

INGE HEYER, PHD

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SCIENCE EDUCATION AND PUBLIC OUTREACH / PUBLIC RELATIONS / MEDIA RELATIONS

Providing strategic communications leadership in the planning and execution of comprehensive outreach and education programs and events that advance the goals of scientific, educational and other organizations.

- Excel in creating, editing and delivering compelling public outreach content/materials and for various media, including press releases, press kits, presentations, newsletter/magazine articles, talking points, video and exhibits.
- Develop and execute successful outreach plans and strategies that support program scientists/project managers/principal investigators.
- Experienced at developing and managing content for websites, web page management and other online informational and social media networks.
- Chaired committees that planned, coordinated, and ran conferences and similar events (science centers, museums, other venues), science society press office experience, technical/scientific writing and editing (both print and web-based).
- Demonstrated strengths include developing and managing relationships with people at all organizational levels and facilitating inter- and intra-organizational communication including government agencies and educational institutions.

*B.A. in Astronomy and Physics ... M.S. in Astronomy ... Ph.D. in Science Education
Multilingual in English, German, and Japanese
Serving as Deputy Press Officer of the American Astronomical Society*

RELEVANT PROFESSIONAL EXPERIENCE

JOINT ASTRONOMY CENTRE (JAC), Hilo, HI
Public Information Officer

2006 to 2010

Tasked to develop, implement and manage JAC's community relations, public outreach, science and education, and media relations functions. Created content and deliver science presentations for public and educational groups on the latest discoveries from JAC's telescopes as well as astronomy tools for the educational community.

Coordinated communications programs, conferences, meetings and events, including writing press releases and articles on JAC's astronomical science and outreach results published in internal and external newsletters and community magazines.

Chaired 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.

Built and managed ongoing relationships with local, national and international media, government agencies and educational institutions. Developed content for JAC's website, other online informational and social media networks (such as Facebook); maintain JAC's outreach website.

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Selected Achievements

Enhanced JAC's public image as an educational and community resource throughout the Island by creating and executing public outreach plans and strategies. They include:

- Providing all local K-12 teachers with astronomy teaching tools, content and resources for classroom science education programs, tailored to conform to national and state standards.
- Coordinating and expanding JAC's visibility and participation in community events.
- Providing essential communication to international stakeholders by assembling and editing JAC's annual report.
- Communicating JAC's science results to local, national and international print and web media, including organizing and supervising visits by film crews, facilitating local permits and safety requirements.
- Facilitating global public access to JAC's media and outreach resources and tools by creating content and designing and maintaining a dynamic website that now draws 12,000 visitors monthly.
- Chairing a committee to enable coordination between the outreach officers of all local observatories by chairing the Mauna Kea Observatories Outreach Committee (MKOOC, www.mkooc.org).
- Creating new, unique, and comprehensive outreach efforts for the International Year of Astronomy 2009 for JAC and MKOOC.

Awards

- 2009 JAC nominee for Employee of the Year of the Research Corporation of the University of Hawaii.
- JAC exceptional performance award as public information officer in 2009.

SCIENCE RESEARCH & DATA ANALYSIS EXPERIENCE

SPACE TELESCOPE SCIENCE INSTITUTE, Baltimore, MD

1992 to 2006

Research Consultant

2005 to 2006

Created a data archive by providing data analysis and web support for the Spitzer Infrared Nearby Galaxies Survey (SINGS) Project.

Senior Data Analyst

1995 to 2005

Provided data analysis, observer and instrument calibration support for the WFPC2 and ACS optical cameras on board the Hubble Space Telescope. Developed IRAF data reduction and analysis software scripts. Participated in space science public outreach.

- Contributed to early public accessibility of data collected in the Hubble Deep Field North and South Campaigns through data retrieval and image quality control.
- Contributed to significant research results by performing image analysis in the 2004/2005 Supernova Search Campaign.
- Facilitated mission readiness by participating in WFC3 thermal vacuum testing at Goddard Space Flight Center.
- Received 2004 cash award for WFC3 thermal vacuum testing at Goddard SFC.
- Facilitated timely access to latest instrument information for observers by managing edits for the WFPC2 Instrument Handbook.
- Improved access to current instrument information by redesigning and editing the WFPC2 website.
- Supported data analysis/logistical needs of the observers using Hubble by writing and editing documentation, as well as online and in-person support.
- Delivered 30-50 public lectures annually to schools and civic groups; worked in the AAS press office during meetings.
- Received 1995 Hubble Space Telescope Star of Outreach Award for public outreach activities.

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Archive Specialist

1992 to 1994

Facilitated transition to a new generation of science data archive system. Developed tools and training procedures. Developed interfaces for internet access to archive. Reprocessed existing archive data for compatibility with new system. Facilitated data access for principal astronomical investigators on removable media.

TEACHING EXPERIENCE

LOYOLA UNIVERSITY MARYLAND, Baltimore, MD

2012-current

- Taught undergraduate physics and astronomy courses for majors and non-majors. Developed and taught an Integrated Science course (physics, chemistry, biology, astronomy) for K-6 education majors.

UNIVERSITY OF WYOMING, Laramie, WY

2011-2012

- Taught astronomy laboratory for the Physics and Astronomy Department and three sections of physical science for elementary education students for the Education Department.

THE JOHNS HOPKINS UNIVERSITY SPACE GRANT CONSORTIUM, Baltimore, MD

1993 & 2005

- Taught 3-credit graduate class in astronomy for middle and high school science teachers in the Master of Science in Science Education curriculum.

UNIVERSITY OF HAWAII, Honolulu, HI

1985 to 1991

Instructor

- Taught two 3-credit undergraduate astronomy classes in the College of Continuing Education 1991

EDUCATION AND PROFESSIONAL DEVELOPMENT

- Ph.D. in Science Education, University of Wyoming, Laramie, WY, 2012
Dissertation topic: A relationship between learners' spatial reasoning skills and their ability to learn astronomy
- M.S., Astronomy, University of Hawaii at Manoa, Honolulu, HI, 1987
- B.A., Astronomy and Physics, cum laude, Smith College, Northampton, MA, 1985
- Japanese Language Certificate, Tenri University, Tenri, Japan
- Abitur (Baccalaureate), Arndt Gymnasium, Berlin, Germany

Additional / Continuing Education

- Summer School in Astrostatistics at State College, PA
- NATO Summer School in Astrophysics, Iraklio, Greece
- Astronomy education workshops at AAS, ASP, and CAP meetings
- Project Management
- Diversity in the Workplace (member of committee to initiate this course)
- Public Speaking

Membership: American Astronomical Society, National Association of Science Writers

Computer Proficiency

- OS: UNIX (Sun Solaris), Linux, VMS, Windows, some Mac OS X
- Tools: Adobe InDesign, Adobe PhotoShop, Mac iLife, Office: PowerPoint, Word, Excel; SQL, ARUser
- Languages: HTML, FORTRAN, IRAF, some IDL

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ADDENDUM

Additional Skills:

- **Astronomical Observing Experience**
 - Space-based: Hubble Space Telescope (WFPC2 and ACS)
 - Ground-based: Kitt Peak (2.1m and 4m Mayall), La Serena (Danish 50cm), Mauna Kea (UH 88" & 24"), Arecibo Radio Telescope
- **Languages**
 - English (native-level fluency, both oral and written)
 - German (native-level fluency, both oral and written)
 - Japanese (oral conversation-level fluency, written Japanese middle-school level)
 - Some familiarity with French and Spanish

Selected Publications (*Partial List*)

Complete list of publications and links to abstracts are available at <http://www.ingeheyer.com>

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

Slater, S.J., Kao, L., Morgan, W., Oppenheimer, R., & Heyer, I. (editor), (2015). *Active Learning Tutorials for Astronomy & the Planetary Sciences*. Pono Publishing. Laramie, WY. ISBN 978-1515190653

Heyer, I. (2015). The Solar System Dance, in Slater, S.J., Bailey, J.M. & Gibbs, M. (Eds.). *Galileo's Classroom*. Pono Publishing. Laramie, WY. ISBN 978-1515163657

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.

Heyer, I.; Slater, T.F.; Slater, S.J. (2011). 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.

Heyer, Harvey, Usuda, Fujihara, Hamilton, 2010, "The Mauna Kea Observatories Outreach Committee Brings Astronomy to the Hawaiian Public", "Science Education and Outreach: Forging a Path to the Future", *ASP Conference Series Volume 431*, Editors: J. Barnes, D.A. Smith, M.G. Gibbs, J.G. Manning, p.70.

Jogee, Barazza, Rix, Shlosman, Barden, Wolf, Davies, Heyer, et al., 2004, "Bar Evolution over the Last 8 Billion Years: A Constant Fraction of Strong Bars in the GEMS Survey", *ApJ* **615**: L105-L108.

Williams, Blacker, Dickinson, Dixon, Ferguson, Fruchter, Giavalisco, Gilliland, Heyer, Katsanis, Levay, Lucas, McElroy, Petro, Postman, Adorf, Hook 1996, "The Hubble Deep Field: Observations, Data Reduction, and Galaxy Photometry", *The Astronomical Journal*, **112**, p.1335

Edwards, S., Cabrit, S., Strom, S.E., Heyer, I., Strom, K.M., Anderson, E., 1987, "Forbidden Line and Ha Profiles in T Tauri Spectra: A Probe of Anisotropic Mass Outflows and Circumstellar Disks", *ApJ*, **321**, p.473