

# Jennifer J. Kohler

Professor

Department of Biochemistry

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## RESEARCH EXPERIENCE

Since 2022 **Professor**, Department of Biochemistry, UT Southwestern Medical Center  
2016-2022 **Associate Professor**, Department of Biochemistry, UT Southwestern Medical Center  
2011-2016 **Assistant Professor**, Department of Biochemistry, UT Southwestern Medical Center  
2007-2011 **Assistant Professor**, Division of Translational Research, Department of Internal Medicine, UT Southwestern Medical Center  
2005-2007 **Assistant Professor**, Department of Chemistry, Stanford University  
2000-2004 **Postdoctoral Fellow**, University of California, Berkeley, with Professor Carolyn R. Bertozzi  
1994-2000 **Graduate Student**, Yale University, with Professor Alanna Schepartz  
1993-1994 **Undergraduate Research**, Bryn Mawr College, with Professor Susan A. White

## EDUCATION

1994-2000 **Yale University**, New Haven, CT  
Ph.D., Chemistry  
1990-1994 **Bryn Mawr College**, Bryn Mawr, PA  
A.B., with Honors in Chemistry, summa cum laude

## HONORS

2018 UT Southwestern Academy of Teachers (SWAT) Outstanding Educator Award  
2009-2012 Alfred P. Sloan Research Fellow  
2007-2012 NSF-CAREER Award  
2007-2009 Basil O'Connor Starter Scholar Research Award, March of Dimes  
2005 Camille & Henry Dreyfus New Faculty Award

## RESEARCH PUBLICATIONS

2022 N Yarravarapu, RSR Konada, N Darabedian, NJ Pedowitz, SN Krishnamurthy, MR Pratt, JJ Kohler. **Exo-enzymatic addition of diazirine-modified sialic acid to cell surfaces enables photocrosslinking of glycoproteins**, *Bioconj. Chem.* 33: 781-787  
❖ ACS Editors' Choice

2022 DJ Carroll, MWN Burns, L Mottram, DC Propher, A Boucher, GM Lessen, A Kumar, C Xing, LV Hooper, U Yrlid, JJ Kohler. **Interleukin-22 (IL-22) regulates B3GNT7 expression to induce intestinal fucosylation of O-linked glycans**, *J. Biol. Chem.* 298: 101463  
❖ JBC Recommended Read

2022 EG Jackson, G Cutolo, B Yang, N Yarravarapu, MWN Burns, G Bineva-Todd, C Roustan, JB Thoden, TH van Kuppevelt, HM Holden, B Schumann, JJ Kohler, CM Woo, MR Pratt. **4-deoxy-4-fluoro-GalNAz (4FGalNAz) is a metabolic chemical reporter of O-GlcNAc modifications, highlighting the notable substrate flexibility of O-GlcNAc transferase**, *ACS Chem. Biol.*, 17: 159-170

- 2022 H Wu, A Shajahan, J-Y Yang, E Capota, AM Wands, CM Arthur, SR Stowell, KW Moremen, P Azadi, JJ Kohler. **A photocrosslinking GlcNAc analog enables covalent capture of N-linked glycoprotein binding partners.** *Cell Chem. Biol.*, 29: 84-97
- 2021 BN Kakde, E Capota, JJ Kohler\*, UK Tambar\*. **Synthesis of cell-permeable N-acetylhexosamine-1-phosphates.** *J. Org. Chem.* 86: 18257–18264 (\*co-corresponding authors)
- 2021 N Pedowitz, E Jackson, J Overhulse, C McKenna, JJ Kohler, MR Pratt. **Anomeric fatty-acid functionalization prevents non-enzymatic S-glycosylation by monosaccharide metabolic chemical reporters.** *ACS Chem. Biol.* 16: 1924–1929
- 2021 E Capota, H Wu, JJ Kohler. **Photocrosslinking O-GlcNAcylated proteins to neighboring biomolecules.** *Current Protocols*, 1: e201
- 2020 A Shajahan, NT Supekar, H Wu, AM Wands, G Bhat, A Kalimurthy, M Matsubara, R Ranzinger, JJ Kohler, P Azadi. **Mass spectrometric method for the unambiguous profiling of cellular dynamic glycosylation.** *ACS Chem. Biol.* 15: 2692-2701
- 2020 B Schumann, SA Malaker, SP Wisnovsky, MF Debets, AJ Agbay, D Fernandez, LJS Wagner, L Lin, J Choi, DM Fox, JM Peh, MA Gray, K Pedram, JJ Kohler, M Mrksich, CR Bertozzi. **Bump-and-hole engineering identifies specific substrates of glycosyltransferases in living cells.** *Molecular Cell* 78: 824-834
- 2020 A Broussard, A Florwick, C Desbiens, N Nischan, C Robertson, Z Guan, JJ Kohler, L Wells, M Boyce. **The human UDP-galactose 4'-epimerase (GALE) is required for cell surface glycome structure and function.** *J. Biol. Chem.* 295: 1225-1239
- 2019 A Sethi, AM Wands, M Mettlen, S Krishnamurthy, H Wu, JJ Kohler. **Cell type and receptor identity regulate cholera toxin subunit B (CTB) internalization.** *Interface Focus*, 9: 20180076
- 2018 CA Toleman, MA Schumacher, S-H Yu, W Zeng, NJ Cox, TJ Smith, EJ Soderblom, AM Wands, JJ Kohler, M Boyce. **Structural basis of O-GlcNAc recognition by mammalian 14-3-3 proteins.** *Proc. Natl. Acad. Sci. U. S. A.* 115: 5956-5961
- 2018 J Cervin, AM Wands, A Casselbrant, H Wu, S Krishnamurthy, A Cvjetkovic, J Estelius, B Dedic, A Sethi, K-L Wallom, R Riise, M Bäckström, V Wallenius, FM Platt, M Lebens, S Teneberg, L Fändriks, JJ Kohler\*, U Yrlid\*. **GM1 ganglioside-independent intoxication by cholera toxin.** *PLoS Pathogens* 14:e1006862 (\*co-corresponding authors)  
 ❖ featured on PLoS Cholera Channel
- 2018 AM Wands, J Cervin, H Huang, Y Zhang, G Youn, CA Brautigam, M Matson Dzebo, P Björklund, V Wallenius, DK Bright, CS Bennett, P Wittung-Stafshede, NS Sampson, U Yrlid, JJ Kohler. **Fucosylated molecules competitively interfere with cholera toxin binding to host cells.** *ACS Infect. Dis.* 4:758-770  
 ❖ highlighted in ScienceDaily; [www.sciencedaily.com/releases/2018/03/180309100653.htm](http://www.sciencedaily.com/releases/2018/03/180309100653.htm)
- 2018 K Tanigaki, A Sacharidou, J Peng, KL Chambliss, IS Yuhanna, D Ghosh, M Ahmed, AJ Szalai, W Vongpatanasin, RF Mattrey, Q Chen, P Azadi, I Lingvay, M Botto, WL Holland, JJ Kohler, SR Sirsi, K Hoyt, PW Shaul, C Mineo. **Hyposialylated IgG activates endothelial IgG receptor FcγRIIB to promote obesity-induced insulin resistance.** *J. Clin. Invest.* 128:309-322
- 2017 S-K Park, X Zhou, K Pendleton, OV Hunter, JJ Kohler, KA O'Donnell, and NK Conrad. **A conserved splicing silencer dynamically regulates O-GlcNAc transferase intron retention and O-GlcNAc homeostasis.** *Cell Rep.* 20:1088-1099
- 2017 LM Andres, IW Blong, AC Evans, NG Rumachik, T Yamaguchi, ND Pham, P Thompson, JJ Kohler, CR Bertozzi. **Chemical modulation of protein O-GlcNAcylation via OGT inhibition promotes**

human neural cell differentiation. *ACS Chem. Biol.* 12:2030-2039

2017 ND Pham, PC Pang, S Krishnamurthy, AM Wands, P Grassi, A Dell, SM Haslam, JJ Kohler. **Effects of altered sialic acid biosynthesis on N-linked glycan branching and cell surface interactions.** *J. Biol. Chem.* 292:9637-9651

2017 JD Wright, S-W An, J Xie, J Yoon, N Nischan, JJ Kohler, N Oliver, C Lim, and CL Huang. **Modeled structural basis for the recognition of  $\alpha$ 2-3-sialyllactose by soluble klotho.** *FASEB J.* 31:3574-3586

2017 G Dalton, SW An, SI Al-Juboori, N Nischan, J Yoon, E Dobrinskikh, DW Hilgemann, J Xie, K Luby-Phelps, JJ Kohler, L Birnbaumer, CL Huang. **Soluble klotho binds monosialoganglioside to regulate membrane microdomains and growth factor signaling.** *Proc. Natl. Acad. Sci. U. S. A.* 114:752-757

2016 C Leija, F Rijo-Ferreira, L Kinch, N Grishin, N Nischan, JJ Kohler, Z Hu, and MA Phillips. **Pyrimidine salvage enzymes are essential for de novo biosynthesis of deoxypyrimidine nucleotides in *Trypanosoma brucei*.** *PLoS Pathog.* 12:e1006010

2016 JE McCombs, JP Diaz, KJ Luebke, and JJ Kohler. **Glycan specificity of neuraminidases determined in microarray format.** *Carb. Res.* 428:31-40

2016 JE McCombs and JJ Kohler. **Pneumococcal neuraminidase substrates identified through comparative proteomics enabled by chemoselective labeling.** *Bioconj. Chem.* 27:1013-1022

2016 JE McCombs, C Zou, RB Parker, CW Cairo, and JJ Kohler. **Enhanced crosslinking of diazirine-modified sialylated glycoproteins enabled through profiling of sialidase specificities.** *ACS Chem. Biol.* 11:185-192

2015 AM Wands, A Fujita, JE McCombs, J Cervin, B Dedic, AC Rodriguez, N Nischan, MR Bond, M Mettlen, DC Trudgian, A Lemoff, M Quiding-Järbrink, B Gustavsson, C Steentoft, H Clausen, H Mirzaei, S Teneberg, U Yrlid\*, and JJ Kohler\*. **Fucosylation and protein glycosylation create functional receptors for cholera toxin.** *eLife* 4:e09545 (\*co-corresponding authors)

2015 AC Rodriguez, SH Yu, B Li, H Zegzouti & JJ Kohler. **Enhanced transfer of a photocrosslinking GlcNAc analog by an O-GlcNAc transferase mutant with converted substrate specificity.** *J. Biol. Chem.* 290:22638-22648

2015 ND Pham, CS Fermaintt, AC Rodriguez, JE McCombs, N Nischan & JJ Kohler. **Cellular metabolism of unnatural sialic acid precursors.** *Glycoconj. J.* 32:515-529

2014 AC Rodriguez & JJ Kohler. **Recognition of diazirine-modified O-GlcNAc by human O-GlcNAcase.** *MedChemComm* 5:1227-1234

2012 RB Parker, JE McCombs, & JJ Kohler. **Sialidase specificity determined by chemoselective modification of complex sialylated glycans.** *ACS Chem. Biol.* 7:1509-1514

2012 S-H Yu, M Boyce, AM Wands, MR Bond, CR Bertozzi & JJ Kohler. **Metabolic labeling enables selective photocrosslinking of O-GlcNAc-modified proteins to their binding partners.** *Proc. Natl. Acad. Sci. U. S. A.* 109:4834-4839

❖ highlighted in *Nature Methods* (2012) 9:435 and *ACS Chem. Biol.* (2012) 7:620

2011 MR Bond, H Zhang, J Kim, S-H Yu, F Yang, SM Patrie & JJ Kohler. **Metabolism of diazirine-modified N-acetylmannosamine analogs to photocrosslinking sialosides.** *Bioconjugate Chem.* 22: 1811-1823

2011 CM Whitman, F Yang, & JJ Kohler. **Modified GM3 gangliosides produced by metabolic**

oligosaccharide engineering. *Bioorg. Med. Chem. Lett.* 21: 5006-5010

2011 M Boyce, IS Carrico, AS Ganguli, S-H Yu, MJ Hangauer, SC Hubbard, JJ Kohler & CR Bertozzi. **Metabolic crosstalk allows labeling of human O-linked  $\beta$ -N-acetylglucosamine-modified proteins via the N-acetylgalactosamine salvage pathway.** *Proc. Natl. Acad. Sci. U. S. A.* 108:3141-3146

2010 DH Dube, B Li, EJ Greenblatt, S Nimer, AK Raymond & JJ Kohler. **A two-hybrid assay to study protein interactions within the secretory pathway.** *PLoS ONE* 5:e15648

2010 MR Bond, CM Whitman & JJ Kohler. **Metabolically incorporated photocrosslinking sialic acid covalently captures a ganglioside-protein complex.** *Mol. Biosys.* 6:1796-1799

2009 MM Desko, DA Gross & JJ Kohler. **Effects of N-glycosylation on the activity and trafficking of GlcNAc-6-sulfotransferase 1.** *Glycobiology* 19:1068-1077

2009 MR Bond, H Zhang, PD Vu & JJ Kohler. **Photocrosslinking of glycoconjugates using metabolically incorporated diazirine-containing sugars.** *Nat. Protoc.* 4:1044-1063

2009 PL Lee, JJ Kohler & SR Pfeffer. **Intracellular association of  $\beta$ -1,3-N-acetylglucosaminyltransferase 1, iGnT, and  $\beta$ -1,4-galactosyltransferase 1, GalT1, trans-Golgi glycosyltransferases involved in poly-N-acetyllactosamine synthesis.** *Glycobiology* 19:655-664

2008 Y Tanaka & JJ Kohler. **Photoactivatable crosslinking sugars for capturing glycoprotein interactions.** *J. Amer. Chem. Soc.* 130:3278-3279

❖ highlighted in *C&E News* (2008) 86:31

#### RESEARCH PUBLICATIONS AS A TRAINEE

2008 JL Czapinski, MW Schelle, LW Miller, ST Laughlin, JJ Kohler, VW Cornish & CR Bertozzi. **Conditional glycosylation in eukaryotic cells using a biocompatible chemical inducer of dimerization.** *J. Amer. Chem. Soc.* 130:13186-13187

2004 CL de Graffenried, ST Laughlin, JJ Kohler & CR Bertozzi. **A small-molecule switch for Golgi sulfotransferases.** *Proc. Natl. Acad. Sci. U. S. A.* 101:16715-16720

2004 JJ Kohler, JL Czapinski, ST Laughlin, MW Schelle, CL de Graffenried & CR Bertozzi. **Directing flux in glycan biosynthetic pathways with a small molecule switch.** *ChemBioChem* 5:1455-1458

2003 JJ Kohler & CR Bertozzi. **Regulating cell surface glycosylation by small molecule control of enzyme localization.** *Chem. Biol.* 10:1303-1311

2001 JJ Kohler & A Schepartz. **Effects of nucleic acids and polyanions on dimer formation and DNA binding by bZIP and bHLHZip transcription factors.** *Bioorg. Med. Chem.* 9:2435-2443

2001 JJ Kohler & A Schepartz. **Kinetic studies of Fos•Jun•DNA complex formation: DNA binding prior to dimerization.** *Biochemistry* 40:130-142

1999 JJ Kohler,\* SJ Metallo,\* TL Schneider & A Schepartz. **Enhanced DNA specificity achieved by sequential binding of protein monomers.** *Proc. Natl. Acad. Sci. U. S. A.* 96:11735-11739 (\* equal contributions)

1995 H Li, S Dalal, J Kohler, J Vilardell & SA White. **Characterization of the pre-messenger RNA binding site for yeast ribosomal protein L32 - The importance of a purine-rich internal loop.** *J. Mol. Biol.* 250:447-459

#### REVIEW ARTICLES, BOOK CHAPTERS & COMMENTARY

- 2022 AL Lewis, JJ Kohler, & M Aebi. **Chapter 37: Microbial Lectins: Hemagglutinins, Adhesins, and Toxins**, in *Essentials of Glycobiology*, 4th edition, Cold Spring Harbor Laboratory Press
- 2021 JJ Kohler. **What sugar does to your pores**. *J. Cell Biol.* 220: e202105163
- 2020 AC Ghorashi & JJ Kohler. **Not all quiet on the sugar front: Glycan combatants in host-pathogen interactions**. *Biochemistry* 59:3061-3063
- 2019 H Wu & JJ Kohler. **Photocrosslinking probes for capture of carbohydrate interactions**. *Curr. Op. Chem. Biol.* 53:173-182
- 2017 AM Wands & JJ Kohler. **Recent developments in designing compact biological photoprobes**. *Photoaffinity Labeling for Structural Probing within Proteins*, pp. 45-78
- 2017 JJ Kohler. **Carb cutting works better with a partner**. *Nat. Struct. Mol. Biol.*, 24:433-435
- 2017 JE McCombs & JJ Kohler. **Chemoselective reactions for glycan labeling**. *Chemoselective and Bioorthogonal Ligation Chemistries: Concepts and Applications*, pp. 363-390
- 2016 N Nischan & JJ Kohler. **Advances in cell surface glycoengineering reveal biological function**. *Glycobiology* 26:789-796
- 2015 A Fujita & JJ Kohler. **Photocrosslinking sugars for capturing glycan-dependent interactions**. *Trends in Glycoscience and Glycotechnology* 27:E1-E7
- 2015 A Fujita & JJ Kohler. **Metabolism of natural and unnatural sialic acid**. *Glycoscience: Biology and Medicine*, pp. 1118-1125
- 2014 B Li & JJ Kohler. **Glycosylation of the nuclear pore**. *Traffic* 15:347-361.
- 2013 ND Pham, RB Parker, & JJ Kohler. **Photocrosslinking approaches to interactome mapping**. *Curr. Op. Chem. Biol.* 17:90-101
- 2012 S-H Yu, AM Wands, & JJ Kohler. **Photoaffinity probes for studying carbohydrate biology**. *J. Carb. Chem.* 31:325-352
- 2010 JJ Kohler. **A shift for the O-GlcNAc paradigm**. *Nat. Chem. Biol.* 5:634-635
- 2010 S-H Yu, MR Bond, CM Whitman & JJ Kohler. **Metabolic labeling of glycoconjugates with photocrosslinking sugars**. *Methods Enzymol.* 478:541-562
- 2010 CM Whitman, MR Bond & JJ Kohler. **Chemical glycobiology**. *Comprehensive Natural Products II* 175-224
- 2010 RB Parker & JJ Kohler. **Regulation of intracellular signaling by extracellular glycan remodeling**. *ACS Chem. Biol.* 5:35-46
- 2009 JJ Kohler. **Aniline: a catalyst for sialic acid detection**. *Chembiochem* 10:2147-2150
- 2008 MM Desko & JJ Kohler. **Glycosylation of proteins in the Golgi apparatus**. *Wiley Encyclopedia of Chemical Biology* 1-15
- 2008 Y Tanaka, MR Bond & JJ Kohler. **Photocrosslinkers illuminate interactions in living cells**. *Mol. Biosys.* 4:473-480
- 2007 JW Chin & JJ Kohler. **Current and future prospects in biopolymer chemistry**. *Curr. Op. Chem. Biol.* 11:626-627
- 2007 JJ Kohler. **Chemical biology meets networks**. *Nat. Chem. Biol.* 3:528-9
- 2007 MR Bond & JJ Kohler. **Chemical methods for glycoprotein discovery**. *Curr. Op. Chem. Biol.* 11:52-58

- 2006 DH Dube, CL de Graffenried & JJ Kohler. **Regulating cell surface glycosylation with a small molecule switch.** *Methods Enzymol.* 415:213-229
- 2006 JJ Kohler. **A century at the chemistry-biology interface.** *Nat. Chem. Biol.* 2:288-292
- 1999 JW Chin, JJ Kohler, TL Schneider & A Schepartz. **Gene regulation: Protein escorts to the transcription ball.** *Curr. Biol.* 9:R929-R932

## RESEARCH PRESENTATIONS DURING LAST TEN YEARS (\*scheduled)

### Invited Speaker Presentations

- \*2023 American Chemical Society National Meeting, Indianapolis, IN
- \*2022 Szarek Lecture, Department of Chemistry, Queen's University, Kingston, ON
- \*2022 Society for Glycobiology Annual Meeting, Amelia Island, FL
- \*2022 Glycoscience Center of Research Excellence (GlyCORE), University of Mississippi  
2022 Department of Chemistry, NYU
- 2022 From Golgi organization to Glycan function, Biochemical Society, Brighton, UK
- 2022 Department of Medicinal Chemistry, University of Kansas (virtual)
- 2022 Department of Chemistry, University of Southern California
- 2022 Department of Pharmacology, UT Southwestern (virtual)
- 2021 Pacifichem, Honolulu, HI (virtual)
- 2021 Satellite Symposium on Tools in Glycoscience and Glyco in Biotechnology at Society for Glycobiology Annual Meeting, San Diego, CA
- 2021 Department of Biochemistry & Biophysics, Texas A&M (virtual)
- 2021 GlycoNet (Canadian Glycomics Network) & ACS Carbohydrate Chemistry Division webinar
- 2020 Francis Crick Institute, London, UK (virtual)
- 2020 Department of Chemistry, Scripps Florida (virtual)
- 2020 The Biology of O-GlcNAc, NIH
- 2019 Chemical Biology & Physiology Conference, Oregon Health and Science University
- 2019 School of Pharmacy, University of Wisconsin, Madison
- 2019 Department of Chemistry, Morgan State University
- 2019 EUROCARB XX, Leiden, The Netherlands
- 2019 Department of Chemistry, Rice University
- 2018 Royal Society Theo Murphy Meeting on Synthetic Glycobiology, Chicheley Hall, UK
- 2018 International Chemical Biology Society (ICSB2018), Vancouver, Canada
- 2018 SialoGlyco 2018, Banff, Canada
- 2018 Department of Chemistry, Michigan State University
- 2018 Department of Chemistry, Wayne State University
- 2017 Society for Glycobiology Annual Meeting, Portland, OR
- 2017 Gordon Research Conference Natural Products and Bioactive Compounds, Andover, NH
- 2017 Gordon Research Conference Carbohydrates, Mt. Snow, VT
- 2017 Canadian Glycomics Symposium, Banff, Canada
- 2017 Department of Pharmacology, UT Southwestern Medical Center
- 2017 Department of Molecular Physiology and Biological Physics, University of Virginia
- 2017 Department of Molecular Biology, University of Wyoming
- 2016 SialoGlyco 2016, Santa Barbara, CA
- 2016 Protein O-GlcNAcylation in Health and Disease, The Biochemical Society, London
- 2016 FASEB Summer Conference on Microbial Glycobiology, West Palm Beach, FL

- 2016 SRI International, Harrisonburg, VA
- 2016 ASBMB Annual Meeting, San Diego, CA
- 2015 Pacifichem, Honolulu, HI
- 2015 NIH & FDA Glycosciences Research Day, Bethesda, MD
- 2015 9<sup>th</sup> Georgia Glycoscience Symposium, Complex Carbohydrate Res. Center, Athens, GA
- 2015 Frontiers in Glycoscience Symposium, American Chemical Society National Meeting
- 2015 New Investigator Award Symposium Carb. Division, Amer. Chem. Soc. National Meeting
- 2014 Department of Chemistry, University of Iowa
- 2014 Satellite Symposium on Chemical Aspects of Glycobiology at the Joint Annual Meeting of the Society for Glycobiology / Japanese Society of Carbohydrate Research, Honolulu, HI
- 2014 Department of Chemistry and Biochemistry, Texas Tech University
- 2014 Chemical Biology 2014, EMBL Conference, Heidelberg, Germany
- 2014 Bioorganic Gordon Research Conference
- 2013 Society for Glycobiology Annual Meeting, St. Petersburg, FL
- 2013 Department of Chemistry, Bowdoin College
- 2013 Department of Chemistry, University of Delaware
- 2013 Hudson Symposium in honor of Prof. Laura Kiessling, ACS National Meeting, New Orleans
- 2013 Vanderbilt Institute of Chemical Biology (VICB), Vanderbilt University
- 2013 Department of Chemistry, University of Arkansas
- 2012 American Society for Cell Biology (ASCB) Annual Meeting, Nuclear Pore Special Interest Subgroup
- 2012 Mizutani Foundation for Glycoscience, 20<sup>th</sup> Anniversary Symposium, Shinagawa, Japan
- 2012 Department of Chemistry, UT Dallas

#### **Other Speaker Presentations**

- 2017 Selected Oral Presentation, EUROCARB19, Barcelona, Spain
- 2015 Poster Talk, Society for Glycobiology Annual Meeting, San Francisco, CA

#### **Posters**

- 2016 Kavli Frontiers of Science, 20<sup>th</sup> German-American Symposium
- 2014 Kavli Frontiers of Science, 19<sup>th</sup> German-American Symposium
- 2012 Kavli Frontiers of Science, 24<sup>th</sup> United States Symposium

#### **UNIVERSITY ACTIVITIES**

- Since 2021 Graduate School, Student Advisory Committee
- Since 2020 Medical School Scholarly Activity Program, Departmental Representative
- Since 2019 Graduate School Awards Committee
- Since 2019 Co-Program Director, Chemistry-Biology Interface NIGMS T32 training program
- Since 2019 Simmons Comprehensive Cancer Center (SCCC) Educational Advisory Committee
- 2018 Physician Wellness Committee
- 2017, 2020 UT Southwestern 6-Year Plan, PhD & Postdoctoral Research Training Subcommittee
- 2016-2018 Departmental representative to Faculty Senate
- 2012-2017 Division of Basic Sciences, Graduate School Admissions Committee
- Since 2013 Host summer high school students, STARS program
- Since 2012 Postdoctoral Advisory Committee
- Since 2012 Biological Chemistry Graduate Program Steering Committee
- 2010-2020 Core Lab Oversight Committee
- Since 2008 Host summer students, SURF (Summer Undergraduate Research Fellowship)

**SERVICE OUTSIDE UNIVERSITY**

*2025	Co-chair Gordon Research Conference Carbohydrates
Since 2020	Advisory Board, <i>Cell Chemical Biology</i>
2018-2023	Research Management Committee, Canadian Glycomics Network (GlycoNet)
2019-2022	Board of Directors, Society for Glycobiology
2016-2021	Associate Editor, <i>Biochemical Journal</i>
2017, 2022	Nominations Committee, Society for Glycobiology
2015-2017	Awards Committee, Carbohydrate (CARB) Division, American Chemical Society
2016	Mentoring Workshop for New Faculty in Organic and Biological Chemistry (NIGMS/NIH)
2016	Organizing Committee, 19 <sup>th</sup> German-American/Kavli Frontiers of Science Symposium
2014	Organizing Committee, 18 <sup>th</sup> German-American/Kavli Frontiers of Science Symposium
2009	More Bang for the R&D Buck: Investing in Young Researchers and High-Risk Research, ACS-sponsored briefing to US Congressional Staffers, Washington, DC
2008-2010	Biotechnology advisory board member, Collin County Community College, Plano, TX

**REVIEWER ACTIVITY**

2017-2023	Member, NIH SBCA study section
2017	Ad hoc service on NIH MBPP study section
2017	Ad hoc service on NIH study section for RFA-RM-16-022
2016	Ad hoc service on NIH study section for RFA-RM-15-007
2011, 2015	Ad hoc service on NIH SBCA study section
2015	Ad hoc service on NIH study section for RFA-RM-14-015
2014	Ad hoc service on NIH IMST-G study section
2011, 2013	NSF review panels

**TEACHING DURING LAST TEN YEARS**

Since 2018	Course director, medical school course Macromolecules & Metabolism
Since 2017	Lecturer in BICH489 Biomolecules: Glycans in Disease, Physiology & Development, Texas A&M
Since 2016	Lecturer on glycosylation, Genes Thread, graduate school core course
2010-2022	Course director, Enzymes and Disease
Since 2008	Lecturer for Enzymes and Disease
Since 2008	Lecturer on protein methods, Proteins Thread, graduate school core course
2009-2015	Discussion leader, protein discussion group, graduate school core course
2014	Journal club, Glycobiology

**CURRENT FUNDING****Function and regulation of epithelial glycosylation**

NIH/NIGMS (R35GM145599-01)                      Role: PI  
 Funding period: 2022 – 2027

**Role of host fucose in cholera toxin action**

NIH/NIGMS (R01GM090271-12)                      Role: PI  
 Funding period: 2009 – 2023

**New tools for studying GlcNAc biology**

NIH/NCI (U01CA242115-03)                      Role: PI  
 Funding period: 2019 – 2023

**Dissecting and targeting the role of GALNT14 in high-risk osteosarcoma**



NIH/NCI (R21CA267914-01) Role: MPI (co-PI Jason Yustein, Baylor University)  
 Funding period: 2021 – 2022

### Chemistry-biology interface T32

NIH/NIGMS (T32GM127216-03) Role: MPI (co-Program Director Margaret Phillips)  
 Funding period: 2019 – 2024

### IL-22-induced intestinal glycosylation

Welch Foundation Research Grant (I-1686) Role: PI  
 Funding period: 2008-2023

## CURRENT RESEARCH GROUP

<u>Name</u>	<u>Position in Kohler lab</u>	<u>Prior Education</u>
Mary Burns	MSTP student	B.S., University of Richmond
Emanuela Capota	research assistant	M.S., UT Southwestern
Atossa Ghorashi	graduate student	B.S., Stockton College
Dr. Rohit Konada	postdoctoral fellow	Ph.D., University of Hyderabad
Han Wu	graduate student	B.S., University of Sci. & Tech. of China

## FORMER MEMBERS OF RESEARCH GROUP

<u>Name</u>	<u>Position in Kohler lab</u>	<u>Current position</u>
Dr. Michelle R. Bond	graduate student	program director, NIH/NIGMS
Dr. Daniela Carroll	postdoctoral fellow	medical writer, Avania
Dr. Marguerite M. Desko	graduate student	lead software engineer, Bigcommerce
Dr. Danielle H. Dube	postdoctoral scientist	professor, Bowdoin College
Dr. Akiko Fujita	postdoc/research scientist	researcher, Kyoto Sangyo University
Yulanda Givens	research technician	research technician, UT Southwestern
Jeffrey Hankin	research technician	research technician, UT Southwestern
Dr. Soumya Krishnamurthy	research scientist	senior medical liaison, Amgen
Dr. Susan Legan	research associate	research associate, UT Southwestern
Dr. Bin Li	postdoctoral fellow	research scientist, UT Southwestern
Dr. Janet McCombs	postdoctoral fellow	assistant professor, Tulane University
Dr. Nicole Nischan	postdoctoral fellow	medical science liaison, Sanofi-Aventis
Dr. Randy Parker	graduate student	scientist II, Resilience
Dr. Nam Pham	MSTP student	clinical fellow, UT Southwestern
Dr. Andrea Rodriguez	graduate student	medical director, Cadent Medical Commun.
Dr. Anirudh Sethi	postdoctoral fellow	associate director, Takeda Oncology
Grant Showell	postbac student	
Dr. Yoshihito Tanaka	visiting scholar	sr. res. scientist, Mitsubishi Tanabe Pharma
Dr. Peter Vu	graduate student	medical science liaison, Madrigal Pharma
Dr. Amberlyn Wands	postdoc/research scientist	career break for family care
Dr. Yibing Wang	postdoctoral fellow	postdoctoral, UT Southwestern
Dr. Chad M. Whitman	graduate student	manager, Synthego
Dr. Fan Yang	postdoctoral fellow	innovation scientist, Lipotec
Dr. Nageswari Yarravarapu	assistant instructor	glycobiologist, Vector Laboratories
Dr. Seokho Yu	research scientist	staff scientist, Greenwood Genetic Center