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CURRICULUM VITAE

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Education and Training

1979 A.B. in Physics, Cornell University, Ithaca, NY
1987 Ph.D. in Biophysics, Harvard University, Cambridge, MA
Advisors: Stephen C. Harrison and Mark Ptashne
1988-1989 Postdoctoral Fellow, University of California, San Francisco, CA
Mentor: Robert M. Stroud
1989-1991 Postdoctoral Fellow, The Johns Hopkins University School of Medicine, Baltimore, MD
Mentor: Carl O. Pabo

Professional Experience

1991-1997 Assistant Professor of Biophysics and Biophysical Chemistry, The Johns Hopkins University School of Medicine
1994-2014 Investigator, Howard Hughes Medical Institute, The Johns Hopkins University School of Medicine
1997-2000 Associate Professor of Biophysics and Biophysical Chemistry, The Johns Hopkins University School of Medicine
2006 – 2015 Co-director, Center for Epigenetics, The Johns Hopkins University School of Medicine
2000-present Professor of Biophysics and Biophysical Chemistry, The Johns Hopkins University School of Medicine
2014–present Professor of Oncology, The Johns Hopkins University School of Medicine
2021-present Director, Department of Biophysics and Biophysical Chemistry, The Johns Hopkins University School of Medicine

Honors and Awards

1987 – 1990 Damon Runyon - Walter Winchell Cancer Research Fund Fellow
1992 – 1994 March of Dimes - Basil O'Connor Starter Scholar Award
1992 – 1997 David and Lucile Packard Fellowship for Science and Engineering
1993 – 1994 American Cancer Society Junior Faculty Award
1994 – 2014 Howard Hughes Medical Institute Investigator
2003 Dean's Lecture, Johns Hopkins University School of Medicine
2009 Fellow of the American Association for the Advancement of Science
2010 Keynote Speaker, NCI Chromatin Workshop, Bethesda, MD
2011 Cecile Pickart Memorial Lecturer, Bloomberg School of Public Health
2012 Distinguished Visitor Lecture, Max Planck Institute for Biochemistry, Martinsried, Germany
2013 Dorothy Crowfoot Hodgkin Award, Protein Society
2014 Distinguished Lecturer, Department of Biochemistry and Biophysics, UCSF

2016 Martha Ludwig Lecturer, Department of Biological Chemistry, University Michigan
2017 Johns Hopkins University Professors' Award for Excellence in Teaching in Biomedical Sciences
2019 Member of the National Academy of Sciences
2019 Member of the American Academy of Arts and Sciences
2019 Fellow of the Biophysical Society
2020 Women in Discovery Science Inaugural Lecturer, UCSF
2021 AACR Award for Outstanding Achievement in Chemistry in Cancer Research
2021 Member of the National Academy of Medicine

Editorial Board Appointments

1995 – 2001 Editorial Board, *Current Biology*
1996 – 1997 Editorial Board, *Macromolecular Structures*
2004 – 2013 Editorial Board, *Annual Reviews in Biophysics*
2001 – present Faculty of 1000 section head, *Transcription and Translation*
2011 – present Editorial Advisory Board, *Protein Science*
2012 – present Editorial Board, *Current Opinions in Structural Biology*
2015 – present Editorial Board, *Structure*
2015 – 2018 Board of Reviewing Editors, *eLife*
2018 – present Senior Editor, *eLife*

Advisory Boards

2005 – 2011 Scientific Advisory Board, Sirtris Pharmaceuticals/GlaxoSmithKline
2007 – 2013 Board on Life Sciences, National Academy of Sciences
2008 – 2018 Advisory Committee, RCSB Protein Data Bank
2012 – 2018 Chair, Advisory Committee, RCSB Protein Data Bank
2012 – 2018 Scientific Advisory Committee, World Wide PDB
2015 Ad hoc member, Keystone Symposia Advisory Board
2016 – 2019 Scientific Advisory Committee, Advanced Photon Source, Argonne National Lab
2020 – 2021 Scientific Advisory Board, Frederick National Laboratory for Cancer Research
2017 – present Scientific Advisory Board, Thermo-Fisher Scientific
2018 – present Scientific Advisory Board, Max Planck Institute for Biochemistry, Martinsreid, Germany

Review Groups/Study Sections

1996 – 2001 Member, Molecular Biophysics Advisory Panel, NSF
2000 – 2003 Biophysical Society Awards Committee
2001 Howard Hughes Medical Institute Postdoctoral Awards Panel
2002 External reviewer, EMBL Structural and Computational Biology Program
2003 *Ad hoc* member, NIH BBCB study section
2005 Chair, Special Emphasis Panel, CSR, NIH
2005, 2009 External reviewer, Quinquennial Review, Cancer UK, London
2011 *Ad hoc* member, IAR, NIH shared instrumentation grants
2012 *Ad hoc* member, NIH Special Emphasis Panel ZRG1-BCMB
2013 *Ad hoc* member, NIH Special Emphasis Panel ZRG1-BCMB-U
2013 NCI intramural review panel
2014 *Ad hoc* member, IAR, NIH Special Emphasis Panel ZRG1-BCMB-D
2015 Ad hoc member, IAR, NIH Fellowship review, ZRG1 F04B-D (20) L
2016 Ad hoc member, IAR, NIH Special Emphasis Panel ZRG1 BCMB-D
2019 Ad hoc member, Damon Runyon Cancer Fund review committee

2017 – present Standing member, NIH Macromolecular Structure and Function C (MSFC) Study Section
2020 – present Chair, NIH MSFC Study Section.

PUBLICATIONS

Original Research

1. **Wolberger C** and Harrison SC. Crystallization and X-ray diffraction studies of a 434 Cro-DNA complex, *J Mol Biol.* 1987;196(4):951-4.
2. **Wolberger C**, Dong Y, Ptashne M, Harrison SC. The structure of a 434 Cro-DNA complex. *Nature* 1988; 335:789-795
3. Mondragon A, **Wolberger C**, Harrison SC. The structure of phage 434 Cro protein at 2.35 Å resolution. *J. Mol Biol.* 1989; 205:179-188
4. **Wolberger C**, Pabo CO, Vershon AK, Johnso AD. Crystallization and preliminary X-ray diffraction studies of a MAT alpha2-DNA complex. *J Mol Biol.* 1991; 21:11-13
5. **Wolberger C**, Vershon AK, B. Liu, A.D. Johnson and C.O. Pabo. Crystal structure of a MATa2 homeodomain-operator complex suggests a general model for homeodomain-DNA interactions. *Cell.* 1991; 67:517-528
6. **Wolberger C**. Structure and DNA Binding of the Yeast MAT alpha2 Homeodomain. *Cold Spring Harbor Symp Quant Biol.* 1993; 58:159-166
7. T. Li, M. Stark, A.D. Johnson, and **C. Wolberger**. Crystallization and preliminary X-ray diffraction studies of an **a**1/alpha2/DNA ternary complex. *Proteins.* 1995; 21:161-164
8. T. Li, M.R. Stark, A.D. Johnson, and **C. Wolberger**. Structure of the MAT **a**1/MAT alpha2 homeodomain heterodimer bound to DNA. *Science.* 1995; 270:262-269
9. Jin Y, Mead J, Li T, **Wolberger C**, Vershon AK. Altered DNA recognition and bending by insertions in the alpha 2 tail of the yeast a1/alpha 2 homeodomain heterodimer. *Science.* 1995;270(5234):290-293.
10. Soisson SM, MacDougall-Shackleton B, Schleif R, **Wolberger C**. Structural basis for ligand-regulated oligomerization of AraC. *Science.* 1997;276(5311):421-425.
11. Soisson S, MacDougall-Shackleton B, Schleif R, and **Wolberger C** (1997) "The 1.6 Å crystal structure of the AraC sugar-binding and dimerization domain complexed with D-fucose: Structural basis for carbohydrate specificity," *J. Mol. Biol.* 273: 226-237
12. Batchelor AH, Piper DE, de la Brousse FC, McKnight SL, **Wolberger C**. The structure of GABPalpha/beta: an ETS domain- ankyrin repeat heterodimer bound to DNA. *Science.* 1998;279(5353):1037-1041.
13. Li T, Jin Y, Vershon AK, **Wolberger C**. Crystal structure of the MATa1/MATalpha2 homeodomain heterodimer in complex with DNA containing an A-tract. *Nucleic Acids Res.* 1998;26(24):5707-5718.
14. Piper DE, Batchelor AH, Chang CP, Cleary ML, **Wolberger C**. Structure of a HoxB1-Pbx1 heterodimer bound to DNA: role of the hexapeptide and a fourth homeodomain helix in complex formation. *Cell.* 1999;96(4):587-597.
15. Jabet C, Sprague ER, VanDemark AP, **Wolberger C.** Characterization of the N-terminal domain of the yeast transcriptional repressor Tup1. Proposal for an association model of the repressor complex Tup1 x Ssn6. *J Biol Chem.* 2000;275(12):9011-9018.
16. Jabet C, Gitti R, Summers MF, **Wolberger C**. NMR studies of the pbx1 TALE homeodomain protein free in solution and bound to DNA: proposal for a mechanism of HoxB1-Pbx1-DNA complex assembly. *J Mol Biol.* 1999;291(3):521-530.

17. Smith JS, Brachmann CB, Celic I, Kenna MA, Muhammad S, Starai VJ, Avalos JL, Escalante-Semerena, JC, Grubmeyer C, **Wolberger C**, Boeke J. A phylogenetically conserved NAD+-dependent protein deacetylase activity in the Sir2 protein family. *Proc Natl Acad Sci U S A.* 2000;97(12):6658-6663.

18. Sprague ER, Redd MJ, Johnson AD, **Wolberger C**. Structure of the C-terminal domain of Tup1, a corepressor of transcription in yeast. *EMBO J.* 2000;19(12):3016-3027.

19. LaRonde-LeBlanc N, **Wolberger C**. Characterization of the oligomeric states of wild type and mutant AraC. *Biochemistry.* 2000;39(38):11593-11601.

20. VanDemark AP, Hofmann RM, Tsui C, Pickart CM, **Wolberger C**. Molecular insights into polyubiquitin chain assembly: crystal structure of the Mms2/Ubc13 heterodimer. *Cell.* 2001;105(6):711-720.

21. Olson WK, Bansal M, Burley SK, Dickerson RE, Gerstein M, Harvey sc, Heinemann U, Lu XJ, Neidle S, Shakked Z, Sklenar H, Suzuki M, Tung CS, Westhof E, **Wolberger C**, Berman HM. A standard reference frame for the description of nucleic acid base-pair geometry. *J Mol Biol.* 2001;313(1):229-237.

22. Garvie CW, Hagman J, **Wolberger C**. Structural studies of Ets-1/Pax5 complex formation on DNA. *Mol Cell.* 2001;8(6):1267-1276.

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24. Ke A, Mathias JR, Vershon AK, **Wolberger C**. Structural and thermodynamic characterization of the DNA binding properties of a triple alanine mutant of MATalpha2. *Structure.* 2002;10(7):961-971.

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29. Ke A, **Wolberger C**. Insights into binding cooperativity of MATa1/MATalpha2 from the crystal structure of a MATa1 homeodomain-maltose binding protein chimera. *Protein Sci.* 2003;12(2):306-312.

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42. Huyton T, **Wolberger C**. The crystal structure of the tumor suppressor protein pp32 (Anp32a): structural insights into Anp32 family of proteins. *Protein Sci.* 2007;16(7):1308-1315.

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53. Fahie K, Hu P, Swatkoski S, Cotter RJ, Zhang Y, **Wolberger C**. Side chain specificity of ADP-ribosylation by a sirtuin. *FEBS J.* 2009;276(23):7159-7176.

54. Samara NL, Datta AB, Berndsen CE, Zhang X, Yao T, Cohen RE, **Wolberger C**. Structural insights into the assembly and function of the SAGA deubiquitinating module. *Science.* 2010;328(5981):1025-1029.

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59. Samara NL, Ringel AE, **Wolberger C** A Role for Intersubunit Interactions in Maintaining SAGA Deubiquitinating Module Structure and Activity. *Structure.* 2012; 20(8):1414-24.

60. Guzzo CM, Berndsen CE, Zhu J, Datta A, Greenberg RG, **Wolberger C**, Matunis MJ. RNF4-Dependent Hybrid SUMO-Ubiquitin Chains are Signals for RAP80/BRCA1 Recruitment to Sites of DNA Damage.2012; *Sci Signal.* 5: ra88.

61. Berndsen CE, Wiener R, Yu IW, Ringel AE, **Wolberger C**. A conserved asparagine plays a structural role in ubiquitin-conjugating enzymes. *Nat Chem Biol.* 2013; 9:154-6.

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65. Guzzo CM, Ringel A, Cox E, Uzoma I, Zhu H, Blackshaw S, **Wolberger C**, Matunis MJ. Characterization of the SUMO-Binding Activity of the Myeloproliferative and Mental Retardation (MYM)-Type Zinc Fingers in ZNF261 and ZNF198. *PLoS One.* 2014;9(8):e105271.

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nicotinamide phosphoribosyltransferase (NAMPT) promotes M2 macrophage polarization in chronic lymphocytic leukemia. *Blood.* 2015;125(1):111-123.

69. Yan M, **Wolberger C**. Uncovering the role of Sgf73 in maintaining SAGA Deubiquitinating Module Structure and Activity. *J Mol Biol.* 2015;427(8):1765-78

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73. Ringel AE, Cieniewicz AM, Taverna SD, **Wolberger C**. Nucleosome competition reveals processive acetylation by the SAGA HAT module. *Proc Natl Acad Sci U S A*. 2015;112(40):E5461-70.

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78. DiBello A, Datta AB, Zhang X, **Wolberger C**. Role of E2-RING Interactions in Governing RNF4-Mediated Substrate Ubiquitination. *J Mol Biol.* 2016;428(23):4639-4650

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84. Bhat S, Hwang Y, Gibson MD, Morgan MT, Taverna SD, Zhao Y, **Wolberger C**, Poirier MG, Cole PA. (2018) Hydrazide Mimics for Protein Lysine Acylation to Assess Nucleosome Dynamics and Deubiquitinase Action. *J Am Chem Soc.* 2018;140:9478-9485.

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Review Articles

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Letters and Commentary

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