

## *Curriculum Vitae*

### **Zucaï Suo**

880 Biological Sciences Building  
484 West 12<sup>th</sup> Ave.  
Department of Chemistry and Biochemistry  
The Ohio State University  
Columbus, OH 43210  
Telephone: 614-688-3706  
Fax: 614-292-6773  
E-Mail Address: [suo.3@osu.edu](mailto:suo.3@osu.edu)  
Lab (<http://chemistry.osu.edu/~suo.3/index.html>)

### EDUCATION

- 1998-2000 Jane Coffin Childs Memorial Fund Postdoctoral Fellow at  
Harvard University Medical School, Boston, MA  
(Advisor: Christopher T. Walsh)
- 1997 Ph.D. in Chemistry, Pennsylvania State University, University Park, PA.  
(Advisor: Kenneth A. Johnson, currently at U. of Texas at Austin)
- 1989 M.S. in Physical Chemistry, Fudan University, Shanghai, P. R. China.
- 1986 B.S. in Chemistry, Fudan University, Shanghai, P. R. China.

### HONORS AND AWARDS

- 2017 O'Keanos-CAPA Senior Investigator Award
- 2013 Fellow of the American Association for the Advancement of Science
- 2013 One of the six finalists for the Departmental Chair position, Department of  
Biochemistry, State University of New York at Buffalo.
- 2011 The finalist for the Patenge Endowed Professorship in Cancer Biology at  
Michigan State University.
- 2011-present Faculty Member, Faculty 1000
- 2009 Distinguished Faculty Award from the Chinese-American Chemistry &  
Chemical Biology Professors Association in USA
- 2007 Dean's Award for Excellence in Undergraduate Research Mentoring
- 2006 Dean's Award for Classroom Teaching for Faculty
- 2005 National Science Foundation Career Award
- 1998 The Jane Coffin Childs Memorial Fund Postdoctoral Fellowship
- 1997 The 3rd Place of the 12th Annual Graduate Research Exhibition at  
Pennsylvania State University
- 1996 The Bristol-Meyers Squibb Travel Award
- 1994 Award for Exceptional Efforts in Furthering International Understanding at  
Pennsylvania State University

### PROFESSIONAL EXPERIENCE

- 1/12016-12/31/2017 Secretary, Division of Chemical Toxicology, American Chemical  
Society (<http://www.acschemtox.org/inside/Pages/officers.aspx>)

2015-present Co-Founder and Chair of Scientific Advisory Board, Nucorion Pharmaceuticals, Inc., San Diego, California, USA.

2014-present Adjunct Professor, Colleges of Chinese Medicine, Hong Kong Baptist University

2012-2016 President, the Chinese-American Chemistry & Chemical Biology Professors Association in USA (中美化学与化学生物教授协会, <http://capa-chem.webs.com/>)

2012-present Professor, Department of Chemistry and Biochemistry, OSU

2011-2012 Professor, Department of Biochemistry, OSU

2007-2011 Associate Professor, Department of Biochemistry, OSU

2009-present Member of OSU Oncology NIH T32 Training Grant

2008-present Member of OSU Molecular Mechanisms of Lung Inflammation NIH T32 Training Grant

2007-present Member of OSU Program in Public Health Preparedness for Infectious Diseases

2002-present Member of OSU Chemistry-Biology Interface NIH training grant

2011-present Member of OSU NIH T32 Cellular, Molecular and Biochemical Sciences predoctoral training grant

2002-present Member of the Ohio State Comprehensive Cancer Center

2002-present Member of the Molecular, Cellular & Developmental Biology Program

2001-present Member of the Ohio State Biochemistry Program

2001-present Member of the Biophysics Program at OSU

2001-2007 Assistant Professor in Biochemistry, OSU

2000-2001 Senior Biochemist, Eli Lilly and Company, Indianapolis, IN

1998-2000 Postdoctoral Fellow, Department of Biological Chemistry & Molecular Pharmacology, Harvard Medical School, Boston, MA

1993-1994 President, Chinese Students and Scholars Association at Pennsylvania State University (宾夕法尼亚州立大学中国学生学者联谊会)

1989-1991 Semiconductor Scientist, Shanghai Institute of Technology and Physics, Chinese Academy of Sciences, Shanghai, P.R. China

#### DRUG DISCOVERED

2000-2001 A member of the research team at Eli Lilly and Company which successfully developed an FDA- and Europe Union-approved anti-Hepatitis C virus protease inhibitor-based drug (**Incivek**, **Incivo**, or **Telaprevir**) in collaboration with Vertex Pharmaceuticals, Inc. (Please see a story at <http://www.xconomy.com/boston/2010/08/04/how-eli-lilly-let-a-billion-dollar-molecule-slip-away-and-make-a-fortune-for-vertex/>).

#### JOURNAL EDITOR OR EDITORIAL BOARD MEMEBER

2010-present *Journal of Nucleic Acids*, Editorial Board Member

2011-present *Science China* (Chemistry), Guest Editor for a special issue

2011-present *Proc. Natl. Acad. Sci. U.S.A.*, Guest Editor for manuscripts

2011-present *Science China* (Chemistry), Editorial Advisory Board

2012-present *F1000 Research*, Editorial Board Member

2013-present            Chemical Research in Toxicology (an American Chemical Society journal), Editorial Advisory Board  
2017-2022            Editorial Board, Journal of Biological Chemistry

INVITED SEMINAR (After Moving to OSU)

1. "Biosynthesis of the plague iron chelator yersiniabactin by a mixed nonribosomal peptide synthetase-polyketide synthase system". The Ohio State University Biochemistry Program. Nov. 20, 2001.
2. "Mechanism of DNA Polymerization Catalyzed by *Sulfolobus solfataricus* P2 DNA Polymerase IV". Department of Physics, The Ohio State University, Sept. 24, 2003.
3. "Kinetic and Structure-function relationship studies of a Y-family polymerase". The Ohio State University Chemistry and Biology Interface Program. Nov.16, 2004.
4. "Mechanism of DNA Lesion Bypass by A Y-Family DNA Polymerase". Department of Chemistry, University of Delaware. Feb. 14, 2005.
5. "Pre-Steady-State Kinetic Studies of Two Low-Fidelity DNA Polymerases". Department of Chemistry, Case Western Reserve University. May 20, 2005.
6. "Kinetic Mechanism of Polymerase Dpo4". Department of Biochemistry, Tsinghua University, Beijing, China. June 16, 2005.
7. "Biochemical and Kinetic Studies of Two Low-Fidelity DNA Polymerases". Peking University, Beijing, China. June 21, 2005.
8. "Evasion of Immunoresponse by Hepatitis C and Antiviral Drug Development". Institute of Biophysics, Chinese Academy of Sciences, Beijing, China. June 22, 2005.
9. "Mechanism of DNA Lesion Bypass Catalyzed by a Y-Family DNA Polymerase". Invited talk at the Chemical Toxicology Division, the 230th American Chemical Society National Meeting in Washington, DC, Aug 28-Sept 1, 2005.
10. "Mechanism of DNA Translesion Synthesis". Vanderbilt Institute of Chemical Biology, Vanderbilt University. September 7, 2005.
11. "Mechanism of Abasic Site Bypass Catalyzed by a Y-Family DNA Polymerase". Department of Chemistry, University of New Mexico. September 30, 2005.
12. "Mechanistic Studies of a DNA Lesion Bypass Polymerase". Department of Biochemistry, The Ohio State University. Oct. 13, 2005.
13. "Mechanisms, Fidelity, and Drug Inhibition of Human X-Family DNA Polymerases". Graduate Center for Toxicology, University of Kentucky. Nov. 7, 2005.
14. "Kinetic Mechanisms of Error-Prone DNA Polymerases". Department of Chemistry, Pennsylvania State University. Nov. 21, 2005.
15. "Mechanisms of DNA Lesion Bypass and Blunt End Addition Catalyzed by an Error-Prone DNA Polymerase". Department of Chemistry, Wesleyan University. March 10, 2006.
16. "What have we learned from the mechanistic studies of DNA polymerases?" Department of Chemistry, Miami University, Ohio. Aug. 31, 2006.
17. "New Insights into an 'Old' Class of Enzymes". Department of Biochemistry, The Ohio State University. Oct. 20, 2006.
18. "New Insights into Three Classic Enzymes". The Comprehensive Cancer Center, The Ohio State University. Nov. 27, 2006.
19. "Mechanistic Studies of Novel X- and Y-family DNA Polymerases". Department of Chemistry, Washington University at St. Louis. Dec. 14, 2006.

20. "Mechanism of Abasic Lesion Bypass Catalyzed by a Y-Family DNA Polymerase". Invited talk at the 9th Annual Midwest DNA Repair Symposium, Northpointe Conference Center, Columbus, Ohio, May 19-20, 2007.  
(Note: I chaired a session for this symposium)
21. "Mechanism of DNA lesion bypass catalyzed by a Y-family DNA polymerase". Invited talk at the Gordon Research Conference on NUCLEIC ACIDS at Salve Regina University, Newport, Rhode Island, USA. June 3-8, 2007.
22. "Single-Base DNA Lesion Bypass Catalyzed by a Y-Family DNA polymerase". Institute of Microbiology, Beijing, Chinese Academy of Sciences, China. July 23, 2007.
23. "Mechanism of DNA lesion bypass catalyzed by *Sulfolobus solfataricus* DNA Polymerase IV". Invited talk at "Frontiers in Biological Sciences" symposium in Wuhan, China. July 26, 2007.
24. "Mechanistic Studies of Two Novel DNA Polymerases". Department of Chemistry, Fudan University, Shanghai, China. July 31, 2007.
25. "Enzymology in Basic Science and Drug Discovery", Medicinal Chemistry Division, College of Pharmacy, The Ohio State University. Nov. 28, 2007.
26. "Enzymatic studies on the Efficacy and toxicity of antiviral and anticancer nucleoside analogs". Gilead Sciences, Inc., California. Nov. 18, 2008.
27. "Enzyme Kinetics and Dynamics in DNA Lesion Bypass and Repair". Department of Biochemistry, Purdue University. Jan. 12, 2009.
28. "Enzymology in DNA Lesion Bypass and Repair". Department of Biochemistry and Biophysics, Texas A&M University. January 21, 2009.
29. "Global Conformational Dynamics of a Y-Family DNA Polymerase during Catalysis" and "My experience as a junior faculty at The Ohio State University". Invited talks at the first Chinese-American Chemistry & Chemical Biology Professors Association Annual Conference at Hilton Head Island, South Carolina. July 31 to August 2, 2009.  
(Note: I chaired a morning session).
30. "Kinetic and Dynamic Studies of a DNA Lesion Bypass Polymerase". School of Chemistry and Biochemistry, Georgia Institute of Technology. Aug. 4, 2009.
31. "*In vitro* Investigation of a DNA Lesion Bypass Polymerase". Department of Chemistry, Georgia State University. Aug. 5, 2009.
32. "Kinetic and Dynamic Studies of a Y-family DNA Polymerase". Department of Biochemistry, Emory University. Aug. 6, 2009.
33. "Mechanistic Insights into Non-Canonical DNA Polymerases", Joint seminars of Dept. of Biochemistry and Dept. of Molecular and Cellular Biochemistry, The Ohio State University. Oct. 15, 2009.
34. "Kinetic, Dynamic and Sequencing Studies of a Model Y-Family DNA Polymerase". CBIP, The Ohio State University. Oct. 20, 2009.
35. "Effect of Antiviral Nucleotide Analogs on Novel Human X- and Y-Family DNA Polymerases", Feb. 25, 2010, Gilead Sciences, Inc.
36. "Kinetic, Dynamic, and Sequencing Studies of A Model Lesion Bypass DNA Polymerase", April 27, 2010, Department of Chemistry, University of Cincinnati.
37. "The Rate limiting step of nucleotide incorporation catalyzed by a DNA polymerase", Telluride Science Research Center Workshop on "Toward understanding of phosphoryl transfer in protein and RNA: experiments and computations", Telluride, Colorado, June 13-19, 2010.

38. "Double-Edged Swords: DNA Lesion Bypass Polymerases", Department of Biochemistry, Biophysics, & Molecular Biology, Iowa State University, Sept. 22, 2010.
39. "Gap-Filling DNA Polymerases and DNA Repair", Department of Biochemistry, Carver College of Medicine, University of Iowa, Sept. 23, 2010.
40. "DNA Lesion Repair and Bypass", Department of Microbiology, Molecular Genetics & Immunology, University of Kansas Medical Center, Sept. 28, 2010.
41. "Enzymology in DNA Lesion Bypass, DNA Damage Repair, and Innate Immunity", Department of Chemistry, Washington University at St. Louis. Oct. 7, 2010.
42. "Global Conformational Dynamics of A Y-family DNA Polymerase during Catalysis", invited talk at Pacificchem 2010 Conference, Honolulu, Hawaii, Dec. 15, 2010.
43. "Cancer, Aging, and DNA Damage", College of Osteopathic Medicine, Michigan State University, Feb. 14, 2011.
44. "Biochemical and Biophysical Studies of Non-Canonical DNA Polymerases", Department of Biochemistry and Molecular Biology, Michigan State University, Aug. 22, 2011.
45. "Kinetic, structural, and genetic investigation of the bypass of a cisplatin-d(GpG) adduct catalyzed by a model Y-Family DNA polymerase", Invited talk at the Chemical Toxicology Division, the 242nd American Chemical Society National Meeting in Denver, Colorado, August 28-31, 2011.
46. "Global conformational dynamics of a Y-family DNA polymerase during catalysis", Invited talk at the Biological Chemistry Division, the 242nd American Chemical Society National Meeting in Denver, Colorado, August 28-31, 2011.
47. "Mechanistic Investigation of Non-Canonical DNA Polymerases", Joint seminar program of Dept. of Biochemistry and Dept. of Chemistry, The Ohio State University, Sept. 22, 2011.
48. "Mechanistic Investigation of DNA Lesion Bypass", Department of Biochemistry and Molecular Biology, Tulane University Health Science Center, April 16, 2012.
49. "New Insights into DNA Polymerases", Department of Biochemistry & Molecular Biology, College of Medicine, Pennsylvania State University, June 25, 2012
50. "DNA lesion alters the global conformational dynamics of a Y-family DNA polymerase during catalysis", the 244th American Chemical Society National Meeting in Philadelphia, Pennsylvania, August 19-23, 2012.
51. "Mechanistic Investigation of DNA Translesion Synthesis", Department of Biochemistry, the State University of New York at Buffalo, April 1, 2013.
52. "Mechanistic Investigation of DNA Polymerases", School of Chemistry and Materials Science, University of Science & Technology of China, April 22, 2013.
53. "What have we learned about DNA lesion bypass mechanistically?" School of Life Sciences, University of Science & Technology of China, April 23, 2013.
54. "DNA damage tolerance and DNA lesion bypass polymerases", College of Chemistry and Molecular Science, Wuhan University, April 25, 2013.
55. "Antiviral Drug Discovery and what have we learned from DNA lesion bypass", Wuhan Institute of Virology, Chinese Academy of Sciences, April 26, 2013.
56. "Mechanistic Insight into DNA lesion bypass", School of Chemistry and Environmental Engineering, Yangtze University, April 27, 2013.

57. “Global conformational dynamics of a lesion bypass Y-family DNA polymerase”, the Gordon Research Conference on Nucleosides, Nucleotides & Oligonucleotides, Newport, Rhode Island, June 30 – July 5, 2013.
58. “Structural and Kinetic Insights into Incorporation of Nucleotide Analogs with *L*-Stereochemistry Catalyzed by a DNA Polymerase”, invited talk, the 9th SINO-US Chemistry Professors Conference, Chengdu, China, July 12-15, 2013.
59. “DNA replication, DNA Repair, and Lesion Bypass”, College of Life Sciences, Sichuan University, Chengdu, China, July 17, 2013.
60. “Multidisciplinary investigation of DNA polymerases”, College of Pharmacy, Wuhan University, Wuhan, China, July 19, 2013.
61. “Structural, Kinetic, and Single Molecule Studies of DNA Synthesis”, Chinese Chemistry Institute, Chinese Academy of Sciences, Beijing, China, July 24, 2013.
62. “A love story with DNA polymerases”, College of Pharmacy, Beijing University, Beijing, China, July 26, 2013.
63. “Structural and Kinetic Insights into Incorporation of Nucleotide Analogs with *L*-Stereochemistry Catalyzed by a Human DNA Polymerase”, OSU NIH Nucleic Acids Training Program, Nov. 14, 2013.
64. “Structural, Kinetic, and Single Molecule Studies of DNA Polymerases”, Department of Chemistry, The Hong Kong University of Science & Technology, Dec. 2, 2013.
65. “Chemical Biology of DNA Polymerization”, College of Chemistry, Chemical Engineering, and Materials Science, Soochow University, Dec. 9, 2013.
66. “Structural, Kinetic, and Dynamic Studies of X- and Y-Family DNA Polymerases”, School of Pharmacy, University of Southern California, Aug. 4, 2014.
67. “Dynamic studies of human base excision repair enzymes”, invited talk, the 248th ACS National Meeting in San Francisco, California, August 13, 2014.
68. “Structural and Kinetic Basis for the Binding and Incorporation of Nucleotide Analogs with *L*-Stereochemistry by X- and Y-family DNA Polymerases”, Gilead Sciences, Inc., August 14, 2014.
69. “Structural, Kinetic, and Dynamic Studies of DNA Polymerases”, Pacific BioSciences, Aug. 15, 2014.
70. “Structural and Kinetic Basis for the Binding and Incorporation of Nucleotide Analogs with *L*-Stereochemistry by Human DNA Polymerase  $\lambda$ ”, invited talk, Zing Conference on “DNA polymerases” at Cambridge, United Kingdom of Great Britain, Sept. 1<sup>st</sup>, 2014.
71. “Kinetic, Dynamic, and Structural Studies of DNA Polymerases”, MRC Clinical Sciences Centre, Imperial College London, Sept. 5, 2014.
72. “Structural, Kinetic, and Dynamic Studies of DNA Polymerases”, School of Chemical Engineering and Pharmacy, Wuhan Institute of Technology, China, Nov. 10, 2014.
73. “Structural Basis for the Binding and Incorporation of Nucleotide Analogs with *L*-Stereochemistry by Human DNA Polymerase  $\lambda$ ”, invited talk, BIT’s 5<sup>th</sup> World Gene Convention with a focused theme “RNA Biology and Nucleic Acid Chemical & Structural Biology”, Haikou, China, Nov. 12-16, 2014.
74. “Structural, Kinetic, and Dynamic Studies of DNA Polymerases”, The Chemistry Department, Fudan University, Shanghai, China, Nov. 17, 2014.
75. “Structural, Kinetic, and Dynamic Studies of DNA Polymerases”, School of Chinese Medicine, Hong Kong Baptist University, Hong Kong, China, Nov. 19, 2014.

76. "Investigation of remaining mechanistic questions about DNA polymerases through structural and kinetic Studies", Department of Chemistry, UC at Riverside, March 10, 2015.
77. "Mechanistic Insights into Nucleotide Selectivity and Incorporation by DNA Polymerases", UT College of Pharmacy at Austin, May 7, 2015.
78. "Viewing Human DNA Polymerase  $\beta$  Faithfully and Unfaithfully Bypass an Oxidative Lesion by Time-Dependent Crystallography", invited talk, the 11th SINO-US Chemistry Professors Conference, Suzhou, China, June 21-23, 2015.
79. "Mechanistic studies of natural and unnatural nucleotide incorporation by X-family DNA polymerases", Omniome, Inc., San Diego, Oct. 27, 2015.
80. "Watching DNA polymerases incorporate drug molecules and bypass an oxidative lesion", Department of Chemistry, The University of Hong Kong, Nov. 25, 2015.
81. "Observing DNA polymerases incorporate drug molecules and bypass an oxidative lesion", School of Chinese Medicine, Hong Kong Baptist University, Nov. 26, 2015.
82. "Watching human enzymes incorporate drug molecules and overcome oxidative DNA damage", School of Pharmaceutical Sciences, Sun Yat-sen University, Guangzhou, China, Nov. 30, 2015.
83. "Viewing human enzymes incorporate drug molecules and overcome oxidative DNA damage", School of Public Health, Southern Medical University, Guangzhou, China, Dec. 2, 2015.
84. "Watching human enzymes incorporate natural and unnatural nucleotides and overcome oxidative DNA damage", College of Chemistry, Central China Normal University, Wuhan, Dec. 8, 2015.
85. "Kinetic, dynamic, and structural studies of DNA polymerases", Department of Biological Chemistry, University of Michigan, March 15, 2016.
86. "HIV-1 reverse transcriptase and antiviral drug discovery", College of Life Sciences, Jinan University, Guangzhou, China, May 9, 2016.
87. "Mechanistic studies of DNA polymerases and HIV-1 reverse transcriptase", College of Chemistry, Sun Yat-sen University, Guangzhou, China, May 9, 2016.
88. "Watching the bypass of a major oxidative lesion by a human DNA polymerase", invited talk, the Central Regional American Chemical Society meeting, Cincinnati/Northern Kentucky, May 18<sup>th</sup> to 21<sup>st</sup>, 2016.
89. "Single molecule studies of DNA base excision repair", invited talk, the 252nd American Chemical Society National Meeting in Philadelphia, Pennsylvania, August 21-25, 2016.
90. "Paradigm Shift in Mechanistic Understanding of DNA polymerases", Department of Chemistry, University of South Florida, Sept. 15, 2016.
91. "Functional cure for HIV/AIDS", The Chinese University of Hong Kong, March 17, 2017.
92. "Structural Insights into the Post-Chemistry Steps of Nucleotide Incorporation Catalyzed by a DNA Polymerase", invited talk, the 13th SINO-US Chemistry Professors Conference, Nantong, China, June 17-20, 2017.
93. "Long-term survival of ASIA patients treated with only traditional Chinese medicine", *2017 CALDAR Summer Institute & International Global Health Conference: Precision Research in Addiction, HIV, and Care*, at the Hilton Universal City, California, August 15-17, 2017.

94. "Viewing Human DNA Polymerase  $\beta$  Faithfully and Unfaithfully Bypass an Oxidative Lesion by Time-Dependent Crystallography", the 254th American Chemical Society National Meeting in Washington, DC, August 20-24, 2017.
95. "Investigation of DNA polymerases using cutting-edge technologies", Department of Chemistry and Biochemistry, Baylor University, Sept. 20, 2017.

#### AWARDS WON BY MY UNDERGRADUATE STUDENTS

1. Nikunj Bhatt won 2004 Mayers Summer Research Internship
2. Nikunj Bhatt won 2004 Winter Dean's Undergraduate Research Fund award.
3. Nikunj Bhatt won College of Arts and Science Research Scholarship in 2004.
4. Cameron Hypes won the 2005 College of Biological Sciences Undergraduate Research Colloquium.
5. Cameron Hypes won the Outstanding Graduate Award in 2005.
6. Nikunj Bhatt won the Dean's Undergraduate Research Fund Award in 2005.
7. Nikunj Bhatt won the Canaga Memorial Scholarship in 2005.
8. Nikunj Bhatt won the Outstanding Graduate Award in 2005.
9. Jessica Sparling was selected to join Mortar Board (a national senior class honorary) in 2005.
10. Sean Newmister won College of Arts and Science Research Scholarship in 2006.
11. Sean Newmister won 2006 Winter Dean's Undergraduate Research Fund award.
12. John Pryor won 2006 Winter Dean's Undergraduate Research Fund award.
13. John Pryor was selected to participate in the 2006 Summer Undergraduate Research Program (SURP).
14. Sean Newmister won 2006 Mayers and SURP Summer Research Internships
15. Nikunj Bhatt was inducted in the Phi Beta Kappa Society in 2006.
16. Sean Newmister won College of Arts and Science Research Scholarship in 2007.
17. John Pryor won the Dean's Undergraduate Research Fund award in 2007.
18. Sean Newmister won the Dean's Undergraduate Research Fund award in 2007.
19. John Pryor won the Canaga Memorial Scholarship in 2007.
20. Sean Newmister won the Irene Rosenfeld Award in 2007.
21. Sean Newmister was inducted into Ohio State's chapter (Epsilon of Ohio) of Phi Beta Kappa in 2007.
22. John M. Pryor won 2007 College of Biological Sciences Undergraduate Research Colloquium Poster Award.
23. John M. Pryor won the 2nd Place Award in the Biological Sciences Division at OSU Denman Undergraduate Research Forum in 2007.
24. Mike Corcoran won the 2007 Mayers Summer Research Internship award.
25. Chen Fu won the 2007 Summer Undergraduate Research Program award.
26. Lindsey Pack won the 2007 Summer Undergraduate Research Program award.
27. Lindsey Pack won Colleges of Arts and Science Research Scholarship in 2007-2008.
28. Sean Newmister was offered induction into Ohio State's chapter (Epsilon of Ohio) of Phi Beta Kappa in 2008.
29. Lindsey Pack was offered induction into Ohio State's chapter (Epsilon of Ohio) of Phi Beta Kappa in 2008.
30. Lindsey Pack won 2008 Mayers and SURP Summer Research Internships



31. Lindsey Pack was selected as one of 13 NSF REU trainees at OSU in the summer of 2008 by Prof. Mandy Simcox and Prof. Venkat Gopalan who are the co-PIs of an NSF REU grant.
32. Lindsey Pack won the Dean's Undergraduate Research Fund award for Spring 2009.
33. Laura Sanman won the Dean's Undergraduate Research Fund award for Spring 2009.
34. Lindsey Pack won the Irene Rosenfeld Scientific Achievement Award in 2009.
35. Lindsey Pack won a National Science Foundation (NSF) Graduate Research Fellowship in 2009.
36. Lindsey Pack won a prize for the best poster at 2009 undergraduate research forum sponsored by Colleges of Biological, Mathematical and Physical Sciences.
37. Laura Sanman won the Dean's Undergraduate Research Fund award for Autumn 2009.
38. David Beyer won the Dean's Undergraduate Research Fund award for Autumn 2009.
39. Eric Bolin won the Dean's Undergraduate Research Fund award for Autumn 2009.
40. Laura Sanman won the Canaga Memorial Scholarship in 2010.
41. Laura Sanman won the 2010 Summer Undergraduate Research Program award.
42. David Beyer won the 2010 Summer Undergraduate Research Program award.
43. David Beyer won the 2010 Mayers Summer Research Internship award.
44. David Beyer won the 3<sup>rd</sup> Place Award in the Biological Sciences Division at OSU Denman Undergraduate Research Forum in 2010.
45. Laura Sanman won an NSF Graduate Research Fellowship in 2011.
46. Laura Sanman won a Poster Award at 2011 Natural and Mathematical Sciences Forum of OSU.
47. Laura Sanman was selected as one of the 2011 President's Salute to Undergraduate Academic Achievement Honorees at OSU.
48. Walter Zuharncik won a 2011-12 Undergraduate Research Scholarship from College of Arts and Sciences.
49. Jason Harrison won a 2011-12 Undergraduate Research Scholarship from College of Arts and Sciences.
50. Jason Harrison was selected as one of four NSF REU trainees at OSU in the summer of 2012 by Prof. Mandy Simcox and Prof. Susan Cole who are the co-PIs of an NSF REU grant.
51. Yana Dubrovsky won the 2012 Summer Undergraduate Research Program award.
52. E. John Tokarsky won a 2011-12 Undergraduate Research Scholarship from College of Arts and Sciences.
53. Saul Fredrickson won a 2013-2014 Bertram-Thomas Scholarship at the Chemistry and Biochemistry Department.
54. Seth Klein was selected as one of NSF REU trainees at OSU in the summer of 2013 by Prof. Mandy Simcox and Prof. Susan Cole who are the co-PIs of an NSF REU grant.
55. Dennis Spohn won a 2013-2014 Hach Scholarship from the Chemistry and Biochemistry Department.
56. Saul Fredrickson won a 2013-2014 Undergraduate Research Scholarship from College of Arts and Sciences.
57. Shelby Newsad has been awarded one of the Young Scientist Program Fellowships to attend Joint Congress of The international Union of Biochemistry and Molecular Biology (IUBMB) and the Brazilian Society for Biochemistry and Molecular Biology (SBBq) in Brazil.

58. Shelby Newsad has been awarded a scholarship by the Office of Diversity and Inclusion to attend the 2015 National Collegiate Research Conference at Harvard.
59. Shelby Newsad has been awarded a scholarship from the Edward S. "Beanie" Drake Student Leader Endowment Fund for the 2015-2016 academic year.
60. Shelby Newsad has been awarded the German Academic Exchange Service Research Internship in Science and Engineering Award to study at Helmholtz-Institut für Pharmazeutische Forschung Saarland/CBCH, Saarbrücken for Summer 2015.
61. Shelby Newsad has been awarded The Department of Chemistry & Biochemistry Gary Booth Scholarship for the 2015-2016 academic year.
62. Kenny Phi has been awarded The Department of Chemistry & Biochemistry Gary Booth Scholarship for the 2015-2016 academic year.
63. Shelby Newsad has been awarded The Office of Diversity and Inclusion Student Research Grant for \$1000.
64. Shelby Newsad has been awarded the International Research Grant by the Colleges of Arts & Sciences Honors Committee.
65. Shelby Newsad has been awarded the Undergraduate Research Scholarship for the 2015-2016 academic year by the College of Arts & Sciences Honors Committee.
66. Kenny Phi has been awarded the Undergraduate Research Scholarship for the 2015-2016 academic year by the College of Arts & Sciences Honors Committee.
67. Shelby Newsad is currently a semifinalist of the Fulbright Scholar Program and will know if she could win soon.
68. Kenneth Phi won a third place award of 2016 Denman Undergraduate Research Forum at OSU.
69. Madison Smith has been awarded the Kraska Scholarship from the Chemistry department for the 2017-2018 academic year.

#### AWARDS WON BY MY GRADUATE STUDENTS

1. Kevin A. Fiala won a two-year fellowship (2002-2004) from the National Institutes of Health Chemistry and Biology Interface Program at the Ohio State University
2. Kevin A. Fiala won the American Heart Association Pre-Doctoral Fellowship for the years of 2004-2005 and 2005-2006.
3. Kevin A. Fiala won the 1st prize at the Ohio State Biochemistry Program Autumn Symposium in 2004.
4. Michelle P. Roettger won a two-year fellowship (2002-2004) from the National Institutes of Health Chemistry and Biology Interface Program at the Ohio State University.
5. Kevin A. Fiala won the Herta Camerer Gross Graduate Research Fellowship in 2005.
6. Kevin A. Fiala won the OSBP and CBIP Travel Grants and the Burrell Fund to attend the Gordon Conference in 2005.
7. Jessica A. Brown won a two-year fellowship (2006-2007) from the National Institutes of Health Chemistry and Biology Interface Program at the Ohio State University.
8. Kevin A. Fiala won the Burrell Fund again to attend the Key Stone Conference in 2006.
9. Jason Fowler won the 2006 Dean's Award for Excellence as a Graduate Teaching Assistant.
10. Kevin A. Fiala won the 1st place award at the 20th Annual Edward F. Hayes Graduate Research Forum (2006).

11. Kevin A. Fiala won the American Heart Association Pre-Doctoral Fellowship for the year of 2006-2007.
12. Jason Fowler won the American Heart Association Pre-Doctoral Fellowship for the years of 2006-2007 and 2007-2008.
13. Kevin A. Fiala won a prestigious Presidential Fellowship from The Ohio State University in 2006 (**Presidential Fellowship is giving to the best performing PhD student in each disciplinary each year to support his or her final year of study at OSU**).
14. Nikunj Bhatt won a full scholarship to attend Wright State University School of Medicine, starting in 2006.
15. Kevin A. Fiala won a travel fellowship from the American Society for Biochemistry and Molecular Biology (ASBMB) to attend the Experimental Biology 2007 Meeting in Washington, DC.
16. Shanen Sherrer won 2007 Dean's Award for Excellence as a Graduate Teaching Assistant.
17. Jason Fowler won the 1<sup>st</sup> place award of the poster session at the 1<sup>st</sup> Annual Integrated Graduate Program Symposium in 2007.
18. Jason Fowler won Burrell Memorial Fund to attend the Gordon Research Conference on NUCLEIC ACIDS on June 3-8, 2007 at Salve Regina University, Newport, Rhode Island, USA.
19. Shanen Sherrer won 2008 Robert H. Edgerley Environmental Toxicology Summer Fellowship.
20. Jessica A. Brown won 2008 International Chapter P.E.O. Sisterhood award (\$15,000).
21. Jessica A. Brown won 2008 Burrell Memorial Award and a travel award from National Institutes of Health Chemistry-Biology Interface Program at OSU to attend the Gordon Research Conference on NUCLEIC ACIDS on June 1-6, 2008 at Salve Regina University, Newport, Rhode Island, USA. Ms. Brown gave an oral presentation on "Mechanism of Double-Base Lesion Bypass Catalyzed by a Y-family DNA Polymerase"
22. Jessica A. Brown won an Outstanding Oral Student Presentation Award for OSU Molecular Life Sciences Interdisciplinary Graduate Programs Symposium
23. Jessica A. Brown was inducted into Phi Kappa Phi Honor Society
24. Kevin A. Fiala obtained a postdoctoral fellowship from the American Cancer Society in Aug. 2008 and is receiving his postdoctoral training at the Chemistry Department of Harvard University.
25. Jessica A. Brown won the American Heart Association Pre-Doctoral Fellowship for the years of 2008-2009 and 2009-2010.
26. Shanen Sherrer won a one-year fellowship (2008-2009) from the National Institutes of Health Chemistry and Biology Interface Program at the Ohio State University.
27. Shanen Sherrer won a Carl Storm Underrepresented Minority Fellowship to support her participation in the 2009 Nucleic Acids Gordon Research Conference.
28. Shanen Sherrer won a 2009 Burrell Memorial Award to support her participation in the 2009 Nucleic Acids Gordon Research Conference. She will present a poster.
29. Jessica A. Brown won a Burrell Memorial Award and a travel award from National Institutes of Health Chemistry-Biology Interface Program at OSU to support her participation in the 2009 American Society for Microbiology Conference on DNA Repair and Mutagenesis in Whistler, British Columbia, Canada. She has a poster presentation.

30. Shanen Sherrer won the American Heart Association Pre-Doctoral Fellowship for the years of 2009-2010 and 2010-2011.
31. Joshua Wagner won a one-year fellowship (2009-2010) from the National Institutes of Health Chemistry and Biology Interface Program at the Ohio State University.
32. Jessica A. Brown won a prestigious Presidential Fellowship from The Ohio State University in 2009.
33. Jessica Brown was selected to give a planetary talk at 2010 OSU Interdisciplinary Graduate Programs Symposium.
33. Shanen Sherrer won a Burrell Memorial Award and a FASEB MARC travel award to attend the 24th Symposium of the Protein Society from August 1-5, 2010. She presented a poster "Investigation of the Thermal Stability of a Y-Family DNA Polymerase" and won a Graduate Student Poster Award.
34. Jessica A. Brown won 2010 Ray Travel Award from The Ohio State University to give an oral presentation at the American Society of Virology Annual Conference in 2010.
35. Jessica A. Brown obtained a postdoctoral fellowship from the American Cancer Society in Aug. 2011 and is receiving her postdoctoral training at the Molecular Biophysics and Biochemistry Department of Yale Medical School.
36. Brian Maxwell won a 2012 Robin C. Burrell Memorial Travel Award to attend the 56th Annual Biophysical Society Meeting in San Diego, CA on Feb. 24-29, 2012. He was selected to give an oral presentation titled "A DNA LESION ALTERS THE GLOBAL CONFORMATIONAL DYNAMICS OF A Y-FAMILY DNA POLYMERASE DURING CATALYSIS".
37. Brian Maxwell was invited as a top student innovator to the first Procter & Gamble Innovation Camp at The Ohio State University on March 22-23, 2012.
38. Brian Maxwell won the 2013 Ohio State Biophysics Program Outstanding Student Award.
39. Walter Zahurancik won a 2013 Robin C. Burrell Memorial Travel Award to attend the Gordon Research Conference on Nucleosides, Nucleotides & Oligonucleotides in Newport, Rhode Island on June 30-July 3, 2013. He will present a poster titled "Mechanism of DNA Polymerization Catalyzed by Human DNA Polymerase Epsilon".
40. Varun Gadkari won a 2013 Robin C. Burrell Memorial Travel Award to attend the Gordon Research Conference on Nucleosides, Nucleotides & Oligonucleotides in Newport, Rhode Island on June 30-July 3, 2013. He will present a poster titled "Mechanistic Studies of the Bypass of a Bulky 3-Nitrobenzanthrone Lesion Catalyzed by the Error Prone Y-family DNA Polymerases".
41. Brian Maxwell was offered a 2013 Pelotonia Predoctoral Fellowship from OSU.
42. Brian Maxwell was awarded the 2013 Presidential Fellowship from OSU.
43. Brian Maxwell won the 2013 Ohio State Biophysics Program Outstanding Student Award
44. Walter Zahurancik won a two-year fellowship (2013-2014, 2015-2016) from the National Institutes of Health Chemistry and Biology Interface Program at the Ohio State University.
45. Austin Raper was awarded the 1st place prize for his poster presentation "Dynamic Damage Searching and Substrate Processing by Base Excision Repair Enzymes" at the 2015 IGP Symposium.

46. Austin Raper has been awarded a one-year fellowship (2015-2016) from the National Institutes of Health Chemistry and Biology Interface Program at the Ohio State University.
47. Walter Zahurancik has been awarded a two-year Pelotonia Fellowship from OSU.
48. Brian Maxwell won a George Mitchell Endowed Postdoc Fellowship at St. Jude Research Hospital.
49. Brian Maxwell won an NRSA Individual Postdoc Fellowship from NIH.
50. Austin Raper was awarded the 2016 Presidential Fellowship from OSU.
51. Andrew Reed has been awarded the 2017 Graduate Student Pelotonia Fellowship.
52. Jack Tokarsky has been awarded the 2017 Robert Ross Lecture Biophysics Outstanding Student Award for outstanding academic achievements in the Biophysics Graduate Program.
53. Walter Zahurancik has been awarded the 2017 Presidential Fellowship from The Ohio State University.

#### AWARDS WON BY MY POSTDOCTORAL RESEARCHERS:

1. Dr. Leonardo Porchia won a two-year (Jan. 1, 2008 – Dec. 31, 2009) Postdoctoral Fellowship from the Division of OSU Pulmonary T32 Training Grant from NIH.
2. Dr. Jason D. Fowler won a one-year (Nov. 1, 2009 – Oct. 31, 2010) Postdoctoral Fellowship from the Division of OSU Pulmonary T32 Training Grant from NIH.

#### JOBS OF A FEW KNOWN FORMER TRAINEES:

1. Dr. Jessica Brown, Clare Boothe Luce Assistant Professor, Department of Chemistry and Biochemistry, University of Notre Dame, IN, USA.
2. Dr. Jason D. Fowler, Assistant Professor, Lincoln Memorial University, TN, USA.
3. Dr. Shanen Sherrer, Assistant Professor, Department of Biochemistry, St. Mary's College of Maryland, USA
4. Dr. Gui-Sheng Zhang, Chair Professor and Dean, College of Chemistry, Henan Normal University, PRC.
5. Dr. Likui Zhang, Associate Professor, Yangzhou University, PRC.
6. Dr. Kevin A. Fiala, Patent lawyer, McCarter & English LLP. at Boston, MA, USA
7. Dr. David Taggart, Director of Proteomics Research, Mor-NuCo Inc., West Lafayette, IN, USA
8. Dr. Dejian Ma, NMR Facility Manager, Indiana University, Bloomington, IN, USA
9. Dr. Cuiling (Amy) Xu, Flow Cytometry Specialist, University of Pittsburg, PA, USA
10. Dr. Mohd Amir F. Abdullah, Senior Scientist, Insectigen, Inc., GA, USA
11. Ms. Georgia Efthimiopoulos, Assistant Scientist II, Pfizer
12. Dr. Nikunj A. Bhatt, Pulmonary & Critical Care Fellow, Walter Reed Hospital
13. Ms. Susmitha Sompalli, Human Resources Manager, Bayer, CA, USA

#### PUBLICATIONS

(A) Publication before joining OSU (\*Corresponding Author)

1. Zhu, C., Suo, Z., and Li, Q.\*, Zhou, L. & Xu, H. (1992) Structural Behavior of the ZSM-12 Zeolite at Various Molar Ratios of SiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub>. *J. Fudan U. (Natural Sci.)* **31**, 32-40.

2. Zhu, C., Suo, Z., and Li, Q.\*, Zhou, L. & Xu, H. (1992) Acidic and Catalytic Properties of the ZSM-12 Zeolite at Various Molar Ratios of SiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub>. *J. Fudan U. (Natural Sci.)* **31**, 41-48.
3. Suo, Z., Zhu, C., Li, Q.\*, Zhou, L. & Xu, H. (1993) Studies on the Structural and Catalytic Properties of ZSM-12. *Petrochemical Technology* **01**, 24-30.
4. Suo, Z. and Johnson, K. A.\* (1997) Effect of RNA Secondary Structure on the Kinetics of DNA Synthesis Catalyzed by HIV-1 Reverse Transcriptase. *Biochemistry* **36**, 12459-12467.
5. Suo, Z. and Johnson, K. A.\* (1997) RNA Secondary Structure Switching during DNA Synthesis Catalyzed by HIV-1 Reverse Transcriptase. *Biochemistry* **36**, 14778-14785.
6. Suo, Z. and Johnson, K. A.\* (1997) Effect of RNA Secondary Structure on RNA Cleavage Catalyzed by HIV-1 Reverse Transcriptase. *Biochemistry* **36**, 12468-12476.
7. Suo, Z. and Johnson, K. A.\* (1998) DNA Secondary Structure Effects on DNA Synthesis Catalyzed by HIV-1 Reverse Transcriptase. *J. Biol. Chem.* **273**, 27259-27267.
8. Suo, Z. and Johnson, K. A.\* (1998) Selective Inhibition of HIV-1 Reverse Transcriptase by an Antiviral Inhibitor, (R)-9-(2-Phosphonylmethoxypropyl)adenine. *J. Biol. Chem.* **273**, 27250-27258.
9. Suo, Z., Lippard, S. J., and Johnson, K. A.\* (1999) Single d(GpG)/cis-Diammineplatinum(II) Adduct-Induced Inhibition of DNA Polymerization. *Biochemistry* **38**, 715-726.
10. Suo, Z., Walsh, C. T.\* and Miller, D. A. (1999) Tandem Heterocyclization Activity of the Multidomain 230 kDa HMWP2 Subunit of *Yersinia pestis* Yersiniabactin Synthetase: Interaction of the 1-1382 and 1383-2035 Fragments. *Biochemistry* **38**, 14023-14035.
11. Keating, T. A., Suo, Z., Ehmann, D. D. and Walsh, C. T.\* (2000) Selectivity of the Yersiniabactin Synthetase Adenylation Domain in the Two Step Process of Amino Acid Activation and Transfer to a Holo-Carrier Protein. *Biochemistry* **39**, 2297-2306.
12. Suo, Z., Chen, H. and Walsh, C. T.\* (2000) Acyl CoA Hydrolysis by the HMWP1 Subunit of Yersiniabactin Synthetase: Mutational Evidence for A Cascade of Four Acyl-Enzyme Intermediates during Hydrolytic Editing. *Proc. Natl. Acad. Sci. U.S.A.* **97**, 14188-14193.
13. Suo, Z., Tseng, C. and Walsh, C. T.\* (2001) Purification, Priming, and Catalytic Acylation of Carrier Protein Domains in the Polyketide Synthase and Nonribosomal Peptidyl Synthetase Modules of the HMWP1 Subunit of Yersiniabactin Synthetase. *Proc. Natl. Acad. Sci. U.S.A.* **98**, 99-104.
14. Johnson, A. A., Ray, A., Hanes, J., Suo, Z., Colacino, J. M., Anderson, K. S. and Johnson, K. A.\* (2001) Toxicity of Antiviral Nucleoside Analogs and the Human Mitochondrial DNA Polymerase. *J. Biol. Chem.* **276**, 40847-40857.

(B) Publication at OSU (\*Corresponding Author. Corresponding **Suo, Z.\* is in red color.** Underlined names are of undergraduate researchers)

15. Zhang G. & **Suo, Z.\*** (2004) A Mild and Convenient Synthetic Method for Arylhydrazones of Methyl Benzoate. *Synthetic Communications* **34 (4)**, 673-678.
16. Fiala, K. A. & **Suo, Z.\*** (2004) Pre-Steady State Kinetic Studies of the Fidelity of *Sulfolobus solfataricus* P2 DNA Polymerase IV. *Biochemistry* **43**, 2106-2115.
17. Fiala, K. A. & **Suo, Z.\*** (2004) Mechanism of DNA Polymerization Catalyzed by *Sulfolobus solfataricus* P2 DNA Polymerase IV. *Biochemistry* **43**, 2116-2125.

18. Fiala, K. A., Abdel-Gawad, W. & **Suo, Z.\*** (2004) Pre-Steady-State Kinetic Studies of the Fidelity and Mechanism of Polymerization Catalyzed by Truncated Human DNA Polymerase Lambda. *Biochemistry* **43**, 6751-6762.
19. Roettger, M. P., Fiala, K. A., Sompalli, S., Dong, Y. and **Suo, Z.\*** (2004) Pre-Steady state Kinetic Studies of the Fidelity of Human DNA Polymerase Mu. *Biochemistry* **43**, 13827-13838.
20. Johnson, A. A., Fiala, K. A. and **Suo, Z.\*** (2005) "Chapter 6: DNA Polymerases and Their Interactions with DNA and Nucleotides", pp133-168. In Morteza M. Vaghefi (ed.), *Nucleoside Triphosphates and their Analogs: Chemistry, Biotechnology, and Biological Applications*, CRC Press, Taylor and Francis Group, Boca Raton, FL.
21. Abdel-Gawad, W., Tan, S. L. and **Suo, Z.\*** (2005) "Chapter 7: RNA polymerases", pp169-206. In Morteza M. Vaghefi (ed.), *Nucleoside Triphosphates and their Analogs: Chemistry, Biotechnology, and Biological Applications*, CRC Press, Taylor and Francis Group, Boca Raton, FL.
22. Wang, L. and **Suo, Z.\*** (2005) "Chapter 8: Reverse Transcriptases", pp207-246. In Morteza M. Vaghefi (ed.), *Nucleoside Triphosphates and their Analogs: Chemistry, Biotechnology, and Biological Applications*, CRC Press, Taylor and Francis Group, Boca Raton, FL.
23. **Suo, Z.\*** (2005) Thioesterase Portability and Peptidyl Carrier Protein Swapping in Yersiniabactin Synthetase from *Yersinia pestis*. *Biochemistry* **44**, 4926-4938.
24. Fowler, J. & **Suo, Z.\*** (2006) Biochemical, Structural, and Physiological Characterization of Terminal Deoxynucleotidyl Transferase. *Chemical Reviews* **106**, 2092-2110.
25. Fiala, K. A., Duym, W. W., Zhang, J. and **Suo, Z.\*** (2006) Upregulation of the Fidelity of Human DNA Polymerase lambda by Its Non-Enzymatic Proline-Rich Domain. *J. Biol. Chem.* **281**, 19038-19044.  
(Note: this article was featured in Medical News Today on July 28, 2006 with the web link of <http://www.medicalnewstoday.com/medicalnews.php?newsid=48082>)
26. Duym, W. W., Fiala, K. A., **Bhatt N.**, and **Suo, Z.\*** (2006) Kinetic Effect of a Downstream Strand and Its 5'-Terminal Moieties on Single-Nucleotide Gap-Filling Synthesis Catalyzed by Human DNA Polymerase Lambda. *J. Biol. Chem.* **281**, 35649-35655.
27. Fiala, K. A., Brown, J. A., Ling, H., Kshetry, A. K., Zhang, J., Taylor, J.-S., Yang, W. and **Suo, Z.\*** (2007) Mechanism of Template-Independent Nucleotide Incorporation Catalyzed by a Template-Dependent DNA Polymerase. *J. Mol. Biol.* **365**, 590-602.
28. **Suo, Z.\*** and Abdullah, M. A. F. (2007) Unique composite active site of the Hepatitis C virus NS2-3 protease: a new opportunity for antiviral drug design. *ChemMedChem* **2**, 283-284.
29. Fiala, K. A., **Hypes, C.**, and **Suo, Z.\*** (2007) Mechanism of Abasic Lesion Bypass Catalyzed by a Y-Family DNA Polymerase, *J. Biol. Chem.* **282**, 8188-8198.
30. Fiala, K. A. and **Suo, Z.\*** (2007) Sloppy Bypass of an Abasic Lesion Catalyzed by a Y-Family DNA Polymerase. *J. Biol. Chem.* **282**, 8199-8206.  
(Note: press release titled "protein averts cell suicide but might contribute to cancer" about articles #15 and #16 was published in Frontiers Magazine and cited on the websites of 23 news organizations including [www.sciencedaily.com](http://www.sciencedaily.com), [www.physorg.com](http://www.physorg.com), [www.eurochem.cz](http://www.eurochem.cz), [www.emaxhealth.com](http://www.emaxhealth.com), [researchnews.osu.edu](http://researchnews.osu.edu), [www.internalmedicine.osu.edu](http://www.internalmedicine.osu.edu), [www.medicalnewstoday.com](http://www.medicalnewstoday.com), [15](http://www.health-news-</a></li>
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31. Brown, J. A., Duym, W. W., Fowler, J. D., and **Suo, Z.\*** (2007) Single-Turnover Kinetic Analysis of the Mutagenic Potential of 7,8-Dihydro-8-oxoguanine During Gap-Filling Synthesis Catalyzed by Human DNA Polymerases  $\lambda$  and  $\beta$ , *J. Mol. Biol.* **367**, 1258-1269.
32. Fiala, K. A., Sherrer, S. M., Brown, J. A., and **Suo, Z.\*** (2008) Mechanistic consequences of temperature on DNA polymerization catalyzed by a Y-family DNA polymerase, *Nucleic Acids Res.* **36**, 1990-2001.
33. Wong, J. H. Y., Fiala, K. A., Suo, Z. & Ling, H.\* (2008) Snapshots of a Y-family DNA polymerase in replication: substrate-induced conformational transitions and implications for fidelity of Dpo4, *J. Mol. Biol.* **379**, 317-330.
34. Fowler, J. D., Brown, J.A., Johnson, K.A. and **Suo, Z.\*** (2008) Kinetic Investigation of the Inhibitory Effect of Gemcitabine on DNA Polymerization Catalyzed by Human Mitochondrial DNA Polymerase. *J. Biol. Chem.* **283**, 15339-15348.
35. Brown, J. A., Newmister, S. A., Fiala, K. A. and **Suo, Z.\*** (2008) Mechanism of Double-Base Lesion Bypass Catalyzed by a Y-Family DNA Polymerase, *Nucleic Acids Res.* **36**, 3867-3878.
36. DeCarlo, L., Prakasha Gowda, A. S., Suo, Z. and Spratt, T. E.\* (2008) Formation of purine-purine mispairs by *Sulfolobus solfataricus* DNA polymerase IV, *Biochemistry* **47**, 8157–8164.
37. Sherrer, S. M., Brown, J.A., Pack, L. R., Jasti, V. P., Fowler, J. D., Basu, A. K. and **Suo, Z.\*** (2009) Mechanistic studies of the bypass of a bulky single-base lesion catalyzed by a Y-family DNA polymerase. *J. Biol. Chem.* **284**, 6379-6388.
38. Fowler, J. D., Brown, J.A., Kvaratskhelia, M. and **Suo, Z.\*** (2009) Probing Protein Conformational Changes of A Human DNA Polymerase Using Mass Spectrometry. *J. Mol. Biol.* **390**, 368-79.
39. Zhang, L., Brown, J. A., Newmister, S. A., and **Suo, Z.\*** (2009) Polymerization Fidelity of a Replicative DNA Polymerase from the Hyperthermophilic Archaeon *Sulfolobus solfataricus* P2. *Biochemistry*, **48**, 7492–7501.
40. Brown, J. A. and **Suo, Z.\*** (2009) Elucidating the Kinetic Mechanism of DNA Polymerization Catalyzed by *Sulfolobus solfataricus* P2 DNA Polymerase B1. *Biochemistry*, **48**, 7502–7511.
41. Xu, C., Maxwell, B., Brown, J. A., Zhang, L., and **Suo, Z.\*** (2009) Global Conformational Dynamics of A Y-family DNA Polymerase during Catalysis. *PLoS Biology*, **7**, e1000225 (1-11).  
(Note: press release titled 'Scientists are first to observe the global motions of an enzyme copying DNA' can be found at <http://researchnews.osu.edu/archive/dnaenzyme.htm>. This paper was also highlighted at the website of Faculty of 1000 <http://f1000biology.com/article/id/1168088>)
42. Brown J. A., Fiala K. A., Fowler, J. D., Sherrer, S. M., Newmister, S. A., Duym, W. W., and **Suo, Z.\*** (2010) A Novel Mechanism of Sugar Selection Utilized by a Human X-family DNA Polymerase. *J. Mol. Biol.* **395**, 282-290.



43. Wong, J. H., Brown, J. A., Suo, Z., Blum, P., Nohmi, T., and Ling H.\* (2010) Structural Insight into Dynamic Bypass of the Major Cisplatin-DNA Adduct by Y-family Polymerase Dpo4, *EMBO J.* **29**, 2059-2069.
44. Brown, J. A., Fowler, J. D., and Suo, Z.\* (2010) Kinetic Basis of Nucleotide Selection Employed by a Protein Template-Dependent DNA Polymerase, *Biochemistry* **49**, 5504-5510.
45. Ma, D., Fowler, J. D., Yuan, C., and Suo, Z.\* (2010) Backbone assignment of the catalytic core of a Y-family DNA polymerase, *Biomol NMR Assign.* **4**, 207-209.
46. Brown, J. A., Zhang, L., Sherrer, S. M., Taylor, J.-S. A., Burgers, P. M. J., and Suo, Z.\* (2010) Pre-Steady-State Kinetic Analysis of Truncated and Full-Length *Saccharomyces cerevisiae* DNA Polymerase Eta, *J. Nucleic Acids*, **2010**, 1-11.
47. Brown, J. A., Pack, L. R., Sherrer, S. M., Kshetry, A., Newmister, S. A., Fowler, J. D., Taylor, J.-S., and Suo, Z.\* (2010) Identification of critical residues for the tight binding of both correct and incorrect nucleotides to human DNA polymerase  $\lambda$ , *J. Mol. Biol.* **403**, 505–515.
48. Sherrer, S. M., Beyer, D. A., Xia, C. X., Jasti, V. P., Fowler, J. D., and Suo, Z.\* (2010) Kinetic Basis of Sugar Selection by a Y-Family DNA Polymerase from *Sulfolobus solfataricus* P2, *Biochemistry* **49**, 10179-10186.
49. Brown, J. A., Pack, L. R., Sanman, L. E., and Suo, Z.\* (2011) Efficiency and fidelity of human DNA polymerases  $\lambda$  and  $\beta$  during gap-filling DNA synthesis, *DNA Repair*, **10**, 24-33.
50. Brown, J. A., Pack, L. R., Fowler, J. D., and Suo, Z.\* (2011) Pre-steady-state kinetic analysis of the incorporation of anti-HIV nucleotide analogs catalyzed by human X- and Y-family DNA polymerases, *Antimicrob. Agents Chemother.* **55**, 276-283.  
(Note: this article is highlighted by MDLinx, an internet-based service that offers physicians and other healthcare professionals a quick means of staying current with academic literature. This article can be found at <http://www.mdlinx.com/infectious-disease/news-article.cfm/3425954> and has been assigned to the following specialties: Infectious Disease, Pharmacy)
51. Sherrer, S. M., Fiala, K. A., Newmister, S. A., Fowler, J. D., Pryor, J., and Suo, Z.\* (2011) Quantitative analysis of the efficiency and mutagenic spectra of abasic lesion bypass catalyzed by human Y-family DNA polymerases, *Nucleic Acids Res.* **39**, 609–622.
52. Brown, J. A. and Suo, Z.\* (2011) Unlocking the Sugar ‘Steric Gate’ of DNA Polymerases, *Biochemistry* **50**, 1135-1142.
53. Kirouac, K. N., Suo, Z., and Ling, H.\* (2011) Structural mechanism of ribonucleotide discrimination by a Y family DNA polymerase, *J. Mol. Biol.* **407**, 382-90.
54. Ma, D., Fowler, J. D., and Suo, Z.\* (2011) Backbone Assignment of the Little Finger Domain of a Y-Family DNA Polymerase, *Biomol NMR Assign.* **5**, 195-8.
55. Brown, J. A., Pack, L. R., Fowler, J. D., and Suo, Z.\* (2012) Pre-Steady State Kinetic Investigation of the Incorporation of Anti-Hepatitis B Nucleotide Analogs Catalyzed by Non-Canonical Human DNA Polymerases, *Chemical Research in Toxicology*, **25**, 225-33.
56. Song, Q., Sherrer, S. M., Suo, Z., and Taylor, J.-S.\* (2012) Preparation of a site-specific T=<sup>m</sup>CG *cis-syn* cyclobutane dimer-containing template and its error-free bypass by yeast and human polymerase eta, *J. Biol. Chem.* **287**, 8021-8.
57. Sherrer, S. M., Sanman, L. E., Xia, C. X., Bolin, E. R., Malik, C. K., Efthimiopoulos, G., Basu, A. K., and Suo, Z.\* (2012) Kinetic Analysis of the Bypass of a Bulky DNA Lesion

- Catalyzed by Human Y-family DNA Polymerases, *Chemical Research in Toxicology*, **25**, 730-740.
58. Maxwell, B. A., Xu, C., and **Suo, Z.\*** (2012) DNA Lesion Alters the Global Conformational Dynamics of a Y-Family DNA Polymerase during Catalysis, *J. Biol. Chem.*, **287**, 13040–13047.
  59. Maxwell, B. A. and **Suo, Z.\*** (2012) Kinetic Basis for Differing Response to an Oxidative Lesion by a Replicative and a Lesion Bypass DNA Polymerase from *Sulfolobus solfataricus*, *Biochemistry*, **51**, 3485–3496.
  60. Gowda, A.P., Krishnegowda, G., Suo, Z., Amin, S. and Spratt, T.E.\* (2012) Low Fidelity Bypass of O<sup>2</sup>-(3-Pyridyl)-4-oxobutylthymine, the Most Persistent Bulky Adduct Produced by the Tobacco Specific Nitrosamine 4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanone by Model DNA Polymerases, *Chem. Res. Toxicol.* **25** (6), 1195-1202.
  61. Sherrer, S. M., Taggart, D. J., Lindsey, P. R., Malik, C. K., Basu, A. K., and **Suo, Z.\*** (2012) Quantitative Analysis of the Mutagenic Potential of 1-Aminopyrene-DNA Adduct Bypass Catalyzed by Y-Family DNA Polymerases, *Mutation Res.* **737**, 25-33.
  62. Sherrer S. M., Maxwell, B. A.; Pack, L. R.; Fiala, K. A.; Fowler, J. D.; Zhang, J., and **Suo, Z.\*** (2012) Identification of an Unfolding Intermediate for a DNA Lesion Bypass Polymerase, *Chemical Research in Toxicology*, **25**, 1531-1540.
  63. Wang, Y., Chu, X., Suo, Z., Wang, E., and Wang, J.\* (2012) Multi-domain Protein Solves the Folding Problem by Multi-funnel Combined Landscape: Theoretical Investigation of a Y-Family DNA Polymerase, *J. Am. Chem. Soc.* **134**, 13755-13764 (Article)
  64. Gokesenin, A. Y., Zahurancik, W., LeCompte, K. G., Taggart, D. J., Suo, Z. and Pursell, Z. F.\* (2012) Human DNA Polymerase Epsilon Is Able to Efficiently Extend from Multiple Consecutive Ribonucleotides, *J. Biol. Chem.* **287**, 42675-42684.
  65. Maxwell, B. A. and **Suo, Z.\*** (2013) Single-Molecule Investigation of Substrate Binding Kinetics and Protein Conformational Dynamics of a B-Family Replicative DNA Polymerase, *J. Biol. Chem.* **288**, 11590-11600.
  66. Taggart, D. J., Camerlengo, T. L., Harrison, J. K., Sherrer, S. M., Huang, K., Taylor, J.-S., **Suo, Z.\*** (2013) A High-throughput and Quantitative Method to Assess the Mutagenic Potential of Translesion DNA Synthesis, *Nucleic Acids Res.* **41**, e96.
  67. Espinoza-Herrera, S., Gaur, V. Suo, Z. and Carey, P.\* (2013) Following DNA chain extension and protein conformational changes in crystals of a Y-family DNA polymerase by Raman crystallography, *Biochemistry*, **52**, 4881–4890.
  68. Zahurancik, W. J., Klein, S., and **Suo, Z.\*** (2013) “Kinetic Mechanism of DNA Polymerization Catalyzed by Human DNA Polymerase Epsilon”, *Biochemistry*, **52**, 7041-7049.
  69. Qin, Y., Yang, Y., Zhang, L., Fowler, J.D., Qiu, W., Wang, L., Suo, Z., and Zhong, D.\* (2013) “Direct Probing of Solvent Accessibility and Mobility at the Binding Interface of Polymerase (Dpo4)-DNA Complex”, *Journal of Physical Chemistry*, **117**, 13926-13934.
  70. Maxwell, B. A., Xu, C., and **Suo, Z.\*** (2014) “Conformational dynamics of a Y-Family DNA polymerase during substrate binding and catalysis as revealed by inter-domain Förster resonance energy transfer”, *Biochemistry*, **53**, 1768-1778.
  71. Maxwell, B. A. and **Suo, Z.\*** (2014) “Recent Insight into the Kinetic Mechanisms and Conformational Dynamics of Y-Family DNA Polymerases”, *Biochemistry*, invited review, **53**, 2804-2814.

72. Taggart, D.J., Fredrickson, S.W., Gadkari, V.V., and Suo, Z.\* (2014) “Mutagenic Potential of 8-Oxo-7,8-dihydro-2'-deoxyguanosine Bypass Catalyzed by Human Y-family DNA Polymerases”, *Chemical Research in Toxicology*, **27**, 931-940.
73. Vyas, R., Zahurancik, W. J., and Suo, Z.\* (2014) “Structural Basis for the Binding and Incorporation of Nucleotide Analogs with *L*-Stereochemistry Catalyzed by Human DNA Polymerase  $\lambda$ ”, *Proc. Natl. Acad. Sci. USA*. **111**, E3033–E3042, pii: 201401286.
74. Xu, C., Maxwell, B. A., and Suo, Z.\* (2014) “Conformational Dynamics of *Thermus aquaticus* DNA Polymerase I during Catalysis”, *J. Mol. Biol.* **426**, 2901–2917.
75. Gadkari, V.; Tokarsky, E. J.; Malik, C.; Basu, A.; Suo, Z.\* (2014) “Mechanistic Investigation of the Bypass of a Bulky Aromatic DNA Adduct Catalyzed by a Y-family DNA Polymerase”, *DNA Repair* **21**, 65-77.
76. Taggart, D.J., Dayeh, D., Fredrickson, S.W., and Suo, Z.\* (2014) “N-terminal Domains of Human DNA Polymerase Lambda Promote Primer Realignment during Translesion DNA Synthesis”, *DNA Repair* **22**, 41-52.
77. Gaur, V., Vyas, R., Fowler, J.D.; Efthimiopoulos, G., Feng, J., and Suo, Z.\* (2014) “Structural and Kinetic Insights into Binding and Incorporation of *L*-Nucleotide Analogs by a Y-family DNA Polymerase”, *Nucleic Acids Res.* **42**, 9984-9985.
78. Chu, X., Liu, F., Maxwell, B. A., Wang, Y., Suo, Z., Wang, H., Han, W., and Wang, J.\* (2014) “Dynamic conformational change regulates protein-DNA recognition: An investigation on binding of a Y-family polymerase to its target DNA”, *PLOS Computational Biology* **10**, e1003804.
79. Zahurancik, W. J., Klein, S., and Suo, Z.\* (2014) “Significant contribution of the 3  $\rightarrow$ 5 exonuclease activity to the high fidelity of nucleotide incorporation catalyzed by human DNA polymerase”, *Nucleic Acids Res.* **42**, 13853-60.
80. Dunn, M. R., Larsen, A., Zahurancik, W. J., Fahmi, N. E., Meyers, M., Suo, Z., and Chaput, J.\* (2015) “Terminator-Mediated Synthesis of Unbiased TNA Polymers Requires 7-Deazaguanine to Suppress G-G Mismatching during TNA Transcription”, *J. Am. Chem. Soc.* **137**, 4014-4017 (Communication).
81. Zahurancik, W. J., Baranovskiy, A. G., Tahirov, T. T., and Suo, Z.\* (2015) “Comparison of the Kinetic Parameters of the Truncated Catalytic Subunit and Holoenzyme of Human DNA Polymerase”, *DNA Repair*, **29**, 16-22.
82. Vyas, R., Reed, A., Tokarsky, E. J., and Suo, Z.\* (2015) “Viewing Human DNA Polymerase  $\beta$  Faithfully and Unfaithfully Bypass an Oxidative Lesion by Time-Resolved Crystallography”, *J. Am. Chem. Soc.*, **137**, 5225-5230 (Article) (highlighted by F1000prime <http://f1000.com/prime/725413071?bd=1%20&ui=22079%20> and by Argonne National Laboratory’s annual report <https://www1.aps.anl.gov/APS-Science-Highlight/2016/The-Molecular-Interactions-Required-for-Repair-of-Oxidative-Damage-to-DNA>)
83. Vyas, R., Efthimiopoulos, G., Tokarsky, E.J., Malik, C.K., Basu, A.K., and Suo, Z.\* (2015) Mechanistic Basis for the Bypass of a Bulky DNA Adduct Catalyzed by a Y-Family DNA Polymerase. *J. Am. Chem. Soc.* **137**, 12131-12142 (Article) (highlighted by F1000prime <http://f1000.com/prime/725764955?ref=ypp>)
84. Raper, A. T., Gadkari, V., Maxwell, B., and Suo, Z.\* (2016) “Single-Molecule Investigation of Response to Oxidative DNA Damage by a Y-Family DNA Polymerase”, *Biochemistry* **55**, 2187–2196.
85. Patra, A., Politica, D. A., Chatterjee, A., Tokarsky, E. J., Suo, Z., Basu, A. K., Stone, M. P.\*, and Egli, M.\* (2016) "Mechanism of Error-Free Bypass of the Environmental

- Carcinogen N-(2'-Deoxyguanosin-8-yl)-3-aminobenzanthrone Adduct by Human DNA Polymerase  $\eta$ ", *ChemBioChem*, **17**, 1–6.
86. Tokarsky, E. J., Gaur, V., Zahurancik, W. J., Malik, C. K., Basu, A. K., and Suo, Z.\* (2016) "Pre-Steady-State Kinetic Investigation of Bypass of a Bulky Guanine Lesion by Human Y-family DNA Polymerases", *DNA Repair* **46**, 20-28.
  87. Raper, A. T. and Suo, Z.\* (2016) "Investigation of Intradomain Motions of a Y-Family DNA Polymerase during Substrate Binding and Catalysis", *Biochemistry*, **55**, 5832–5844.
  88. Tokarsky, E. J., Wallenmeyer, P. C., Phi, K. K., and Suo, Z.\* (2017) "Significant impact of divalent metal ions on the fidelity, sugar selectivity, and drug incorporation efficiency of human PrimPol", *DNA Repair*, **49**, 51-59.
  89. Reed, A., Vyas, R., Raper, A. T., and Suo, Z.\* (2017) "Structural Insights into the Post-Chemistry Steps of Nucleotide Incorporation Catalyzed by a DNA Polymerase", *J. Am. Chem. Soc.*, **139**, 465–471.
  90. Raper, A. T., Reed, A., Gadkari, V., and Suo, Z.\* (2017) "Advances in Structural and Single-Molecule Methods for Investigating DNA Lesion Bypass and Repair Polymerases", *Chemical Research in Toxicology*, **30**, 260-269.
  91. Wang, Y., Jin, F., Wang, Q., and Suo, Z.\* (2017) "Long-term survival of AIDS patients treated with only traditional Chinese medicine", *AIDS Research and Human Retroviruses*, **90**, 90-92 (highlighted by an Editorial "Can a Traditional Chinese Medicine Contribute to a Cure for HIV?" on Page 89 of the same journal and the following websites: [https://eurekalert.org/pub\\_releases/2017-02/mali-tcm021417.php](https://eurekalert.org/pub_releases/2017-02/mali-tcm021417.php), <https://medicalxpress.com/news/2017-02-traditional-chinese-medicine-hiv-issue.html>, <http://www.med123.com/news/36531/>, <https://scifeeds.com/news/traditional-chinese-medicine-in-hiv-cure-issue-of-aids-research-human-retroviruses/>, <http://www.nutraingredients-asia.com/Research/TCM-s-potential-for-AIDS-treatment-cited-in-China-phenomenon>, <http://www.medindia.net/news/traditional-chinese-medicine-shows-potential-as-hiv-cure-167824-1.htm>, <https://twitter.com/acschemtox>, <http://www.acschemtox.org/>, and <https://chemistry.osu.edu/>).
  92. Gowda, P., Suo, Z., and Spratt, T.\* (2017) "Honokiol inhibits DNA polymerases  $\beta$  and  $\lambda$  and increases bleomycin sensitivity of human cancer cells", *Chemical Research in Toxicology*, **30**, 715-725.
  93. Lee, E., Fowler, J. D., Suo, Z., and Wu, Z.\* (2017) "Backbone assignment of the binary complex of the full length *Sulfolobus solfataricus* DNA Polymerase IV and DNA", *Biomolecular NMR Assignments*, **11**, 39-43.
  94. Vyas, R., Reed, A., Raper, A. T., and Suo, Z.\* (2017) "Structural basis for the D-stereoselectivity of human DNA polymerase  $\beta$ ", *Nucleic Acids Res.* in press.
  95. Stephenson, A., Taggart, D., and Suo, Z.\* (2017) "Non-catalytic, N-terminal Domains of Human DNA Polymerase Lambda Affect Its Cellular Localization and DNA Damage Response", *Chemical Research in Toxicology*, in press.
  96. Gowda, P., Krzeminski, J., Amin, S., Suo, Z., and Spratt, T.\* (2017) "Mutagenic Replication of  $N^2$ -dG benzo[a]pyrene adduct by *E. coli* DNA polymerase I and *Sulfolobus solfataricus* DNA polymerase IV", *Chemical Research in Toxicology*, in press.
  97. Wu, J., Wang, P., Li, L., Williams, N., Zahurancik, W., You, C., Wang, J., Suo, Z., and Wang, Y.\* (2017) "Replication studies of carboxymethylated DNA lesions in human cells", *Nucleic Acids Res.* in press.

98. Raper, A. T., Reed, A., and Suo, Z.\* (2017) “Contributions of Conformational Dynamics and a Third Divalent Metal Ion to the Common Mechanism of DNA Polymerases”, *Chem. Review*, invited review.
99. Kimsey, I. J., Zahurancik, W. J., Szymanski, E. S., Shakya, A., Chu, C.-C., Sathyamoorthy, B., Suo, Z.\*, and Al-Hashimi, H. M.\* (2017) “A Sequence-Dependent Kinetic Network Links Wobble, Tautomeric and Anionic Mismatches”, *Nature*, article, provisionally accepted (Manuscript #2017-01-14262 ).
100. Campbell, B.B., Light, N., Fabrizio, D., Zatzman, M., de Borja, R., Davidson, S., Fuligni, F., Edwards, M., Elvin, J., Hodel, K.P., Zahurancik, W.J., Suo, Z., Lipman, T., Hussen, K., Wimmer, K., Kratz, C.P., Bowers, D.C., Laetsch, T., Dunn, G.P., Tanner, J., Grimmer, M.R., Smirnov, I., Larouche, V., Samuel, D., Bronsema, A., Osborn, M., Stearns, D., Cole, K.A., Oren, M., Opocher, E., Mason, G., Thomas, G.A., Sabel, M., George, B., Ziegler, D., Lindhorst, S., Magimairajan, V., Constantini, S., Toledano, H., Elhasid, R., Farah, R., Dvir, R., Dirks, P., Huang, H., Galati, M., Chung, B., Ramaswamy, V., Irwin, M., Aronson, M., Durno, C., Taylor, M.D., Rechavi, G., Maris, J.M., Bouffet, E., Hawkins, C., Costello, J.F., Meyn, M.S., Pursell, Z.F., Malkin, D., Tabori, U.\*, and Shlien, A.\* (2017) “The landscape of hypermutant cancers provide insights into drivers and can be traced to the germline”, *Cell*, article, under review (Manuscript# CELL-D-17-00658).
101. Raper, A. T., Stephenson, A., and Suo, Z.\* (2017) “Kinetic Mechanism of the RNA-guided Endonuclease Activities of CRISPR/Cas9”, *Cell*, article, under review (Manuscript# CELL-D-17-00915).