

## Matt Carson



### Matthew B. Carson, PhD

Ward 2-321

Phone: (312) 503-5321

[Email Matt](#)



Matt is a trained bioinformatician with a wide range of experience in informatics and data science. He has developed, directed, and taught data science courses in the Driskill Graduate Program, the Health Sciences Integrated Program, and the Master of Science in Clinical Investigation Program. As Head of Galter's Digital Systems Department, Matt oversees the creation, development, and maintenance of the library's website, as well as the evaluation and implementation of systems that support the goals and mission of the library and Northwestern University. He leads the DataLab, a research support core that designs and develops novel, sustainable data services throughout all stages of the research data life cycle. He is the Northwestern Project Lead for [InvenioRDM](#), a multi-site collaborative project led by CERN to build a turn-key, next-generation research data management platform. Matt also serves as the Director of Data and Technology for the [NNLM](#) National Evaluation Center (NEC).

## Recent Presentations, Abstracts, and Workshops

- Carson, MB, Seymour, AK. [Establishing Context: Research Lifecycle and Librarian Roles](#); The Emerging Role of Librarians in Supporting Data Science and Open Science (Two-day Workshop). 17th Congress of The Association for Health Information and Libraries in Africa (AHILA); October 16-17, 2023; Gaborone, Botswana.
- Carson, MB, Gutzman, K. [Principles of Effective Data Visualization](#); The Emerging Role of Librarians in Supporting Data Science and Open Science (Two-day Workshop). 17th Congress of The Association for Health Information and Libraries in Africa (AHILA); October 16-17, 2023; Gaborone, Botswana.
- Carson, MB, Gonzales, S. NIH [Research data management and sharing](#); The Emerging Role of Librarians in Supporting Data Science and Open Science (Two-day Workshop). 17th Congress of The Association for Health Information and Libraries in Africa (AHILA); October 16-17, 2023; Gaborone, Botswana.
- Carson, MB, Seymour, AK. [Research Tools Show and Tell](#); The Emerging Role of Librarians in Supporting Data Science and Open Science (Two-day Workshop). 17th Congress of The Association for Health Information and Libraries in Africa (AHILA); October 16-17, 2023; Gaborone, Botswana.
- Carson, M. B. [InvenioRDM: Supporting FAIR Principles and Policies](#). The 18th International Conference on Open Repositories; June 12-15, 2023; Stellenbosch, South Africa.
- Viger, G., Sharp, A., Newman, E., Carson, M. B. [Migration to InvenioRDM: A Case Study](#). The 17th International Conference on Open Repositories; June 6-9, 2022; Denver, CO.
- Carson, M. B. and Henze, L. [Accessible InvenioRDM: Prism and UltraViolet](#). The 17th International Conference on Open Repositories; June 6-9, 2022; Denver, CO.
- Hosseini, M., Gonzales, S., Carson, M. B., Holmes, K. Persona Profiles for CRediT Roles. 44th Annual meeting of the Society for Scholarly Publishing; Jun 1-3; Chicago, IL; 2022.
- Gonzales, S., Carson, M.B., Viger, G., Nielsen, L., Holmes, K. [Interoperability and Distributed Collaboration in](#)

- [InvenioRDM](#). The 16th International Conference on Open Repositories; May 2021; Virtual. Zenodo.
- Carson, M. B., Gonzales, S., Shaw, P., Schneider, D., Holmes, K. [A Library-based Data Retrieval and Management Training Program for Clinical Researchers](#). Research Data Alliance 17th Plenary Meeting; April 20-23; Edinburgh, Scotland (Virtual); 2021.
  - Carson, M. B., Gonzales, S., Viger, G. [InvenioRDM: A Next-Generation Repository for Research Data Management](#). Presentation at Biomedical Data Science Day, February 4, 2020, Northwestern University, Chicago, IL.
  - Cano, M., Zhou, X., Xin, J., Lelong, S., Gonzales, S., Carson, M. B., Holmes, K. L., Wu, C. Data Discovery Engine: A web-based toolset for maximizing data discoverability and promoting reusable data-sharing best practices. Rocky Bioinformatics Conference; December 5-7; Aspen/Snowmass, CO: International Society for Computational Biology; 2019.
  - Carson, M. B., Shaw, P., Gonzales, S., Holmes, K. [Galter DataLab: Bridging the Skills Gap for Informatics Researchers Through a Health Sciences Library](#). Presentation at AMIA 2019 Informatics Educators Forum, St. Louis, MO.
  - Carson, M. B., Shaw, P., Gonzales, S., Holmes, K. [Galter DataLab: Expanded Informatics Training Through a Health Sciences Library](#). Poster presented at AMIA 2019 Informatics Educators Forum, St. Louis, MO.
  - Shaw, P., Carson, M. B., Nugent, J., Holmes, K. [Partners Supply Variety to Informatics Skills Training for Researchers](#). Presentation at AMIA 2019 Informatics Educators Forum, St. Louis, MO.
  - Gonzales, S., Viger, G., Carson, M. B., Holmes, K. [Beyond Accessibility: Taking the Institutional Repository to the Next Generation](#). Poster presented at the Research Data Alliance's 13th Plenary in Philadelphia, PA, April 1 - 4, 2019. *[third prize in the Best Poster Award competition]*
  - Gutzman, K., Smith, P., Shaw, P., Carson, M. B., Holmes, K. [Communicating and Visualizing Publication Data for Departments, Institutes, and Centers](#). Presented at the Health Science Librarians of Illinois Annual Conference, Rockford, IL, September 27, 2018 and the NIH Bibliometrics and Research Assessment Symposium, August 20, 2018, NIH campus, Bethesda, Maryland.
  - Gutzman, K., Carson, M. B., Adie, E. "Understanding Attribution: Creating Equitable Models in the Scholarly Ecosystem" Workshop, FORCE 2017 Research Communication and e-Scholarship Conference. Berlin, Germany. October 25, 2017.
  - Carson, M. B., Scholtens, D. M., Frailey, C. N., Gravenor, S. J., Powell, E. S., Wang, A. Y., Kricke, G. S., Ahmad, F. S., Mutharasan, R. K., Soulakis, N. D. [An outcome-weighted network model for quantifying and measuring collaboration in a hospital cardiology unit](#). AMIA 2016 Annual Symposium Nov. 12-16, Chicago, IL.

## Peer-reviewed Publications

- Champieux R, Solomonides A, Conte M, Rojevsky S, Phuong J, Dorr DA, Zampino E, Wilcox A, Carson MB, Holmes K. (2023) Ten simple rules for organizations to support research data sharing. PLoS Comput Biol 19(6): e1011136. doi: 10.1371/journal.pcbi.1011136.
- Carson, M. B., Gonzales, S., Shaw, P., Schneider, D., Holmes, K. Bridging the gap: A library-based collaboration to enhance data skills for clinical researchers. Learn Health Sys. 2023; 7( 2):e10339. doi:10.1002/lrh2.10339.
- Gonzales, S., Carson, M. B., Holmes, K. Ten Simple Rules for Maximizing the Recommendations of the NIH Data Management and Sharing Plan. PLoS Comput Biol. 2022;18(8): e1010397.
- Gonzales, S., Carson, M. B., Viger, G., O'Keefe, L., Allen, N. B., Ferrie, J. P., Holmes, K. User Testing with Microinteractions. Information Technology and Libraries. 2021. 40(1), doi: 10.6017/ital.v40i1.12341.
- Chandler, A. E., Mutharasan, R.K., Amelia, L., Carson, M. B., Scholtens, D. M., Soulakis, N. D. Methods of Information in Medicine 58(2-3):71-78 01 Jan 2019, doi: 10.1055/s-0039-1694990.
- Jia, C., Carson, M. B., Wang, X., Yu, J. Concept Decompositions for Short Text Clustering by Identifying Word Communities, Pattern Recognition (2017), doi: 10.1016/j.patcog.2017.09.045.
- Luo, Y., Thompson, W. K., Herr, T. M., Zeng, Z., Berendsen, M. A., Jonnalagadda, S. R., Carson, M. B., Starren, J. Natural Language Processing for EHR-Based Pharmacovigilance: A Structured Review. Drug Saf. 2017 Jun 22. doi: 10.1007/s40264-017-0558-6. [Epub ahead of print]. PMID: 28643174
- Jia, C., Li, Y., Carson, M. B., Wang, X., and Yu, J. Node Attribute-enhanced Community Detection in Complex Networks. Scientific Reports. 2017, 7 (2626). doi: 10.1038/s41598-017-02751-8. PMID: 28572625
- Carson, M. B., Liu, C., Lu, Y., Jia, C., and Lu, H. A Disease Similarity Matrix based on the Uniqueness of Shared

- Genes. *BMC Medical Genomics* 2017, 10(Suppl 1):26.  
doi: 10.1186/s12920-017-0265-2. PMID: 28589854
- Carson, M. B., Scholtens, D. M., Frailey, C. N., Gravenor, S. J., Powell, E. S., Wang, A. Y., Kricke, G. S., Ahmad, F. S., Mutharasan, R. K., and Soulakis, N. D. Characterizing Teamwork in Cardiovascular Care Outcomes: A Network Analytics Approach. *Circ Cardiovasc Qual Outcomes*. 2016 Nov; 9(6): 670–678. doi: 10.1161/CIRCOUTCOMES.116.003041. PMID: 28051772
  - Carson, M. B., Gravenor, S. J., Scholtens, D. M., Frailey, C. N., Kricke, G. S., and Soulakis, N. D. An outcome-weighted network model for characterizing collaboration. *PLoS ONE*. 2016 Oct 5. doi: 10.1371/journal.pone.0163861. PMID: 27706199
  - Kricke, G. S., Carson, M. B., Lee, Y., Benacka, C., and Soulakis, N. D. Leveraging Electronic Health Record Documentation for Failure Mode and Effects Analysis Team Identification on an Inpatient Cardiology Unit. *J Am Med Inform Assoc*. 2016 Sep 1. pii: ocw083. doi: 10.1093/jamia/ocw083. PMID: 27589944
  - Qin, W., Zhao, G., Carson, M. B., Jia, C., and Lu, H. Knowledge-based three-body potential for transcription factor binding site prediction. *IET Syst. Biol.* 2016 Feb;10(1):23-9. doi: 10.1049/iet-syb.2014.0066. PMID: 26816396
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  - Carson, M. B. and Lu, H. Network-based Prediction and Knowledge Mining Of Disease Genes. *BMC Medical Genomics* 2015, 8 (Suppl 2):S9. doi: 10.1186/1755-8794-8-S2-S9. PMID: 26043920
  - Soulakis, N., Carson, M. B., Lee, Y. J., Schneider, D. H., Skeehan, C. T., and Scholtens, D. M. Visualization of multidisciplinary, collaborative care for hospitalized heart failure patients. *J Am Med Inform Assoc*, Special Issue on Visual Analytics in Healthcare. 2015 Feb 20. doi:10.1093/jamia/ocu017. PMID: 25710558
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  - Carson, M. B., Langlois, R., and Lu, H. NAPS: A Residue-level Nucleic Acid-binding Prediction Server. *Nucleic Acids Res.* 2010. Jul; 38 (Web Server issue):W431-5. doi:10.1093/nar/gkq361. PMID: 20478832
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*Haemophilus influenzae* otitis media isolates. *Infect Immun*. 2004 May; 72(5):3002-10. PMID: 15102813

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Printed: Tuesday, January 16, 2024 1:33 AM

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