

## Inge Heyer, PhD

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### EDUCATION

- PhD 2012 University of Wyoming – Science Education: Astronomy Education  
*Dissertation: Establishing the Empirical Relationship between Non-science  
Majoring Undergraduate Learners' Spatial Thinking Skills and Their  
Conceptual Astronomy Knowledge*  
Advisors: Timothy Slater and Stephanie Slater
- MS 1987 University of Hawaii at Manoa – Astronomy  
*Research Focus: Frequency and Distribution of Binary T Tauri Stars*  
Advisor: George Herbig
- BS 1985 Smith College – Astronomy and Physics  
*Honors Thesis: Anisotropic Winds from T Tauri Stars*  
Advisor: Suzan Edwards
- AA 1982 Tenri University (Tenri, Japan) – Japanese Language
- Bacc. 1979 Arndt Gymnasium Dahlem (Berlin, Germany) – German Baccalaureate

### PROFESSIONAL APPOINTMENTS

#### Universities and Astronomy Research Institutions

- 2012-current Loyola University Maryland  
Dept. of Physics  
Senior Lecturer  
*Responsibilities include teaching undergraduate astronomy and physics survey  
courses, for majors and non-majors, some with laboratory sections, and  
conducting astronomy education research. I co-developed and implemented  
a 2-semester integrated science course for elementary education majors.*
- 2010-2012 University of Wyoming, Laramie, WY  
Dept. of Physics and Astronomy  
Graduate Teaching Assistant (astronomy teaching, science education teaching)  
College of Education – Science Education  
*Responsibilities included teaching undergraduate astronomy survey laboratory,  
physical science for future elementary school teachers, graduate statistics for  
astronomy education research, graduate robotic astronomy observing for  
educators, graduate qualitative research methods. The last three of these  
courses were taught online using a variety of web teaching tools.*

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- 2006-2010    Joint Astronomy Centre, Hilo, HI  
Public Information Officer  
*Responsibilities included developing, implementing and managing JAC's community, public outreach, education, and media relations; creating print and education content for delivery through public presentations, press releases and the web; building and managing ongoing relations with local, national, and international media, science, governmental and educational agencies; supervising and mentoring student interns.*
- 1992-2006    Space Telescope Science Institute, Baltimore, MD  
Senior Research Consultant, Senior Data Analyst  
*Responsibilities included contributions to early public accessibility of data and to significant research results through image analysis, and supporting data analysis/logistical needs of Hubble observers through documentation and analysis support.*  
Archive Specialist  
*Responsibilities include facilitating transition to a new generation of science data archive system, developing tools and training procedures, reprocessing the existing archive data for compatibility with the new system, and facilitating data access for principal astronomical investigators.*
- 1985-1991    University of Hawaii at Manoa - Institute for Astronomy, Honolulu, HI  
Graduate Research Assistant (*Search for Dark Companions of K and M Giants; Synoptic Seeing Measurements at the UH 2.2m Telescope*)  
Graduate Teaching Assistant (*undergraduate astronomy laboratory, summer and continuing education introductory astronomy classes*)
- 1982-1985    Smith College- Departments of Astronomy and Physics, Northampton, MA  
Teaching Assistant (*undergraduate astronomy laboratory*)  
Research Assistant (*analysis of particle interactions in shock waves*)  
Summer Internship (*Arecibo Radio Observatory*)

### UNIVERSITY TEACHING

- Loyola University Maryland, Baltimore, MD  
Visiting Assistant Professor/Senior Lecturer, 2012-current  
General Physics with lab for majors (U)  
Introductory Physics with lab for non-majors (U)  
Introductory Astronomy for non-majors (U)  
Integrated Science (physics, chemistry, biology, astronomy) for K-6 education majors (U)  
Engaging Nature (physics, chemistry, biology, astronomy) Honors Program (U)
- Towson University, Towson, MD  
Adjunct Professor, summer 2015-current  
Introductory Physics lab for non-majors (U)  
Introductory Astronomy for non-majors (U)

## **Inge Heyer, PhD**

Introductory Physics for non-majors (U)  
Light and Color (U)

University of Wyoming, Laramie, WY

Instructor, 2011-2012

Physical Science for K-6 education majors (U)

Adv. Quantitative Methods for Astronomy Education Research (G, co-instructor, online)

Introductory Astronomy Laboratory (U)

Johns Hopkins University, Baltimore, MD

Instructor, 1993, 2005

Astronomy for middle and high school science teachers (G)

University of Hawaii at Manoa, Honolulu, HI

Instructor, 1991

Introductory Astronomy (U)

Graduate Assistant, 1985-1986

Astronomy Laboratory (U)

Smith College, Northampton, MA

Student Instructor, 1983

Introductory Astronomy (U)

## AWARDS

American Astronomical Society Certificate of Appreciation for volunteer services for over 20 years, 2018

Joint Astronomy Centre 2009 nominee for Employee of the Year of the Research Corporation of the University of Hawaii

Joint Astronomy Centre exceptional performance award as public information officer in 2009

Space Telescope Science Institute 2004 award for WFC3 thermal vacuum testing at Goddard Space Flight Center

Space Telescope Science Institute 1995 Hubble Space Telescope Star of Outreach Award for public outreach activities

Smith College 1985 Waterman Prize in physics

ZONTA International 1985 scholarship for astronomy graduate education

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### PROFESSIONAL AFFILIATIONS

American Astronomical Society, 1987-present (Deputy Press Officer 2009-2018)  
Research Fellow, Center for Astronomy & Physics Education Research (CAPER), 2009-present  
National Association of Science Writers, 2010-present  
Sigma Xi, 1985-1995

### REFEREED SCIENTIFIC ARTICLES

Guffey, S.K., Slater, S.J., Schleigh, S.P., Slater, T.F., Heyer, I. (2016). *Surveying Geology Concepts in Education Standards for a Rapidly Changing Global Context*. Contemporary Issues in Education Research, 9(4).

Tatge, C. B., Slater, S. J., Schleigh, S. P., Slater, T. F., Bretones, P. S., McKinnon, D., & Heyer, I. (2016). *iSTAR first light: characterizing astronomy education research dissertations in the iSTAR database*. Journal of Astronomy & Earth Sciences Education, 3(1).

Heyer, I.; Slater, S.J.; Slater, T.F. (2013). *Establishing the Empirical Relationship between Non-science Majoring Undergraduate Learners' Spatial Thinking Skills and Their Conceptual Astronomy Knowledge*. Latin-American Journal of Astronomy Education 16, p.45-61.

Jogee, S.; Barazza, F.D.; Rix, H.-W.; Shlosman, I.; Barden, M.; Wolf, C.; Davies, J.; Heyer, I.; Beckwith, S.V.W.; Bell, E.F.; Borch, A.; Caldwell, J.A.R.; Conselice, C.J.; Dahlen, T.; Hussler, B.; Heymans, C.; Jahnke, K.; Knapen, J.H.; Laine, S.; Lubell, G.M.; Mobasher, B.; McIntosh, D.H.; Meisenheimer, K.; Peng, C.Y.; Ravindranath, S.; Sanchez, S.F.; Somerville, R.S.; Wisotzki, L. (2004). *Bar Evolution over the Last 8 Billion Years: A Constant Fraction of Strong Bars in the GEMS Survey*. Astrophysical Journal 615, p.L105-L108.

Lucas, R.A.; Baum, S.A.; Brown, T.M.; Casertano, S.; Conselice, C.; de Mello, D.; Dickinson, M.E.; Ferguson, H.C.; Fruchter, A.S.; Gardner, J.P.; Gilmore, D.; González-Lópezlira, R.A.; Heyer, I.; Hook, R.N.; Kaiser, M.E.; Mack, J.; Makidon, R.; Martin, C.L.; Mutchler, M.; Smith, T. E.; Stiavelli, M.; Teplitz, H.I.; Wiggs, M.S.; Williams, R.E.; Zurek, D.R. (2003). *The Hubble Deep Field South Flanking Fields*. Astronomical Journal 125, p.398-417.

Casertano, S.; de Mello, D.; Dickinson, M.; Ferguson, H.C.; Fruchter, A.S.; Gonzalez-Lopezlira, R.A.; Heyer, I.; Hook, R.N.; Levay, Z.; Lucas, R.A.; Mack, J.; Makidon, R.B.; Mutchler, M.; Smith, T. E.; Stiavelli, M.; Wiggs, M.S.; Williams, R.E. (2000). *WFPC2 Observations of the Hubble Deep Field South*. Astronomical Journal, 120(6), p.2747-2824.

Williams, R.E.; Baum, S.; Bergeron, L.E.; Bernstein, N.; Blacker, B.S.; Boyle, B.J.; Brown, T.M.; Carollo, C. M.; Casertano, S.; Covarrubias, R.; de Mello, D.F.; Dickinson, M. E.; Espey, B.R.; Ferguson, H.C.; Fruchter, A.; Gardner, J.P.; Gonnella, A.; Hayes, J.; Hewett, P. C.; Heyer, I.; Hook, R.; Irwin, M.; Jones, D.; Kaiser, M. E.; Levay, Z.; Lubenow, A.; Lucas, R. A.; Mack, J.; MacKenty, J.W.; Madau, P.; Makidon, R. B.; Martin, C. L.; Mazzuca, L.; Mutchler, M.; Norris, Ray P.; Perriello, Beth; Phillips, M. M.; Postman, Marc; Royle, Patricia; Sahu, Kailash;

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Savaglio, S.; Sherwin, A.; Smith, T. E.; Stiavelli, M.; Suntzeff, N. B.; Teplitz, H.I.; van der Marel, R.P.; Walker, A. R.; Weymann, R. J.; Wiggs, M. S.; Williger, G.M.; Wilson, J.; Zacharias, N.; Zurek, D.R. (2000). *The Hubble Deep Field South: Formulation of the Observing Campaign*. *Astronomical Journal*, 120(6), p.2735-2746).

Whitmore, B.; Heyer, I.; Casertano, S. (1999). *Charge-Transfer Efficiency of WFPC2*. *Publications of the Astronomical Society of the Pacific*, 111, p. 1559.

Vaz, L.P.R.; Andersen, J.; Casey, B.W.; Clausen, J.V.; Mathieu, R.D.; Heyer, I. (1998). *Four-colour photometry of eclipsing binaries: XXXIX. Light curves of the pre-main sequence triple system TY Coronae Australis*. *Astronomy and Astrophysics Supplement* 130, p. 245.

Stiavelli, M.; Panagia, N.; Carollo, C.M.; Romaniello, M.; Heyer, I.; Gonzaga, S. (1998). *WFPC2 Observations of NGC 454: An Interacting Pair of Galaxies*. *Astrophysical Journal Letters*, 492, p.L135.

Williams, R. E.; Blacker, B.; Dickinson, M.; Dixon, W. V. D.; Ferguson, H. C.; Fruchter, A. S.; Giavalisco, M.; Gilliland, R. L.; Heyer, I.; Katsanis, R.; Levay, Z.; Lucas, R. A.; McElroy, D. B.; Petro, L.; Postman, M.; Adorf, H.-M.; Hook, R. (1996). *The Hubble Deep Field: Observations, Data Reduction, and Galaxy Photometry*. *Astrophysical Journal*, 112, p.1335.

Henry, J.P.; Heyer, I.; Cecil, G.; Barnes, B.; Cheigh, F. (1987). *Synoptic Seeing Measurements at the UH 2.2m Telescope*. *Publications of the Astronomical Society of the Pacific*, 99, p.1354.

Edwards, S.; Cabrit, S.; Strom, S.E.; Heyer, I.; Strom, K.M.; Andersen, E. (1987). *Forbidden Line and H-alpha Profiles in T Tauri Spectra: A Probe of Anisotropic Mass Outflows and Circumstellar Disks*. *Astrophysical Journal*, 321, p.473.

### BOOKS, CHAPTERS AND CURRICULUM DEVELOPMENT CONTRIBUTIONS

Slater, T.F, Heyer, I. (2018). *Being a Successfully Busy Professor*. Pono Publishing. Laramie, WY. ISBN 978-1721808311

Slater, T.F, Heyer, I., Slater, S.J. (2018). *Investigating Astronomy (4<sup>th</sup> Edition)*. Pono Publishing. Laramie, WY. ISBN 978-1978189515 (media-enhanced edition)

Slater, T.F, Heyer, I., Zeilik, M. (Eds.) (2018). *Insights Into the Universe: Effective Ways to Teach Astronomy (revised printing)*. Pono Publishing. Laramie, WY. ISBN 978-1719149860

Slater, T.F, Heyer, I., Slater, S.J. (2017). *Investigating Astronomy (3<sup>rd</sup> Edition)*. Pono Publishing. Laramie, WY. ISBN 978-1974370009

Slater, S.J., Kao, L., Morgan, W., Oppenheimer, R., & Heyer, I. (Editor), (2017). *Active Learning Tutorials for Astronomy & the Planetary Sciences*. Pono Publishing. Laramie, WY. ISBN 978-1515190653 (in press)

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Heyer, I. (2016). The Solar System Dance, in Slater, S.J., Bailey, J.M., Gibbs, M., & Heyer, I. (Eds.). *Galileo's Classroom*. Pono Publishing. Laramie, WY. ISBN 978-1515163657

Slater, S.J., Slater, T.F., Heyer, I., & Bailey, J.M. (2015). *Discipline-Based Education Research*. Pono Publishing. Laramie, WY. ISBN 978-1515024569

Slater, S.J., Slater, T.F., Heyer, I., & Bailey, J.M. (2015). *Conducting Astronomy Education Research*. Pono Publishing. Laramie, WY. ISBN 978-1515025320

### PUBLICATIONS AND PROCEEDINGS

Heyer, I.; Slater, T.F.; Slater, S.J. (2012). *Spatial Sense and Perspective: A 3-D Model of the Orion Constellation*. Proceedings of the Astronomical Society of the Pacific Conference, Connecting People to Science, Baltimore, MD, ASP Conference Series Vol.457, p.263.

Heyer, I.; Slater, T.F.; Slater, S.J. (2011). *A 3-D Model of the Orion Constellation*. Mercury, 40(4), p.21.

Heyer, I.; Slater, T.F.; Slater, S.J. (2011). *Chaos can be fun - Solar System Ballet!* The Classroom Astronomer, Vol.9, p.24-25.

Heyer, I., Harvey, J., Usuda, K.S., Fujihara, G., Hamilton, J. (2010). *The Mauna Kea Observatories Outreach Committee Brings Astronomy to the Hawaiian Public*. Proceedings of the Astronomical Society of the Pacific Conference, Science Education and Outreach: Forging a Path to the Future, San Francisco, CA, ASP Conference Series Vol. 431, p.70.

Jogee, S.; Barazza, F. D.; Rix, H.-W.; Davies, J.; Heyer, I.; *et al.* (2004). *Evolution and Impact of Bars over the last nine Gyr: Early Results from GEMS*. Penetrating bars through masks of cosmic dust: the Hubble tuning fork strikes a new note, Proceedings of a conference held at Pilanesburg National Park (South Africa). Astrophysics and Space Science Library (ASSL) vol. 319. Dordrecht: Kluwer Academic Publishers, 2004, p.291.

Koekemoer, A. M.; Gonzaga, S.; Heyer, I.; Lubin, L. M.; Kozhurina-Platais, V.; Whitmore, B. C. (2002). *WFPC2 Re-Commissioning After Servicing Mission 3B*. Proceedings from the 2002 Hubble Space Telescope Calibration Workshop, p.341.

Heyer, I.; Richardson, M.; Whitmore, B. C.; Lubin, L. M. (2002). *The Accuracy of WFPC2 Photometric Zeropoints*. Proceedings from the 2002 Hubble Space Telescope Calibration Workshop, p.333.

Wiggs, M.S.; Whitmore, B.; Heyer, I. (1997). *The WFPC2 Clearinghouse*. Proceedings from the 1997 Hubble Space Telescope Calibration Workshop, Baltimore, MD, p.398.

Whitmore, B.; Heyer, I. (1995). *A Demonstration Analysis Script for Performing Aperture Photometry*. Proceedings from the 1995 Hubble Space Telescope Calibration Workshop, p.305.

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Heyer, I.; Hall, D.N.B.; Hinkle, K. (1988). *Search for Dark Companions of K and M Giants: Preliminary Results on A-Bootis*. Proceedings from the IAU Regional Meeting, Beijing, China, *Vistas in Astronomy*, 31, p.317.

Edwards, S.; Strom, S.E.; Heyer, I.; Strom, K.M. (1985). *Anisotropic Winds from T Tauri Stars*. Proceedings from the Fourth Cambridge Workshop on Cool Stars, Stellar Systems and the Sun, Springer Verlag, p.436.

### REFEREED NATIONAL/INTERNATIONAL PRESENTATIONS AND PAPERS

Heyer, I. (2012). *Understanding the Correlations Among Undergraduates' Spatial Reasoning Skills and Their Ability to Learn Astronomy Concepts*. Dissertation talk presented at the 219th Meeting of the American Astronomical Society, Austin, TX, January, 2012, #227.02D.

Heyer, I., Slater, T. F.; Slater, S. J. (2011). *Preliminary correlational data on the relationships between undergraduates' spatial reasoning skills and their ability to learn space science concepts*. Poster presented at the meeting of the American Geophysical Union, San Francisco, CA, December, 2011, #ED13C-0827.

Heyer, I., Slater, T. F.; Slater, S. J. (2011). *The Solar System Ballet: A Kinesthetic Spatial Astronomy Activity*. Poster presented at the 218th Meeting of the American Astronomical Society, Boston, MA, June, 2011, #411.02, *Bulletin of the American Astronomical Society*, 43.

Heyer, I.; Michaud, P.; Usuda, K.S.; Fujihara, G.; Laatsch, S. (2010). *The Mauna Kea Observatories Outreach Committee brings Astronomy to Hawaii's Public*. Talk and poster presented at the National Astronomy Meeting of the United Kingdom, University of Hertfordshire, UK, April, 2010.

Harvey, J.; Heyer, I.; Michaud, P. (2010). *Hawaii IYA 2009 Brings Astronomy to Hawaii's Public*. Talk and poster presented at *Communicating Astronomy with the Public*, Cape Town, South Africa, March 2010.

Heyer, I.; Harvey, J.; Usuda, K.S.; Fujihara, G., Michaud, P. (2010). *The Mauna Kea Observatories Outreach Committee brings Astronomy to the Hawaiian Public*. Talk presented at the 215<sup>th</sup> Meeting of the American Astronomical Society, Washington, DC, January 2010, #215.05, *Bulletin of the American Astronomical Society*, 42, p.437.

Brammer, G. B.; Kozhurina-Platais, V.; Koekemoer, A. M.; Hack, W.; Heyer, I. (2004). *Effects of Precise Astrometry on Photometry: WFPC2*. Poster presented at the 203<sup>rd</sup> Meeting of the American Astronomical Society, Atlanta, GA, January, 2004, #46.03, *Bulletin of the American Astronomical Society*, 35, p.1280.

Heyer, I.; Brammer, G.; Koekemoer, A. M.; Kozhurina-Platais, V.; Rhoads, J.; Whitmore, B. (2003). *HST Wide Field and Planetary Camera II Status Update*. Poster presented at the 202<sup>nd</sup>

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Meeting of the American Astronomical Society, Nashville, TN, May, 2003, #04.06; Bulletin of the American Astronomical Society, Vol. 35, p.704.

Heyer, I.; Richardson, M.; Whitmore, B.; Lubin, L. (2003). *The Accuracy of WFPC2 Photometric Zeropoints*. Poster presented at the 201<sup>st</sup> Meeting of the American Astronomical Society, Seattle, WA, January, 2003, #90.02, Bulletin of the American Astronomical Society, 34, p.1255.

Whitmore, B.; Brammer, G.; Heyer, I.; Koekemoer, A. M.; Kozhurina-Platais, V.; Lubin, L.; McMaster, M.; Schultz, A. (2003). *HST Wide Field and Planetary Camera II Status Update*. Poster presented at the 201<sup>st</sup> Meeting of the American Astronomical Society, Seattle, WA, January, 2003, #90.04, Bulletin of the American Astronomical Society, 34, p.1256.

Heyer, I.; Gonzaga, S.; Koekemoer, A.; Kozhurina-Platais, V.; Lubin, L.; McMaster, M.; Schultz, A.; Whitmore, B. (2002). *HST Wide Field and Planetary Camera II Status Update*. Poster presented at the 200<sup>th</sup> Meeting of the American Astronomical Society, Albuquerque, NM, June, 2002, #62.09, Bulletin of the American Astronomical Society, 34, p.746.

Heyer, I.; Biretta, J.; Baggett, S.; Gonzaga, S.; Koekemoer, A.; Lubin, L.; Mack, J.; McMaster, M.; Kozhurina-Platais, V.; Schultz, A. (2002). *HST Wide Field and Planetary Camera II Status Update*. Poster presented at the 199<sup>th</sup> Meeting of the American Astronomical Society, Washington, DC, January, 2002, #08.01, Bulletin of the American Astronomical Society, 33, p.1316.

Biretta, J.; Baggett, S.; Riess, A.; Schultz, A.; Casertano, S.; Gonzaga, S.; Heyer, I.; Koekemoer, A.; Mack, J.; McMaster, M. (2001). *Charge Transfer Efficiency in the WFPC2 CCD Arrays*. Poster presented at the 198<sup>th</sup> Meeting of the American Astronomical Society, Pasadena, CA, June, 2001, #04.02, Bulletin of the American Astronomical Society, 33, p.788.

Heyer, I.; Biretta, J.; Baggett, S.; Casertano, S.; Gonzaga, S.; Koekemoer, A.; Mack, J.; McMaster, M.; Riess, A.; Schultz, A. (2001). *HST Wide Field and Planetary Camera II Status Update*. Poster presented at the 198<sup>th</sup> Meeting of the American Astronomical Society, Pasadena, CA, June, 2001, #04.01, Bulletin of the American Astronomical Society, 33, p.788.

Biretta, J.; Baggett, S.; Riess, A.; Schultz, A.; Casertano, S.; Gonzaga, S.; Heyer, I.; Koekemoer, A.; Mack, J.; McMaster, M.; Wiggs, M. (2000). *Charge Transfer Efficiency in the WFPC2 CCD Arrays*. Poster presented at the 197<sup>th</sup> Meeting of the American Astronomical Society, San Diego, CA, January, 2001, #12.14, Bulletin of the American Astronomical Society, 32, p.1421.

Heyer, I.; Biretta, J.; Baggett, S.; Casertano, S.; Gonzaga, S.; Koekemoer, A.; Mack, J.; McMaster, M.; Riess, A.; Schultz, A.; Wiggs, M. (2000). *HST Wide Field and Planetary Camera II Status Update*. Poster presented at the 197<sup>th</sup> Meeting of the American Astronomical Society, San Diego, CA, January, 2001, #12.13, Bulletin of the American Astronomical Society, Vol. 32, p.1421.



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Biretta, J.; Riess, A.; Baggett, S.; Whitmore, B.; Casertano, S.; Heyer, I.; Schultz, A.; Gonzaga, S.; Wiggs, M.; McMaster, M.; O'Dea, C.; Koekemoer, A. (2000). *Charge Transfer Efficiency in the WFPC2 CCD Arrays*. Poster presented at the 196th Meeting of the American Astronomical Society, Rochester, NY, June, 2000, #32.09, Bulletin of the American Astronomical Society, Vol. 32, p.721.

Wiggs, M. S.; Biretta, J.; Baggett, S.; Casertano, S.; O'Dea, C.; Schultz, A.; Gonzaga, S.; Heyer, I.; McMaster, M.; Koekemoer, A.; Riess, A. (2000). *The Wide Field Planetary Camera II Status Update*. Poster presented at the 196th Meeting of the American Astronomical Society, Rochester, NY, June, 2000, #32.10, Bulletin of the American Astronomical Society, Vol. 32, p.721.

Heyer, I.; Biretta, J.; Baggett, S.; Casertano, S.; O'Dea, C.; Schultz, A.; Gonzaga, S.; McMaster, M.; Wiggs, M.; Koekemoer, A.; Riess, A. (2000). *HST Wide-Field Planetary Camera II Status Update*. Poster presented at the 195th Meeting of the American Astronomical Society, Atlanta, GA, January, 2000, #85.03; Bulletin of the American Astronomical Society, Vol. 31, p.1499.

Heyer, I.; Whitmore, B.; Casertano, S.; Biretta, J. (1999). *Charge Transfer Efficiency of the Wide Field and Planetary Camera 2*. Poster presented at the 194th Meeting of the American Astronomical Society, Chicago, IL, June, 1999, #08.02, Bulletin of the American Astronomical Society, 31, p.833.

Biretta, J.; Baggett, S.; Casertano, S.; Gonzaga, S.; Heyer, I.; Wiggs, M.; McMaster, M. (1999). *Wide-Field Planetary Camera II Status Update*. Poster presented at the 194th Meeting of the American Astronomical Society, Chicago, IL, June, 1999, #08.01, Bulletin of the American Astronomical Society, 31, p.833.

Lucas, R. A.; Baum, S. A.; Casertano, S.; de Mello, D.; Dickinson, M.; Ferguson, H. C.; Fruchter, A. S.; Gonzalez-Lopezlira, R.; Heyer, I.; Mack, J.; Makidon, R.; Martin, C. L.; Mutchler, M.; Smith, E.; Stiavelli, M.; Teplitz, H. I.; Wiggs, M. S.; Williams, R.; Zurek, D.; Brown, T. M.; Gardner, J. P.; Kaiser, M. E.; Hook, R. N. (1998). *The Hubble Deep Field South: Flanking Fields*. Presented at the 193<sup>rd</sup> Meeting of the American Astronomical Society, Austin, TX, January, 1999, #75.06, Bulletin of the American Astronomical Society, 30, p.1367.

Casertano, S.; de Mello, D.; Ferguson, H. C.; Fruchter, A. S.; Heyer, I.; Hook, R. N.; Lucas, R. A.; Makidon, R.; Mutchler, M.; Stiavelli, M.; Wiggs, M. S.; Williams, R. (1998). *HDF-S: A WFPC2 Deep Image of a Field near QSO J2233-606*. Presented at the 193<sup>rd</sup> Meeting of the American Astronomical Society, Austin, TX, January, 1999, #75.05, Bulletin of the American Astronomical Society, 30, p.1367.

Williams, R.; Baum, S. A.; Bergeron, L. E.; Blacker, B.; Boyle, B. J.; Brown, T. M.; Bernstein, N.; Carollo, C. M.; Casertano, S.; de Mello, D.; Dickinson, M.; Espey, B. R.; Ferguson, H. C.; Fruchter, A. S.; Gardner, J. P.; Gonnella, A.; Gonzalez, R.; Hayes, J.; Hewett, P.; Heyer, I.; Hook, R. N.; Jones, D.; Kaiser, M. E.; Lubenow, A.; Lucas, R. A.; Mack, J.; MacKenty, J. W.; Madau, P.; Makidon, R.; Martin, C. L.; Mazzuca, L.; Mutchler, M.; Norris, R. P.; Perriello, B.; Postman, M.; Royle, P.; Sahu, K. C.; Savaglio, S.; Sherwin, A.; Smith, E.; Stiavelli, M.; Teplitz,

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H. I.; van der Marel, R.; Weymann, R. J.; Wiggs, M. S.; Williger, G. M.; Wilson, J.; Zurek, D. (1998). *The Southern Hubble Deep Field: HDF-S*. Presented at the 193<sup>rd</sup> Meeting of the American Astronomical Society, Austin, TX, January, 1999, #75.01, Bulletin of the American Astronomical Society, 30, p.1366.

Heyer, I.; Baggett, S.; Gonzaga, S.; Biretta, J.A. (1998). *WFPC2 Long-Term Photometric Stability*. Poster presented at the 193<sup>rd</sup> Meeting of the American Astronomical Society, Austin, TX, January, 1999, #36.03, Bulletin of the American Astronomical Society, 30, p.1299.

### TECHNICAL PUBLICATIONS

Heyer, I.; Biretta, J. (2004). *WFPC2 Instrument Handbook, Version 9.0*. Space Telescope Science Institute.

Heyer, I.; Richardson, M.; Whitmore, B.; Lubin, L. (2004). *The Accuracy of WFPC2 Photometric Zeropoints*. WFPC2 Instrument Science Report 04-01, Space Telescope Science Institute.

Koekemoer, A.; Heyer, I.; Brammer, G.; Kozhurina-Platais, V.; Rhoads, J.; Whitmore, B. (2003). *WFPC2 Cycle 12 Calibration Plan*. WFPC2 Instrument Science Report 03-03, Space Telescope Science Institute.

Koekemoer, A.; Heyer, I. (2003). *WFPC2 Instrument Handbook, Version 8.0*. Space Telescope Science Institute.

Koekemoer, A. M.; Gonzaga, S.; Heyer, I.; Lubin, L. M.; Kozhurina-Platais, V.; Whitmore, B. (2002). *Results of the Observatory Verification for WFPC2 after Servicing Mission 3B*. WFPC2 Instrument Science Report 02-06, Space Telescope Science Institute.

Gonzaga, S.; Koekemoer, A.; Whitmore, B.; Heyer, I.; Lubin, L.; McMaster, M.; Platais, V.; Baggett, S.; Brammer, G. (2002). *WFPC2 Cycle 11 Calibration Plan*. WFPC2 Instrument Science Report 02-05, Space Telescope Science Institute.

Whitmore, B.; Heyer, I. (2002). *Charge Transfer Efficiency for Very Faint Objects and a Reexamination of the Long-vs-Short Problem for the WFPC2*. WFPC2 Instrument Science Report 02-03, Space Telescope Science Institute.

Koekemoer, A.M.; Gonzaga, S.; Heyer, I.; Lubin, L.M.; Kozhurina-Platais, V. (2001). *Summary of WFPC2 SM3B Plans*. WFPC2 Instrument Science Report 01-11, Space Telescope Science Institute.

Heyer, I. (2001). *The WFPC2 Photometric CTE Monitor*. WFPC2 Instrument Science Report 01-09, Space Telescope Science Institute.

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Baggett, S.; Gonzaga, S.; Biretta, J.; Casertano, S.; Heyer, I.; Koekemoer, A.M.; Mack, J.; McMaster, M.; Riess, A.; Schultz, A.; Wiggs, M.S. (2001). *WFPC2 Cycle 8 Closure Report*. WFPC2 Instrument Science Report 01-06, Space Telescope Science Institute.

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Biretta, J.; Heyer, I. (2000). *WFPC2 Instrument Handbook, Version 5.0*. Space Telescope Science Institute.

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Biretta, J.; Heyer, I.; Baggett, S.; Casertano, S.; Fruchter, A.; Gonzaga, S.; Krist, J.; Lallo, M.; McMaster, M.; Mutchler, M.; O'Dea, C.; Stiavelli, M.; Suchkov, A.; Whitmore, B. (1997). *Results of the WFPC2 Post-Servicing Mission-2 Calibration Program*. WFPC2 Instrument Science Report 97-09, Space Telescope Science Institute.

Whitmore, B.; Heyer, I. (1997). *New Results on Charge Transfer Efficiency and Constraints on Flat-Field Accuracy*. WFPC2 Instrument Science Report 97-08, Space Telescope Science Institute.

O'Dea, C.P.; Gonzaga, S.; McMaster, M.; Heyer, I.; Hsu, J.C.; Baggett, S.; Rudloff, K. (1997). *Properties of WFPC2 Bias Frames*. WFPC2 Instrument Science Report 97-04, Space Telescope Science Institute.

## Inge Heyer, PhD

Whitmore, B.; Heyer, I.; Baggett, S. (1996). *Effects of Contamination on WFPC2 Photometry*. WFPC2 Instrument Science Report 96-04, Space Telescope Science Institute.

Whitmore, B.; Heyer, I. (1995). *A Demonstration Analysis Script for Performing Aperture Photometry*. WFPC2 Instrument Science Report 95-04, Space Telescope Science Institute.

### ILLUSTRATIVE PUBLIC SPEAKING ENGAGEMENTS

*(an exhaustive list is available upon request)*

Farpoint 2018, Baltimore, MD, 9-11 February 2018  
*Neutron Stars, Kilo Novas, and Gravity Waves*

Capclave, Baltimore, MD, 6-8 October 2017  
*The Great American Solar Eclipse of 2017*

Farpoint 2017, Baltimore, MD, 17-19 February 2017  
*Pluto: New Visions of an Icy World*

Capclave, Baltimore, MD, 7-9 October 2016  
*The Hunt for Alien Worlds*

Balticon 49, Baltimore, MD, 22-25 May 2015  
*Our Solar System: Scales and Latest Discoveries*

Farpoint 2014, Baltimore, MD, 14-16 February 2014  
*The Mysteries of Mars*  
*The Hunt for Earths*

Monarch Academy School, Baltimore, MD, April 2013  
*Our Solar System: Motions, Distances and Basic Properties (grades 4)*

Journey Through The Universe, Hilo, HI, 1-9 March 2012  
*The Solar System Ballet (grades K-5)*  
*Our Solar System: Motions, Distances and Basic Properties (grades 6-8)*

MileHiCon, Denver, CO, 21-23 October 2011  
*Astronomy Through the Ages*  
*Alien Worlds: Real and Imagined*

Wind River Reservation Elementary School, Ethete, WY, 17 October 2011  
*The Solar System Ballet*

World Science Fiction Convention, Reno, NV, 17-21 August 2011  
*From the Dawn of Civilization to One Man's Peek at the Heavens*

**Inge Heyer, PhD**

*A Journey Through the Universe with the Hubble Space Telescope*  
*Alien Worlds: Real and Imagined*  
*The Solar System Ballet (K-6)*

Starfest, Denver, CO, 20-22 April 2011

*A Journey Through the Universe with the Hubble Space Telescope*  
*Alien Worlds: Real and Imagined*

Imiloa Astronomy Center, Hilo, HI, 27 October 2010

*AstroTalk: From the Dawn of Civilization to One Man's Peek at the Heavens*

University of Hawaii at Hilo History Club, Hilo, HI, 29 September 2010

*The History of Astronomy*

Ho`okena School, Captain Cook, HI, 11 May 2010

*Our Solar System: Motions, Distances and Basic Properties*

Ilisimela Secondary School, Cape Town, South Africa, 12 March 2010

*Planetary Motions in our Solar System*

Imiloa Astronomy Center of Hawaii Family Science Day, 28 February 2010

*Alien Worlds Real and Imagined*

Rotary Club of Hilo, Hilo, HI, 4 December 2009

*Mauna Kea Observatory Outreach Activities during the International Year of Astronomy*

Imiloa Astronomy Center of Hawaii, Hilo, HI, 31 October 2009

*The Human Body in Space*

Imiloa Astronomy Center of Hawaii, Hilo, HI, 5 August 2009

*Being the Solar System, a lunch-time mini-workshop*

Shore Leave 31, Baltimore, MD, 10-12 July 2009

*Astronomy among Palm Trees and Snow: Mauna Kea in Hawaii*  
*The Latest Discoveries from UKIRT and JCMT in Hawaii*

Kea`au Middle School Career Fair, Kea`au, HI, 8 May 2009

*Careers in Astronomy, Space Science and Supporting Technologies*

St. Mary Magdalene Elementary School in Peckham/London, UK, 28 April 2009

*Planetary Motion and Distance Scales in Our Solar System (3<sup>rd</sup> grade)*  
*Designing Alien Worlds (5<sup>th</sup> grade)*

University of Hawaii at Hilo 7th Grade Girls Math-Science, Hilo, HI, 11 March 2009

*Proportional Thinking Exercises in Math and Science*

**Inge Heyer, PhD**

University of Hawaii at Hilo Onizuka Science Day, Hilo, HI 24 January 2009  
*Creating Solar Systems, an Astronomy and Art mini-workshop*

Hilo-Waiakea-Laupahoehoe School District Principals Conference, Hilo, HI 21 November 2009  
*The Mauna Kea Observatories K-12 Education and Outreach Programs*

West Hawaii Amateur Astronomy Club, Waimea, HI, 11 November 2009  
*The Latest Discoveries from UKIRT and JCMT in Hawaii*

West Hawaii Explorations Academy, Kona, HI, 9 September 2009  
*Historical Astronomical Measurements of the Earth-Sun-Moon System*

Volcano School of Arts and Sciences, Volcano, HI, 22 August 2009  
*Planetary Motion and Distance Scales in Our Solar System (2<sup>nd</sup> grade)*  
*Designing Alien Worlds (5<sup>th</sup> grade)*

Shore Leave 30, Baltimore, MD, 11-13 July 2008  
*The Latest Discoveries from UKIRT and JCMT in Hawaii*  
*Discovering Extrasolar Planets: Methods and Results*

Imiloa Astronomy Center of Hawaii AstroFest, Hilo, HI, 27 April 2008  
*Between Heaven and Earth, Between Gamma Ray and Radio Waves: Observatory Collaborations Create New Possibilities*

PhoenixCon, Dublin, Ireland, 29-30 March 2008  
*A Journey Through the Universe with the Hubble Space Telescope*  
*Alien Worlds: Real and Imagined*

EasterCon, London, UK, 21-24 March 2008  
*The Latest Discoveries from UKIRT and JCMT in Hawaii*  
*History of Astronomy*

Imiloa Astronomy Center of Hawaii, Star Trek Day at `Imiloa, 3 November 2007  
*Star Trek Technology Becoming Real*

Borders Books, Harry Potter Book Launch, Hilo, HI, 20-21 July 2007  
*Astronomy Class at Hogwarts*

World Science Fiction Convention, Yokohama, Japan, 30 August – 3 September 2007  
*Modern Cosmology (bilingual in English and Japanese)*  
*A Journey Through the Universe with the Hubble Space Telescope (English/Japanese)*  
*Alien Worlds: Real and Imagined (bilingual in English and Japanese)*  
*Infrared and Submillimeter Astronomy in Hawaii (bilingual in English and Japanese)*  
*Solar System Ballet (for K-6) (in Japanese)*

EasterCon, London, UK, 7 April 2007

## Inge Heyer, PhD

*The Latest Discoveries from UKIRT and JCMT in Hawaii*  
*A Journey Through the Universe with the Hubble Space Telescope*

Nexus Convention, Berlin, Germany, 2-4 November 2001

*A Journey Through the Universe with the Hubble Space Telescope (in German)*  
*Living and Working in Space: Astronauts as Telescope Mechanics (in German)*  
*Solar System Ballet (for K-6) (in German)*

Athene Elementary School, Berlin, Germany, 23 October 2001

*The Solar System Ballet (4<sup>th</sup> grade, in German)*

### SERVICE

American Astronomical Society:

Deputy Press Officer (2009-2018)

Press Room Supervisor (1995-2009)

*Duties during the semi-annual society meetings include managing the press room, chairing press conferences, and distributing press releases to national and international journalists.*

Mauna Kea Observatories Outreach Committee:

Chair (2008-2010)

Member (2006-2010)

*Chair of committee to provide strategic planning and leadership direction for the outreach efforts of the 13 Mauna Kea observatories in the planning, development and implementation of coordinated outreach programs, sharing of best practices, and collaboration on joint projects.*

Journey Through The Universe Astronomy Classroom Initiative:

Core Committee (2009-2010)

Presenter (2007-2010)

*Duties include planning, implementation and presenting for annual 1-week astronomy school and community outreach activities in the Hilo-Waiakea-Laupahoehoe School District on the Big Island of Hawaii.*

Big Island of Hawaii District Science Fair for middle and high school students:

Judge and photographer (2007-2010)

MATE Big Island Regional ROV Contest, International ROV Contest:

Judge for robotics competition for middle and high school students (2008-2010)

Workshop Development and presentation:

Teacher Training Workshops on the Big Island of Hawaii (2006-2010)

Hands-on-Optics Workshop for Big Island in-service teachers (2007-2010)

## **Inge Heyer, PhD**

### Curriculum Development:

International Year of Astronomy In-Service K-12 Teacher Monthly Seminar (2009)

### Mentoring

Joint Astronomy Centre

*Mentored five high school interns at the workplace, participated in mentoring workshops (2008-2010).*

### Public Education and Outreach

Space Telescope Science Institute Speakers Bureau Volunteer (1995-2006)

*Delivered 30-50 public lectures annually to schools and civic groups.*

### Conference Organization and Planning

Chair of annual 2000-member regional convention (core committee 1992-2012, chair 2013-current)

Planning and Implementation of International Year of Astronomy Mauna Kea Observatories Block Party (2009)

## **BIOGRAPHICAL INFORMATION**

### Astronomical Observing Experience

Hubble Space Telescope, Kitt Peak (2.1m and 4m Mayall), La Serena (Danish 50cm), Mauna Kea (UKIRT, UH 88" & 24"), Arecibo Radio Telescope

### Language Fluency

English (native-level fluency, both oral and written)

German (native-level fluency, both oral and written)

Japanese (oral conversation-level fluency, written Japanese moderate)

### Software Expertise

Adobe CS5 (InDesign and Photoshop)

MS Office (Word, PowerPoint, Excel)

Technical, popular, and press writing and editing (in English and German)

Black Belts in Judo and Karate

Licensed SCUBA diver

Valid driver's license (no points)

US Citizen