GRETCHEN R. STAHLMAN

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EDUCATION

University of Arizona, Tucson, AZ
PhD, Information, expected May 2019
- Dissertation: "Exploring the Long Tail of Astronomy: A Mixed-Methods Approach to Searching for Dark Data"
- Committee: P. Bryan Heidorn, Chair (UA School of Information); Steven Bethard (UA School of Information); Erin Leahey (UA School of Sociology); John Mester (UA Research, Discovery & Innovation); Carole Palmer (University of Washington Information School)

Clarion University of Pennsylvania, Clarion, PA
MS, Library Science, August 2010

New Mexico Institute of Mining and Technology, Socorro, NM
BS, General Studies, *graduated with honors*, December 2006

RESEARCH AND TEACHING INTERESTS

- Data curation
- Knowledge organization
- Scholarly communication
- Sociology of knowledge
- Research policy
- Cyberinfrastructure development

PEER REVIEWED PUBLICATIONS

Heidorn, P. B., Stahlman, G. R., & Steffen, J. (2018). Astrolabe: Curating, Linking, and Computing Astronomy's Dark Data. *The Astrophysical Journal Supplement Series*, *236*(1), 3.

Brooks, C. F., Heidorn, P. B., Stahlman, G. R., and Chong, S. S. (2016). Working beyond the confines of academic discipline to resolve a real-world problem: A community of scientists discussing long-tail data in the cloud. *First Monday*.

CONFERENCE PROCEEDINGS AND POSTERS

Stahlman, G.R. & Sheffield, C. (Under Review). *Geoparsing Biodiversity Heritage Library collections: A preliminary exploration.* Extended poster abstract submitted for publication (iConference 2019).

Stahlman, G.S., Heidorn, P.B., Steffen, J. (2018). The Astrolabe Project: Identifying and curating astronomical 'dark data' through development of cyberinfrastructure resources. *EPJ Web of Conferences, 186,* 03003. https://doi.org/10.1051/epjconf/201818603003

Brooks, C., Heidorn, P. B., Stahlman, G., & Chong, S. (2016). DISCOURSES, A COMMUNITY OF SCIENTISTS, AND LONG-TAIL DATA IN THE CLOUD. *AoIR Selected Papers of Internet Research*, *5*.

Heidorn, P.B. and Stahlman, G.R. (2016). The Astrolabe Project: Cloud-based Curation of Data and Software Using Interdisciplinary Infrastructures. Poster presentation at The Science of Consciousness, Tucson, AZ, April 25-30, 2016.

Heidorn, P.B., Stahlman, G.R., and Chong, S. (2015). Datasphere at the Biosphere II: Computation and data in the wild. Poster presentation at iConference, Newport Beach, CA, March 25-26, 2015.

Bhatia, R., et al. (2012). System engineering of the Atacama Large Millimeter/submillimeter Array. *Proceedings of the International Society for Optics and Photonics, volume 8449*. doi: 10.1117/12.926822.

INVITED TALKS

Stahlman, G. (2018). "Discovering Dark Data through the Scholarly Literature", Invited Research Talk. University of Arizona School of Information, Tucson, AZ, October 12, 2018.

Heidorn, P.B. & Stahlman, G.R. (2018). "Astrolabe: Building on Collaborative Networks", Invited Plenary Talk. ESIP Summer Meeting, Tucson, AZ, July 18, 2018.

Stahlman, G.R. (2017). "Exploring the 'Long Tail' of Astronomy Data through Cyberinfrastructure Development", Invited Colloquia Talk, Center for Digital Society and Data Studies / University of Arizona School of Information, Tucson, AZ, February 3, 2017.

FELLOWSHIPS AND AWARDS
- LEADS Fellowship awarded by LEADS-4-NDP program and Drexel University ($5,000)
- Support awarded by University of Wisconsin to attend GeoDeepDive Workshop, August 2018
- SBS Summer Dissertation Fellowship awarded by University of Arizona (declined award to pursue LEADS Fellowship)

- Dissertation Research Grant awarded by University of Arizona Social and Behavioral Sciences Research Institute (SBSRI) ($1986), March 2018
- School of Information PhD Travel Grant ($800) awarded for travel to Library and Information Services in Astronomy (LISA VIII) conference in Strasbourg, France, June 2017
- Research Assistantship funded by the Astrolabe Project, through 2016 UA Accelerate for Success grant, and NSF SI2-SSE award #1642446, "Visualizing Astronomy Repository Data using WorldWide Telescope Software Systems", 2016-2017 (participated in proposal writing)
- Full scholarship and travel support awarded by National Optical Astronomy Observatory to attend the La Serena School of Data Science in La Serena, Chile, August 2015
- Research Development Fellowship awarded by University of Arizona Office for Research & Discovery, 2015-2016 academic year
- Support awarded by National Optical Astronomy Observatory to attend Thirty Meter Telescope annual science forum, June 2015
- Research Assistantship funded by the American Astronomical Society, Summer 2015
- Graduate and Professional Student Council (GPSC) Research and Project Grant awarded for purchase of equipment ($1065.00), December 2014
- Support awarded by Texas Advanced Computing Center to attend "Leveraging High Performance Computing Resources for Managing Large Datasets" workshop and IEEE Big Data Conference, October 2014
- Support awarded by National Optical Astronomy Observatory to attend Thirty Meter Telescope annual meeting, July 2014
- Summer internship funded by Large Synoptic Survey Telescope (LSST) project, 2014
- Tinker Travel Grant offered for predissertation research in Chile, 2014 (declined award for logistics reasons)
- Research Assistantship funded by the Empowering Long Tail Research project, through several collaborative S2I2 National Science Foundation grants, 2013-2014

CONFERENCE AND WORKSHOP PRESENTATIONS

Stahlman, G.R. (2017). Identifying and curating astronomical "dark data" through development of cyberinfrastructure resources. Library and Information Services in Astronomy VIII (LISA VIII), June 7-9, 2017, Strasbourg, France.

Stahlman, G.R. (2016). "Navigating Astronomical Dark Data through Advanced Cyberinfrastructure", American Astronomical Society Author-Referee Workshops at Division for Planetary Sciences Annual Meeting and California Institute of Technology, Pasadena, CA, October 2016.

Heidorn, P.B. and Stahlman, G.R. (2016). Astrolabe Workshop, July 11-12, 2016, Tucson, AZ.

Heidorn, P.B. and Stahlman, G.R. (2015). Arizona Astronomy Data Hub Workshop, July 6-7, 2015, Tucson, AZ.

ADDITIONAL PUBLICATIONS

"My experience as a LEADS Fellow with BHL", *Biodiversity Heritage Library Blog*, September 18, 2018 (https://blog.biodiversitylibrary.org/2018/09/my-experience-as-a-leads-fellow-with-bhl.html)

"Hot science in the classroom: One high school science teacher's dream come true," Astronomical Society of the Pacific, *Mercury Magazine*, Summer 2007

"Chile launches bi-lateral research foundation with United Kingdom," *The Santiago Times*, Santiago, 2012

RESEARCH EXPERIENCE

LEADS Fellow – Smithsonian Biodiversity Heritage Library
May 2018 – present
- Data science fellowship hosted by Drexel University and LEADS-4-NDP program, funded by the Institute for Museum & Library Services (IMLS);
- Project mentored by the Biodiversity Heritage Library (BHL);
- Exploring methods of extracting references to places from 54 million scanned pages of biodiversity literature spanning 500 years, and linking these references to taxonomic references, to produce new species occurrence data
- Overall goal of the project is to disambiguate geographic names (toponyms); translate toponyms to polygons or point locations for visual browsing of BHL collections.

Astrolabe Graduate Research Associate – University of Arizona School of Information, Tucson, Arizona
August 2015 – August 2017
- Project management, including organizing workshops, Advisory Board meetings, technical meetings and software development, and outreach with a growing team of personnel;
- Identified funding opportunities and participated in proposal-writing targeting a variety of funding agencies to develop components of Astrolabe;
- Investigated methods of mining the corpus of astronomy literature and implementing bibliometric methods for locating potential datasets to ingest into Astrolabe;
- Worked closely with the American Astronomical Society, CyVerse and members of the astronomy community to align Astrolabe goals and objectives, and to develop tools for metadata indexing and data analysis;
- Attended conferences and meetings to inform the community about Astrolabe and to obtain feedback and pilot datasets for infrastructure design;
- Coordinated website/portal development and outreach to establish a user community;
- Participated in Zooniverse "Astronomy Rewind" citizen science initiative as project team member and message board moderator.

- Attended NSF MPS Open Data Workshop and contributed to final report (Dec 2016): https://mpsopendata.crc.nd.edu/images/Reports/MPS_Workshop_Report_FinalVersion.pdf

Research Development Fellow – University of Arizona Office for Research and Discovery, Tucson, Arizona
July 2015 - July 2016
- Researched funding and award opportunities and prepared weekly Funding Opportunities Announcement for online distribution to more than 6,000 subscribers, including identifying opportunities of particular interest to a variety of departments and researchers;
- Communicated Limited Solicitations and Early Career opportunities to University of Arizona community and maintained records of internal deadlines and announcements;
- Assisted Research Development Associates with tasks related to proposal development;
- Monitored VPR-ResDev@email.arizona.edu account daily and responded to and directed inquiries as appropriate;
- Assisted with planning Research Development Services meetings, workshops and training sessions.

Graduate Assistant – American Astronomical Society, Tucson, Arizona
May 2015 - August 2015
- Planned and hosted workshop to help shape a vision for a new repository to curate astronomy data, focusing on identifying ways to address the data management needs of the astronomy community and to work harmoniously with journal publishing and other curation initiatives;
- Co-authored subsequent white paper and funded grant proposals to communicate the outcomes of the workshop to the astronomy community and implement the goals identified by participants;
- Researched and engaged in scholarly communication activities in astronomy, such as the Unified Astronomy Thesaurus, telescope bibliography best practices, and data linking;
- Participated in Workshop on Shared Curation of the Astronomical Literature in Cambridge, MA June 12-13, 2015.

Graduate Student Intern – Large Synoptic Survey Telescope (LSST), Tucson, Arizona
May 2014 – August 2014
- Assisted Education and Public Outreach (EPO) subsystem manager with communication-related tasks, including writing newsletter articles, creating and editing web content, maintaining database of contacts, participating in Communication Team and Project Management meetings, and other duties as necessary;
- Collected oral history interviews with key LSST project scientists about the design and production of the telescope's M1/M3 primary/tertiary mirror system and other critical activities;
- Created a prototype Mukurtu framework for a digital repository to document and preserve the history of LSST from conception through operations;
- Researched and proposed an image use policy;
- Evaluated overall project communication, social media and information management strategies.

Graduate Research Assistant – University of Arizona School of Information Resources and Library Science (SIRLS), Tucson, Arizona
August 2013 – May 2014
- Participated in the Empowering Long Tail Research collaboration, a NSF-funded exploratory study investigating Software-as-a-Service (SaaS) solutions to assist small- and medium-sized research laboratories with data management;
- Assisted in creating and distributing a national survey to biodiversity researchers, including managing and analyzing survey data;
- Successfully planned and hosted information-gathering workshop for biodiversity scientists held at the Biosphere II facility in May 2014, including collecting and analyzing qualitative data;
- Attended weekly reading groups and research meetings to innovate new projects and develop current projects;
- Member of SIRLS marketing team, responsible for producing departmental newsletter articles, also creating web content and other promotional publications as needed.

TEACHING EXPERIENCE

Instructor – University of Arizona School of Information, Tucson, Arizona
June 2017 – present
- ESOC 211, Collaborating in Online Communities: Summer 2017 (online), Fall 2017 (online), Spring 2018 (in person), Summer 2018 (online), Fall 2018 (online)
- Ongoing development of curricula for online and in-person teaching.

Teaching Assistant – University of Arizona School of Information, Tucson, Arizona
August 2014 – May 2015
- ESOC 210, Hacking and Open Source Culture, Spring 2015
  (taught by Dr. Cheryl Knott)
- HNRS 150b, Exploring Electronic Presence, Spring 2015
  (taught by Dr. Victor Braitberg)
- ESOC 150b, Social Media and Ourselves, Fall 2014
  (taught by Dr. Laura Lenhart)
- IRLS 474/575, User Interfaces and Web Design, Fall 2014
  (taught by Dr. Martin Frické)
- IRLS 515, Organization of Information, Fall 2014
  (taught by Dr. Martin Frické)
- IRLS 506, Introduction to Research, Fall 2014
  (taught by Dr. Martin Frické)

PROFESSIONAL EXPERIENCE

Co-creator – Navegado, Santiago, Chile,
March 2012 - present

- Partnered with Center for Authentic Science Education Inc. (CASE) to successfully launch the Chile Astronomy Tour in October 2013, guiding an initial group of amateur astronomers from United States on a 10-day excursion to several of Chile's key astronomical centers.
- Pilot tour led to the National Radio Astronomy Observatory's "Astronomy In Chile Educator Ambassador's Program" (ACEAP).

Writer and Web Editor - The Santiago Times, Santiago, Chile,
May 2012 – January 2013
- Created English-language news articles to be published on winesofchile.org;
- Created English-language travel articles to be published on Chile.Travel;
- Uploaded content to Wines of Chile website using Wordpress interface and modified website as requested;
- Managed @WinesofChile Twitter account, creating and posting five or more tweets per day, and interacting with the social media community to widely promote the client;
- Investigated and incorporated methods of promotion and marketing, especially utilizing social media tools;
- Attended Wines of Chile events and conduct interviews and first-hand research as needed;
- Translated three Sernatur travel articles per week from Spanish to English, for publication on Chile.Travel.

Document Specialist, System Engineering - Atacama Large Millimeter/submillimeter Array, Santiago, Chile, February 2012 - July 2012
- Edited and prepared documents for Configuration Control Board approval;
- Maintained the ALMA document number classification system;
- Organized documentation within the Electronic Documentation Management system and other project management software tools;
- Attended Configuration Control Board meetings, creating meeting agendas and minutes, sending notifications, and monitoring action items to facilitate swift resolution of critical issues;
- Participated in selection of information management software;
- Updated documentation procedures and standards;
- Monitored documentation deliverable packages received from international partners;
- Traveled to the Operations Support Facility near San Pedro de Atacama to assist ALMA staff members on-site as necessary;
- Collaborated with other members of the System Engineering team and ALMA staff worldwide on documentation and information management themes.

Technical Writer and Documentation Specialist, ALMA Back End IPT - National Radio Astronomy Observatory, Socorro, NM, USA, January 2007 - August 2011
- Ensured production and delivery of a large documentation package describing a complex technical system;
- Reviewed and edited engineering documentation for quality assurance;
- Managed the IPT-level document approval and archival process using EDM software;
- Assisted Back End engineers in creating technical and administrative documents;
- Supervised another Documentation Specialist;

- Prepared and contributed to official Back End IPT reports;
- Offered EDM troubleshooting advice and support to Back End engineers;
- Traveled frequently, and communicated regularly with other documentation, engineering and scientific staff, as a member of an international team.

Assistant Circulation Supervisor - New Mexico Institute of Mining and Technology Joseph R. Skeen Library, Socorro, NM, USA, August 2001 - March 2007
- Assisted in managing the Circulation Department and supervising staff of up to 15 student employees;
- Administered overdue notices and billing for overdue fines using LIBROS (integrated library system);
- Created and maintained Circulation Department webpage;
- Participated in implementation of DSpace digital library;
- Provided Reference services and conducted library tours;
- Attended annual New Mexico Library Association conferences;
- Created appealing displays and Circulation Desk publications.

ACADEMIC SERVICE

- Member, WorldWide Telescope Advisory Board, 2017-present
- Contributor, Unified Astronomy Thesaurus Steering Committee, 2016-present
- Contributor, Astrolabe Advisory Board, 2016-present

SKILLS

Professional
- Project and information management, including acting as a liaison between collaborating project managers, software and data engineers, scientists, and technical and administrative staff;
- Digital and academic librarianship and scholarship in the field of information science;
- Research development and grant proposal writing;
- Scholarly, technical, journalistic, and creative writing;
- Spanish-English translation and bilingual, multimedia communication;

Technical
- Programming and scripting - Unix, Python, R;
- Experience with cyberinfrastructure, institutional repositories, and document and version control software;
- Knowledge of configuration control, quality assurance and product and data lifecycle management;
- Proficient in a variety of design and web publishing tools, including Wordpress;
- Basic website creation using CSS and HTML;
- Qualitative data analysis with NVivo; Quantitative data analysis with Stata and Python

Languages
- **English:** native language;
- **Spanish:** reading comprehension 4.5/5, writing ability 4/5, spoken ability 4/5, and aural comprehension 4.5/5 *(Language proficiency evaluated by Dr. Yadira Berigan, University of Arizona Department of Spanish and Portuguese, 03/13/2014).*

REFERENCES

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