

Dakota S. Murray

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Current Position

Postdoctoral Associate
Center for Complex Networks Research (Advisor: Albert-Laszlo Barabasi)
Network Science Institute, Northeastern University

Areas of Specialization

Science of Science • Computational Social Science • Data Science

Education

- | | |
|-----------|--|
| 2016-2021 | PH.D. in Informatics
Track in <i>Computing, Culture, and Society</i> ; Minor in <i>Statistics</i>
School of Informatics, Computing, and Engineering, Indiana University Bloomington
Dissertation: “ <i>Embracing Complexity in the Science of Science</i> ”
Advisors: Drs. Cassidy R. Sugimoto and Yong-Yeol Ahn |
| 2012-2016 | B.S. in Computer Science
Department of Computer Science, Appalachian State University
Advisor: Dr. Mitch Parry |

Appointments and Employment

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|---------------|---|
| 2021-present | Postdoctoral Associate
Dr. Albert-Laszlo Barabasi
Northeastern University |
| 2019-2021 | Research Assistant
Dr. Yong-Yeol Ahn, <i>Science Genome Project</i>
School of Informatics, Computing, and Engineering, Indiana University |
| 2018-2019 | Associate Instructor
School of Informatics, Computing, and Engineering, Indiana University |
| 2017 (Summer) | Visiting Scholar
Center for Science and Technology Studies, Leiden University |
| 2016-2018 | Research Assistant
Dr. Cassidy Sugimoto, <i>Scholarly Communication Lab</i> |

School of Informatics, Computing, and Engineering, Indiana University

2013-2016 Research Assistant and Web Developer
Department of Computer Science, Appalachian State University

2015 NIFS Student Intern
(Summer & NASA Langley Research Center
Fall)

Publications

JOURNAL ARTICLES AND INDEXED CONFERENCE PROCEEDINGS

- Boothby, C., **Murray, D.**, Sugimoto, C. R., Waggy, A. P., & Tsou, A. (in press). Credibility of Scientific Information on Social Media: Variation by Platform and Presence of Formal Credibility Cues.
- Miao, L., **Murray, D.**, Jung, W.-S., Larivière, V., Sugimoto, C. R., & Ahn, Y.-Y. (under review). The latent structure of national scientific development.
- Lamers, W. S., Boyack, K., Larivière, V., Sugimoto, C. R., van Eck, N. J., Waltman, L., & **Murray, D.** (2021). Measuring Disagreement in Science.
- **Murray, D.**, Yoon, J., Kojaku, S., Costas, R., Jung, W., Milojević, S., & Ahn, Y. (under review). Unsupervised embedding of trajectories captures the latent structure of mobility.
- 2020 **Murray, D.**, Boothby, C., Zhao, H., Minik, V., Bérubé, N., Larivière, V., & Sugimoto, C. R. (2020). Exploring the personal and professional factors associated with student evaluations of tenure-track faculty. *PLOS ONE*, 15(6), e0233515.
- 2020 Brown, J., **Murray, D.**, Furlong, K., Coco, E., & Dablander, F. (2021). A breeding pool of ideas: Analyzing interdisciplinary collaborations at the Complex Systems Summer School. *PLOS ONE*, 16(2), e0246260.
- 2019 Robinson-Garcia, N., Sugimoto, C. R., **Murray, D.**, Yegros-Yegros, A., Larivière, V., & Costas, R. (2019). The many faces of mobility: Using bibliometric data to measure the movement of scientists. *Journal of Informetrics*, 13(1), 50–63.
- 2019 Bu, Y., **Murray, D. S.**, Xu, J., Ding, Y., Ai, P., Shen, J., & Yang, F. (2018). Analyzing scientific collaboration with “giants” based on the milestones of career. *Proceedings of the Association for Information Science and Technology*, 55(1), 29–38.
- 2019 **Murray, D.**, Siler, K., Larivière, V., Chan, W. M., Collings, A. M., Raymond, J., & Sugimoto, C. R. (2019). Author-Reviewer Homophily in Peer Review.[Preprint]. *BioRxiv*.
- 2018 Robinson-Garcia, N., Sugimoto, C. R., **Murray, D.**, Yegros-Yegros, A., Larivière, V., & Costas, R. (2018). Scientific mobility indicators in practice: International mobility profiles at the country level. *El Profesional de La Información*, 27(3), 511.
- 2018 Bu, Y., Ding, Y., Liang, X., & **Murray, D. S.** (2018). Understanding persistent scientific collaboration. *Journal of the Association for Information Science and Technology*, 69(3), 438–448.
- 2018 Bu, Y., **Murray, D. S.**, Ding, Y., Huang, Y., & Zhao, Y. (2018). Measuring the stability of scientific collaboration. *Scientometrics*, 114(2), 463–479.
- 2018 Chinchilla-Rodríguez, Z., Miao, L., **Murray, D.**, Robinson-García, N., Costas, R., & Sugimoto, C. R. (2018). A Global Comparison of Scientific Mobility and Collaboration According to National Scientific Capacities. *Frontiers in Research Metrics and Analytics*, 3.
- 2017 Sugimoto, C. R., Robinson-Garcia, N., **Murray, D. S.**, Yegros-Yegros, A., Costas, R., & Larivière, V. (2017). Scientists have most impact when they’re free to move. *Nature*, 550(7674), 29–31.
- 2017 Das, S., Goard, J., & **Murray, D.** (2017). How Celebrities Feed Tweeples with Personal and Promotional Tweets: Celebrity Twitter Use and Audience Engagement. In *Proceedings of the 8th*

International Conference on Social Media and Society (pp. 30:1–30:5). New York, NY, USA: ACM.

OTHER PUBLICATIONS

- 2019 Sugimoto C, Allen L, Jeroen B et al. Rethinking Impact Factors: New Pathways in Journal Metrics. *F1000Research* 2019, 8:671 (document).
- 2018 Cassidy R. Sugimoto, **Dakota S. Murray**, and Vincent Larivière (April 26, 2018), "Open citations to open science", *ISSI Blog*.
- 2017 Rodrigo Costas, Alfredo Yegros, Vincent Larivière, Cassidy Sugimoto, Nicolas Robinson-Garcia, **Dakota S. Murray** (October 5, 2017), "The global scientific brain: Policy implications of barriers to scientific mobility", *CWTS Blog*.

Conference Works and Talks

REFEREED CONFERENCE WORKS

- 2021 Kozłowski, **D., Murray**, D. S., Bell, A., Hulsey, W., Larivière, V., Monroe-White, T., & Sugimoto, C. R. (2021). Avoiding bias when inferring race using name-based approaches. *ISSI 2021*. Leuven, Belgium (virtual).
- 2020 **Murray D.**, Larivière V., Sugimoto C.R., & Cabanac G., (2020). Honoring our dead: text mining a century of academic obituaries in *The Lancet*. *IC2S2 2020*. Boston, USA (virtual).
- 2019 **Murray, D.**, Larivière, V., Sugimoto C. R., (2019). Context matters: how the usage and semantics of hedging terms differs between sections of scientific papers. *ISSI2019*. Rome, Italy.
- 2019 **Murray, D.**, Lamers, W., Boyack K., Larivière, V., Sugimoto C. R., van Eck, N., Waltman L., (2019). Measuring disagreement in science. *ISSI2019*. Rome, Italy.
- 2019 Miao, L., **Murray, D.**, Larivière, V., Sugimoto, C., Jung, W-S., & Yeol, Y-Y., (2019). The disciplinary structure of nation's scientific production. *NetSci2019*. Burlington, Vermont, USA.
- 2017 **Murray, D.**, Zhou, H., Minik, V., Larivière, V., & Sugimoto, C. R., (2017). Are Great Researchers Terrible Teachers? How research and teaching performance relate at U.S. universities. *ISSI2017*. Wuhan, China
- 2017 Robinson-Garcia, N., Sugimoto, C.R., **Murray, D.**, Yegros-Yegros, A., Larivière, V., & Costas, R. (2017). Unveiling the multiple faces of mobility: Towards a taxonomy of scientific mobility types based on bibliometric data. *STI2017*. Paris, France.
- 2017 Chinchilla-Rodriguez, Z., Miao, L., **Murray, D.**, Robinson-Garcia, N., Costas, R., & Sugimoto, C.R. (2017). A large-scale comparison of the position of countries in international collaboration and mobility according to their scientific capacities. *STI2017*. Paris, France.
- 2017 **Murray, D.**, Sugimoto, C.R., & Lariviere, V. (2017). A balanced portfolio? The relationship between gender and funding for US academic professors. *STI2017*. Paris, France.
- 2017 Miao, L., **Murray, D.**, Chinchilla-Rodriguez, Z., Lariviere, V., & Sugimoto, C.R. (2017). Glass boundaries: Differences in interdisciplinarity between men and women. *STI2017*. Paris, France.

PANELS

- 2018 Zaida Chinchilla-Rodríguez, presented by **Dakota Murray**, (2018) Moving on up: the relationship between international mobility and global leadership. 4S, Sydney, Australia
- 2018 Cassidy Sugimoto, **Dakota Murray**, & Vincent Larivière, Open panel, *The Global Scientific Brain: International Mobility of the Scientific Workforce*, 4S Sydney, Sydney, Australia

INVITED TALKS

- 2020 **Murray, D.**, Lamers, W., Eck, N., Boyack, K., Larivière, V., Waltman, L., Sugimoto, C.R. (2020). Measuring disagreement in science. CWTS Colloquium. Leiden Univeristy, Netherlands.
- 2020 **Murray, D.** Embeddings capture the multiscale structure of scientific mobility (2020). Data Science Student Consortium. Univeristy of Michigan, Ann Arbor, USA.

POSTERS

- 2020 **Murray, D.**, Yoon, J., Kojaku, S., Costas, R., Jung, W., Milojević, S., & Ahn, Y. (2020). Unsupervised embedding of trajectories captures the latent structure of mobility. NetSci 2020. Rome, Italy.
- 2020 **Murray, D.**, Yoon, J., Kojaku, S., Costas, R., Jung, W., Milojević, S., & Ahn, Y. (2020). Unsupervised embedding of trajectories captures the latent structure of mobility. IC2S2 2020. Boston, USA.
- 2020 **Murray, D.**, Cabanac, G., Larivière, V., & Sugimoto, C.R. (2020). Honoring our dead: text mining a century of academic obituaries in The Lancet. IC2S2 2020. Boston, USA.
- 2020 Miao, L., **Murray, D.**, Larivière, V., Sugimoto, C.R., Jung, W & Ahn, Y. (2020). The scientific development of nations. IC2S2 2020. Boston, USA.

WORKSHOPS AND SCHOOLS

- 2021 Santa Fe Institute's *Graduate Workshop in Computational Social Science*, Santa Fe, New Mexico (virtual)
- 2020 Understanding and Exploring Network Epidemiology in the Time of Coronavirus, (virtual)
- 2019 *Complex Networks Winter Workshop*, Quebec City, Canada
- 2019 Invited Scholar, *MIDAS Data Science Symposium*, Ann Arbor, Michigan
- 2019 Santa Fe Institute's *Summer School in Complex Systems*, Santa Fe, New Mexico
- 2017 Lorentz Center Workshop *Rethinking Impact Factors: New Pathways in Journal Metrics*, Leiden, Netherlands.

Grants, honors, and awards

GRANTS AND OTHER FUNDING

- 2019 GISA Departmental Travel Award, School of Informatics, Computing, and Engineering - \$950
- 2017-2018 Integrated Doctoral Education with Application to Scholarly Communication (IDEASc) fellowship, Institute of Museum and Library Services
- 2017 Cross-track collaboration travel grant, School of Informatics, Computing, and Engineering - \$500

ACADEMIC AWARDS

- 2016 Graduated B.S. *Summa Cum Laude* and with departmental honors
- 2012-2016 Chancellor's List (GPA > 3.85), Appalachian State Univeristy
- 2012, 2013 NSF Academy of Science Scholarship at Appalachian State University

Teaching

INDIANA UNIVERSITY BLOOMINGTON

- Fall 2018- Associate Instructor, Informatics Capstone I & II: Design and Development of an Information System
- Spring 2019

APPALACHIAN STATE UNIVERSITY

2015-2016 Computer Science Tutor, Appalachian State University
2013 Lab Assistant, Computer Science I and II

GUEST LECTURES

Spring 2021 Introduction to bibliometric indicators in your career. *Article writing for graduate students*. Indiana University Bloomington.
Fall 2019 Introduction to bibliometric indicators in your career. *Article writing for graduate students*. Indiana University Bloomington.
Fall 2019 Excel workshop for beginners. *Understanding Social Data*. Indiana University Bloomington.
Fall 2019 Introduction to Machine Learning. *Sociology: Understanding Social Data*. Indiana University Bloomington.
Fall 2019 A gentle overview of academic conferences. *Informatics: Intro to informatics*. Indiana University Bloomington.
Spring 2018 Invited presenter and discussion leader. *Informatics: intro to informatics*. Indiana University Bloomington.

Service

REVIEWING

(Year of first review): *Science Advances* (2021) *Quantitative Science Studies* (2020); *Frontiers in Research Analytics and Metrics* (2020); *Advances in complex systems* (2020); *International Journal of Information Management* (2019); *Scientometrics* (2019); *PLoS Computational Biology* (2019); *PLoS One* (2017); *Journal of Informetrics* (2017); *Journal of the Association for Information Science & Technology* (2017)

INDIANA UNIVERSITY BLOOMINGTON

2017-2018 Representative, Graduate and Professional Student Government, Indiana University Bloomington
2017 Publicity Chair, Graduate Informatics Student Association, Indiana University Bloomington
2016 Social Chair, Graduate Informatics Student Association, Indiana University Bloomington

PROFESSIONAL ORGANIZATIONS

2018 - present Member, Society for the Social Studies of Science
2017 - present Member, International Society for Scientometrics and Informetrics