Heiderman, A., Marinova, I., Vogel, S. Weinzirl, T. (2013) ApJ 764 117 “The VIRUS-P Exploration of Nearby Galaxies (VENGA): The Xco Gradient in NGC 628”
- Fabricius, M.H., Saglia, R.P., **Fisher, D.B.**, Drory, N., Bender, R., Hopp, U., (2012) ApJ 754 67 “Kinematic Signatures of Bulges Correlate with Bulge Morphologies and Sérsic Index”
- Herrera-Camus, R., **Fisher, D. B.**, Bolatto, A. D., Leroy, A.K.; Walter, F., Gordon, K.D., Roman-Duval, J; Donaldson, J., Melendez, M., Cannon, J.M. (2012) ApJ 752 112 “Dust-to-gas Ratio in the Extremely Metal-poor Galaxy I Zw 18”
- Rahman, N; Bolatto, A.D., Xue, R., Wong, T, Leroy, A.K., Walter, F, Bigiel, F. Rosolowsky, E., **Fisher, D.B.**, Vogel, S.N., Blitz, L., West, A.A., Ott, J. (2012) ApJ 745 183 “CARMA Survey Toward Infrared-bright Nearby Galaxies (STING) II: Molecular Gas Star Formation Law and Depletion Time Across the Blue Sequence”
- **Fisher, D.B.**; Drory, N (2011) ApJ 733, L47 “Demographics of Bulge Types within 11 Mpc and Implications for Galaxy Evolution”
- Jardel, J.R.; Gebhardt, K.; Shen, J.; **Fisher, D.B.**; Kormendy, J.; Kinzler, J.;

- Lauer, T.R.; Richstone, D.; Gltekin, K. (2011) ApJ 739, 21 “Orbit-based Dynamical Models of the Sombrero Galaxy (NGC 4594)”
- **Fisher, D.B.** & Drory, N (2010) ApJ 716, 942 “Bulges Of Nearby Galaxies With Spitzer: Differences in Scaling Relations and Star Formation in Pseudobulges and Classical Bulges”
 - ¹ **Fisher, D.B.**, Drory, N. & Fabricius, M. (2009) ApJ 697, 630 “Bulges Of Nearby Galaxies With Spitzer: The Growth Of Pseudobulges In Disk Galaxies And Its Connection To Outer Disks”
 - ² Kormendy, J., **Fisher, D.B.**, Cornell, M.E., & Bender, R. (2009) ApJS 182, 216 “Structure and Formation of Elliptical and Spheroidal Galaxies”
 - **Fisher, D.B.** & Drory, N. 2008 AJ, 136, 773 “The Structure of Classical Bulges and Pseudobulges: the Link Between Pseudobulges and Sérsic Index”
 - ³ Drory, N. & **Fisher, D.B.** 2007 ApJ 664, 640 “A Connection between Bulge Properties and the Bimodality of Galaxies”
 - **Fisher, D.B.** 2006 ApJ 642, L17 “Central Star Formation and PAH Profiles in Pseudobulges and Classical Bulges”
 - Kormendy, J.; Gebhardt, K; **Fisher, D.B.**; Drory, N.; Macchetto, F.D.; Sparks, W.B. 2005 AJ 129, 2636 “The Nuclear Disk in the Dwarf Elliptical Galaxy NGC 4486A”

Notable Talks & Conference Proceedings:

- **Fisher D.B.** *Invited Review* “The Connection Between Bars and Pseudobulges” Grenoble, Spain *The Role of Bars in Galaxy Evolution*
- **Fisher D.B.** *Invited Review* “Gas and Star Formation in Bulges” IAU 2012 SS3 Beijing, China *Secular Evolution of Galaxies*
- **Fisher D.B.** *Talk* “The Dichotomy of Bulges in the Infrared” IAU Symposium 2010 Oxford U.K. *Molecules in Galaxies*
- **Fisher, D.B.** & Drory, N. 2008 ASPC 386, 309 *Invited Talk*: “Distinguishing Pseudobulges And Classical Bulges” Formation and Evolution of Galaxy Disks, Sponsored by Vatican Observatory. Edited by J.G. Funes, S.J., and E. Corsini.
- Kormendy, J. & **Fisher, D. B.** 2008 ASPC 396, 297 “Secular Evolution in Disk Galaxies: Pseudobulge Growth and the Formation of Spheroidal Galaxies” Formation and

¹This paper was highlighted on National Public Radio program 'Stardate' 18 Sept 2008.

²This paper was highlighted in Nature **460**,333 (16 July 2009). This is a very highly cited paper with over 100 citations in 2011.

³This paper was highlighted in “Editors Choice” of Science Magazine (18 September 2008)

Evolution of Galaxy Disks, Sponsored by Vatican Observatory. Edited by
J.G. Funes, S.J., and E. Corsini.

- Kormendy, J. & **Fisher, D.B.** 2005 RMxAC 23, 101 “Secular Evolution in Disk Galaxies: The Growth of Pseudobulges and Problems for CDM Galaxy Formation”