

Peter T. Darch

Assistant Professor
School of Information Sciences
University of Illinois at Urbana-Champaign
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Employment

Assistant Professor, School of Information Sciences, University of Illinois at Urbana-Champaign (August 2015-Present)

Faculty Affiliate: National Center for Supercomputing Applications (August 2015-Present)

Postdoctoral Researcher, University of California, Los Angeles (August 2012-August 2015)

Project: The Transformation of Knowledge, Culture, and Practice in Data-Driven Science: A Knowledge Infrastructures Perspective (Alfred P. Sloan Foundation Award #20113194)

Supervisors: Professor Christine Borgman and Professor Sharon Traweek

Research Assistant, University of Oxford (2009-2010)

Project: Embedding e-Science: Designing and Managing for Usability (Engineering and Physical Sciences Research Council Grant #EP/D049733/1).

Supervisor: Professor Marina Jirotko

Education

DPhil Computer Science, University of Oxford (2007-2012)

Thesis: When Scientists Meet the Public: An Investigation into Citizen Cyberscience Projects

Supervisors: Dr Annamaria Carusi and Professor Marina Jirotko

Examiners: Professor David De Roure (University of Oxford) and Professor Robin Williams (University of Edinburgh)

MA History and Philosophy of Science and Medicine, Durham University (2006-2007)

Thesis: "We Have Discovered the Secret of Life": How Did James Watson and Francis Crick Secure Priority in the Immediate Aftermath of the Publication of their Model of DNA on 25 April 1953?

Supervisor: Dr Matthew Eddy

MMath Mathematics, University of Oxford (2000-2004)

Honours Degree, First Class

Thesis: Bayesian Approaches to the Design of Clinical Trials

Supervisor: Professor John Gittings

Publications

Peer-Reviewed Journal Articles

Darch, P. T. (2017). When Scientists Become Social Scientists: How Citizen Science Projects Learn About Volunteers. *International Journal of Digital Curation*, 12(2), pp. 61-75, doi: 10.2218/ijdc.v12i2.551.

Darch, P. T. & Knox, E. J. M. (2017). Ethical Perspectives on Data and Software Sharing in the Sciences: A Research Agenda. *Library and Information Science Research*, 39(4), pp. 295-302. doi: 10.1016/j.lisr.2017.11.008.

Darch, P. T., & Borgman, C. L. (2016). Ship Space to Database: Emerging Infrastructures for Study of the Deep Seafloor Biosphere. *PeerJ Computer Science* (available online at: <https://peerj.com/articles/cs-97/>). doi: 10.7717/peerj-cs.97.

Borgman, C. L., Golshan, M. S., Sands, A. E., Wallis, J. C., Cummings, R. L., & **Darch, P. T.** (2016). Data Management in the Long Tail: Science, Software, and Service. *International Journal of Digital Curation*, 11(1), pp. 128-149. doi: 10.2218/ijdc.v11i1.428.

Borgman, C. L., **Darch, P. T.,** Sands, A. E., Wallis, J. C., & Traweek, S. (2015). Knowledge Infrastructures in Science: Data, Diversity and Digital Libraries. Invited submission to: *International Journals on Digital Libraries*, 16(3-4), pp. 207-227. doi: 10.1007/s00799-015-0157-z.

Darch, P. T., Borgman, C. L., Traweek, S., Cummings, R. L., Wallis, J. C., & Sands, A. E. (2015). What Lies Beneath?: Knowledge Infrastructures in the Deep Seafloor and Beyond. *International Journal on Digital Libraries*, special issue on Digital Scholarship. doi:10.1007/s00799-015-0137-3

Darch, P. T. (2014). Managing the Public to Manage Data: Citizen Science and Astronomy. *International Journal of Digital Curation*, 9(1), pp. 25-40. doi: 10.2218/ijdf.v9i1.298.

Darch, P. T., & Carusi, A. (2010). Retaining Volunteers in Volunteer Computing Projects. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 368(1926), pp. 4177-4192. doi:10.1098/rsta.2010.0163.

Peer-Reviewed Book Chapters

Darch, P. T. (Forthcoming). Data Ethics. In: (eds.) Knox, E. J. M. & Burgess, J. T. F., *Foundations of Information Ethics*, ALA Publishers: Chicago, IL.

Peer-Reviewed Conference Papers

Darch, P. T. (Forthcoming). Limits to the Pursuit of Reproducibility: Emergent Data-Scarce Domains of Science. *iConference 2018*, Sheffield, UK, 25-28 March 2018.

Darch, P. T., & Sands, A. E. (2017). Uncertainty About the Long Term: Digital Libraries, Astronomy Software, and Open Source Software. *IEEE-ACM Joint Conference on Digital Libraries 2017*, Toronto, Canada, 18-22 June 2017.

Borgman, C. L., **Darch P. T.,** Sands, A. E., & Golshan, M. S. (2016). The Durability and Fragility of Knowledge Infrastructures: Lessons Learned from Astronomy. *American Society for Information Science and Technology Annual Meeting*, Copenhagen, Denmark, 14-18 October 2016 (available online at: <https://arxiv.org/abs/1611.00055>).

Pasquetto, I., Sands, A. E., **Darch, P. T.,** & Borgman, C. L. (2016). Open Data in Scientific Settings: From Policy to Practice. *ACM CHI 2016*, San Jose, CA, 7-12 May 2016. doi: 10.1145/2858036.2858543.

Darch, P. T. (2016). Many Methods, Many Microbes: Methodological Diversity and Standardization in the Deep Subseafloor Biosphere. *iConference 2016*, Philadelphia, PA, 20-23 March 2016. doi: 10.9776/16246.

Darch, P. T. & Sands, A. E. (2015). Beyond Big or Little Science: Understanding Data Lifecycles in Astronomy and the Deep Subseafloor Biosphere. *iConference 2015*, Newport Beach, CA, 24-27 March 2015 (available online at: <http://hdl.handle.net/2142/73655>).

Darch, P. T., & Borgman, C. L. (2014). Ship Space to Database: Scientific and Social Motivations for a Database to Support Deep Subseafloor Biosphere Research. *Proceedings of the American Society for Information Science and Technology Annual Meeting*, Seattle, WA, 31 October – 4 November 2014. doi: 10.1002/meet.2014.14505101056.

Borgman, C. L., **Darch, P. T.,** Sands, A. E., Wallis, J. C., & Traweek, S. (2014). The Ups and Downs of Knowledge Infrastructures in Science: Implications for Data Management. *Proceedings of the ACM/IEEE Joint Conference on Digital Libraries 2014 and International Conference on Theory and Practice in Digital Libraries 2014*, London: IEEE Computer Society. doi: 10.1109/jcdl.2014.6970177.

Invited Talks and Presentations

Darch, P. T. (2017). Data Friction Meets Social Friction: Challenges for Standardization in Emerging Domains of Geoscience at *American Geophysical Union Fall Meeting*, New Orleans, LA, 11-15 December 2017.

Darch, P. T., Sands, A. E., Borgman, C. L., Traweek, S., & Golshan, M. G. (2017). Same Data, Differing Objectives: What Happened When Research Libraries Took on a Large Scientific

Dataset, invited submission to panel on ‘Organizational and Institutional Work in Data Infrastructures’ at *American Society for Information Science and Technology Annual Meeting*, Washington D. C., 27 October – 1 November 2017.

Borgman, C. L., & **Darch, P. T.** (2017). The Challenges of Reproducibility in Data Scarce Fields. *DataONE Webinar*, 9 May 2017, available at: <https://www.dataone.org/webinars/challenges-reproducibility-data-scarce-fields>.

Darch, P. T. & Borgman, C. L. (2016). Assessing Data Quality in Emergent Domains of Earth Sciences, *American Geophysical Union Fall Meeting*, San Francisco, CA, 12-16 December 2016.

Conference Presentations Based on Peer-Reviewed Abstracts

Darch, P. T. (Forthcoming). Too Much, Too Soon?: Emerging Domains of Science and the Logic of Reproducibility. *European Association for the Study of Science and Technology (EASST) 2018*, Lancaster, UK, 25-28 July 2018.

Darch, P. T., Sands, A. E., Borgman, C. L., Golshan, M. S., & Traweek, S. (2017). From Sky to Archive: Long Term Management of Sky Survey Data, *229th Meeting of the American Astronomical Society*, Grapevine, TX, 3-7 January 2017.

Darch, P. T. (2016). Reproducibility in Data Scarce Environments, *American Geophysical Union Fall Meeting*, San Francisco, CA, 12-16 December 2016.

Darch, P. T. & Sands, A. E. (2016). It’s About Time: How Do Sky Surveys Manage Uncertainty About Scientific Needs Many Years into the Future?, *228th Meeting of the American Astronomical Society*, San Diego, CA, 12-16 June 2016.

Sands, A. E., & **Darch, P. T.** (2016). What Does it Mean to Manage Sky Survey Data?: A Model to Facilitate Stakeholder Conversations, *228th Meeting of the American Astronomical Society*, San Diego, CA, 12-16 June 2016.

Darch, P. T., Sands, A. E., & Traweek, S. (2015). Designing Data Infrastructures with Multiple, Disparate Networks, *Society for the Social Studies of Science (4S) Annual Meeting*, Denver, CO, 11-14 November 2015.

Darch, P. T. (2014). Opening up a Dark Habitat and Opening up Data: The Co-Emergence of Scientific Collaboration, Infrastructure for Data-Sharing, and Data-Sharing Practices, *British Sociological Association Annual Conference*, Leeds, UK, 23-25 April 2014.

Darch, P. T. (2014). Ship Space and Database. *Why Things Matter Conference*, Fullerton, CA, 7-8 March 2014.

Darch, P. T. & Cummings R. L. (2013). Buried Deep: How Data About Subseafloor Life Becomes Dark and Why, *American Geophysical Union Fall Meeting*, San Francisco, CA, 9-13 December 2013.

Darch, P. T. (2013). Becoming “Hyperdisciplinary”: Implications of Increasingly Hybrid Collaborations, *Society for the Social Studies of Science (4S) Annual Meeting*, San Diego, CA, 9-12 October 2013.

Darch, P. T., Turilli, M. & Jirotko, M. (2010). Collaboration and Communication in e-Science Projects, *UK e-Science All-Hands Meeting*, Cardiff, UK, 13-16 September 2010.

Darch, P. T., & Jirotko, M. (2009). Shared Understandings of End-Users’ Requirements in e-Science Projects, *5th IEEE International Conference on e-Science*, Oxford, UK, 9-11 December 2009.

Darch, P. T. (2009). Retaining Volunteers in Volunteer Computing Projects, *UK e-Science All-Hands Meeting*, Oxford, UK, 7-9 December 2009.

Darch, P. T. (2009). Scientists’ Understanding of the Public: Changing Perceptions in a Volunteer Computing Project, *Postgraduate Science and Technology Studies Conference*, Nottingham, UK, 28 & 29 July 2009.

Darch, P. T., Carusi, A., & Jirotko, M. (2008). A Climate of Trust: Perceptions of Legitimate Authority in a Volunteer Computing Project, *Oxford e-Research Conference*, Oxford, UK, 11-13 September 2008.

Conference Posters

Darch, P. T. (2017). How Do Researchers Trust Data in New and Emerging Scientific Domains? *Research Data Alliance 9th Plenary*, Barcelona, Spain, 5-7 April 2017.

Darch, P. T. (2016). How Scientists Assess Trustworthiness of Data Produced by Others?: Do Practices Shape Infrastructure, or Vice Versa? *FORCE 2016*, Portland, OR, 18-19 April 2016.

Darch, P. T. (2015). Microbial Diversity, Methodological Diversity?: Promoting and Resisting Standardization in the Deep Subseafloor Biosphere, *American Geophysical Union Fall Meeting*, San Francisco, CA, 14-18 December 2015.

Cummings, R. L., & **Darch, P. T.** (2013). Between Land and Sea: Divergent Data Stewardship Practices in Deep-Sea Biosphere Research, *American Geophysical Union Fall Meeting*, San Francisco, CA, 9-13 December 2013.

Technical Reports

Darch, P. T., Carusi, A., Lloyd, S., Jirotko, M., de la Flor, G., Schroeder, R., & Meyer, E. (2010). Shared Understandings in e-Science Projects. *Technical Report*, Oxford e-Research Centre, Oxford University (available online at: <http://www.oerc.ox.ac.uk/projects/embedding-e-science/reports-publications-and-conference-papers>).

Darch, P. T., Turilli, M., Lloyd, S., Jirotko, M., & de la Flor, G. (2010). Communication and Collaboration in e-Science Projects. *Technical Report*, Oxford e-Research Centre, Oxford University (available online at: <http://www.oerc.ox.ac.uk/projects/embedding-e-science/reports-publications-and-conference-papers>).

Teaching Experience

Undergraduate Course

Social Analysis of Information Communication Technologies (LIS 202), co-taught with Professor Leslie Gasser, Fall 2015, Spring 2016

Graduate Courses

Social Analysis of Information Communication Technologies (LIS 590SI), Spring 2016
Information Transfer and Collaboration in Science (LIS 590TR), Fall 2016
Sociotechnical Information Systems (LIS 543), Spring 2017*, Fall 2017* (two sections)

** indicates inclusion on UIUC List of Teachers Rated as Excellent by Their Students*

Advisor to Doctoral Students

M. Elizabeth Strickland Bloch, School of Information Sciences, UIUC, Spring 2017-
Lo Lee, School of Information Sciences, UIUC, Fall 2017-

Doctoral Thesis Committee Membership

Dianah Kacunguzi, School of Information Sciences, UIUC, (proposal defended Fall 2017)
Jimi Jones, School of Information Sciences, UIUC, (proposal defended Spring 2017)
Joo Ho Lee, School of Information Sciences, UIUC, (proposal defended Spring 2017)
Sungyong Ahn, Institute of Communication Research, UIUC

Doctoral Field Examination Committee Membership

Ly Dinh, School of Information Sciences, UIUC, Spring 2018 (forthcoming)
Dianah Kacunguzi, School of Information Sciences, UIUC, Spring 2017
Jimi Jones, School of Information Sciences, UIUC, Fall 2016
Julia Burns Petrella, School of Information Sciences, UIUC, Fall 2016
M. Elizabeth Strickland Bloch, School of Information Sciences, UIUC, Fall 2016

Other Professional Information

Academic Service

University of Illinois at Urbana-Champaign

Chancellor's Committee on Lesbian, Gay, Bisexual and Transgender Concerns, 2015-16,
2016-17

School of Information Sciences, UIUC

Admissions Committee, 2015-16
Doctoral Studies Committee 2016-17
Diversity Committee, 2017-18

Reviewer

Big Data and Society
Information and Culture
Journal of the Association for Information Science and Technology
Journal of Computer Supported Co-Operative Work
Library and Information Science Research
New Media and Society

Conference Program Committee Memberships

ACM/IEEE Joint Conference on Digital Libraries 2018, Fort Worth, TX, 3-6 June 2018
ACM Special Interest Group on Computer-Human Interaction, San Jose, CA, 7-12 May 2016
4th ACM Web Science Conference, Evanston, IL, 22-24 June 2012
3rd ACM Web Science Conference, Koblenz, Germany, 14-17 June 2011

Conference Organizing Committee Membership

Information Ethics Roundtable, Champaign-Urbana, IL, 21-22 April 2017