

## Curriculum Vitae

## Michele A. Stark

### Contact Information

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### Current Employment

**Lecturer I** 2010–Present

The University of Michigan – Flint, Flint, Michigan

*Primary Duties:* Part-time instructor for introductory level physics and astronomy courses.

**Research Associate** 2010–Present

The University of Michigan – Flint, Flint, Michigan

*Primary Duties:* Assist part-time with astronomy research carried out within the Computer Science, Engineering, and Physics department.

### Education

***The Pennsylvania State University*** State College, Pennsylvania 1999–2005

Ph.D. in Astronomy & Astrophysics, August 2005

Area of Specialization: Stellar Astronomy, Hot Subdwarf Stars

Thesis: *The Origins of Hot Subdwarf Stars as Illuminated by Composite-Spectrum Binaries*

Advisor: Dr. Richard A. Wade

***Michigan State University*** East Lansing, Michigan 1995–1999

B.S. in Astrophysics, with high honor and distinction in the major

### Professional Memberships and Associations

American Astronomical Society — Professional Society

Astronomical Society of the Pacific — Astronomy Education

Center for Astronomy Education — Astronomy Education

### Awards, Honors, and Certifications

NASA Center for Astronomy Education Teaching Excellence Workshop (Tier 1) 2008

Pennsylvania State University Schreyer Institute for Teaching Excellence Certificate 2004

Pennsylvania State University Graduate School Teaching Certificate 2004

NASA Graduate Student Research Program Fellowship 2002–2005

Pennsylvania Space Grant Consortium Fellowship 2001–2003

Zaccheus Daniel Foundation for Astronomical Science Grant 2001, 2002, 2004

Sigma Xi Grants-in-Aid of Research 2001

Braddock Fellowship, The Pennsylvania State University 1999–2001

Michelson Interferometry Summer School 2000

Penn State Astronomy Teaching Assistant of the Year 2000

## Employment

<b>Research Associate</b>	2009–2010
Swift Gamma Ray Burst Explorer Mission, The Pennsylvania State University, State College, Pennsylvania	
<b>Associate Director</b>	2005–2009
Wyoming NASA Space Grant Consortium, University of Wyoming, Laramie, Wyoming	
<b>Post-Doctoral Research</b>	2005–2009
Dept. of Physics & Astronomy, The University of Wyoming, Laramie, Wyoming	
<b>Doctoral Research</b>	2000–2005
Thesis Advisor: Dr. Richard A. Wade Dept. of Astronomy & Astrophysics, The Pennsylvania State University, State College, Pennsylvania	
<b>Graduate Research</b>	2004
Research Advisor: Dr. Eric Feigelson Dept. of Astronomy & Astrophysics, The Pennsylvania State University, State College, Pennsylvania	
<b>ASTRO 11 Lab Manual Editor</b>	2002
Dept. of Astronomy & Astrophysics, The Pennsylvania State University, State College, Pennsylvania	
<b>Head Teaching Assistant</b>	2001–2002
Dept. of Astronomy & Astrophysics, The Pennsylvania State University, State College, Pennsylvania	
<b>Teaching Assistant</b>	1999–2002
The Pennsylvania State University, Astronomy Dept., State College, Pennsylvania	
<b>Graduate Research</b>	2000
Research Advisor: Dr. Michael Eracleous Dept. of Astronomy & Astrophysics, The Pennsylvania State University, State College, Pennsylvania	
<b>Teaching Assistant</b>	1998–1999
Michigan State University, Physics & Astronomy Dept., East Lansing, Michigan	
<b>Undergraduate Thesis Research</b>	1997–1999
Research Advisor: Dr. Horace A. Smith Physics & Astronomy Dept., Michigan State University, East Lansing, Michigan	
<b>Planetarium Assistant</b>	1996–1999
Michigan State University, Abrams Planetarium, East Lansing, Michigan	

**NSF Research Experience for Undergraduates** 1998

Research Advisor: Dr. Buell T. Jannuzi  
National Optical Astronomy Observatories, Tucson, Arizona

**NSF Research Experience for Undergraduates** 1997

Research Advisor: Dr. Horace Smith  
Physics & Astronomy Dept., Michigan State University, East Lansing, Michigan

**Formal Teaching Experience*****Physics 110 — Conceptual Physics by Inquiry Method***

The University of Michigan – Flint 2010–Present

*Course Catalog Description:* Selected topics from motion, energy, electricity, sound, and optics, presented in a laboratory setting. Useful for students who desire more preparation before taking a standard course in college physics. Material and hands-on learning methods are especially appropriate for students who plan to teach in an elementary or middle school.

***Astronomy 131 Lab — Astronomy of the Solar System (Lab only)***

The University of Michigan – Flint 2010, 2011

*Course Catalog Description:* Origin and history of the Universe and formation of the Earth and solar system. Earth's properties compared with those of other planets. Properties of light and tools astronomers use. Laboratories feature planetarium visits and activities demonstrating astronomical phenomena. Three hours lecture and two hours laboratory per week.

***Physics 145 Lab — College Physics II (Lab only)***

The University of Michigan – Flint 2010

*Course Catalog Description:* Electricity, magnetism, direct and alternating circuits, light, optical instruments, and brief introduction to atomic and nuclear phenomena. Three hours of lecture and two hours of laboratory per week.

***Astronomy 451/452 — Astronomical Techniques/Advanced Astronomy Lab***

The Pennsylvania State University 2002

I was the course and lab assistant under a faculty member lead. *Course Catalog Description:* Practical methods of modern observational astronomy, detectors, filters, instrumentation for both ground-based and space observations, and data analysis.

***Astronomy 11 — Elementary Astronomy Laboratory***

The Pennsylvania State University 1999–2001

*Course Catalog Description:* Selected experiments and explorations to illustrate major astronomical principles and techniques. Telescopes observations of planets, stars and nebulae.

**Synergistic Activities**

***Astronomy Outreach*** The University of Michigan – Flint 2010–Present

Actively participated in astronomy outreach activities carried out at UM-Flint and Longway Planetarium, including Super Science Friday, AstroNite, telescope open-houses, community observing events, and hands-on demonstrations for school and other groups.

***Astronomy Outreach*** The Pennsylvania State University 1999–2005, 2009–2010

Actively participated in astronomy outreach activities carried out at Penn State, including presenting planetarium shows, telescope open-houses, community observing events, and hands-on demonstrations for school and other groups.

**Planetarium Show Presenter** Penn State University, Astronomy Dept. 1999–2005, 2009–Present

Conducted live planetarium shows including current sky talks for the public, school groups, and other organizations in the Penn State Astronomy Department’s Planetarium.

**AstroFest/AstroNight** The Pennsylvania State University, Astronomy Dept. 2000–2004, 2009–Present

Week-long astronomy outreach event (and another single night event) including lectures, hands-on activities, demonstrations, planetarium shows, and telescope observing that coincides with the Central Pennsylvania Festival of the Arts. I assisted with various hands-on activities and served as the roof-top telescope observing coordinator several years.

**Teacher Workshops** Univ. of Wyoming, WY NASA Space Grant/Dept. of Physics & Astro. 2005–2009

Conduct workshops on space science topics for K-12 Teachers at state teacher conferences. Assisted with Wyoming AstroCamp, which includes astronomy continuing education opportunities for junior high and high school teachers.

**K–12 Astronomy Labs** Univ. of Wyoming, WY NASA Space Grant/Dept. of Physics & Astro. 2005–2009

Work with local school teachers to hold astronomy related labs and demonstrations for students in formal education settings. Topics have included: the planets, constellations, comets, impact craters, optics, and telescopes.

**Space Science/Astronomy Outreach** University of Wyoming 2005–2009

A wide variety of activities including: public outreach events, student science workshops, astronomy activity development (such as for the Astro Camp program aimed at middle school students), astronomy outreach programs (i.e., WY Infrared Observatory Open House, public telescope viewings), university student information sessions, and presentations to congressional representatives.

**Women In Science Conference** University of Wyoming 2006–2009

Primary organizer for an annual science career exploration event involving approximately 300 middle- and high-school girls from all over the state of Wyoming. The girls participate in hands-on science workshops with (primarily female) Univ. of Wyoming faculty and students. The girls were also given information on college preparation and possible future career paths.

**Astronomy Outreach Committee** The Pennsylvania State University 2004–2005

Graduate representative on the faculty committee responsible for overseeing the Dept. of Astronomy & Astrophysics outreach efforts.

**HET Local Users Group** The Pennsylvania State University 2001–2005

Helped characterize the Hobby-Eberly Telescope (HET) instruments and disseminate knowledge about instrument function, data management, and processing techniques (particularly related to the Medium-Resolution Spectrograph, MRS).

**Astronomy Club Graduate Advisor** The Pennsylvania State University 1999–2005

Advised the undergraduate student-run campus astronomy club.

**Telescope Committee** The Pennsylvania State University 1999–2005

Oversaw the maintenance and use of the Astronomy Dept. telescopes for outreach and teaching.

**Astronomy Graduate Program Committee** The Pennsylvania State University 2003–2004

Representative for the graduate students on the department’s Graduate Program Committee.

**Hands-on Observing Experience**

2002–2003

Provided hands-on observing experience to fellow graduate students by inviting them to participate in my observing runs at Kitt Peak and McDonald Observatories.

**Refereed Publications**

1. Abdo, A. A., et al., *Multiwavelength Monitoring of the Enigmatic Narrow-Line Seyfert 1 PMN J0948+0022 in 2009 March-July*, 2009, AJ, **707**, 727 (209 authors in the collaboration on this paper listed alphabetically, I contributed the Swift/UVOT observations)
2. Wade, R. A., **Stark, M. A.**, Green, R. F., & Durrell, P. R., *Hot Subdwarf Stars Among the Objects Rejected from the PG catalog: a First Assessment using GALEX Photometry*, 2009, AJ, **138**, 606
3. **Stark, M. A.**, Wade, R. A., Thorstensen, J. R., Peters, C. S., Sheets, H. A., Smith, H. A., Miller, R. D., & Green, E. M., *A New, Bright, Short-period, Emission Line Binary in Ophiuchus*, 2008, AJ, **135**, 991
4. Feigelson, E. D., Lawson, W. A., **Stark, M.**, Townsley, L., & Garmire, G. P., *51 Eridani and GJ 3305: A 10-15 Myr old Binary Star System at 30 Parsecs*, 2006, AJ, **131**, 1730
5. **Stark, M. A.** & Wade, R. A., *The Nature of Late-Type Companions in Hot Subdwarf Composite-Spectrum Binaries*, 2006, Baltic Astronomy, **15**, 175
6. Wade, R. A., **Stark, M. A.**, Green, R. F., & Durrell, P. R., *Searching for the “MISSING” PG Hot Subdwarfs in SDSS and GALEX Data*, 2006, Baltic Astronomy, **15**, 81
7. Hillwig, T. C., Gies, D. R., Huang, W., McSwain, M. V., **Stark, M. A.**, van der Meer, A., & Kaper L., *Identification of the Mass Donor Star’s Spectrum in SS 433*, 2004, ApJ, **615**, 422
8. **Stark, M. A.**, Wade, R. A., & Berriman, G. B., *Single and Composite Hot Subdwarf Stars in the Light of 2MASS All-Sky Photometry*, 2004, Ap&SS, **291**, 333
9. Wade, R. A. & **Stark, M. A.**, *Are All Hot Subdwarf Stars in Close Binaries?*, 2004, Ap&SS, **291**, 337
10. **Stark, M. A.** & Wade, R. A., *Single and Composite Hot Subdwarf Stars in the Light of 2MASS Photometry*, 2003, AJ, **126**, 1455
11. Sharpee, B., **Stark, M.**, Pritzl, B., Smith, H., Silbermann, N., Wilhelm, R., & Walker, A., *BV Photometry of Variable Stars in the Northeast Arm of the Small Magellanic Cloud*, 2002, AJ, **123**, 3216
12. **Stark, M. A.** & Taylor, J. M., *A New Short Period Variable Star in Cygnus*, 2002, Info. Bull. on Variable Stars, **5247**
13. **Stark, M. A.**, Hamlin, M. T., Anderson, J. R., Berryman, F. V., Disbro, M. A., Dyni, C., Gates, T. A., McKinney, J. A., Robinson, K. W., Snavley, S. T., Stoltz, T. J., & Smith, H. A., *The Light Curve of the Eclipsing Binary Star XX Leo*, 2000, Journal of the American Assoc. of Variable Star Observers, **28**, 25

### Papers in Preparation

1. Deca, J., Marsh, T. R., Østensen, R. H., Morales-Rueda, L., Copperwheat, C., Wade, R. A., **Stark, M. A.**, Maxted, P. F. L., Nelemans G., & Heber, U., *PG1018–047: the longest period subdwarf B binary*, submitted to Monthly Notices of the Royal Astronomical Society
2. Wade, R. A. & **Stark, M. A.**, *Refined Coordinates of Hot Subdwarfs*, in preparation
3. **Stark, M. A.**, Wade, R. A., & Berriman, G. B., *Single and Composite Hot Subdwarf Stars in the Light of 2MASS All-Sky Photometry*, in preparation

### Abstracts and Conference Proceedings

1. Barlow, Brad, Wade, R. A., Liss, S. E.; & **Stark, M. A.**, *A Radial Velocity Study of Hot Subdwarf B Stars with Cool Main Sequence Companions*, 2012, American Astronomical Society Meeting Abstracts, **219**, 408.03
2. Liss, Sandra, Wade, R. A.; Barlow, B. N., & **Stark, M. A.**, *An Orbital Radial Velocity Study of PG 1701+359, a Hot Subdwarf B Star with a Cool Main Sequence Companion*, 2012, American Astronomical Society Meeting Abstracts, **219**, 153.25
3. Wade, R. A., Clausen, D. R., **Stark, M. A.**, & Griffith, C. V., *Status Report on a Search for F stars with Hidden Hot Subdwarf Companions*, 2011, American Astronomical Society Meeting Abstracts, **218**, 122.08
4. **Stark, M. A.**, Ganguly, R., Gallagher, S. C., Gibson, R., & Brotherton, M. S., *Testing the Radiative-Driving Hypothesis of Quasar Outflows*, 2011, American Astronomical Society Meeting Abstracts, **217**, 142.03
5. Wade, R. A., Clausen, D. R., Kopparapu, R. K., O’Shaughnessy, R.; **Stark, M. A.**, & Walentosky, M. J., *A Hidden Population of Hot Subdwarf Stars in Close Binaries*, 2010, International Conference on Binaries, AIP Conference Proceedings, **1314**, 73
6. D’Ammando, F., Romano, P., Raiteri, C. M., Villata, M., Krimm, H. A., Vercellone, S., Covino, S., **Stark, M. A.**, & Siegel, M. H., *Multiwavelength campaigns on the blazar PKS 1510–089 during the 2008–2009: the importance of the broad band coverage by the Swift satellite*, Swift Mission Conference: Celebrating 5 Years, November 17–20, 2009
7. **Stark, M. A.** & Wade, R. A., *Searching for Unidentified Bright Cataclysmic Variables*, 2007, American Astronomical Society Meeting Abstracts, **211**, 65.03
8. Wade, R. A., Herrmann, K. A., & **Stark, M. A.**, *A Radial Velocity Study of Hot Subdwarf Stars with Cool Companions*, 2007, American Astronomical Society Meeting Abstracts, **211**, 03.33
9. **Stark, M. A.**, Wade, R. A., Thorstensen, J. R., Peters, C. S., Sheets, H. A., Smith, H. A., Miller, R. D., & Green, E. M., *A New, Bright, Short-period, Emission Line Binary in Ophiuchus*, 2006, Bull. of the American Astronomical Society, **38**, 908
10. Wade, R. A. & **Stark, M. A.**, *A Radial Velocity Study of Hot Subdwarf Stars with Composite Spectra*, 2006, Bull. of the American Astronomical Society, **38**, 1102
11. **Stark, M. A.** & Wade, R. A., *Disentangling Composite Spectrum Hot Subdwarfs*, 2005, Astronomical Society of the Pacific Conference Series, 334, 439

12. Wade, R. A., **Stark, M. A.**, & Green, R. F. *How Many Hot Subdwarf Stars were Rejected from the PG Survey?*, 2005, Astronomical Society of the Pacific Conference Series, 334, 123
13. Wade, R. A., Green, R. F., & **Stark, M. A.**, *The PGR Catalog of Objects Rejected from the PG Survey ("PG Rejects")*, 2005, Bull. of the American Astronomical Society, **37**, 1270
14. **Stark, M. A.**, Wade, R. A., Green, R. F., & Durrell, P. R., *Searching for the "missing PG hot subdwarfs" in SDSS and GALEX data*, 2005, Bull. of the American Astronomical Society, **37**, 1271
15. **Stark, M. A.** & Wade, R. A., *The Origins of Hot Subdwarf Stars as Illuminated by Composite-Spectrum Binaries*, 2004, Bull. of the American Astronomical Society, **36**, 1624
16. Wade, R. A., **Stark, M. A.**, & Green, R. F., *How Many Hot Subdwarf Stars Were Rejected from the PG Survey?*, 2004, Bull. of the American Astronomical Society, **36**, 1359
17. Wade, R. A. & **Stark, M. A.**, *Are VIMs Bad for SIM?: Assessing the Impact of Variability-Induced Movers on the SIM Grid*, 2001, Bull. of the American Astronomical Society, **33**, 1318
18. **Stark, M. A.** & Wade, R. A., *2MASS Examination of Hot Subdwarfs*, 2001, Bull. of the American Astronomical Society, **33**, 855
19. Wade, R. A. & **Stark, M. A.**, *Hot Subdwarf Star Membership in Visual Binaries*, 2001, Bull. of the American Astronomical Society, **33**, 855
20. **Stark, M. A.**, Wade, R. A., Orosz, J. A., & Berriman, G. B., *Hot Subdwarf Membership in Visual Binaries*, 2001, Bull. of the American Astronomical Society, **33**, 1312
21. **Stark, M. A.**, Smith, H. A., Pritzl, B., Silbermann, N. A., Wilhelm, R., & Walker, A., *Light Curves of Variable Stars in the Small Magellanic Cloud*, 1998, Bull. of the American Astronomical Society, **30**, 1322

### Gamma Ray Burst Coordinates Network (GCN) Circulars and Reports

1. Grupe, D., Cummings, J. R., Oates, S., Kennea, J. A., **Stark, M. A.**, Vetere, L., Barthelmy, S. D., Burrows, D. N., Roming, P., Gehrels, A. N., *Swift Observations of GRB 090926B.*, 2009, GCN Report, **246**
2. Mangano, V., et al., *GRB 091112: Swift detection of a possible burst*, 2009, GCN #**10162**
3. Oates, S. R., et al., *GRB 091109B: Swift detection of a short burst*, 2009, GCN #**10148**
4. Hoversten, E. A., et al., *GRB 091102: Swift detection of a burst* 2009, GCN #**10117**
5. Lyons, N. A., et al., *Trigger 371210: Swift/BAT triggered on IGR J17511-3057.*, 2009, GCN #**9978**
6. Grupe, D., et al., *GRB 090926B: Swift detection of a burst.*, 2009, GCN #**9935**
7. D'Elia, V., et al., *GRB 090904B: Swift detection of a burst.*, 2009, GCN #**9881**
8. Perri, M., et al., *GRB 090904: Swift detection of a burst.*, 2009, GCN #**9879**
9. Schady, P., et al., *GRB 090831C: Swift detection of a burst.*, 2009, GCN #**9854**
10. Ukwatta, T. N., et al., *GRB 090814: Swift detection of a burst.*, 2009, GCN #**9793**

11. Sbarufatti, B., et al., *Swift trigger 358760 is probably a noise event.*, 2009, GCN #**9739**
12. Mangano, V., et al., *GRB 090728: Swift detection of a burst.*, 2009, GCN #**9725**
13. Evans, P. A., et al., *GRB 090727: Swift detection of a burst.*, 2009, GCN #**9718**
14. Siegel, M. H., **Stark, M. A.**, Page, K. L., *GRB 090726: Swift/UVOT finding chart observation.*, 2009, GCN #**9708**
15. Page, K. L., et al., *GRB 090726: Swift detection of a burst.*, 2009, GCN #**9706**
16. Vetere, L., et al., *GRB 090715B: Swift detection of a burst with a possible optical counterpart.*, 2009, GCN #**9668**
17. Marshall, F. E., et al., *GRB 090709B: Swift detection of a burst.*, 2009, GCN #**9633**
18. Morris, D. C., et al., *GRB 090709: Swift detection of a bright burst.*, 2009, GCN #**9625**
19. Krimm, H. A., et al., *GRB 090708: Swift detection of a burst.*, 2009, GCN #**9621**
20. Ukwatta, T. N., et al., *GRB 090705: Swift detection of a possible burst.*, 2009, GCN #**9615**
21. Mangano, V., et al., *GRB 090628: Swift detection of a burst.*, 2009, GCN #**9585**
22. Mao, J., et al., *GRB 090625B: Swift observation of the INTEGRAL GRB 090625B.*, 2009, GCN #**9573**