

Jeff Perry, Ph.D.

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Department of Biochemistry, UC Riverside 3401 Watkins Drive, Riverside, Ca 92521.

Professional Appointments:

- Oct 2014 - Present **Assistant Professor of Biochemistry**, University of California, Riverside.
- Oct 2015 - Present **Adjunct Professor**, Universidad Francisco de Vitoria, Madrid, Spain.
- Dec 2012 - Present **Co-Founder**, Neuromantis Pharmaceuticals Inc., San Diego, Ca.
- Oct 2005 - Present **Adjunct International Professor**, School of Biotechnology, Amrita University, India.

Education:

- July 2001 **Ph.D.** Natural Science, University of Cambridge, UK.
Thesis: Structural Studies on Cell Surface Glycoproteins.
Advisor: Sir Tom L. Blundell, FRS, FMedSci, PhD, Head of Biochemistry Department.
- June 1996 **B.Sc.** Imperial College of Science Technology and Medicine, UK.
Biochemistry with a Year in Industry (Hons).

Research and Training Experience:

- 2011-2014 **Staff Scientist**, The Scripps Research Institute, Department of Integrative Structural and Computational Biology, La Jolla, Ca.
- 2006-2011 **Senior Research Associate**, The Scripps Research Institute.
Advisor: Dr. John A. Tainer.
Project: Structural biochemistry studies DNA repair and genome stability pathways.
- 2001-2006 **Postdoctoral Fellow**, Lawrence Berkeley National Laboratories & Visiting Scientist, TSRI.
Advisors: Dr. John A. Tainer & Dr. Priscilla K. Cooper.
Project: Structural biochemistry studies DNA repair and genome stability pathways.
- 1996-2001 **Ph.D. Student**, University of Cambridge, Department of Biochemistry, UK
Advisor: Prof. Sir Tom L. Blundell, FRS, FMedSci,
Project: Structural Biochemistry Studies on Cell Surface Glycoproteins.
- 1996 **Research Student**, Computational Chemistry Department, Pfizer Central Research Ltd, UK.
Advisor: Dr. David G. Brown. Project: Analyses of neutrophil inhibitory factor
- 1996 **Undergraduate Research Project Student**, Imperial College, UK
Advisor: Dr. K. Brown. Project: Cloning and Characterization of *M. tuberculosis* KATG.
- 1995 **Undergraduate Industrial Placement**, Glaxo-Wellcome, UK
Advisor: Dr. Onkar Singh, Project: Biochemical characterization of the HIV-1 Rev protein.

Honors and Awards:

2014 - present	Arnold O. Beckman Review Panel
2015	UCR Seed Grant
2014	Ad Hoc Review Committee, NIH, 2014
2013 – 2014	NIH/NIGMS P50 Collaborative Development Program Award
2011 – 2015	NIH/NIAMS New Investigator R03
1996-2000	Pfizer Central Research Ltd, UK, CASE sponsored Ph.D. studentship

Teaching Experience:

2014-present	Biochemistry UG courses at UCR, BCH-10, 96, 97 98i, 100, 110A & 120, 197.
2005-present	Teaching 'Structural Bioinformatics' course for Bioinformatics MSc, and 'Structure-based Drug Discovery' for Biotechnology and Microbiology MSc degrees, Amrita University, Kerala, India.
2004-present	Supervision of laboratory technicians, graduate students and post-doctoral fellows.
1999-2000	Biochemistry undergraduate tuition, St. Edmund's College, University of Cambridge, UK.

PDBs:

Human MnSOD structures: 1SZX, 1XDC, 1XIL, 1ZSP, 1ZTE, 1ZUQ, 2GDS & 2P4K.
Human WRN Exonuclease Structures: 2FBT, 2FBV, 2FBX, 2FBY & 2FC0.
Human p38a Kinase inhibitor complex: 3HVC.
Human Sumo Like Domain: 3RD2; Yeast Sumo Like Domain: 3GOE.
Yeast Sumo Like Domain-Ubc9 SUMO E2 complex: 3RCZ.
Human RNF4 RING Domain: 4PPE.

Patents: Two patents filed.

Invited Presentations:

- 1) 'Armt1 is a novel regulator in the p53-dependent DNA damage response', Invited Talk, The Scripps Research Institute, Jan 2016.
- 2) 'RNF4 DNA Repair Functions at Telomeres', Dynamic Structures in Damage Responses and Cancer, Cancun, Mexico, Feb 2014.
- 3) **Plenary Lecture:** 'Combined Crystallographic and SAXS Studies for Studying Macromolecular Complexes', Amrita Bioquest, Kerala, India, Aug 2013.
- 4) 'SAXS at the SIBYLS beamline', HIVE Structural Biology Workshop, Bethesda, June 2013.
- 5) 'Defining Key Molecular Mechanisms of the Sumoylation Pathway Functioning to Regulate DNA Repair', Current Opinion in structural biology and DNA repair, Amsterdam, Holland, Oct 2011.
- 6) 'Molecular Mimicry in the SUMO pathway', Structural Biology and Drug Discovery Conference, Cancun, Mexico, Dec. 2010.
- 7) 'WRN-Exonuclease Domain Crystal Structure', Structural Biology of DNA Repair Workshop, Berkeley, 2004.
- 8) 'Interface Exchange, Implications for Genomic Stability'. EMBO workshop, Maintenance of Genomic Integrity, Galway, Ireland, 2004.

Publications:

1. Andrew Hollands, Ross Corriden, Gabriela Gysler, Samira Dahesh, Joshua Olson, Syed Raza Ali, Maya T. Kunkel, Ann E. Lin, Stefano Forli, Alexandra C. Newton, Geetha B. Kumar, Bipin G. Nair, **J. Jefferson P. Perry**, and Victor Nizet. Natural product anacardic acid from cashew nut shells stimulates neutrophil extracellular trap production and bactericidal activity J. Biol. Chem (2016) Jul 1;291(27):13964-73.

2. Finley J, Allgaier & **J. Jefferson P. Perry**. Reactive Oxygen Species in Amyotrophic Lateral Sclerosis. Book Chapter. Reactive Oxygen Species in Biology and Human Health. Editor Shamim I. Ahmad. (2016) June 1 CRC Press ISBN 9781498735452. **Corresponding author**.
3. Tsai CL, Williams GJ, **Perry JJ**, Tainer JA. An AAA+ ATPase Clamshell Targets Transposition. *Cell*. 2015 Aug 13;162(4):701-3.
4. Zhao L, Chen XJ, Zhu J, Xi YB, Yang X, Hu LD, Ouyang H, Patel SH, Jin X, Lin D, Wu F, Flagg K, Cai H, Li G, Cao G, Lin Y, Chen D, Wen C, Chung C, Wang Y, Qiu A, Yeh E, Wang W, Hu X, Grob S, Abagyan R, Su Z, Tjondro HC, Zhao XJ, Luo H, Hou R, **Perry JJ**, Gao W, Kozak I, Granet D, Li Y, Sun X, Wang J, Zhang L, Liu Y, Yan YB, Zhang K. Lanosterol reverses protein aggregation in cataracts. *Nature*. (2015) **523**, 607–611. Epub. Jul 22nd 2015 . **Faculty1000prime Recommended**.
5. Fan H, Hahm J, Diggs S, **Perry JJ**, Blaha G. Structural and Functional Analysis of BipA, a Regulator of Virulence in enteropathogenic Escherichia coli. *J. Biol. Chem.* (2015) Aug 21;290(34):20856-64. Epub 2015 Jul 10.
6. Zhang ZM, Liu S, Lin K, Luo Y, **Perry JJP**, Wang Y, Song J. Crystal Structure of Human DNA Methyltransferase 1. *J. Mol. Biol.* (2015) Jul 31;427(15):2520-31. Epub 2015 Jun 10.
7. **Perry JJP**, Ballard GD, Albert AE, Dobrolecki LE, Malkas LH, Hoelz DJ. Human C6orf211 encodes Armt1, a protein carboxyl methyltransferase that targets PCNA and is linked to the DNA damage response. *Cell Rep.* 2015 Mar 3;10(8):1288-96. Epub 2015 Feb 26.
8. RNF4 Interacts with both SUMO and Nucleosomes to Promote the DNA Damage Response. Grocock LM, Nie M, Prudden J, Moiani D, Wang T, Cheltsov A, Arvai AS, Hitomi C, Tainer JA, Luger K, **Perry JJP***, Lazzerini-Denchi E* & Boddy MN*. *EMBO Reports* (2014) Epub Apr 8. ***Co-corresponding author**.
9. Shibata A, Moiani D, Arvai AS, **Perry JJP**, Harding SM, Genois MM, Maity R, van Rossum-Fikkert S, Kertokallio A, Romoli F, Ismail A, Ismalaj E, Petricci E, Neale MJ, Bristow RG, Masson JY, Wyman C, Jeggo P & Tainer JA. DNA Double Strand Break Repair Pathway Choice Is Directed by Distinct MRE11 Nuclease Activities. *Mol. Cell* (2014) Jan 9;53(1):7-18. Epub 2013 Dec 5. **Faculty1000prime – Recommended**.
10. **Perry JJP** & Tainer JA. Developing advanced x-ray scattering methods combined with crystallography and computation. Invited Review. *Methods* (2013). Mar;59(3):363-71. Epub 2013 Jan 29.
11. Omanakuttan A, Nambiar J, Harris RM, Chinchubose B, Pandurangan N, Varghese RK, Kumar GB, Tainer JA, Banerji A, **Perry JJP** & Nair BG. Anacardic acid inhibits the catalytic activity of matrix metalloproteinase-2 and matrix metalloproteinase-9. *Mol. Pharmacology* (2012) Oct;82(4):614-22. Epub June 28th.
12. Pratt A, Getzoff E, **Perry JJP***. Amyotrophic lateral sclerosis: Update and New Developments. Review. *Degenerative Neurological and Neuromuscular Disease* (2012) Feb;2012(2):1-14. ***Corresponding author**.
13. Grocock L, Prudden J, **Perry JJP**, Boddy MN. RecQ4 Orthologue Hrq1 is Critical for DNA Interstrand Crosslink Repair and Genome Stability in Fission Yeast. *Mol. Cell. Biol.* (2012) Jan;32(2):276-87. Epub Nov 7th 2011.
14. Shin DS, Pratt, A, Getzoff ED & **Perry JJP***. Amyotrophic Lateral Sclerosis, Advanced Understanding of Neurodegenerative Diseases, Raymond Chuen-Chung Chang (Ed.), (2011) ISBN: 978-953-307-529-7, InTech. <http://www.intechopen.com/articles/show/title/amyotrophic-lateral-sclerosis>. ***Corresponding author**.
15. Trego KS, Chernikova SB, Davalos AR, **Perry JJP**, Finger LD, Ng C, Tsai MS, Yannone SM, Tainer JA, Campisi J, Cooper, PK. The DNA Repair Endonuclease XPG Interacts Directly and Functionally with the WRN Helicase Defective in Werner Syndrome. *Cell Cycle* (2011). Jun 15;10 (12).
16. **Perry JJP** & Tainer JA. All Stress Out Without ATM Kinase. *Science Signaling* (2011) April 5; 4(167):18.
17. Prudden, J* & **Perry, JJP***, Minghua Nie, Arvai, A, C. Hitomi, Guenther, G, Tainer J.A, Boddy, M.N. DNA Repair and Global Sumoylation are Regulated by Distinct Ubc9 Non-covalent Complexes. *Mol Cell Biol.* (2011) Epub March 28th. ***Co-first author**.
18. Heideker J, Prudden, J, **Perry JJP**, Tainer JA, Boddy MN. SUMO-targeted ubiquitin ligase, Rad60, and Nse2 SUMO ligase suppress spontaneous Top1-mediated DNA damage and genome instability. *PLOS genetics* (2011). March 3; 7(3): e1001320.
19. **Perry JJP**, Asiathamby A, Barnebey A, Kiamanesh F, Chen DJ, Han S, Tainer JA & Yannone SM. Identification of a coiled-coil in WRN that facilitates multimerization and promotes exonuclease processivity. *Journal of Biological Chemistry* (2010) Aug 13: 285 (33):25699-707 Epub June 1st

20. **Perry JJP**, Cotner-Gohara, E, Ellenberger T & Tainer, JA. Structural dynamics in DNA damage signaling and repair. *Current Opinion in Structural Biology*. Invited Review (2010) June 20:1-12. Epub May 1st.
21. **Perry JJP**, Shin DS, Getzoff ED & Tainer JA. The Structural Biochemistry of the Superoxide Dismutases. Invited Review. *Biochemica et Biophysica* (2010) Feb; 1804(2):245-262.
22. **Perry JJP**, Shin DS & Tainer JA. Structural biology of Amyotrophic Lateral Sclerosis, Book Chapter of 'Molecular mechanisms of DNA repair defects', Editor Shamim I Ahmad, Landes Biosciences Publication, Adv Exp Med Biol. 2010;685:9-20 (2010). Epub Nov 5 (2009).
23. **Perry JJP**, Harris R, Moiani, D, Olson A & Tainer JA. MAP kinase p38 α C-terminal domain binding pocket characterized by crystallographic and computational Analyses. *J. Mol. Biol.* (2009) Aug 7; 391 (1): 1-11.
24. **Perry JJP***, Hitomi K, Tainer JA. Flexibility Promotes Fidelity. Preview. *Structure* (2009) May 13;17(5):633-4. ***Corresponding author.**
25. Prudden J* & **Perry JJP***, Arvai A, Tainer JA & Boddy MN. Molecular mimicry of SUMO promotes DNA repair. *Nature Struct. & Mol. Biol.* (2009) May; 16, 509-516. ***Co-first author.** [Faculty 1000 – 4.8 – 'Must read' Manuscript.](#)
26. **Perry JJP***, Hearn AS, Cabelli DE, Lepock JR, Tainer JA, Nick HS, Silverman DN*. Contribution of human manganese superoxide dismutase tyrosine 34 to structure and catalysis. *Biochemistry* (2009) April; 48 (15):3417–3424. ***Co-corresponding author.**
27. Heideker J, **Perry JJP** & Boddy MN. Genome stability roles for SUMO-targeted ubiquitin ligases. Invited review. *DNA repair* (2009) Apr 5;8(4):517-24.
28. Mohan SS, **Perry JJP**, Poulouse N, Nair BG, Anilkumar G. Homology modeling of Glut4, an insulin regulated facilitated glucose transporter and docking studies with ATP and its inhibitors. *Journal of Biomolecular Structure and Dynamics*. (2009) Feb;26(4):455-64.
29. Perbernard S, **Perry JJP**, Tainer JA, Boddy MN. Nse1 RING-like domain supports functions of the Smc5-Smc6 holocomplex in genome stability. *Mol Biol Cell*. (2008) Oct;19(10):4099-109.
30. Chrencik JE, Brooun A, Zhang H, Irimpam M, Hura GL, Foster SA, **Perry JJP**, Ramage P, Widmer H, Bokach, Tainer JA, Gisbert Wechbecker, Kuhn P. Structural basis of guanine nucleotide exchange mediated by the T-cell essential Vav1. *J. Mol. Biol.* (2008) Jul 25;380(5):828-43.
31. **Perry JJP**, Tainer JA, Boddy MN, A SIM-ultaneous role for SUMO and Ubiquitin. Invited Review. *Trends in Biochemical Science* (2008) May;33(5):201-8. **Cover Article.**
32. **Perry JJP*** & Tainer JA, Structural biology of Cockayne syndrome, Book Chapter of 'Molecular mechanisms of Cockayne syndrome', Editor Shamim I Ahmad, Landes Biosciences Publication, Epub Mar 27 (2008). ***Corresponding Author.**
33. Prudden J, Pebernard S, Raffa G, Slavin DA, **Perry JJP**, Tainer JA, McGowan CH, Boddy MN, SUMO-targeted ubiquitin ligases in genome stability. *EMBO J.* (2007) Sep 19;26(18):4089-101. [Faculty 1000 – 6.0 – 'Must Read' Manuscript, Nature Reviews Molecular Cell Biology Research Highlight, and Science-STKE Editor's Choice.](#)
34. **Perry JJP**, Fan L, Tainer JA. Developing master keys to brain pathology, cancer and aging from the structural biology of proteins controlling reactive oxygen species and DNA repair. *Neuroscience* (2007) Apr 14;145(4):1280-1299.
35. **Perry JJP**, Yannone SM, Holden LG, Hitomi C, Asaithamby A, Han S, Cooper PK, Chen DJ & Tainer JA. WRN exonuclease structure and molecular mechanism imply an editing role in DNA end processing. *Nature Struct. Mol. Biol.* (2006) May; 13 (5), p414-422.
36. Ren X, Tu C, Bhatt D, **Perry JJP**, Tainer JA, Cabelli DE, & Silverman DE. Kinetic and structural characterization of human manganese superoxide dismutase containing 3-fluorotyrosine. *Journal of Molecular Structure* (2006) 790 (1-3), 168-173, Jun 5.
37. Ayala I, **Perry JJP**, Szczepanski J, Tainer JA, Vala MT, Nick HS & Silverman DN. Hydrogen bonding in human manganese superoxide dismutase containing 3-fluorotyrosine. *Biophys. J.* (2005) Dec;89(6):4171-9.
38. Greenleaf WB, **Perry JJP**, Hearn AS, Cabelli DE, Lepock JR, Stroupe ME, Tainer JA, Nick HS & Silverman DN. Role of hydrogen bonding in the active site of human manganese superoxide dismutase. *Biochemistry* (2004) Jun 8;43(22):7038-7045.
39. Burke DF, Deane CM, Nagarajaram HA, Campillo N, Martin-Martinez M, Mendes J, Molina F, **Perry J**, Reddy BV, Soares CM, Steward RE, Williams M, Carrondo MA, Blundell TL, & Mizuguchi K. An iterative structure-assisted approach to sequence alignment and comparative modeling. *Proteins: Struct. Funct. Genet.* (1999) Suppl. 3(9):55-60.