

**Christopher J. Stockdale**  
**Assistant Professor, Department of Physics**  
**Marquette University**

**EDUCATION:**

2001	Ph.D. in Physics	University of Oklahoma, Norman, OK
	Dissertation Title: A Radio and X-ray Search for Intermediate-age Supernovae: Tuning Into the Oldies, Advisor John J. Cowan, Ph.D.	
1995	M.S. in Physics	University of Oklahoma, Norman, OK
1992	B.S. in Physics	Washington University, St. Louis, MO

**PROFESSIONAL EXPERIENCE:**

2003–present	Assistant Professor,	Marquette University, Milwaukee, WI
2001–2003	Postdoctoral Fellow,	Naval Research Laboratory, Washington, DC
1998–2001	Adjunct Professor,	Oklahoma City Community College, Oklahoma City

**AWARDS:**

2001	National Research Council Postdoctoral Fellowship
2001	Nielsen Prize for Outstanding Dissertation – Homer L. Dodge Department of Physics, University of Oklahoma

**PROFESSIONAL SOCIETIES:**

Mentored six Marquette undergraduate research students in independent research projects: S. Dechene (Summer 2004), S. Drezdson (Summer 2004), C. Heaser (Summer 2006 – Fall 2007), B. Kaster (Fall 2004 – Fall 2005), M. Kelley (Summer 2005 – Summer 2007), & S. Krzyzewski (Summer 2005 – Spring 2006)

#### **REFEREED PUBLICATIONS:**

Weiler, K. W.; Williams, C. L.; Panagia, N.; **Stockdale, C. J.**; Kelley, M. T.; Sramek, R. A.; Van Dyk, S. D.; Marcaide, J. M., "Long Term Radio Monitoring of SN 1993J," 2007, *Astrophysical Journal*, Volume 671, p. 1959

**Stockdale, C. J.**; Williams, C. L.; Weiler, K. W.; Panagia, N.; Sramek, R. A.; Van Dyk, S. D.; Kelley, M. T. "The Radio Evolution of SN 2001gd," 2007, *Astrophysical Journal*, Volume 671, p. 689

Martí-Vidal, I.; Marcaide, J. M.; Alberdi, A.; Guirado, J. C.; Lara, L.; Pérez-Torres, M. A.; Ros, E.; Argo, M. K.; Beswick, R. J.; Muxlow, T. W. B.; Pedlar, A.; Shapiro, I. I.; **Stockdale, C. J.**; Sramek, R. A.; Weiler, K. W.; Vinko, J. "8.4 GHz VLBI observations of SN 2004et in NGC 6946," 2007, *Astronomy and Astrophysics*, Volume 470, pp.1071-1077

Immler, S.; Brown, P. J.; Milne, P.; Dessart, L.; Mazzali, P. A.; Landsman, W.; Gehrels, N.; Petre, R.; Burrows, D. N.; Nousek, J. A.; Chevalier, R. A.; Williams, C. L.; Koss, M.; **Stockdale, C. J.**; Kelley, M. T.; Weiler, K. W.; Holland, S. T.; Pian, E.; Roming, P. W. A.; Pooley, D.; Nomoto, K.; Greiner, J.; Campana, S.; Soderberg, A. M. "X-Ray, UV, and Optical Observations of Supernova 2006bp with Swift: Detection of Early X-Ray Emission," 2007, *Astrophysical Journal*, Volume 664, pp. 435-442

Maddox, L. A.; Cowan, J. J.; Kilgard, R. E.; Schinnerer, E.; **Stockdale, C. J.** "A Study of Compact Radio Sources in Nearby Face-on Spiral Galaxies. II. Multiwavelength Analyses of Sources in M51," 2007, *Astronomical Journal*, Volume 133, pp. 2559-2568

Panagia, N.; Van Dyk, S. D.; Weiler, K. W.; Sramek, R. A.; **Stockdale, C. J.**; Murata, K. P. "A Search for Radio Emission from Type Ia Supernovae," 2006, *Astrophysical Journal*, Volume 646, pp. 369-377

Maddox, L. A.; Cowan, J. J.; Kilgard, R. E.; Lacey, C. K.; Prestwich, A. H.; **Stockdale, C. J.**; Wolfing, E. "A Study of Compact Radio Sources in Nearby Face-On Spiral Galaxies. I. Long Term Evolution of M83," 2006, *Astronomical Journal*, Volume 132, pp. 310-320

**Stockdale, C. J.**; Maddox, L. A.; Cowan, J. J.; Prestwich, A.; Kilgard, R.; Immler, S.; and Krauss, M., "A Radio and X-Ray Study of Historical Supernovae in M83," 2006,

Kilgard, R. E.; Cowan, J. J.; Garcia, M. R.; Kaaret, P.; Krauss, M. I.; McDowell, J. C.; Prestwich, A. H.; Primini, F. A.; **Stockdale, C. J.**; Trinchieri, G.; Ward, M. J.; Zezas, A., Erratum: "A Chandra Survey of Nearby Spiral Galaxies. I. Point Source Catalogs," 2006, *Astrophysical Journal Supplement Series*, Volume 163, p. 424-425

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Pérez-Torres, M. A.; Alberdi, A.; Marcaide, J. M.; Guerrero, M. A.; Lundqvist, P.; Shapiro, I. I.; Ros, E.; Lara, L.; Guirado, J. C.; Weiler, K. W.; and **Stockdale, C. J.**, "High-Resolution Observations of Supernova 2001gd in NGC 5033," 2005, *Monthly Notices of the Royal Astronomical Society*, Volume 360, pp. 1055-1062

Chu, Y.-H.; Gruendl, R. A.; **Stockdale, C. J.**; Rupen, M. P.; Cowan, J. J.; Teare, S. W., "The Nature of SN 1961V," 2004, *Astronomical Journal*, Volume 127, pp. 2850-2855

Ryder, S. D.; Sadler, E. M.; Subrahmanyan, R.; Weiler, K.W.; Panagia, N.; **Stockdale, C.**, "Modulations in the radio light curve of the Type IIb supernova 2001ig: evidence for a Wolf-Rayet binary progenitor?," 2004, *Monthly Notices of the Royal Astronomical Society*, Volume 349, pp. 1093-1100

**Stockdale, C. J.**; Weiler, K. W.; Van Dyk, S. D.; Montes, M. J.; Panagia, N.; Sramek, R. A.; Perez-Torres, M. A.; Marcaide, J. M., "Radio Emission from SN 2001gd in NGC 5033," 2003, *Astrophysical Journal*, Volume 592, pp. 900-905

Gruendl, R. A.; Chu, Y.-H.; Van Dyk, S. D.; **Stockdale, C. J.** "Narrow Lines in Type II Supernovae: Probing the Circumstellar Nebulae of the Progenitors," 2002, *Astronomical Journal*, Volume 123, pp. 2847-2856

**Stockdale, C. J.**; Goss, W. M.; Cowan, J. J.; Sramek, R. A., "The Continuing Radio Evolution of SN 1970G," 2002, *Letters to the Astrophysical Journal*, Volume 559, pp. L139-L142

**Stockdale, C. J.**; Rupen, M. P.; Cowan, J. J.; Chu, Y.-H.; Jones, S. S., "The Fading Radio Emission From SN 1961V: Evidence for a Type II Peculiar Supernova?" 2001, *Astronomical Journal*, Volume 122, pp. 283-287

**Stockdale, C. J.**; Romanishin, W.; Cowan, J. J. 1998, "Discovery of a Nuclear X-Ray Source in NGC 7331: Evidence for a Massive Black Hole," *Letters to the Astrophysical Journal* Volume 508, pp. L33-L36

## **INTERNATIONAL ASTRONOMICAL UNION CIRCULARS AND TELEGRAMS:**

Kelley, M. T.; **Stockdale, C. J.**; Sramek, R. A.; Weiler, K. W.; Immler, S.; Panagia, N.; Van Dyk, S. D., "Supernova 2006bp in NGC 3953," 2006, *Central Bureau Electronic Telegrams (CBET)*, 495, 1. Ed. Green, D. W. E.

**Stockdale, C. J.**; Kelley, M.; Sramek, R. A.; Van Dyk, S. D.; Immler, S.; Weiler, K. W.; Williams, C. L. M.; Panagia, N., "Supernova 2006X in NGC 4321 = M100," 2006, *CBET*, 396, 1. Ed. Green, D. W. E.

**Stockdale, C. J.**; Kelley, M.; Van Dyk, S. D.; Sramek, R. A.; Weiler, K. W.; Panagia, N., "Supernova 2005cs in NGC 5194 (M51)," 2005, *International Astronomical Union Circular (IAUC)*, 8603, 2. Ed. Green, D. W. E.

**Stockdale, C. J.**; Kaster, B.; Sjouwerman, L. O.; Rupen, M. P.; Marti-Vidal, I.; Marcaide, J. M.; Van Dyk, S. D.; Weiler, K. W.; Paczynski, B.; Panagia, N., "Supernova 2001em in UGC 11794," 2005, *IAUC*, 8472, 4. Ed. Green, D. W. E.

**Stockdale, C. J.**; Weiler, K. W.; Van Dyk, S. D.; Sramek, R. A.; Panagia, N.; Marcaide, J. M., "Supernova 2004et in NGC 6946," 2004, *IAUC*, 8415, 1. Ed. Green, D. W. E.

**Stockdale, C. J.**; Sramek, R. A.; Weiler, K. W.; Van Dyk, S. D.; Panagia, N.; Pooley, D.; Lewin, W.; Marcaide, J. M., "Supernova 2004dj in NGC 2403," 2004, *IAUC*, 8379, 1. Ed. Green, D. W. E.

**Stockdale, C. J.**; Van Dyk, S. D.; Sramek, R. A.; Weiler, K. W.; Panagia, N.; Rupen, M. P.; Paczynski, B., "Supernova 2001em in UGC 11794," 2004, *IAUC*, 8282, 2. Ed. Green, D. W. E.

**Stockdale, C. J.**; Sramek, R. A.; Van Dyk, S. D.; Weiler, K. W.; Panagia, N.; Hamuy, M.; Berger, E., "Supernova 2002ic," 2003, *IAUC*, 8157, 3. Ed. Green, D. W. E.

**Stockdale, C. J.**; Sramek, R. A.; Van Dyk, S. D.; Weiler, K. W.; Panagia, N., "Supernova 2003ed in NGC 5303A," 2003, *IAUC*, 8153, 2. Ed. Green, D. W. E.

**Stockdale, C. J.**; Sramek, R. A.; Rupen, M. P.; Weiler, K. W.; Van Dyk, S. D.; Panagia, N.; Pooley, D.; Lewin, W.; Myers, S.; Taylor, G., "Supernova 2002hh in NGC 6946," 2002, *IAUC*, 8018, 1. Ed. Green, D. W. E.

**Stockdale, C. J.**; Pérez-Torres, M. A.; Marcaide, J. M.; Sramek, R. A.; Weiler, K. W.; Van Dyk, S. D.; Panagia, N.; Lundqvist, P.; Pooley, D.; Immler, S.; Lewin, W., "Supernova 2001gd in NGC 5033," 2002, *IAUC*, 7830, 2. Ed. Green, D. W. E.

**MEETINGS & PROCEEDINGS:**

**Stockdale, C. J.;** Kelley, M. T.; Weiler, K. W.; Panagia, N.; Marcaide, J. M.; Sramek, R. A.; Williams, C. L. M.; Van Dyk, S. D., "Recent Type II Supernovae," 2007, *From Massive Stars to Supernova Remnants: Lorentz Center Workshop*, Leiden,

Weiler, K. W.; Van Dyk, S. D.; Sramek, R. A.; Panagia, N.; **Stockdale, C. J.**; Montes, M. J., "Radio Emission from Supernovae," 2005, *1604-2004: Supernovae as Cosmological Lighthouses, ASP Conference Series*, Vol. 342, Proceedings of the conference held 15-19 June, 2004 in Padua, Italy. Ed. M. Turatto, S. Benetti, L. Zampieri, and W. Shea. San Francisco: Astronomical Society of the Pacific, p.290

Maddox, L. A.; Kilgard, R. E.; Schinnerer, E.; **Stockdale, C. J.**; Cowan, J. J.; Prestwich, A. H., "Multiwavelength Observations of the Nearby Galaxy M51," 2005, American Astronomical Society Meeting 207, #178.03

Kaster, B. C.; Kelley, M. T.; Panagia, N.; Sramek, R. A.; **Stockdale, C. J.**; Van Dyk, S. D.; Weiler, K. W., "Radio Observations of Supernovae 2004dj and 2004et," 2005, American Astronomical Society Meeting 207, #171.16

Krzyzewski, S. P.; **Stockdale, C. J.**; Homan, D.; Cowan, J. J., "VLBI observations of J0253+3835: A right-angle bent jet quasar," 2005, American Astronomical Society Meeting 207, #79.06

Kaster, B. C.; Kelley, M. T.; **Stockdale, C. J.**; Panagia, N.; Sramek, R. A.; Van Dyk, S. D.; Weiler, K. W., "Radio Wave Emissions from Type II Supernovae," 2005, *Proceedings of the 15<sup>th</sup> Annual Wisconsin Space Conference*, Ed. R. A. Yingst, Held 18-19 August 2005 in Madison, Wisconsin, USA

**Stockdale, C. J.**; Kelley, M. T.; Kaster, B. C.; Panagia, N.; Sramek, R. A.; Van Dyk, S. D.; Weiler, K. W., "The Link between Supernovae & Gamma Ray Bursters: Radio Study of Supernova 2001em," 2005, *Proceedings of the 15<sup>th</sup> Annual Wisconsin Space Conference*, Ed. R. A. Yingst, Held 18-19 August 2005 in Madison, Wisconsin, USA

Krzyzewski, S. P.; **Stockdale, C. J.**; Homan, D.; Cowan, J. J., "VLBI observations of J0253+3835: A right-angle bent jet quasar," 2005, *Proceedings of the 15<sup>th</sup> AnConfe2* 432.9 0.2



**Stockdale, C. J.;** Sramek, R. A.; Weiler, K. W.; Van Dyk, S. D.; Pérez-Torres, M. A.; Marcaide, J. M.; Ray, A.; Chandra, P.; Panagia, N.; Montes, M. J., "Radio Observations of SN 2001gd in NGC 5033," 2002, American Astronomical Society Meeting 201, #56.02

**Stockdale, C. J.;** Cowan, J. J.; Maddox, L. A.; Lacey, C. K.; Rupen, M. P.; Prestwich, A. H.; Kilgard, R.; Krauss, M. I.; Zezas, A., "Radio Counterparts to X-ray Sources in M83," 2001, American Astronomical Society Meeting 199, #19.02

**Stockdale, C. J.;** Rupen, M. P.; Cowan, J. J.; Chu, Y.-H., "The fading radio emission from supernova 1961V," 2001, *Young Supernova Remnants: Eleventh Astrophysics Conference. AIP Conference Proceedings*, Vol. 565. College Park, Maryland, 16-18 Oct, 2000. Ed. Stephen S. Holt, and Una Hwang. American Institute of Physics, p.77-80

**Stockdale, C.;** Cowan, J.; Rupen, M.; Chu, Y.-H., "Radio and X-Ray Observations of SN 1961V: A Type II Supernova?" 2001, American Astronomical Society Meeting 197, #81.11

**Stockdale, C. J.;** Cowan, J. J.; Romanishin, W., "ROSAT Observations of the Field Near NGC 1058 & SN 1961V," 1998, American Astronomical Society Meeting 193, #8.20

**Stockdale, C.;** Romanishin, W.; Cowan, J. J., "A Comparison of X-ray and Radio Observations of NGC 7331," 1996, American Astronomical Society Meeting 189, #11.02

#### **COURSES TAUGHT AT MARQUETTE UNIVERSITY:**

FALL 2003: PHYS 13 Classical Physics 1: Mechanics and Waves

SPRING 2004: PHYS 14 Classical Physics 2: Heat, Electromagnetism, and Optics

FALL 2004: PHYS 13 Classical Physics 1: Mechanics and Waves  
PHYS 121 Introduction to Theoretical Astrophysics

SPRING 2005: PHYS 14 Classical Physics 2: Heat, Electromagnetism, and Optics  
PHYS 122 Introduction to Observational Astrophysics

FALL 2005: PHYS 13 Classical Physics 1: Mechanics and Waves  
PHYS 121 Introduction to Theoretical Astrophysics

SPRING 2006: PHYS 14 Classical Physics 2: Heat, Electromagnetism, and Optics  
PHYS 122 Introduction to Observational Astrophysics

FALL 2006: PHYS 13 Classical Physics 1: Mechanics and Waves  
PHYS 8 Astronomy and Space Physics

SPRING 2007: PHYS 14 Classical Physics 2: Heat, Electromagnetism, and Optics  
PHYS 112 Quantum Mechanics

FALL 2008: PHYS 8 Astronomy and Space Physics  
PHYS 121 Introduction to Theoretical Astrophysics

**RESEARCH EXPERIENCE & PREVIOUSLY FUNDED PROPOSALS:**

Since 2003, I have been an investigator on 10 Very Large Array, 7 Very Long Baseline Array, 1 Hubble Space Telescope, and 3 Chandra approved observing proposals.

Borg, J. & **Stockdale, C. J.**, “The 16<sup>th</sup> Annual Wisconsin Space Grant Consortium Conference” Wisconsin Space Grant Consortium: \$10,750 award – 1 April 2006 – 30 August 2006

**Stockdale, C. J.**, “Radio Transients: Microquasars, Supernovae, and Gamma-Ray Bursters” Wisconsin Space Grant Consortium: \$10,500 award – 1 May 2004 – 30 April 2006

**Stockdale, C. J.**, “Direct Proof for the Delayed Formation of Stellar Mass Black Holes: A Radio Study of SN 2001em” Research Corporation: \$29,024 – 1 May 2005 – 15 August 2007.