
Nicholas M. Riley, Ph.D.

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EDUCATION/TRAINING			
INSTITUTION	DEGREE	YEAR(s)	FIELD OF STUDY
Stanford University	Postdoctoral (mentor: CR Bertozzi)	2018-2023	Chemistry/Chemical (Glyco)Biology
University of Wisconsin-Madison	Ph.D. (advisor: JJ Coon)	2012-2018	Analytical Chemistry
University of South Carolina	B.S., with Honors from the South Carolina Honors College	2007-2012	Chemistry and Psychology

A. PERSONAL STATEMENT

The glycode, or combinatorial patterns of glycosylation that relay biological information, functions in essential roles that govern human health and myriad diseases (e.g., cancer, infectious diseases, autoimmune diseases). However, we lack fundamental insights into how the glycode contributes to biological function at a molecular level. Our perspectives on the glycode remain deficient because the non-templated complexity of glycosylation creates analytical challenges that have severely limited our ability to study glycoconjugates. My group aims to solve these challenges. We leverage state-of-the-art mass spectrometry and chemical glycobiology to develop innovative technologies for investigating essential principles of glycode regulation and dysregulation. Specifically, we are interested in understanding how altered cell surface phenotypes (i.e., glycocalyx status) manifest in cancer progression and drive metastasis. Through a combination of MS-based multi-omics, bioinformatics, and chemical biology, our goal is to use a systems-level approach to glycobiology to further our understanding of human health/disease and advance therapeutic glycoscience.

B. SELECTED HONORS AND AWARDS (Full list available below)

2024	ASMS Research Award
2024	Scialog Fellow
2023	HUPO Rising Star Award
2022 – 2027	NIH Pathway to Independence Award (K99/R00)
2021	Rising Star in Proteomics and Metabolomics (40 under 40), Journal of Proteome Research
2020	Emerging Talent in Academia, American Society for Mass Spectrometry
2019	ASMS Postdoctoral Career Development Award, American Society for Mass Spectrometry
2018	Richard and Joan Hartl Award for Research Excellence in Analytical Chemistry, UW-Madison
2017	FACSS Student Award, Federation of Analytical Chemistry and Spectroscopy Societies
2017	Roger J. Carlson Memorial Award for Research Excellence, Dept. of Chemistry, UW-Madison
2016 – 2022	NIH National Cancer Institute Predoctoral to Postdoctoral Fellow Transition Award (F99/K00)
2015	ASMS Graduate Student Award, American Society for Mass Spectrometry
2014 – 2016	National Science Foundation (NSF) Graduate Research Fellow
2012	Algernon Sydney Sullivan Award (top undergraduate student), USC
2010	Phi Beta Kappa

C. SELECTED PUBLICATIONS (Full list available below and on [PubMed](#) and [MyNCBI Bibliography](#).)

Total citations: >4584, h-index = 37 (per [Google Scholar](#), October 2024)

- (1) Peters-Clarke TM, Coon JJ, **Riley NM**. *Instrumentation at the leading edge of proteomics*. [Analytical Chemistry](#). **2024**, 96(20): 7976-8010. doi: 10.1021/acs.analchem.3c04497.
- (2) Wei W*, **Riley NM***, Lyu X*, Shen X, Guo J, Zhao M, Moya-Garzon MD, Basu H, Tung A, Li VL, Huang W, Svensson KJ, Snyder MP, Bertozzi CR, Long JZ. *Organism-wide secretome mapping uncovers pathways of tissue crosstalk in exercise*. [Cell Metabolism](#), **2023**, S1550-4131(23)00138-9. doi: 10.1016/j.cmet.2023.04.011. ***authors contributed equally**

- (3) **Riley NM***, Wu R, Bertozzi CR, Brooks JD, Pitteri SJ*. *Measuring the multifaceted roles of mucin-domain glycoproteins in cancer*. Advances in Cancer Research, **2023**, 157, 83-121. doi: 10.1016/bs.acr.2022.09.001. ***co-submitting authors**
- (4) **Riley NM***, Bertozzi CR*. *Deciphering O-glycoprotease substrate preferences with O-Pair Search*. Molecular Omics, **2022**, 18: 908-922. doi: 10.1039/D2MO00244B. ***co-submitting authors**
- (5) Malaker SA*, **Riley NM***, Shon DJ, Pedram K, Krishnan V, Dorigo O, Bertozzi CR. *Revealing the human mucinome*. Nature Communications, **2022**, 13: 3542. doi: 10.1038/s41467-022-31062-4. ***authors contributed equally**
- (6) Wei W*, **Riley NM***, Yang AC, Kim JT, Terrell SM, Li VL, Garcia Contreras M, Bertozzi CR, Long JZ. *Cell type-selective secretome profiling in vivo*. Nature Chemical Biology, **2021**, 17: 326-334. doi: 10.1038/s41589-020-00698-y. ***authors contributed equally**
- (7) Lu L*, **Riley NM***, Shortreed MR, Bertozzi CR, Smith LM. *O-Pair Search with MetaMorpheus for O-glycopeptide Characterization*. Nature Methods, **2020**, 17: 1133-1138. doi: 10.1038/s41592-020-00985-5. ***authors contributed equally**
- (8) **Riley NM***, Bertozzi CR, Pitteri SJ*. *A Pragmatic Guide to Enrichment Strategies for Mass Spectrometry-based Glycoproteomics*. Molecular & Cellular Proteomics, **2021**, 20: 100029. doi: 10.1074/mcp.R120.002277. ***co-submitting authors**
- (9) **Riley NM**, Malaker SA, Driessen MD, Bertozzi CR. *Optimal Dissociation Methods Differ for N- and O-glycopeptides*. Journal of Proteome Research, **2020**, 19(8): 3286-3301. doi: 10.1021/acs.jproteome.0c00218. ****selected for ACS Editors' Choice** **Top 5 most read articles in JPR in 2020****
- (10) **Riley NM**, Hebert AS, Westphall MS, Coon JJ. *Capturing site-specific heterogeneity with large-scale N-glycoproteome analysis*. Nature Communications, **2019**, 10: 1311. doi: 10.1038/s41467-019-09222-w.

D. RESEARCH PRESENTATIONS (ordered by most recent)

- 2024 **Annual Retreat**, UW Biological Physics, Structure, and Design (BPSD) Program
- 2024 **Advances in Glycoproteomics Analysis Seminar**, Thermo MS Seminars, invited by J Chang
- 2024 **Invited Seminar**, TFS Fall 2024 Mass Spec Users' Meeting, Cambridge, MA (remote), invited by A Lee
- 2024 **Invited Seminar**, Princess Margaret Cancer Centre Seminar Series, Toronto, Canada, invited by T Kislinger
- 2024 **Conference Talk**, Cascadia Proteomics Symposium, Seattle, WA
- 2024 **Conference Talk**, 72nd ASMS Conference on Mass Spectrometry and Allied Topics, Anaheim, CA
- 2024 **Invited Talk**, QBI-Rezo MS Symposium on Emerging Proteomic Technologies, SF, CA, invited by D Swaney
- 2024 **Invited Talk**, Pacific Northwest Mass Spectrometry Discussion Group Spring Meeting, invited by M Sadilek
- 2024 **Invited Seminar**, University of Georgia Dept. of Biochem. and Mol. Bio., invited by R Haltiwanger
- 2024 **Conference Poster**, SciLog Automating Chemical Laboratories, Tucson, AZ
- 2024 **Invited Conference Talk**, US HUPO Annual Meeting, Portland, OR, invited by D Schweppe
- 2024 **Mentorship Seminar**, US HUPO Early Career Research Workshop, Portland, OR, invited by A Smythers
- 2024 **Conference Poster**, Volcano Conference on Chemical Biology, Pack Forest Conference Center, WA
- 2024 **Exciting Applications of Orbitrap Mass Spectrometers Seminar**, Thermo MS Seminars, invited by J Chang
- 2023 **Faculty Lunch Seminar**, Dept. of Chemistry, Univ. of Washington
- 2023 **Conference Poster**, Society for Glycobiology Annual Meeting, Big Island, HI
- 2023 **Faculty Lunch Seminar**, Dept. of Biochemistry, Univ. of Washington, invited by T Davis
- 2023 **Invited Seminar**, New England BioLabs, Ipswich, MA, invited by E Escobar
- 2023 **Invited Seminar**, Dept. of Genome Sciences, Univ. of Washington, invited by D Schweppe
- 2023 **Invited Talk**, Translational Glycomics Symposium, Rising Stars in Glycoscience, Milwaukee, WI
- 2023 **Award Lecture**, 22nd Congress of the Human Proteome Organization, Busan, South Korea
- 2023 **Invited Lunch Seminar**, 22nd Congress of the Human Proteome Organization, Busan, South Korea
- 2023 **Conference Poster**, 22nd Congress of the Human Proteome Organization, Busan, South Korea
- 2023 **Invited Conference Talk**, 16th Uppsala Conference on ECD and ETD, Corvallis, OR, invited by J Beckman
- 2023 **Conference Talk**, Cascadia Proteomics Symposium, Seattle, WA
- 2023 **Invited Lecture**, Thermo Fisher Scientific ASMS Users Meeting, Houston, TX

2023 **Conference Talk**, 71st ASMS Conference on Mass Spectrometry and Allied Topics, Houston, TX

Seminars at Universities/Institutions: 7 *Oral and Poster Presentations at Scientific Meetings: 20*
Prior to independent career: 45 Oral Presentations and 37 Poster Presentations

E. UNIVERSITY OF WASHINGTON TEACHING, LEADERSHIP, AND SERVICE ACTIVITIES

UW Affiliations

Assistant Professor, Dept. of Chemistry, appointment/home department, 2023-present
Adjunct Assistant Professor, Dept. of Biochemistry, 2024-present
Adjunct Assistant Professor, Dept. of Genome Sciences, 2024- present
Member, UW Biological Physics, Structure, and Design (BPSD) Graduate Program, 2023-present
Member, Cancer Consortium (between UW, the Hutch, and Seattle Children's), 2023-present
Member, Molecular Engineering and Sciences Institute (MoES), 2023-present

Current Riley Research Group Advisees/Mentees

Graduate Students (5)

Anna G. Duboff	12/2023-present	UW Chemistry
Kayla A. Markuson	12/2023-present	UW Chemistry
Kathryn Kothlow	12/2023-present	UW Chemistry
Jacob H. Russell	12/2023-present	UW Chemistry
Ruby Zhang	12/2023-present	UW Chemistry

Postdoctoral Researchers (3)

Emmajay Sutherland, Ph.D.	09/2023-present	WRF Postdoctoral Fellow
Tim S. Veth, Ph.D.	10/2023-present	Postdoctoral Scholar
Haley M. Schramm, Ph.D.	06/2024-present	Postdoctoral Scholar

Interns and Visiting Students (2)

Laura B. Draeger	07/2024-10/2024	Graduate intern from Hannover Medical School
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Undergraduate Researchers (1)

Vishnu R. Tejas	06/2024-present	UC-Berkeley (formerly UW, working remotely)
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Alumni and Former Members of the Riley Research Group

Interns and Visiting Students (1)

Daniel Gomez Zepeda	06/2024-08/2024	Graduate intern from University of Barcelona
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Undergraduate Researchers (1)

Adrian Tarroza	06/2024-08/2024	SCROCCS program, from Pierce College
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Group Honors and Awards (alphabetized by group member's last name)

Anna G. Duboff	2024 Iota Sigma Pi's Re-Entry Award 2023 Lloyd and Florence West Fellowship in Chemistry, UW 2023 Husky Award, UW
Kathryn Kothlow	2024 1 st -place poster presentation at Cascadia Proteomics Symposium
Kayla A. Markuson	2023 Excellence in Teaching Award Nominee, UW 2023 Husky Award, UW 2023 Excellence in Chemistry Graduate Award, UW
Emmajay Sutherland, Ph.D.	2024 Washington Research Foundation Postdoctoral Fellowship

Courses Taught

CHEM 321, Quantitative Analysis, Autumn 2024, Winter 2024
CHEM 428/528, Biomolecular Analysis, Spring 2024
CHEM 196, Chemistry Frontiers, Spring 2024
CHEM 600, Independent Research, all quarters

Admissions and Recruiting Committee, UW Chemistry, 2023-present

Responsible for recruiting and admissions into the PhD program, and orientation of new graduate students.

Research Infrastructure Committee, UW Chemistry, 2023-present

Responsible for reviewing and recommending changes to the department's research infrastructure: computing, shared instrumentation, staff support, etc.

Cross-Department Crosslinker Program, UW MCB and BPSD, 2023-present

Connect faculty with students and postdocs across departments as a way to strengthen connections and mentorship across UW research and STEM fields.

Graduate Committee Membership (outside of my group)

<i>Student Name</i>	<i>Years Involved</i>	<i>Graduate Program, PI</i>	<i>Last Meeting</i>
Addison E. Roush	2023-present	Chemistry, Bush	Gen. Exam 12/2023
AnneClaire Wageman	2023-present	Chemistry, Bush	Gen. Exam 12/2023
Bruce Feng	2023-present	Chemistry, Bush	Gen. Exam 05/2024
Alice Martynova	2023-present	Chemistry, Bush	Gen. Exam 03/2024
Adilijiang Ali	2023-present	Chemistry, Vaughan	Gen. Exam 03/2024
Caitlin Cain	2024	Chemistry, Synovec	Ph.D. Def. 04/2024
Lindsey Ulmer	2023-2024	Chemistry, Bush	Ph.D. Def. 08/2024
Doria Unrau	2023-present	Chemistry, Maly	Year 2 exam 03/2024
Natalie Rutz	2023-present	Chemistry, Rajakovich	Year 2 exam 05/2024
May Constabel	2023-2024	Chemistry MSACST, Bush	Master Def. 02/2024
Christopher D. McGann	2023-present	Genome Sci., Schweppe	Com. Meet. 10/2023
Elizabeth Plender	2023-present	Genome Sci., Eichler/Bloom	Com. Meet. 03/2024
Bo Wen	2023-present	Genome Sci., MacCoss	Gen. Exam 06/2024
Kelsey Woodruff	2024-present	MCB Program, Termini	Year 3 exam 09/2024
Alex Doan	2024-present	MSTP/MCB, MacPherson	Year 2 exam 06/2024

Other Activities

- 2024 Mentor for Summer Chemistry Research Opportunity for Community College Students (SCROCCS); Speaker at UW Chemistry Awards Dinner; Speaker at UW Chemistry Undergraduate Welcome Event;
- 2023 Speaker at UW Chemistry Undergraduate Welcome Event; UW Chemistry Autumn Poster Session; ad hoc reviewer for CHEM 500 (Grant Proposal and Scientific Writing); ad hoc reviewer for faculty search

F. EXTRAMURAL LEADERSHIP, MENTORING, AND SERVICE ACTIVITIES**Mentor, FeMS Small Group Mentorship Program, 2020-present**

Serve as a mentor for 12-15 mentees from around the country as part of a discussion group and support network. As a mentor, I support group members on their diverse paths in science and share my STEM experiences to provide perspectives and resources for their career development.

Co-Chair, Human Glycoproteomics Initiative (HGI) Community-wide Study, HUPO, 2021-present

This second study focuses on teams of software developers only, with the goal to identify strengths and weaknesses of the very latest glycoproteomics software for glycopeptide identification and quantitation. As co-chair, I design experiments, coordinate with participants, analyze data, and work with the advisory committee to carry out this community wide study with 20 developer teams.

ECR Mentor, US HUPO Early Career Researcher (ECR) Committee, 2023-present

Support the US HUPO ECR and its Executive Committee in all aspects of education, training, networking and activities being carried out by the ECR; attend monthly ECR executive committee meetings and other ECR-based meetings activities; represent the ECR's interests at executive committee meetings and board meetings.

Member, HUPO Early Career Researcher (ECR) Committee, 2023-present

Promote transmission of HUPO ideals to the next generation of proteomic leaders, who are involved in many of the varied HUPO initiatives and activities; support HUPO ECR initiatives that include the ECR Manuscript Competition, the 3-minute Thesis Competition, the Poster competition, the Rising Star award, mentoring sessions, and an ECR Networking Night event

ACS Division of Analytical Chemistry Education Committee, 2022-present

Administer Graduate Research Fellowships, Undergraduate Awards in Analytical Chemistry, and travel funding; plan regular opportunities for networking and teaching/learning through ACS national meetings and stand-alone virtual events; undertake special short-term and long-term projects related to analytical chemistry education.

Activities: **Chair I. M. Kolthoff Undergraduate Award Selection Committee** (2023-2024), **Speakers Bureau Initiative** (2023); **Co-Organizer of ChatGPT in Chemistry Discussion Panel** (2023)

Assistant Program Chair, Pacific Northwest Mass Spectrometry Discussion Group (PacMass), 2023-present

Coordinate quarterly meetings that include presentations by invited speakers and a preceding informal social hour. PacMass exists to provide a local forum for the free exchange of ideas and information about mass spectrometry and related fields.

Interviewer for ASMS Mock Interviews for Students and Postdocs, Fall 2022, Spring 2023, Fall 2023

Serve as an interviewer for graduate students to conduct mock interviews for what it is like to look for an academic postdoctoral scholar position. This includes reviewing each student's curriculum vitae to offer suggestions and conducting a ~30 minute virtual interview to help coach them through how to prepare.

Grant and Proposal Review Activities

2024, Reviewer, National Science Foundation

2024, Expert Reviewer for European Research Council (ERC) Starting Grant Proposals

2024, Expert Reviewer for the Austrian Science Fund (FWF)

2024, Expert Reviewer for the Vienna Science and Technology Fund (WWTF)

Conference Organization and Leadership

- **Co-Organizer**, Beilstein Glyco-Bioinformatics Symposium, July 2025
- **Co-Chair**, Glycobiology Gordon Research Seminar, 2023-2025
- **Session Chair**, Gaining Insights into Glycoenzymes and Glycoconjugates, SFG 2024
- **Co-Organizer**, Thermo Fisher Scientific Mass Spec Seminar on Glycoproteomics, October 2024
- **Oral Session Chair**, Instrumentation: New Hybrid and Multimodal Approaches, ASMS 2024
- Discussion Leader, Glycobiology Gordon Research Seminar, Ventura, CA, March 2023
- **Organizer**, HGI Workshop on Glycoproteomics and Glycoinformatics, US HUPO, Chicago, IL, March 2023
- ASMS Abstract Program Review Committee, 2023

Other Professional Service

Judge, Undergraduate Poster Session, ASMS Annual Conference 2019, 2020, 2022, 2024

Judge, Early Career Researcher Poster Competition, HUPO International Conference 2023

Professional Societies and Affiliations

American Society for Mass Spectrometry, 2013-present

American Chemical Society, 2013-present

Human Proteome Organization, 2022-present (US HUPO 2015-present)

Society for Glycobiology, 2017-present

American Society for Biochemistry and Molecular Biology, 2020-present

American Association for Cancer Research, Associate Member, 2020-present

Pacific Northwest Mass Spectrometry Discussion Group, Member, 2023-present

Tegmine Therapeutics, Inc., Scientific Advisor, 2020-present

Cartography Biosciences, Scientific Consultant, 2023-present

Augment Biologics, Scientific Consultant, 2023-present

Leadership and Service Experience as a Postdoc: Stanford Science Penpals; Stanford ADVANCE Summer Institute Mentor; Stanford Summer Research Program (SSRP) - Amgen Scholars Program; Stanford Omics Mass Spectrometry Group

Leadership and Service Experience as a Graduate Student: Graduate Student Faculty Liaison Committee; John L. Schrag Fund Committee (Co-Founder, Co-President); Junior Science Café; Wisconsin Science Festival; Wisconsin Saturday Science; Chemistry Opportunities (CHOPs) at UW-Madison

Leadership and Service Experience as an Undergraduate Student: University Ambassador (President, Captain of Mentor Program, Presidential Ambassador); Pillars for Carolina (Co-Founder, Director of Programs); Honors

Council (President, Vice President); Orientation Leader (President, Vice President); Resident Mentor; Men's Club Rugby (Team Captain)

G. EXTRAMURAL AND PRIOR TEACHING EXPERIENCE

Instructor, North American Mass Spectrometry Summer School, 2023, 2024

Presented lectures, participated in training events, and served on panels for a four-day in-person course that provides training from world-leading experts in mass spectrometry and scientific and professional development. 2023, Data Acquisition Strategies; 2024, Post-Translational Modifications (PTMs)

Instructor, Skyline Online Course, Introduction to Targeted Proteomics: SRM/MRM and PRM, 2021-2023

Presented a lecture and led a tutorial session of 50+ attendees on indexed retention time and how to process data within the Skyline ecosystem. Also contributed to live question and answer sessions. Sessions taught: April 2021, April 2022, October 2022, October 2023.

Lecturer, BIOS 227, Mass Spectrometry & Proteomics: Opening the Black Box, Stanford Univ., Winter 2021, 2023

Developed and presented lectures on post-translational modifications and the combination of glycobiology and mass spectrometry at the invitation of course instructors Prof. Sharon Pitteri and Prof. Parag Mallick.

Lecturer, Stanford University Mass Spectrometry Seminar Series, Fall 2020

Designed and presented two lectures on fundamentals and cutting-edge research in glycoproteomics. These are recorded and used by many as introductions to the field.

Seminar 1: Fundamentals: An introduction to MS-based glycoproteomics, Sept 3, 2020

Seminar 2: Reasons to be excited about current efforts in glycoproteomics, Oct 1, 2020

Graduate and Undergraduate Experience: Graduate Lecturer for Biochemistry 660 at UW-Madison (3 semesters);

Guest Lecturer for The Data Revolution in Science and Medicine at UW-Madison; Graduate Facilitator for Food, Fasting, and Fitness at UW-Madison; Teaching Assistant for CHEM 104 and 329 at UW-Madison; Peer Leader and Peer Leader Captain for University 101 at the University of South Carolina; Tutor and Mentor through the Waverly After School Program at the University of South Carolina.

H. RESEARCH SUPPORT

Current Support

National Institutes of Health (NIGMS), R00GM147304

07/01/2024-05/31/2027

Riley (PI), Pathway to Independence Award \$161,400/y approx. direct; \$249,000/y approx. direct & indirect

Capturing the Holistic Glycocode through Systems Glycobiology

American Society for Mass Spectrometry Research Award

09/01/2022-05/31/2027

Riley (PI)

\$35,000 direct

* Riley was one of three selected society-wide (>10,000 members). The major goal of this award is to support the mass spectrometry needs of an early career researcher (assistant professor) in the mass spectrometry field.

Past Support

National Institutes of Health (NIGMS), K99GM147304

09/01/2022-08/31/2023

Riley (PI), Pathway to Independence Award \$92,593/y approx. direct; \$100,000/y approx. direct & indirect

Capturing the Holistic Glycocode through Systems Glycobiology

National Institutes of Health (NCI), K00CA212454

09/13/2018-08/31/2022

Riley (PI), Predoc to Postdoc Transition Award \$76,977/y approx. direct; \$83,135/y approx. direct & indirect

Uniting Mass Spectrometry and Glycoscience to Investigate Cancer Biology

National Institutes of Health (NCI), F99CA212454

09/13/2018-08/31/2022

Riley (PI), Predoc to Postdoc Transition Award

\$33,141/y approx. direct

Uniting Mass Spectrometry and Glycoscience to Investigate Cancer Biology

National Science Foundation, DGE-1256259

06/01/2014-09/14/2016

Graduate Research Fellowship

\$32,000/y approx. direct

New Technology to Monitor Histidine Phosphorylation in Mammalian Mitochondria

I. PEER-REVIEW PARTICIPATION

Number of Reviews Completed					
2019	2020	2021	2022	2023	2024
7	5	10	14	18	27

Journals:

<i>Nature Methods</i>	<i>Analytical Chemistry</i>	<i>Journal of Cell Biology</i>
<i>Nature Biotechnology</i>	JASMS	<i>Proteomics</i>
<i>Nature Communications</i>	<i>Journal of Proteome Research</i>	<i>Analytical Science Advances</i>
<i>Nature Chemical Biology</i>	ACS Central Science	<i>Rapid Comm. in Mass Spec</i>
<i>Molecular Omics</i>	<i>Molecular & Cellular Proteomics</i>	<i>International J. of Mass Spec</i>
<i>Cell Reports Methods</i>	ACS Omega	<i>Analytical & Bioanalytical Chemistry</i>
<i>STAR Protocols</i>	JACS Au	<i>Curr. Opinion in Chem. Biology</i>

J. FULL LIST OF PUBLICATIONS (Also available on [PubMed](#) and [MyNCBI Bibliography](#).)

Total citations: >4584, h-index = 37 (per [Google Scholar](#), October 2024)

Reverse chronological order

‡ indicates studies led or co-led by the Riley Research Group

indicates co-corresponding author

* indicates co-first author

Riley Research Group member

- (2) Jiang Y, Rex DAB, Schuster D, Neely BA, Rosano GL, Volkmar N, Momenzadeh A, Peters-Clarke TM, Egbert SB, Kreimer S, Doud EH, Crook OM, Yadav AK, Vanuopadath M, Hegeman AD, Mayta ML, Duboff AG, **Riley NM**, Mortiz RL, Meyer JG. *Comprehensive Overview of Bottom-up Proteomics using Mass Spectrometry*. *ACS Meas. Sci. Au*, **2024**, in press. doi: 10.1021/acsmeasuresciau.3c00068.
- (1)‡ Peters-Clarke TM, Coon JJ, **Riley NM**. *Instrumentation at the leading edge of proteomics*. *Analytical Chemistry*. **2024**, 96(20): 7976-8010. doi: 10.1021/acs.analchem.3c04497.

Book Chapters

- (1)‡ **Riley NM**[#], Malaker SA[#]. *O-glycoproteomics: methods, challenges, and new opportunities*. *Glycoprotein Analysis*, **2024**. Editor: WB Struwe. Publisher: Royal Society of Chemistry. doi: 10.1039/9781839166433-00118.

Other publications

Riley NM. *The day my supervisor won the Nobel prize in chemistry*. *Chemistry World*, **2023**, Editorial/Opinion. <https://www.chemistryworld.com/opinion/the-day-my-supervisor-won-the-nobel-prize-in-chemistry/4018124.article>.

Pre-prints and Manuscripts in Review

- (1) Stark JC, Gray MA, Wisnovsky SP, Ibarlucea-Benitez I, **Riley NM**, Ribi MK, Lustig M, Errington WJ, Bruncsics B, Sarkar CA, Valerius T, Ravetch JV, Bertozzi CR. *Antibody-lectin chimeras for glyco-immune checkpoint blockade*. *Submitted*. 2022. Pre-print available at bioRxiv: 10.1101/2022.10.26.513931.
- (2) Ducoli L, Zarnegar B, Porter DF, Meyers R, Miao W, **Riley NM**, Jackrazi L, Yang Y, Li Z, Wang Y, Bertozzi CR, Flynn RA, Khavari P. *irCLIP-RNP and Re-CLIP reveal patterns of dynamic protein associations on RNA*. *Submitted*. 2024. Pre-print available at bioRxiv: 10.1101/2024.09.27.615518.
- (3) Tharp KM, Park S, Timblin GA, Richards AL, Berg JA, Twells NM, **Riley NM**, Peltan EL, Shon DJ, Stevenson E, Tsui K, Palomba F, Lefebvre AEYT, Soens RW, Ayad NME, ten Hoeve-Scott J, Healy K, Digman M, Dillin A, Bertozzi CR, Mahal LK, Swaney DL, Cantor JR, Paszek MJ, Weaver WM. *The microenvironment dictates glycocalyx construction and immune surveillance*. *Submitted*. 2023. Pre-print available at bioRxiv: 10.1101/2023.06.23.546317.

- (4)[‡] **Riley NM**[#], Mahoney KE, Chung N, Chang V, Rangel-Angarita V, Kim L, Kohler D, Aoki-Kinoshita K, Lisacek F, Scott NE, Malaker SA[#]. *Second community evaluation of glycoproteomic informatics solutions*. Accepted in principle as a Nature Methods Registered Report, in Stage 2. 2024.
- (5) Hogan RA, Pepi LE, **Riley NM**, Krogan NJ, Chalkley RJ. *Comparative Analysis of Glycoproteomic Software Using a Tailored Glycan Database*. Submitted. 2024. Pre-print available at bioRxiv: 10.1101/2024.07.24.604997.
- (6)[‡] Sutherland E, Veth TS, Barshop WD, Russell JH, Kothlow K, Canterbury JD, Mullen C, Bergen D, Huang J, Zabrouskov V, Huguet R, McAlister GC, **Riley NM**. *Autonomous Dissociation-type Selection for Glycoproteomics using a Real-Time Library Search*. Submitted. 2024. Pre-print available at ChemRxiv: 10.26434/chemrxiv-2024-qdbr.
- (7)[‡] Veth TS, Sutherland E, Zhang R, Markuson KA, Duboff AG, Huang J, Bergen D, Lee AE, Melani RD, Canterbury JD, Zabrouskov V, McAlister GC, Mullen C, **Riley NM**. *Improvements in glycoproteomics through architecture changes to the Orbitrap Tribrid MS platform*. Submitted. 2024. Pre-print available at ChemRxiv: 10.26434/chemrxiv-2024-4sqd3.
- (8)[‡] Sutherland E, Veth TS, **Riley NM**. *Revisiting the effect of trypsin digestion buffers on artificial deamidation*. Submitted. 2024. Pre-print available at ChemRxiv: 10.26434/chemrxiv-2024-g66d2.

Publications prior to the University of Washington

Reverse chronological order, [‡] indicates first, co-first, or co-submitting author (25 total prior to UW)

- (62) Wen RM, Stark JC, Marti GEW, Fan Z, Lyu AGarcia Marques FJ Zhang X, **Riley NM**, Totten SM, Bermudez A, Nolley R, Zhao H, Fong L, Engelman EG, Pitteri SJ, Bertozzi BR, Brooks JD. *Sialylated glycoproteins suppress immune cell killing by binding to Siglec-7/9 in prostate cancer*. Journal of Clinical Investigation, **2024**, in press. doi: 10.1172/JCI180282.
- (61) Goyette MA*, Stevens LE*, DePinho, C, Seehawer MT, Li Z, Wilde CM, Li R, Qiu X, Pyke AL, Lim K, Tender GS, Northey J, **Riley NM**, Long HW, Bertozzi CR, Weaver VM, Polyak K. *Cancer-stromal cell interactions in breast cancer brain metastases induce glycoalyx-mediated resistance to HER2-targeting therapies*. Proc. Natl. Acad. Sci. USA, **2024**, 121(20): e2322688121. doi: 10.1073/pnas.2322688121.
- (60) Stewart N, Daly J, Krishnamoorthy V, Stark JC, **Riley NM**, Bertozzi CR, Wisnovsky S. *The glyco-immune checkpoint receptor Siglec-7 interacts with T-cell ligands to regulate T-cell activation and signaling*. Journal of Biological Chemistry, **2024**, 300(2): 105579. doi: 10.1016/j.jbc.2023.105579.
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K. HONORS AND AWARDS FULL LIST

Independent Career

2024	ASMS Research Award
2024	Scialog Fellow, Automating Chemical Laboratories, Research Corporation for Science Advancement
2023	HUPO Rising Star Award
2023	Rising Star in Glycoscience, Translational Glycomics Center
2023	Distinguished Young Honors Alumni Award, South Carolina Honors College
2023	Elected Co-Chair, Gordon Research Seminar on Glycobiology

Postdoctoral

2022 – 2027	NIH Pathway to Independence Award (K99/R00)
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2022 HUPO World Congress Travel Award (combined award from HUPO and US HUPO)
 2022 24th International Mass Spectrometry Conference Young Mass Spectrometrist Keynote Lecture
 2021 Rising Star in Proteomics and Metabolomics, Journal of Proteome Research
 2021 ASBMB Postdoctoral Researcher Award
 2021 US HUPO Postdoctoral Award Honorable Mention
 2021 Society for Glycobiology Travel Award
 2020 Emerging Talent in Academia, American Society for Mass Spectrometry
 2020 Keystone Symposia Scholarship (Symposium: Proteomics in Cell Biology and Disease)
 2020 Stanford University Mass Spectrometry Research Applications Symposium Poster Award
 2019 ASMS Postdoctoral Career Development Award, American Society for Mass Spectrometry
 2018 – 2022 **NIH National Cancer Institute K00 Postdoctoral Fellow (K00CA212454)**

Graduate

2018 Human Proteomics Symposium Rising Star
 2018 Student Research Grants Competition Conference Award, Graduate School, UW-Madison
 2018 Richard and Joan Hartl Award for Research Excellence in Analytical Chemistry, UW-Madison
 2017 Society for Glycobiology Travel Award
 2017 Outstanding Oral Presentation Award, Midwest Carbohydrate and Glycobiology Symposium
 2017 FACSS Student Award, Federation of Analytical Chemistry and Spectroscopy Societies
 2017 Dept. of Biomolecular Chemistry Travel Award, UW-Madison
 2017 Roger J. Carlson Memorial Award for Research Excellence, Dept. of Chemistry, UW-Madison
 2017 1st Place in Poster Competition, Dept. of Chemistry Poster Session, UW-Madison
 2017 Graduate Student Travel Award, Dept. of Chemistry, UW-Madison
 2016 Marg Northcott Student Award, Lake Louise Tandem MS Workshop
 2016 – 2022 **NIH National Cancer Institute Predoctoral to Postdoctoral Fellow Transition Award (F99/K00)**
 2015 1st Place in Poster Competition, Human Proteomics Symposium
 2015 ASMS Graduate Student Award, American Society for Mass Spectrometry
 2014 Richard A. Schaeffer ASMS Travel Award
 2014 Asilomar Conference Travel Grant, ASMS
 2014 – 2016 **National Science Foundation (NSF) Graduate Research Fellow**
 2012 Pei Wang Graduate Fellowship, Department of Chemistry, UW-Madison
 2012 Louise McBee Graduate Fellowship, Alpha Lambda Delta Honors Society

Undergraduate

2012 **Algernon Sydney Sullivan Award** (top undergraduate student), USC
 2012 ODK Leader of the Year, Omicron Delta Kappa Honors Society Chi Circle, USC
 2012 Outstanding Senior Award, USC
 2012 Joseph H. Gibbons Outstanding Senior Award, Omicron Delta Kappa Honors Society
 2011, 2012 American Institute of Chemists Foundation Award, USC
 2011 Presidential Volunteer Service Award, Gold Level (250+ hours), Office of President Barack Obama
 2011 Student Body President's Award, USC
 2011 Wilson-Kibler Bicentennial Leadership Award, USC
 2011 Leadership Scholar Award, USC
 2010 Rising Senior Award, Dept. of Chemistry and Biochemistry, USC
 2010 Phi Beta Kappa
 2009 – 2010 Cultural Ambassadorial Scholar, Rotary International
 2009 University of South Carolina Homecoming King
 2009 Outstanding Freshman Advocate, USC (first undergraduate to win the award)
 2009 Jo Anne J. Trow Academic Scholar, Alpha Lambda Delta Honors Society
 2008 – 2010 Magellan Undergraduate Research Grant, USC
 2007 – 2011 Jamie and Cory Foundation Academic Scholar
 2007 – 2011 Robert C. Byrd Academic Scholar
 2007 – 2011 Robert C. McNair Scholar, USC (full tuition scholarship awarded for academic merit)