

PAULA LOUISE FISCHHABER, PH.D.

California State University Northridge
Department of Chemistry and Biochemistry
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EDUCATION

- 1998 Ph.D. Chemistry University of Washington, Seattle, WA
1992 B.A. Biochemistry, *magna cum laude*, University of Colorado, Boulder, CO

EMPLOYMENT

- 2025-Present Chair of Chemistry and Biochemistry, California State University Northridge, Northridge, California
2016-Present Professor of Chemistry and Biochemistry, California State University Northridge, Northridge, California
2011-2016 Associate Professor of Chemistry and Biochemistry, California State University Northridge, Northridge, California
2005-2011 Assistant Professor of Chemistry and Biochemistry, California State University Northridge, Northridge, California
2004-2005 Research Assistant Professor of Pathology, University of Texas Southwestern Medical Center at Dallas, Dallas, Texas
2003-2004 Instructor of Pathology, University of Texas Southwestern Medical Center at Dallas, Dallas, Texas
1998-2003 Postdoctoral Researcher/ Postdoctoral Fellow, University of Texas Southwestern Medical Center at Dallas, Dallas, Texas
1992-1998 Graduate Research Assistant/ Graduate Teaching Assistant, University of Washington, Seattle, Washington
1992 Quality Control Analyst, Geneva Pharmaceuticals, Broomfield, Colorado

HONORS, AWARDS AND PROFESSIONAL MEMBERSHIPS

- 2004-2024 Member of the Editorial board of DNA Repair
1999-2002 National Research Service Award, F-32 postdoctoral fellowship grant
1996- American Chemical Society Member
1991- Phi Beta Kappa Member
1991 Howard Hughes Medical Institute Summer Undergraduate Research Fellow
1990-1991 Cooperative Institute for Research in the Environmental Sciences Undergraduate Research Fellow
1988-1992 Boettcher Foundation Scholar, Merit-based award covering all tuition & fees with stipend for books & living expenses for duration of a four-year undergraduate degree program

PEER-REVIEWED PUBLICATIONS

Papers on which I am the corresponding author show my name underlined.

CSUN students' names (all from my laboratory) are indicated with asterisks (*).

1. "Mus81-Mms4 and Rad1-Rad10 are recruited to Anaphase Bridges in *S. cerevisiae*", Buo, S., Hadi, H., Ponpakpong, N., and Fischhaber, P.L., *submitted*.
2. "Synthesis and Characterization of Amorphous Lawsone Polymer Dots for Fluorescent Applications", Hernandez, J., Robb, A., Servera, S. Bedrosian, N., Gomez, O., Duca Z., Thomas, M.B., Tamae, D., Fischhaber, P.L., Garrett, S.J., Ward, P.A., and Teprovich Jr., J.A., *ACS Appl. Nano Mater.*, 2023, 6(22), pp. 20639-20651. DOI 10.1021/acsanm.3c03229.
3. "SAW1 is Increasingly Required to Recruit Rad10 as SSA Flap-Length Increases from 20-50 Base Pairs in Single-Strand Annealing in *S. cerevisiae*", Odango, R.J.* , Camberos, J. F.* , Fregoso F.* , and Fischhaber P.L., *Biochemistry and Biophysics Reports*, 2021, 28, pp. 101125-101131. DOI 10.1016/j.bbrep.2021.101125.
4. "Saw1 Localizes to Repair Sites but is not Required for Recruitment of Rad10 to Repair Intermediates Bearing Short Non-Homologous 3' Flaps during Single-Strand Annealing in *S. cerevisiae*", Mardirosian, M.* , Nalbandyan, L.* , Miller, A. D.* , Phan, C.* , Kelson, E. P. and Fischhaber, P. L., *Molecular and Cellular Biochemistry*, 2016, 412(1), pp. 131-139. DOI 10.1007/s11010-015-2616-7.
5. "Rad7 E3 ubiquitin ligase attenuates polyubiquitylation of Rpn10 and Dsk2 following DNA damage in *Saccharomyces cerevisiae*", Benoun, J. M.* , Cortez, D.L.* , Valencia, A.* , Moore, D.M.* , Granda, A.* , Kelson, E. P., and Fischhaber, P. L., *Advances in Biological Chemistry*, 2015, 5, pp. 239-254. DOI: 10.4236/abc.2015.57021
6. "FANCD2 and REV1 cooperate in the protection of nascent DNA strands in response to replication stress", Yang, Y., Liu, Z., Wang, F., Temviriyankul, P., Ma, X., Tu, Y., Lv, L., Lin, Y.F., Huang, M., Zhang, T., Pei, H., Chen, B.P., Jansen, J.G., de Wind, N., Fischhaber, P.L., Friedberg E.C., Tang, T.S., Guo, C., *NAR*, 2015, 43(17), pp. 8325-39. DOI: 10.1093/nar/gkv737
7. "Toward Therapeutic Targets for SCA3: Insight into the Role of Machado–Joseph Disease Protein Ataxin-3 in Misfolded Proteins Clearance" Li, X., Liu, H., Fischhaber, P. L.* , Tang, T.S., *Progress in Neurobiology*, 2015, 132, pp. 34-58. DOI: 10.1016/j.pneurobio.2015.06.004
8. "Epigenetic Modifications as Novel Therapeutic Targets for Huntington's Disease", Wang, F., Fischhaber, P.L., Guo, C. and Tang, T., *Epigenomics*, 2014, 6(3), pp. 287-297. DOI: 10.2217/epi.14.19
9. "Saw1 is Required for SDSA Double-Strand Break Repair in *S. cerevisiae*", Diamante, G.* , Phan, C.* , Celis, A.S.* , Krueger, J., Kelson, E.P. and Fischhaber, P.L., *Biochem. Biophys. Res. Comm.*, 2014, 445, pp. 602-607. DOI: 10.1016/j.bbrc.2014.02.048
10. "Rad51 ATP Binding but not Hydrolysis is Required to Recruit Rad10 in Synthesis-Dependent Strand Annealing in *S. cerevisiae*", Karlin, J.* and Fischhaber, P.L., *Advances in Biological Chemistry*, 2013, 3, pp. 295-303. DOI: 10.4236/abc.2013.33033
11. "Rad10-YFP focus induction in response to UV depends on *RAD14* in yeast", Mardiros, A.* , Benoun, J.* , Haughton, R.* , Baxter, K.* , Kelson, E.P. and Fischhaber, P.L., *Acta Histochemica*, 2011, 113, pp. 409-415. DOI: 10.1016/j.acthis.2010.03.005
12. "Rad10 exhibits lesion-dependent genetic requirements for recruitment to DNA double-strand breaks in *Saccharomyces cerevisiae*", Moore, D.M.* , Karlin, J.* , González-Barrera, S., Mardiros, A.* , Lisby, M., Doughty, A., Gilley, J., Rothstein, R., Friedberg,

- E.C. and Fischhaber, P.L., *NAR.*, 2009, 37(19), pp. 6429-6438. DOI: 10.1093/nar/gkp709
13. "DNA polymerases for translesion DNA synthesis: enzyme purification and mouse models for studying their function". Fischhaber, P. L., McDaniel, L. D. and Friedberg, E. C., *Methods Enzymol.*, 2006, 408, pp. 355-378. DOI: 10.1016/S0076-6879(06)08022-0
 14. "How Are Specialized (Low-Fidelity) Eukaryotic Polymerases Selected And Switched With High-Fidelity Polymerases During Translesion DNA Synthesis?" Fischhaber, P. L. and Friedberg, E. C., *DNA Repair*, 2005, 4(2), pp. 279-283. DOI: 10.1016/j.dnarep.2004.08.011
 15. "DNA Repair in Yeast", Friedberg, E. C. and Fischhaber, P. L. Encyclopedia of Molecular Cell Biology and Molecular Medicine 2nd Ed., Robert A. Meyers, Editor., 2004, Vol. 3, pp. 427-447.
 16. "Mouse Rev1 Protein Interacts With Multiple DNA Polymerases Involved in Translesion DNA Synthesis" Guo, C., Fischhaber, P.L., Luk-Paszyc, M., Masuda, Y., Zhou, J., Kamiya, K., Kisker, C. and Friedberg, E.C., *EMBO Journal*, 2003, 22(24), pp. 6621-6630. DOI: 10.1093/emboj/cdg626
 17. "TB or Not TB: How *Mycobacterium tuberculosis* May Evade Drug Treatment" Friedberg, E.C. and Fischhaber, P.L., *Cell*, 2003, 113, pp. 139-140. DOI: 10.1016/S0092-8674(03)00275-7
 18. "DNA Replication Fidelity" Friedberg, E.C. and Fischhaber, P.L., Nature Encyclopedia of the Human Genome, 2003, Vol. 2, pp. 167-171. DOI: 10.1038/npg.els.0006172
 19. "Human Polymerase Kappa Bypasses and Extends Beyond Thymine Glycols During Translesion Synthesis *in vitro*, Preferentially Incorporating Correct Nucleotides" Fischhaber, P.L., Gerlach, V.L., Feaver, W.J., Hatahet, Z., Wallace SS, and Friedberg, E. C., *J. Biol. Chem.*, 2002, 277(40), pp. 37604-37611. DOI: 10.1074/jbc.M206027200
 20. "Error-Prone DNA Polymerases: Novel Structures and the Benefits of Infidelity" Friedberg, E.C., Fischhaber, P.L. and Kisker, C.L., *Cell*, 2001, 107, pp. 9-12. DOI:10.1016/S0092-8674(01)00509-8
 21. "Purification and Characterization of Pol κ , a DNA Polymerase Encoded by the Human *DINB1* Gene" Gerlach, V.L., Feaver, W. J., Fischhaber, P.L. and Friedberg, E.C.; *J. Biol. Chem.*, 2001, 276(1), pp. 92-98. DOI: 10.1074/jbc.M004413200
 22. "Human DNA Polymerase κ : A Novel DNA Polymerase of Unknown Biological Function Encoded by the *DINB1* Gene" Gerlach, V.L., Feaver, W.J., Fischhaber, P.L., Richardson, J.A., Aravind, L., Koonin, E.V., Bebenek, K., Kunkel, T.A. and Friedberg, E.C.; Cold Spring Harbor Symposia on Quantitative Biology, Volume LXV, 2000, Cold Spring Harbor Laboratory Press. DOI: 10.1074/jbc.M00441320
 23. "Direct Demonstration in Synthetic Oligonucleotides that BCNU Cross-Links N1 of Deoxyguanosine to N3 of Deoxycytidine on Opposite Strands of Duplex DNA" Fischhaber, P.L.; Gall, A.S.; Duncan, J.A. and Hopkins, P.B.; *Cancer Research*, 1999, 59(17), pp. 4363-4368. <http://cancerres.aacrjournals.org/content/59/17/4363>
 24. "Synthesis of Duplex DNA Containing a Spin Labeled Analogue of 2'-Deoxycytidine", Fischhaber, P.L.; Reese, A.W.; Nguyen, T.; Kirchener, J.J.; Hustedt, E. J.; Robinson, B.H. and Hopkins, P.B., *Nucleosides and Nucleotides*, 1997, 16(4), pp. 365-377. DOI: 10.1080/07328319708001356

FUNDED GRANTS

FUNDED EXTERNAL GRANTS

National Institutes of Health MBRS SCORE SC1, PI (GM127204)

2018-2024

SLX4 in Nuclease Recruitment
\$1,359,096

National Institutes of Health MBRS SCORE SC3, PI (GM093858 renewal) 2014-2018
Recruitment of End-Processing Factors in DSB Repair
\$409,125

National Institutes of Health MBRS SCORE SC3, PI (GM093858) 2010-2014
Recruitment of Rad10 in Double-strand Break Repair
\$416,052

National Institutes of Health MBRS SCORE SC2, PI (GM081155) 2007-2010
Temporal and Spatial Relationships of Proteins in Yeast NER
\$306,235

Research Corporation Cottrell College Science Award, PI (CC7146/7267) 2007-2010
The Temporal Role of Ubiquitylation and Sumoylation in Nucleotide
Excision Repair
\$42,690

FUNDED INTRAMURAL GRANTS

CSUN Competition for Research Scholarship and Creative Activity Award 2013-2014
Recruitment of a Rad51 mutant to DNA Double-strand break sites in *S. cerevisiae*, 3 units course release time (approximately \$5,000)

Summer Interdisciplinary Team Experience June 2012
Sustainably-powered, Non-polluting Water Purification System
Co-PI with Dr. Ronald Mehler and Dr. Eric Kelson (approximately \$15,000)

CSUN Competition for Research Scholarship and Creative Activity Award 2011-2012
Recruitment of Rad10 to DNA Double-strand break sites in Rad51 Mutants
in *S. cerevisiae*, 3 units course release time (approximately \$5,000)

CSUN Competition for Research Scholarship and Creative Activity Award 2010-2011
Temporal Recruitment of Rad51 and Rad10 in DNA Double-strand Break
Repair, 3 units course release time (approximately \$5,000)

CSUN Competition for Research Scholarship and Creative Activity Award 2009-2010
Role of RAD2 and RAD14 in Recruitment of RAD10-YFP to DNA
Double Strand Break Sites
\$5,000

CSUN Probationary Faculty Support Grant 2009
Preparation of the Rad14-RFP yeast strain for timelapse analysis of
Nucleotide Excision Repair
3 units course release time (approximately \$5,000)

CSUPERB Curriculum and Infrastructure Development Grant 2007-2008
CSUN Department of Chemistry and Biochemistry Instructional
Tissue Culture Facility, Co-PI with Dr. Jheem Medh

\$15,000

CSUN Competition for Research Scholarship and Creative Activity Award 2007-2008
Recruitment of Rad10 Protein in DNA Double Strand Break Repair
\$5,000

CSUN Competition for Research Scholarship and Creative Activity Award 2006-2007
Timing and Order of Protein Assembly in Yeast Nucleotide Excision
Repair
\$5,000

INVITED SPEAKING PRESENTATIONS SINCE JOINING CSUN

1. "STEM Meets Business in the Bull Ring: An Interdisciplinary Project-Based Learning Collaboration", United States Association for Small Business and Entrepreneurship Conference 2021 (USASBE 2021), Jan. 2021, Co-presenters Dr. Joanne Scillitoe (Dept of Management), CSUN, Dr. Paula Fischhaber (Dept. of Chemistry and Biochemistry), and Ryan Hollbrook (Entrepreneurship Program Director), CSUN
2. "STEM Meets Business in the Bull Ring: An Interdisciplinary Project-Based Learning Collaboration" San Fernando Valley Rotary Club Meeting Presentation, Nov. 2020, Co-presenters Dr. Joanne Scillitoe (Dept of Management), CSUN, and Dr. Paula Fischhaber (Dept. of Chemistry and Biochemistry)
3. "Scaling and Sustaining: Best Practices for Systems Implementing CUREs", October 27, 2020, Session at "HIPS in the State" Virtual conference offered by the IUPUI Assessment Institute, Co-presenters were Corin Vashoun White (CSU Monterey Bay), Corin Slown (CSU Monterey Bay), and John E. Banks (CSU Monterey Bay).
4. "STEM Meets Business in the Bull Ring: An Interdisciplinary Project-Based Learning Collaboration" 2020 Cal State Tech Connect Conference, July 2020, Co-presenters Dr. Paula Fischhaber (Dept. of Chemistry and Biochemistry) and Dr. Joanne Scillitoe (Dept of Management), CSUN
5. "Choreography of Flap Processing in DNA Double-strand Break Repair", September, 24, 2019, Joint Science Department of the Claremont Colleges.
6. "Spatial and Temporal Choreography of DNA Repair", October 24, 2017, Department of Chemistry and Biochemistry, California State University Los Long Beach, Long Beach, California
7. "Spatial and Temporal Choreography of DNA Repair", September 13, 2016, Department of Chemistry and Biochemistry, California State University Los Angeles, Los Angeles, California
8. "Spatial and Temporal Choreography of DNA Repair", November 13, 2012, Department of Chemistry, Cal Poly Pomona, Pomona, California
9. "Spatial and Temporal Choreography of DNA Repair", January 26, 2010, Department of Chemistry and Biochemistry, California State University Los Angeles, Los Angeles, California

10. "The Biochemistry of DNA Polymerase Kappa in the Cellular Response to DNA Damage" February 21, 2007, Natural Science Division, Pepperdine University, Malibu, California
11. "The Biochemistry of DNA Polymerase Kappa in the Cellular Response to DNA Damage" February 15, 2007, Department of Chemistry at the University of San Diego, San Diego, California
12. "The Biochemistry of Polymerase Kappa in the Cellular Response to DNA Damage", April 12, 2006, Joint Science Department of the Claremont Colleges.

POSTER PRESENTATIONS AT SCIENTIFIC MEETINGS

1. *CSUBIOTECH So Cal Regional Symposium, Los Angeles, California* Jan. 2026
"Creation of a Yeast Strain to Investigate the Effect of Endonucleases during Anaphase" R. Aguido, K. Radadiya, and P. L. Fischhaber
2. *CSUBIOTECH So Cal Regional Symposium Los Angeles, California* Jan. 2026
"Construction of a Yen1-RFP strain of *S. cerevisiae* for Investigation of Yen1 in Double Strand Break Repair", J. Pineda, C. Juman, and P. L. Fischhaber
3. *CSUBIOTECH Symposium, Santa Clara, California* Jan. 2025
"Construction of a Yen1-RFP strain of *S. cerevisiae* for Investigation of Yen1 in Double Strand Break Repair" J. Pineda, C. Juman, and P. L. Fischhaber
4. *CSUBIOTECH Symposium, Santa Clara, California* Jan. 2024
"Construction of a Yen1-RFP strain of *S. cerevisiae* for Investigation of Yen1 in Double Strand Break Repair" J. Pineda, C. Juman, and P. L. Fischhaber
5. *CSUPERB Symposium, Santa Clara, California* Jan. 2023
"Creation of a Yen1-RFP strain of *S. cerevisiae* for Investigation of Yen1 in Double Strand Break Repair" J. Pineda, M. Aros, and P. L. Fischhaber
6. *CSUPERB Symposium, Santa Clara, California* Jan. 2023
"Investigating the Binding Domain between Rad1 and Slx4 Proteins in the Yeast DNA Double-strand Break Repair Pathway" S. Chavez, J. Odango, S. Buo, and P. L. Fischhaber
7. *CSUPERB Symposium, Virtual Meeting* Jan. 2022
"Investigating SLX4-Dependent Recruitment of Rad1-Rad10 to DNA Double-Strand Breaks During DNA Repair in Dividing Cells" S. Chavez, J. Hakimian, M. Aros, and P. L. Fischhaber
8. *CSUPERB Symposium, Virtual Meeting* Jan. 2022
"Probing the Necessity of Slx4 in Single-Strand Annealing, and the Localization of Rad1-Rad10 and Mus81-Mms4 at Ultrafine Bridges in DNA Double-Strand Break Repair" H. Hadi, Jimmy Guzmán, Jr., S. Buo, and P. L. Fischhaber
9. *CSUPERB Symposium, Virtual Meeting* Jan. 2021

"Investigating the Protein-protein Interaction Domains of Rad1 and Slx4" R. J. Odango and P. L. Fischhaber

10. *CSUPERB Symposium, Virtual Meeting* Jan. 2021
 "Rad1-Rad10, Mus81-Mms4, and Yen1 in the Cell Cycle-dependent Resolution of Holliday Junctions" H. Hadi, L. Le, S. Buo, M. Siavoshi, and P.L. Fischhaber
11. *Keystone Symposium on Genomic Stability and DNA Repair* Sep. 2020
 "Investigating SLX4-Dependent Recruitment of Rad1-Rad10 to DNA Double-strand Breaks During DNA Repair in Dividing Cells" J. Hakimian and P.L. Fischhaber
12. *CSUPERB Symposium, Santa Clara, California* Jan. 2020
 "Investigating Key Proteins, Saw1 and Rad1-Rad10 in Single-strand Annealing via Fluorescence Microscopy" R.J Odango, A. Alon, F. Fregoso, J. Camberos, Y. Rakibova, and P. L. Fischhaber
13. *CSUPERB Symposium, Santa Clara, California* Jan. 2020
 "Cell-cycle dependent resolution of Holliday Junctions via Slx4 and Yen1 in *S. cerevisiae*" H. Hadi, K. Abuhanna, and P. L. Fischhaber
14. *Gordon Conference on DNA Damage, Mutation and Cancer, Ventura California* Feb. 2019
 "The effect of varying DNA flap length from 20 to 50 deoxynucleotides on the mechanism of single-strand annealing in *Saccharomyces cerevisiae*" F. E. Fregoso, R.J. Odango, J. P. Camberos, and P. L. Fischhaber
15. *Keystone Symposium, DNA Replication and Genome Instability: From Mechanism to Disease* Jan. 2019
Snowbird, Utah
 "Constructing an *S. cerevisiae* strain to investigate Saw1 protein recruitment in single-strand annealing", A. Alon, Y. Rakibova, T. McCart, L. Vartanian, M. Babyan, and P. L. Fischhaber
16. *CSUPERB Symposium, Garden Grove, California* Jan. 2019
 "The effect of varying DNA flap length from 20 to 50 deoxynucleotides on the mechanism of single-strand annealing in *Saccharomyces cerevisiae*" F. E. Fregoso, R.J. Odango, J. P. Camberos, and P. L. Fischhaber
17. *CSUPERB Symposium, Garden Grove, California* Jan. 2019
 "Construction of Plasmids Encoding Fluorescently-labeled Rad10 and Yen1 to Study Temporal and Spatial Relationships during DNA Repair in *S. cerevisiae*" H. Hadi, S. Kalkatechi, and P. L. Fischhaber
18. *CSUPERB Symposium, Garden Grove, California* Jan. 2019
 "The effect of distance between repeating DNA sequences on DNA Repair pathway and nuclease selection following a double-strand break in *S. cerevisiae*" J. P. Camberos, J. Guzmán Jr., M. Mardirosian, L. Nalbandyan, F. E. Fregoso, R.J. Odango, R. Sanchez, S. Tran, and P. L. Fischhaber
19. *SoCal Genome Stability Symposium, Duarte, CA* Dec. 2018
 "Examining the Cell Cycle-Dependent Requirement of SLX4 in the Recruitment of Rad1-Rad10 Using Cohesin Markers", M. A. Siavoshi and P. L. Fischhaber

20. *Association for Biochemistry and Molecular Biology, San Diego, California* Apr. 2018
"Construction of plasmids to make an *S. cerevisiae* strain to investigate Saw1 protein recruitment in single-strand annealing", Y. Rakibova, A. Alon, T. McCart, L. Vartanian, and P. L. Fischhaber
21. *CSUPERB Symposium, San Jose, California* Jan. 2018
"Construction of plasmids to make a specialized yeast strain to investigate timing of Saw1 protein recruitment in single-strand annealing" A. Alon, Y. Rakibova and P. L. Fischhaber
22. *CSUPERB Symposium, San Jose, California* Jan. 2018
"The necessity of Saw1 in recruiting Rad1-Rad10 to single-strand annealing sites increases as a function of increasing DNA flap length in *S. cerevisiae*", J. P. Camberos, F. E. Fregoso, R.J. Odango, and P. L. Fischhaber
23. *CSUPERB Symposium, San Jose, California* Jan. 2018
"Mechanistic requirements of the single-strand annealing (SSA) pathway in *Saccharomyces cerevisiae*", J. Guzmán, Jr., G. Darouj, M. Mardirosian, L. Nalbandyan, and P. L. Fischhaber
24. *Gordon Conference on DNA Damage, Mutation and Cancer, Ventura California* Feb. 2017
"Saw1 Localizes to Repair Sites but is not Required for Recruitment of Rad10 to Repair Intermediates Bearing Short Non-Homologous 3' Flaps during Single-Strand Annealing in *S. cerevisiae*" M. Mardirosian, L. Nalbandyan, A. D. Miller, C. Phan, E. P. Kelson and P. L. Fischhaber
25. *CSUPERB Symposium, San Jose, California* Jan. 2017
"Construction of Yeast Strains to Determine Over-hanging Flap Length Triggering Saw1-Dependent Rad1-Rad10 Recruitment During Single Strand Annealing" J. P. Camberos, J. Odango and P. L. Fischhaber
26. *CSUPERB Symposium, San Jose, California* Jan. 2017
"Construction of a specialized yeast strain for investigating recruitment of the Saw1 and Rad52 proteins in Double Strand Break Repair", L. Vartanian, J. Guzman, M. Babayan, and P. L. Fischhaber
27. *CSUPERB Symposium, Garden Grove, California* Jan. 2016
"Saw1 Localizes to Repair Sites but is not Required for Recruiting Rad10 to Repair Intermediates Bearing Short 3' Flaps during Single-Strand Annealing", L. Nalbandyan, A. D. Miller, M. Mardirosian, C. Phan, E. P. Kelson and P. L. Fischhaber
28. *CSUPERB Symposium, Garden Grove, California* Jan. 2016
"Mechanism of Repair of DNA Double-Strand Breaks Situated between DNA Repeats as a Function of Sequence Homology and Distance from the Break Site", R. Sanchez, J. Guzman, R. Coreas, M. Mardirosian, L. Nalbandyan, S. Tran and P. L. Fischhaber
29. *CSUPERB Symposium, Garden Grove, California* Jan. 2016

"Specialized yeast strains to investigate Saw1 and Rad1-Rad10 Recruitment to Double Strand Breaks as a Function of Non-homologous Sequence Length", J. P. Camberos, F. E. Fregoso, R. J. Odango, B. R. Iannolo, and P. L. Fischhaber

30. *CSUPERB Symposium, Garden Grove, California* Jan. 2016
"Preparation of a specialized yeast strain to investigate recruitment of Saw1, and binding of Rad52 to Saw 1 in DSB Repair", M. Babayan, L. Vartanian, and P. L. Fischhaber
31. *American Society for Biochemistry and Molecular Biology Experimental Biology, Boston, Massachusetts* Mar. 2015
"Requirement of Saw1 during single-strand annealing repair in *Saccharomyces cerevisiae*", A. D. Miller, L. Nalbandyan, M. Mardirosian and P. L. Fischhaber.
32. *Keystone Conference: Genome Instability and DNA Repair, Whistler, British Columbia, Canada* Mar. 2015
"Requirement of Saw1 in recruiting an endonuclease to double-strand breaks during single-strand annealing repair in *Saccharomyces cerevisiae*", L. Nalbandyan, A. D. Miller, M. Mardirosian, and P. L. Fischhaber.
33. *Gordon Conference on DNA Damage, Mutation and Cancer, Ventura California* Feb. 2015
"SAW1 is required for Synthesis-Dependent Strand Annealing in *S. cerevisiae*", G. Diamante, C. Phan, A.S. Celis, J. Krueger, E. P. Kelson and P. L. Fischhaber
34. *CSUPERB Symposium, San Jose, California* Jan. 2015
"Requirement of Saw1 in recruiting an endonuclease to double-strand breaks during single-strand annealing repair in *Saccharomyces cerevisiae*" L. Nalbandyan, A. D. Miller, M. Mardirosian, and P. L. Fischhaber
35. *CSUPERB Symposium, San Jose, California* Jan. 2015
"Double-strand Break Repair between DNA repeats separated by 10,000 base pairs is carried out by Single-strand Annealing", S. Tran and P. L. Fischhaber
36. *CSUPERB Symposium, San Jose, California* Jan. 2015
"Ubiquitylation of Proteasome Shuttle Proteins during Nucleotide Excision Repair in *Saccharomyces Cerevisiae*", J. Odango, J. Benoun and P.L. Fischhaber
37. *CSUPERB Symposium, San Jose, California* Jan. 2014
"An Inducible Double-strand Break Site Flanked by Perfect DNA Repeats is Repaired by Single-strand Annealing", M. Mrdroosian, L. Nalbandyan, P. L. Fischhaber
38. *CSUPERB Symposium, San Jose, California* Jan. 2014
"Saw1-independent recruitment of Rad10 in single-strand annealing repair of a 10-nucleotide DNA flap substrate" A.D. Miller, L. Nalbandyan, M. Mrdroosian and P. L. Fischhaber
39. *CSUPERB Symposium, San Jose, California* Jan. 2014
"Rad10 recruitment to DNA double-strand breaks flanked by distal DNA repeats is not dependent on the presence of *RAD51*" L. Nalbandyan, A.D. Miller and P. L. Fischhaber

40. *CSUPERB Symposium, San Jose, California* Jan. 2014
"Rad10 recruitment to Double-strand Break sites bearing distally-located DNA repeats is dependent on phase of cell cycle" S. Tran and P. L. Fischhaber
41. *CSUPERB Symposium, San Jose, California* Jan. 2014
"Recruitment of Rad10 to Double-Strand Breaks Situated Between Imperfect DNA Repeats" R. Sanchez and P. L. Fischhaber
42. *CSUPERB Symposium, Anaheim, California* Jan. 2013
"A Novel Mechanism by which Rad7 regulates the DNA damage response in *S. cerevisiae*", J. M. Benoun, D. Lalimar-Cortez, A. Valencia, D. M. Moore, J. Karlin, E. P. Kelson and P. L. Fischhaber
43. *CSUPERB Symposium, Anaheim, California* Jan. 2013
"Requirement for *RAD52* in Recruitment of Rad10 in Single-Strand Annealing", M. Mrdroosian and P. L. Fischhaber
44. *CSUPERB Symposium, Anaheim, California* Jan. 2013
"The Functionality of the SSA and SDSA Repair Pathways in Strains of *S. Cerevisiae* Containing *saw1Δ* Mutant or Saw1-CFP Genes", C. Phan, G. Diamante, A. Celis and P. L. Fischhaber
45. *CSUPERB Symposium, San Jose, California* Jan. 2012
"*S. cerevisiae* Rad7 Deficient Cells Influence Cell Cycle Regulation Following DNA Damage by BPDE", J. M. Benoun, D. Lalimar-Cortez, A. Valencia, D. M. Moore, J. Karlin, E. P. Kelson and P. L. Fischhaber
46. *CSUPERB Symposium, San Jose, California* Jan. 2012
"Role of the C-terminal domain of Rad4 in Nucleotide Excision Repair of *Saccharomyces cerevisiae*", M. Mrdroosian, R. Haughton, A. Kravtsova and P. L. Fischhaber
47. *CSUPERB Symposium, San Jose, California* Jan. 2012
"*SAW1* recruitment of the Rad1-Rad10 endonuclease in single-strand annealing in *S. cerevisiae*", G. Diamante and P. L. Fischhaber
48. *CSUPERB Symposium, Anaheim, California* Jan. 2011
"Induction of nuclearly localized ubiquitin foci in response to benzo(a)pyrenediol epoxide in Global Genomic Nucleotide Excision Repair deficient *S. cerevisiae*", J. M. Benoun, D. Lalimar-Cortez, A. Valencia, D. M. Moore, J. Karlin, E. P. Kelson and P. L. Fischhaber
49. *CSUPERB Symposium, Anaheim, California* Jan. 2011
"A Cell Cycle Dependent Role of the C-terminus of Rad4 In Nucleotide Excision Repair", R. Haughton, A. Kravtsova and P. L. Fischhaber
50. *CSUPERB Symposium, Anaheim, California* Jan. 2011
SAW1 recruitment of the Rad1-Rad10 endonuclease in single-strand annealing in *S. cerevisiae*", G. Diamante and P. L. Fischhaber
51. *Gordon Conference on DNA Damage, Mutation and Cancer, Ventura California* Mar. 2010

“Rad10-YFP focus induction in response to UV depends on *RAD14* in yeast”, A. Mardiros, J. M. Benoun, R. Haughton, K. Baxter, E. P. Kelson and P. L. Fischhaber

52. *Gordon Conference on DNA Damage, Mutation and Cancer, Ventura California* Mar. 2010
 “Rad51 mediates Rad10 recruitment to synthesis-dependent strand annealing centers”, J. Karlin, and P. L. Fischhaber
53. *CSUPERB Symposium, San Jose, California* Jan. 2010
 “The ATPase activity of Rad51 is required for recruitment of Rad10 to DNA double-strand break repair sites”, J. Karlin, and P. L. Fischhaber
54. *CSUPERB Symposium, San Jose, California* Jan. 2010
 “Induction of temporally-persistent, nuclear ubiquitin foci in response the DNA damaging agents benzo[a]pyrenediolepoxide and N-acetoxy-N-acetylaminofluorene” A. Valencia, J. M. Benoun, D. Lalimar, J. Karlin, and P. L. Fischhaber
55. *CSUPERB Symposium, San Jose, California* Jan. 2010
 “Recruitment of Rad14 is Diminished in the Absence of Rad4 in Nucleotide Excision Repair in *S.cerevisiae*” R. Haughton, A. Kravtsova and P. L. Fischhaber
56. *ASM DNA Repair and Mutagenesis Conference, Whistler, Canada* Jun. 2009
 “Recruitment of Fluorescently labeled Ubiquitin by Nucleotide Excision Repair *Saccharomyces cerevisiae*” A. Valencia, J. Karlin, J. Benoun and P. L. Fischhaber
57. *ASM DNA Repair and Mutagenesis Conference, Whistler, Canada* Jun. 2009
 “Recruitment of the Rad1-Rad10 Protein Complex to DNA Double Strand Breaks in *Saccharomyces cerevisiae*” D.M. Moore, A. Mardiros, J. Karlin, S. González, M. Lisby, A. Doughty, J. Gilley, R. Rothstein, E.C. Friedberg and P. L. Fischhaber
58. *CSUPERB Symposium, Los Angeles, California* Jan. 2009
 “*RAD51* and *RAD52* but not *MRE11* are Required to Recruit Rad10 to Sites of DNA Double Strand Break Repair” D.M. Moore, A. Mardiros, J. Karlin and P. L. Fischhaber
59. *CSUPERB Symposium, Oakland California* Jan. 2008
 “*RAD51* and *RAD52* but not *MRE11* are Required to Recruit Rad10 to Sites of DNA Double Strand Break Repair” D.M. Moore, A. Mardiros, J. Karlin and P. L. Fischhaber
60. *CSUPERB Symposium, Oakland California* Jan. 2008
 “Spatial and Temporal Relationships of Nucleotide Excision Repair Proteins Rad14 and Rad1-Rad10 in *Saccharomyces cerevisiae*” A. Mardiros, D.M. Moore, K. Baxter and P. L. Fischhaber

GRADUATE THESES

1. “Integrating and Optimizing a Spinach RNA Aptamer & Evaluating Zeocin Effect on Repair Protein Localization”, (Jimmy Guzmán Jr., M.S. Biochemistry, December 2025)
2. “Construction of a Yen1-RFP strain of *S. cerevisiae* for Investigation of Yen1 in Double Strand Break Repair”, Janelli Pineda, (M.S. Biochemistry, December, 2024)

3. "An Investigation of Mus81-Mms4 and Rad1-Rad10 Recruitment to Subcellular Structures in the Absence of Slx4", Andrew Green, (M.S. Biochemistry, December, 2024)
4. "Attempted Construction of a Yen1-RFP Yeast Strain and the Investigation of Rad1-Rad10 and Mus81-Mms4 at DNA Ultrafine Bridges", Hafidha Hadi, (M.S. Biochemistry, May 2022)
5. "Investigating Key Proteins Involved in Single-strand Annealing", Rowen Jane Odango, (M.S. Biochemistry, May 2021)
6. "The Roles of Saw1, Rad1-Rad10, and Polymerase δ in 3' Flap Removal during Single-strand Annealing in *Saccharomyces cerevisiae*", Juan Camberos Felix, (M.S. Biochemistry, May, 2019)
7. "The Interplay between the Roles of Saw1, Rad1-Rad10, and Polymerase δ in Single-strand Annealing Repair in *Saccharomyces cerevisiae*", Fred Fregoso, (M.S. Biochemistry, May, 2019)
8. "Toward Determination of the Minimum Binding Domains for the Interaction of Rad52 and Saw1", Gerooge Darouj, (M.S. Biochemistry, December, 2018)
9. "Polymerase Delta is Required for the Removal of Short Non-homologous DNA Flaps During Single-Strand Annealing Repair", Aaron D. Miller, (M.S. Biochemistry, December, 2017)
10. "Role of SAW1 and MSH2 in Single-Strand Annealing in *Saccharomyces cerevisiae*", Linette Nalbandyan, (M.S. Biochemistry, December, 2016)
11. "An Alternative Role for Rad7 in Nucleotide Excision Repair", Joseph M. Benoun, (M.S. Biochemistry, May, 2013)
12. "Recruitment of the Rad1-Rad10 Protein Complex to sites of DNA Double Strand Break Repair and Nucleotide Excision Repair in *Saccharomyces cerevisiae*: Examination of Rad52, Rad51 and Mre11 in DNA Double Strand Break Repair and Rad1 genetic mutations in DNA Nucleotide Excision Repair by Fluorescence Microscopy", Destaye Moore, (Biochemistry, M.S., December, 2011)
13. "Rad51 Strand Exchange Activity Mediates Rad1-Rad10 Recruitment to Synthesis-Dependent Strand Annealing Sites", Justin Karlin, (Biochemistry, M.S., May 2010)
14. "The Temporal Relationship of Nucleotide Excision Repair Factors Rad14 and Rad1-Rad10", Armen Mardiros, (Biochemistry, M.S., May, 2009)

HANDS ON TRAINING OF RESEARCH STUDENTS

Below are the names of all my research students since starting at CSUN in 2005. The students are listed in reverse order of when they joined the laboratory, i.e., most recently joined students are listed first.

- **81 Research Students Trained** -I have trained 23 M.S. students and 69 undergraduates with an average tenure in the laboratory of about 3 years for each M.S. student and about 1 ½ years for each undergraduate. *Note: 11 students joined as undergraduates and continued in the lab as M.S. students, which is why the total number of students is not simply the sum of undergraduate and graduate.*

- 19 Research Students Co-authored on Peer-Reviewed Publications - I have published peer-reviewed manuscripts with 10 M.S. students (Armen Mardiros, Destaye Moore, Justin Karlin, Jonas Krueger, Joseph Benoun, Aaron Miller and Linette Nalbandyan, Rowen Jane Odango, Fred Fregoso and Juan Camberos) and 10 undergraduate students – (Joseph Benoun, Robert Haughton, Kelly Baxter, Graciél Diamante, Claire Phan, Angie Celis, Danielle Lalimar-Cortez, Analila Valencia, Adriana Granda and Melina Mardirosian). *Note: Joseph Benoun published papers with me as both an undergraduate and as an M.S. student, which is why the total number of students is not simply the sum of undergraduate and graduate.*

GRADUATE

1. Krina Radadiya, (Biochemistry, M.S. 2027 anticipated)
2. Lisa Nguyen, (Biochemistry, M.S. 2027 anticipated)
3. Janelli Pineda, (Biochemistry, M.S. 2024)
4. Andrew Green, (Biochemistry, M.S. 2024)
5. Marvin Begian, (In program during 2019-2020, left program amid coursework)
6. Jimmy Guzman, Jr., (Biochemistry, M.S. 2025)
7. Jane Odango, (Biochemistry, M.S. 2021) Sally Casanova Pre-doctoral Scholarship Awardee 2020, Leslie & Terry Cutler Scholarship Awardee 2020, Graduate Fellowship for Outstanding Research Promise in Science and Mathematics 2020, Co-winner of the Outstanding Graduate Teaching Assistant Awardee for Department of Chemistry and Biochemistry, 2020, CSUPERB Crellin Pauling Student Teaching Awardee, 2021, Finalist for CSUPERB Don Eden Graduate Research Award, 2020. Currently a Ph.D. student at UCSD.
8. Hafidha Hadi, (Biochemistry, M.S., 2022), Sandra L. Jewett Scholarship in Biochemistry 2019, Graduate Equity Fellowship, 2020, now a Research Associate at Amgen
9. Taylor McCart, (in program in 2018-2019, left program amid coursework), now a Pharm. D. student in northern California
10. Juan Camberos, (Biochemistry M.S., 2019), entering a P.A. program.
11. Fred Fregoso, (Biochemistry M.S., 2019) 2018 Graduate Promise Awardee, 2019 CSUPERB Don Eden Graduate Research Awardee, 2020 Nathan O. Freedman Awardee, now a research scientist at General Proximity, San Francisco
12. Samuel Tran (in program in 2016-2017, left program amid coursework), last known location was as a Research Associate at a Biotech firm in San Diego, CA.
13. George Darouj, (Biochemistry M.S., 2018), now a Research Associate at Amgen
14. Linette Nalbandyan (Biochemistry M.S., 2016), now a Resident Physician in Family Medicine at Eisenhower Health, Rancho Mirage, CA.
15. Romney Sanchez (switched advisors, finishing in 2019 with an M.S. in Biochemistry)
16. Aaron Miller, (Biochemistry M.S., 2017) 2017 Bianchi Outstanding Graduate Research Awardee, 2017 CSUPERB Crellin Pauling Teaching Awardee, now a Research Associate at Amgen
17. Jonas Krueger, (Biochemistry, M.S., Exchange Student from Germany, 3-month internship, 2012)
18. Danielle Lalimar Cortez (left program to pursue Pharm. D.) Pharm.D. from USC in 2017
19. Joseph Benoun, (Biochemistry, M.S., 2013), Ph.D. from U.C. Davis in Immunology in 2018, now a Senior Scientist at Atara Biotherapeutics, Thousand Oaks, CA
20. James Newell (left program after coursework)
21. Destaye Moore, (Biochemistry, M.S., 2011), 2010 Bianchi Outstanding Graduate Research Awardee

22. Justin Karlin, (Biochemistry, M.S., 2010), 2010 CSUPERB Don Eden Graduate Research Awardee, now an M.D. in Ophthalmology at UCLA
23. Armen Mardiros, (Biochemistry, M.S., 2009) now an Associate Research Director at Allogene.

UNDERGRADUATE

1. Gabriela Miranda (Biology B.S., 2027 anticipated)
2. Carol Fares, (Biochemistry B.S., 2027 anticipated)
3. Ruth Aguido, (Biochemistry B.S., 2027 anticipated) BUILD PODER Scholar
4. Mari Tamamyan, (Biology B.S. 2025)
5. Noah Dalton, (Biotechnology B.S. 2025)
6. Natalie Lawson (Art B.A. 2025)
7. Nichakorn Ponpakpong, (Biochemistry B.S. 2025)
8. Cameel Juman, (Biochemistry B.S. 2026 anticipated)
9. Wiraya Pongparam, (Biochemistry B.S., 2025)
10. Sarah Chavez, (Biology B.S., 2025) BUILD PODER Scholar
11. Nataly Tonoyan, (Chemistry, B.S. 2022)
12. Dulce Hernandez, (Biochemistry, B.S., 2023) BUILD PODER Scholar
13. Melissa Aros, (Biochemistry, B.S., 2025 anticipated) BUILD PODER Scholar
14. Brian Mazariegos, (Public Health, B.S., 2022) BUILD PODER scholar, University Scholar, beginning a DO program in Fall 2023.
15. Juan Martinez, (Biochemistry, B.S., 2022)
16. Gyana Cureg, (Chemistry, B.S., 2021)
17. Salma Yacoub, (Psychology, B.A., 2022)
18. Lindsey Le, (Biochemistry, B.S., 2021)
19. Jennifer Pham, (Chemistry, B.S., 2021)
20. Anthony Gutierrez, (Biochemistry, B.S., 2022), RISE Program Scholar, currently a Ph.D. student at Caltech.
21. Jonathan Hakimian, (Chemistry, B.S., 2022), Freshman Chemistry Award, 2019, Lan K. Wong Award, 2019, Klostergaard Award, 2022. Entering the Ph.D. program at UCI in Fall 2023.
22. Mehrnaz Siavoshi, (Biochemistry B.S., 2020), BUILD PODER Scholar, Weigand-Jewett Scholar in Biochemistry 2020
23. Andrea Canahui, (Biology B.A., 2020), BUILD PODER Scholar
24. Kevin Abuhanna, (Biochemistry, B.S., 2020), MARC Program Scholar
25. Sahel Kalkatechi, (Biochemistry, B.S., 2019)
26. Daniel Tran, (Biology, B.S., 2022)
27. Naekyoung Kwon, (Chemistry B.S., 2018)
28. Alex Alon, (Biochemistry B.S., 2020)
29. Yulduz Rakibova (Biochemistry B.S., 2018), Maloney Travel Scholarship 2017, Weigand-Jewett Scholar in Biochemistry 2018, Currently in a Ph.D. program at the University of Michigan.
30. Adrian Carranza (Early Start Destination, 2018), RISE Program Scholar
31. Khadija Moctar (Biochemistry B.S., 2018), RISE Program Scholar
32. Bryce Clifton (Biochemistry B.S., 2015), Weigand-Jewett Scholar in Biochemistry
33. Lauryn Vartanian (Biochemistry B.S., 2017)
34. Juan Camberos, (Biochemistry B.S., 2015), Wang Award in Biochemistry,
35. Fred Fregoso, (Biochemistry B.S., 2016), Weigand-Jewett Scholar in Biochemistry
36. Melin Babayan, (Medical Biotechnology, 2016), RISE Program Scholar, MARC Program Scholar
37. Bailey Iannolo, (Biochemistry B.S., 2016)

38. Jimmy Guzman, (Biochemistry B.S., 2018), RISE Program Scholar, MARC Program Scholar
39. Adriana Granda, (Biochemistry B.S., 2014)
40. Jane Odango, (Chemistry, B.S., 2017), Outstanding Junior Award
41. Kimberly Madwani, (Biochemistry B.S., 2017), RISE Program Scholar
42. Roxana Coreas, (Kinesiology B.S., 2015), RISE Program Scholar
43. Samuel Tran, (Biochemistry B.S., 2014)
44. Aaron Miller, (Biochemistry B.S., 2013), 2013 Department of Chemistry and Biochemistry Wiegand-Jewett Awardee 2013
45. Linette Nalbandyan (Biochemistry B.S., 2013)
46. Ammar Witwit, (Biochemistry B.S., 2013)
47. Romny Sanchez, (Biochemistry B.S., 2013)
48. Ishfaq Maksud, (Biochemistry, B.S., 2013)
49. Marc Robes, (Biology, B.A., 2014), RISE Program Scholar
50. Claire Phan, (Biochemistry, B.S., 2013)
51. Melina Mardirosian, (Biochemistry, B.S., 2014), 2012 CSUPERB Presidents' Commission Scholar, 2013 College of Science and Math Outstanding Junior Awardee
52. Alex Krasner, (Chemistry B.A. /Mathematics, 2011)
53. Graciél Diamante, (Biology. B.S., 2012), MARC Program Scholar
54. Andrew Parada, (Philosophy B.A., Biology B.A., 2011)
55. Angie Celis, (Biology B.S., 2011)
56. Vardan Stambultsyan, (Biology B.A., 2012)
57. Vanessa Velasquez, (Biology B.A. 2010)
58. Pedram Sinai, (Biology B.A., 2010)
59. Cassandra Alabada, (Biochemistry, B.S., 2012)
60. Robert Houghton, (Biology, B.S., 2011), University Scholar (2009-2010), Presidential Scholar (2010-2011), 2011 College of Science and Math Heald Outstanding Graduating Senior Awardee
61. Alina Kravtsova, (Philosophy. B.A., 2009)
62. Joseph Benoun, (Biology, B.S., 2010), 2010 Bianchi Outstanding Undergraduate Research Awardee, 2010 Department of Biology Bennett-Bickford Awardee
63. Analila Valencia, (Biology, B.A., 2009), MARC Program Scholar, 2008 Hugo and Irma Oppenheimer Awardee
64. Danielle Lalimar, (Biochemistry, B.S., 2009), MARC Program Scholar, 2008 College of Science and Math Outstanding Junior Awardee
65. Ilana Katz, (Chemistry, B.A., 2008)
66. Penn Prett, (Biochemistry, B.S., 2007)
67. Jennifer Nnoli, (Biochemistry, B.S., 2007), MARC Program Scholar, 2007 CSUN Outstanding Graduating Senior Awardee
68. Toni Codling, (Biochemistry, B.S., 2006)
69. Palo Porazik, (Biology, B.S., 2006)
70. Kelly Baxter, (Biology, B.S., 2006)

HIGH SCHOOL

1. Savannah Pinedo (Student from Mission Hills High School, Mission, Hills, CA, 2018)
2. Evan Maltz, (Student from Chaminade College Preparatory High School, Chatsworth, CA, 2014, B.S. Biochemistry, UW, Madison in 2018, currently a Ph.D. student at UCLA)
3. Nicolo Zulaybar, (Student from Chaminade College Preparatory High School, Chatsworth, CA, 2014, B.S. Chemistry from Stanford in 2018, and entered an M.S. in Electrical Engineering at Stanford and a 2020 Boren Awardee).

COURSES TAUGHT

Chemistry 101 (General Chemistry I)
Chemistry 101D (General Chemistry I Discussion)
Chemistry 365 (Introduction to Biochemistry)
Chemistry 461 (Biochemistry I)
Chemistry 461L (Biochemistry I Laboratory)
Chemistry 462 (Biochemistry II)
Chemistry 462L (Biochemistry II Laboratory)
Chemistry 464 (Principles of Biochemistry)
Chemistry 464L (Principles of Biochemistry Laboratory)
Chemistry 465 (Topics in Biochemistry)
Chemistry 566 (DNA-Protein Interactions)
Science 100 (Science for Life)
University 100 (Freshman Seminar)

CURRICULUM DEVELOPMENT

- New Course Developed, CHEM 566, DNA-Protein Interactions (2008) - New Graduate Course developed incorporating my research field of DNA Repair. Offered Fall 2008, Spring 2012 and Spring 2016.
- New Modern Tissue Culture Laboratory Facility Built (2009) – A new biochemistry laboratory was constructed with funding from CSUPERB Curriculum and Infrastructure Development grant that modernized the facilities available to the Biochemistry subdivision allowing work with mammalian cell lines, in research and instructional laboratories (Collaboration with Dr. Jheem Medh.)
- New Tissue Culture Experiment Developed for CHEM 462L (2010) – Dr. Jheem Medh and myself, developed a new experiment to modernize CHEM 462L, the second-semester Biochemistry B.S. majors' instructional laboratory course. The experiment uses the tissue culture laboratory, trains students to culture human liver cancer cells (HepG2) and assay molecular markers using the an "Enzyme Linked Immunosorbent Assay" (ELISA assay).
- DNA Profiling Module Developed for Science 100 (2011)- I participated in an NIH-funded course development headed by Dr. Maria Elena Zavala (Department of Biology). It was originally taught as a special section of University 100 and then was introduced as a stand-alone course in Fall 2012. It is a "Freshman Experience" course addressing issues with incoming students with regard to their basic math, reading, writing and study skills. The course also builds soft skills such as time management and teamwork and fosters an ability to integrate and apply knowledge learned in different courses. Each faculty member in the team of 6 developed one module to be used as a vehicle to deliver the above student-learning objectives. My module was based on forensic DNA profiling.
- Plasmid Analysis Experiment Redesigned for CHEM 462L (2013) - I redesigned a laboratory experiment used in CHEM 462L to bring my research into the classroom, modernize the course, and improve the success of the DNA experiment in the hands of the students. The new experiment shifts to an inquiry-based approach in which the students are required to make decisions about how to run the experiment in order to characterize an unknown sample. This moves the experiment away from being a "cook book" laboratory and better develops analytical and critical reasoning skills.
- Group Entrepreneurship Project Created and Elaborated in CHEM 462 (2015-2017, 2019, 2022 & 2023)- I created a "mini-ICorps" project as a capstone assignment in Biochemistry II taken by B.S. Biochemistry majors. Students pursue and an idea for a drug, process or device to solve a biomedical problem. They submit an abstract and give a class

presentation. Initially, I would give assign the students broad topic for their projects; since the incorporation of Bull Ring, the students identify their own project topics.

- In Spring 2017, the students had the option of fulfilling this project requirement by entering the campus's "Bull Ring" competition (similar to "Shark Tank") and working with a business major on an idea of their own choosing.
- In Spring 2017, one team made it to the Finals and competed among the top 5 Bull Ring teams (team "Omnigreen" comprising Jimmy Guzman Jr., Adam Freund and Matthew Ledesma, all of whom eventually joined our Department's M.S. program and two of which have now graduated).
- In Spring 2019, the project was modified to be run jointly with BUS 497A in which the entire class formed teams of 3 CHEM 462 and 3 BUS 497A students to prepare applications for Bull Ring.
 - The project was worth 20% of the course grade in each course
 - Due to COVID-19 the semi-finals were ultimately cancelled, but three teams from the joint class project would have made it into the semi-finals
 - Dr. Joanne Scillitoe and I have presented this joint project at several conferences and plan to modify and run again in 2022, this time with a robust assessment plan in place so that the work might be publishable in an education journal.
- In Spring 2022, the project was modified to be run jointly with FCS 217 in which the entire class formed teams of 2-3 CHEM 462 and 3 FCS 217 students so that the FCS 217 students were designing company logos and product packaging for the product being envisioned by the CHEM 462 students.
 - The project was worth 15% of the course grade in each course
 - Instructor Rodica Kohn and I have discussed presenting the outcomes of this at some future time.
- In Spring 2023, the project was modified to be run jointly with BUS 499C & FCS 411 in which teams containing 2-3 CHEM 462, 3 BUS 499C, and ~3 FCS 411 students formed to create projects and applications to the Bull Ring. Ideas were by CHEM 462 students, business models by BUS 499C students, and product logos, packaging and device design by FCS 411 students.
 - The project was worth 25% of the course grade in CHEM 462
 - 3 teams were selected for the Semi-finals round of the competition (but none made it to the finals).
 - Instructors Rodica Kohn & Dr. Kristin King from Interior Design, and Dr. Joanne Scillitoe from Business have discussed disseminating our project outcomes at education conferences.
- Computational Biochemistry Experiment Modules for CHEM 461L and CHEM 462L- (Spring 2018, Fall, 2019, Spring 2021)
 - In Spring 2018, I implemented a short PyMol tutorial for CHEM 462L students based on an exercise Dr. Karin Crowhurst was using in her graduate level CHEM 567 course. This pilot effort was optional for students following laboratory check-in on the first week. About half the students in the classes attended and expressed gratitude for the introduction to PyMOL.
 - In Spring 2020 as course coordinator for CHEM 462L (because I was teaching CHEM 462), I facilitated adoption of the pilot PyMOL session from Spring 2018 by the Spring 2020 CHEM 462L instructors, Ravi Abrol and Rashid Syed. Dr. Abrol took things a step further and showed the students how to 3D print their PyMOL structures on the CSUN campus 3D printer, and which now decorate the CS3122 instructional laboratory.

- In Spring 2021, I supported the beta-testing and implementation of Dr. Ravi Abrol's elaboration of the PyMOL pilot into 3 full days of computational biochemistry laboratories (Introduction to PyMOL, internet database searching, molecular dynamics simulation, and molecular docking) to provide CHEM 462L students with a hands-on laboratory that could be run virtually during the first three weeks of the semester. It was highly successful and we plan to work with the rest of the biochemistry faculty to permanently modify CHEM 462L and CHEM 464L to include some aspects of these computational biochemistry modules going forward following COVID-19.

DEPARTMENT, COLLEGE AND UNIVERSITY COMMITTEES AND SERVICE

DEPARTMENT

Academic Resources Committee, 2015-2017
Biochemistry Faculty Search and Screen Committee, 2006
Biochemistry Faculty Search and Screen Committee Chair 2011
Biochemistry Faculty Search and Screen Committee Chair, 2016 (for two biochemists)
Biochemistry Faculty Search and Screen Committee, 2023
Biochemistry Faculty Search and Screen Committee, 2024
CARS Committee, 2026 (Chair) – Committee to determine Department Policy for a new research support program on campus
Department Chair, 2025-2028
Department Personnel Committee, 2011-2012, 2014-2015, 2016-2017 (Chair), 2024-2025
Department Non-Tenure Track Personnel Committee 2013-2014 (Chair), 2015-2016
Department Student Awards Committee, 2015 (Chair), 2016 (Chair), 2017 (Chair), 2018 (Chair), 2019
Graduate Program Committee, 2007-2025
Post-tenure Review Committees, 2017 (for J. Charonnat), 2018 (Chair, for J. Medh), 2019 (Chair, for K. Crowhurst), 2022 (for J. Charonnat, Chair for J. Medh), 2023 (for G. Melikyan and J. Vey), 2025 (for T. Minehan)
Seminar Coordinator, 2006-2008
Women in STEM Panel sponsored by CSUN Chem Club and Women in Science (2023)

COLLEGE

College Faculty Awards Selection Committee, 2015
College Personnel Committee 2017-2021 (Chair 2018-2019)
College Student Awards Selection Committee, 2015
Committee on Research Concerns, 2009
Commencement Committee, 2009
CSM Dean Search and Screen Committee AY 25-26
MARC Program Preceptor 2007-2019
MBRS RISE Program Preceptor 2010-2024
BUILD PODER Program Mentor 2016-Present
Science 100 Committee (to prepare CSM Science100 course), 2011

UNIVERSITY

Academic Grievance and Grade Appeals Board, 2011-2013
Beck Grant Committee, 2012, 2013, 2014, 2015
CSUN Research, Scholarship and Creative Works Symposium Poster Judge, 2006, 2014, CSUNposium Judge, 2019, 2020, 2023
Faculty Development Coffee Facilitator for "Preparing for and Managing Summer Research Labs", April 2013

Faculty Development Research Series Facilitator for “CSUN Women in STEM Research”, March, 2014
Faculty Learning Community topic presenter: Research Productivity with a CSUN Teaching Load, May 2012
New Faculty Orientation Committee Member, 2007, 2008
New Faculty Orientation Participant on “Advice for 1st years” panel, 2006
“She Started It” Documentary Showing Discussion Panel (campus showing of a documentary on women tech founders followed by discussion panel with women entrepreneurs and CSUN faculty engaging students in entrepreneurial thinking), Oct. 4, 2017
Retention Workgroup Committee 2025-present

SERVICE IN THE SCIENTIFIC COMMUNITY AND COMMUNITY-AT-LARGE

CSUBIOTECH Chair of the Faculty Consensus Group and Strategic Planning Council, 2024-2027
CSUBIOTECH/CSUPERB Deputy Chair of the Faculty Consensus Group and Strategic Planning Council, 2018-2021, 2021-2024
CSUPERB Curriculum Development Grants Review Panelist, Spring 2014
CSUPERB Don Eden Graduate Research Award Selection Committee Chair for 2012 award
CSUPERB Executive Director Search and Screen Committee, 2021
CSUBIOTECH/CSUPERB Faculty Consensus Group Member (one of four representatives appointed from the CSUN campus), 2007-2015, 2016-2024
CSUPERB Faculty-Student Collaborative Research Grants Review Panelist, Fall 2008, Spring 2012, Spring 2013
CSUPERB Grant Review Panel Session Chair, Spring 2015, 2016, 2017, 2018, 2019, 2020, 2021
CSUBIOTECH Grant Review Program Official 2024, 2025, 2026, 2027
CSUPERB Joint Venture Grants Review Panelist, Spring 2016, 2017
CSUBIOTECH/CSUPERB Strategic Planning Council Member, 2013-2026
CSUBIOTECH/CSUPERB Symposium Abstract Review Committee, Fall 2009, 2010, 2012, 2013, 2021-2024 (Chair), 2025
CSUPERB Symposium Awards Committee Coordinator, Fall 2013, 2014, 2015, 2016, 2017
CSUPERB Symposium Grant Writing Workshop Co-Presenter, Jan. 2009, Jan. 2011
CSUPERB Travel Grants Review Committee, Fall 2009, Spring 2010
Editorial Board for *DNA Repair* (2004-2024)
NIH MBRS SC1 and SC2 PI Meeting “Keys to Success” Panelist, Dec. 2010
“Q1 Learning University” Presenter, Baxter Corporation, 2008
Referee of numerous manuscripts for various journals, especially *Nucleic Acids Research* and *DNA Repair*, 2006-2025
Reviewer (ad hoc) for NSF, Fall 2020
Workshop Presenter at the Sally Ride Festival, Caltech campus, April 2006, March 2007