

**Dr. Wenshe Liu**

**Emile and Marta Schweikert Associate Professor of Chemistry**

**Member of Professional Program in Biotechnology**

**Member of Interdisciplinary Faculty of Toxicology**

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**Department of Chemistry**  
**Texas A&M University**  
**MS 3255**  
**College Station, TX 77843**

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**Education:** Scripps Research Institute, CA 2005-2007 Postdoc in Chemical Biology  
UC-Davis, CA 2000-2005 Ph.D. in Chemistry  
Beijing University, China 1996-2000 B.S. in Chemistry

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**Awards and Honors:**

2012	NSF CAREER Award
2004	UCDavis Summer Research Award
2003	UCDavis Travel Award
2000-2004	UC Biotechnology Research Training Fellow
1999	Outstanding Student Leader Award
1998	Canon Undergraduate Award
1997	Huikai Undergraduate Award
1996-2000	Geru Zen Fellow

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**Professional Affiliations:** 2003-current American Chemical Society  
2007-current Chinese-American Chemistry Professor Association

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**Research Experience:**

**Texas A&M University** 09/2014 - current  
**Position:** Emile and Marta Schweikert Associate Professor of Chemistry  
**Texas A&M University** 09/2013 - 08/2014  
**Position:** Associate Professor of Chemistry

**Texas A&M University** 08/2007 - 08/2013  
**Position:** Assistant Professor of Chemistry

**Research focus:** 1) Develop chemical biology tools for the synthesis of proteins with posttranslational modifications and apply these tools to studying epigenetic roles of posttranslational modifications in cell differentiation and cancer development; 2) Use bacteria phage to construct peptide-small molecule conjugate libraries for anti-cancer drug identifications; 3) Devise simple click chemistry tools for protein bio-conjugation and apply them to study protein folding and develop biosensors.

**Scripps Research Institute** 07/2005 - 07/2007

**Position:** Postdoctoral Researcher

**Advisor:** Dr. Peter G. Schultz

**Research focus:** 1) Genetic code expansion of mammalian cells for site-specific installation of unnatural amino acids in their proteins; 2) Structurally characterize evolved tyrosyl-tRNA synthetases that were used for genetic incorporation of unnatural amino acids in bacteria and yeast.

**University of California-Davis****09/2000 - 06/2005****Position:** Graduate Researcher**Advisor:** Dr. Michael D. Toney**Research focus:** Structurally and mechanistically characterize pyridoxyl-5'-phosphate dependent enzymes.

**Peer Reviewed Publications** (highlighted with underscore are graduate and undergraduate contributors from Liu group)

*As an independent principal investigator*

1. Tharp, J. M. and **Liu, W. R.\***, "The "pi-Clamp" Offers a Novel Strategy for Site-selective Protein Modification", *ChemBioChem* **2016**, DOI: 10.1002/cbic.201600106.
2. Hsu, W. W., Wu, B., and **Liu, W. R.\***, "Sirtuins 1 and 2 are Universal Histone Deacetylases", *ACS Chem. Biol.* **2016**, DOI:10.1021/acscchembio.5b00886.
3. Lee, Y. J., Kurra, Y., and **Liu, W. R.\***, "Phospha-Michael addition as a new click reaction for protein functionalization", *Chembiochem* **2016**, DOI: 10.1002/cbic.201500697.
4. He T., Gershenson A., Eyles S.J., Lee Y.J., **Liu W.R.**, Wang J., Gao J., & Roberts M.F., "Florinated aromatic amino acids distinguish cation-pi interactions from membrane insertion", *J. Biol. Chem.* **2015**, 290(31): 19334-19342.
5. Bindman N.A., Bobeica S.C., **Liu W.R.\*** & van der Donk W.A.\*, "Facile removal of leader peptides from lanthipeptides by incorporation of a hydroxy acid", *J. Am. Chem. Soc.* **2015**, 137(22): 6975-6978.
6. Xin X, **Liu W.R.** & Sun L.\*, "Improving the Bioactivity of rHirudin with Boronophenylalanine Site-specific Modification", *Mol. Med. Rep.*, **2015**, 11(5):3774-3779.
7. Guan D., Kurra Y., **Liu W.R.\*** & Chen Z.\*, "A Click Chemistry Approach to Site-specific Immobilization of a Small Laccase Enables Efficient Direct Electron Transfer in a Biocathode", *Chem. Commun.*, **2015**, 51: 2522-2525.
8. Piscotta F., Tharp J.M., **Liu W.R.\*** & Link J.A.\*, "Expanding the Chemical Diversity of Lasso Peptide MccJ25 with Genetically Encoded Noncanonical Amino Acids", *Chem. Commun.*, **2015**, 51:409-412.
9. Lee Y.-J., Kurra Y., Yang Y., Torres-Kolbus J., Deiters A. & **Liu W.R.\***, "Genetically Encoded Terminal Olefins for Live Cell Labeling with Tetrazine Dyes", *Chem. Commun.*, **2014**, 50: 13085-13088.
10. Kurra Y., Odoi K.A., Lee Y.-J., Lu T., Wheeler S.E., Torres-Kolbus J., Deiters A. & **Liu W.R.\***, "Two Rapid Catalyst-free Click Reactions for *In Vivo* Protein Labeling of Genetically Encoded Strained Alkene/alkyne Functionalities", *Bioconjug. Chem.* **2014**, 25: 1730-1738.
11. Zeng Y., Wang W. & **Liu W.R.\***, "Toward Reassigning the Rare AGG Codon in *Escherichia coli*", *ChemBioChem*, **2014**, 15:1750-1754.
12. Tuley A., Lee Y.-J., Wu B., Wang Z.U. & **Liu W.R.\***, "A Genetically Encoded Aldehyde for Rapid Protein Labeling", *Chem. Commun.*, **2014**, 50:7424-7426.
13. Wan W., Tharp M.J. & **Liu W.R.\***, "Pyrrolysyl-tRNA synthetase: an ordinary enzyme but an outstanding genetic code expansion tool", *Biochem. Biophys. Acta*, **2014**, 1844:1059-1070.

14. Tharp J.M., Wang Y.-S., Lee Y.-J. & **Liu W.R.\***, "The Genetic Incorporation of Seven *Ortho*-substituted Phenylalanine Derivatives", *ACS Chem. Biol.*, **2014**, 9:884-890.
15. **Liu W.R.\***, "Reports from the chemical Biology of Texas Symposium at the 69<sup>th</sup> Southwest Regional Meeting of the American Chemical Society", *ACS Chem. Biol.*, **2014**, 9: 319-322.
16. Wang X.S., Lee Y.-J., & **Liu W.R.\***, "The Nitrilimine-Alkene Cycloaddition is an Ultra Rapid Click Reaction", *Chem. Commun.* **2014**, 50: 3176-3179.
17. Tuley A., Wang Y.-S., Fang X., Kurra Y., Reznom Y.H. & **Liu W.R.\***, "The Genetic Incorporation of Thirteen Novel Non-canonical Amino Acids", *Chem. Commun.* **2014**, 50: 2673-2675.
18. Wang X.A., Kurra Y., Huang Y., Lee Y.-J. & **Liu W.R.\***, "E1-catalyzed Ubiquitin C-terminal Amidation for the Facile Synthesis of Deubiquitinase Substrates", *ChemBioChem* **2014**, 15:37-41.
19. Hladilkova J., Heyda J., Rembert K.B., Okur H.I., Kurra Y., **Liu W.R.**, Hilty C., Cremer P.S.\* & Jungwirth P.\*, "Effects of End-group Termination on Salting-out Constants for Triglycine", *J. Phys. Chem. Lett.*, **2013**, 4:4069-4073.
20. Paterova J., Rembert K., Heyda J., Kurra Y., Okur H., **Liu W.R.**, Hilty C., Cremer P.S.\* & Jungwirth P.\*, "Reversal of the Hofmeister Series: Specific Ion Effects on Peptides", *J. Phys. Chem. B*, **2013**, 117:8150-8158.
21. Lee Y.-J., Wu B., Raymond J.E., Zeng Y., Fang X., Wooley K.L. & **Liu W.R.**, "A Genetically Encoded Acrylamide Functionality", *ACS Chem. Biol.* **2013**, 8:1664-1670 .
22. Odoi K.A., Huang Y., Reznom Y.H. & **Liu W.R.\***, "Nonsense and Sense Suppression Abilities of Original and Derivative *Methanosarcina mazei* Pyrrolysyl-tRNA Synthetase-tRNA<sup>Pyl</sup> Pairs in the *Escherichia coli* BL21(DE3) Cell Strain ", *PLOS One*, **2013**, 8:e57035.
23. Wang Y.-S., Fang X., Chen H.-Y., Wu B., Wang Z.U., Hilty C.B., & **Liu W.R.\***, "Genetic Incorporation of Twelve *meta*-Substituted Phenylalanine Derivatives Using a Single Pyrrolysyl-tRNA Synthetase Mutant", *ACS Chem. Biol.*, **2013**, 8: 405-415.
24. O'Donoghue P, Prat L, Heinemann I, Ling J, Odoi K.A., **Liu W.R.\*** & Soll D.\*, "Near-cognate Suppression of Amber, Opal, and Quadruplet Codons Compete with Aminoacyl-tRNA<sup>Pyl</sup> for Genetic Code Expansion", *FEBS Lett.*, **2012** 586:3931-3937 (\*co-corresponding authors).
25. Wan W, Wang Y.-S., & **Liu W.R.\***, "Genetically Encoding Bioorthogonal Functional Groups for Site-selective Protein Labeling", *Organic Chem. Curr. Res.*, **2012**, 1:e111, DOI: 10.4172/2161-0401.1000e111
26. Wang Z.U., Wang Y.-S., Pai P.-J., Russell W.K., Russell D.H. & **Liu. W.R.\***, "A Facile Method to Synthesize Histones with Posttranslational Modification Mimics", *Biochemistry*, **2012**, 51:5232-5234.
27. Wu B., Wang Z., Huang Y. & **Liu W.R.\***, "Catalyst-Free and Site-Specific One-Pot Dual Labeling of a Protein Directed by Two Genetically Incorporated Noncanonical Amino Acids", *ChemBioChem*, **2012**, 13: 1405-1408.
28. Wang Y.-S., Fang X., Wallace A.L., Wu B. & **Liu W.R.\***, "A Rationally Designed Pyrrolysyl-tRNA Synthetase Mutant Has a Broad Substrate Specificity", *J. Am. Chem. Soc.*, **2012**, 134: 2950-2953.
29. Weinert B.T., Wagner S.A., Horn H., Henriksen P., **Liu. W.R.**, Olsen J.V., Jensen L.J. & Choudhary C.\*, "Proteome-wide Mapping of the Drosophila Acetylome Demonstrates a High Degree of Conservation of Lysine Acetylation", *Sci. Signal*, **2011**, 4: ra48.

30. Wang Y.-S., Russell W.K., Wang Z., Wan W., Dodd L.E., Pai P.-J., Russell D.H., & Liu W.R.\*, "The *De Novo* Engineering of Pyrrolysyl-tRNA Synthetase for Genetic Incorporation of L-phenylalanine and Its Derivatives", *Mol. BioSyst.*, **2011**, 7: 714-717.
31. Liu W.R.\*, Wang Y.-S. & Wan W., "Synthesis of Proteins with Defined Posttranslational Modifications Using the Genetic Noncanonical Amino Acid Incorporation Approach", *Mol. BioSyst.*, **2011**, 7: 38-47.
32. Wang Y.-S., Wu B., Wang Z., Huang Y., Wan W., Russell W.K., Pai P.-J., Moe Y.N., Russell D.H. & Liu W.R.\*, "A Genetically Encoded Photocaged *N*<sup>e</sup>-methyl-L-lysine" *Mol. Biosyst.*, **2010**, 6: 1557-1560. This was an invited submission and featured on *Molecular BioSystems 2010 Emerging Investigators Issue*.
33. Wan W., Huang Y., Wang Z., Russell W.K., Pai P.-J., Russell D.H. & Liu W.R.\*, "A Facile System for Genetic Incorporation of Two Different Noncanonical Amino Acids into One Protein in *Escherichia coli*", *Angew. Chem. Int. Ed.*, **2010**, 49: 3211-3214.
34. Huang Y., Russell W.K., Wan W., Pai P.-J., Russell D.H. & Liu W.\*, "A convenient Method for Genetic Incorporation of Multiple Noncanonical Amino Acids into One Protein in *Escherichia coli*". *Mol. BioSyst.* **2010**, 6: 683-686.
35. Huang Y., Wan W., Russell W.K., Pai P.-J., Wang Z., Russell D.H. & Liu W.\*, "Genetic Incorporation of An Aliphatic Keto-containing Amino Acid into Proteins for Their Site-specific Modification". *Bioorg. Med. Chem. Lett.* **2010**, 3: 878-880

*Before becoming an independent investigator*

36. Brustad E., Bushey M.L., Lee J.W., Groff D., Liu W. & Schultz P.G.\* "A Genetically Encoded Boronate Containing Amino Acid" *Angew. Chem. Int. Ed. Engl.*, **2008**, 47: 8220-8223
37. Graziano, J.J., Liu, W., Perera R., Geierstanger, B.H., Lesley, S.A., & Schultz, P.G. "Selecting Folded Proteins from a Library of Secondary Structural Elements", *J. Am. Chem. Soc.*, **2008**, 130: 176-185
38. Tippmann, E.M.<sup>+</sup>, Liu, W.<sup>+</sup>, Summerer, D., Geierstanger, B., Mack, A.V., & Schultz, P.G.\* "A Genetic Encoded Diazirine Photocrosslinker in *Escherichia coli*", *ChemBioChem*, **2007**, 8: 2210-2214 (<sup>+</sup>equally contributing authors)
39. Liu C.C., Braustad E., Liu W.\* & Schultz P.G.\* "Crystal Structure of a Biosynthetic Sulfo-hirudin Complexed with Thrombin", *J. Am. Chem. Soc.*, **2007**, 129: 10648-10649 (\*corresponding authors in this paper)
40. Liu, W., Brock, A., Chen, S., Chen, S. & Schultz P.G.\* "The Genetic Incorporation of Unnatural Amino Acids into Proteins in Mammalian Cells", *Nat. Methods.* **2007**, 4: 239-44
41. Xie, J., Liu, W., & Schultz, P.G.\* "A Genetic Encoded Bidentate, Metal Ion Binding Amino Acid", *Angew. Chem. Int. Ed.*, **2007**, 46: 9239-9242,
42. Liu, W., Alfonta, L., Mack, A.V. & Schultz, P.G.\* "Structural Basis for the Recognition of p-Benzoyl-L-phenylalanyl by Evolved Aminoacyl-tRNA Synthetases", *Angew. Chem. Int. Ed.*, **2007**, 46: 6073-6075,
43. Liu, W., Peterson, P.E., Langston, J.A., Jin, X., Zhou, X., Fisher, A.J. & Toney, M.D.\* "Kinetic and Crystallographic Analysis of Active Site Mutants of *Escherichia coli*  $\gamma$ -Aminobutyrate Aminotransferase", *Biochemistry* **2005**, 44: 2982-92,

44. Fogle, E.J., **Liu, W.**, Keller, J. & Toney, M.D.\* "Role of Q52 in the Decarboxylation and Transamination of Dialkylglycine Decarboxylase", *Biochemistry* **2005**, 44: 16392-404,
  45. **Liu W.**, Peterson P.E., Carter R.J., Zhou X., Langston J.A., Fisher A.J. & Toney M.D. Crystal Structures of Unbound and Aminoxyacetate-bound *Escherichia coli*  $\gamma$ -Aminobutyrate Aminotransferase. *Biochemistry* **2004**, 43: 10896-905
  46. **Liu W.** & Toney M.D. "Kinetic and thermodynamic analysis of the interaction of cations with dialkylglycine decarboxylase", *Biochemistry* **2004**, 43: 4998-5010
  47. **Liu W.**, Rogers C.J., Fisher A.J. & Toney M.D. "Aminophosphonate inhibitors of dialkylglycine decarboxylase: Structural basis for slow binding inhibition", *Biochemistry* **2002**, 41: 12320-28.
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**Provisional Patent Applications:**

1. Liu W., "Functionalized Ubiquitin Derivatives and Related Methods", U.S. Application No. 61/915934.
  2. Liu W. & Wan W., "Fusion Proteins of Superfolder Green Fluorescent Protein and Use Thereof", PCT No. PCT/US2013/033702.
  3. Liu W., "Incorporation of Two Different Noncanonical Amino Acids into A Single Protein", U.S. Application No. 61/467,728.
  4. Liu W. & Huang Y., "Methods, Cells, and Systems for Incorporating Noncanonical Amino Acids into Proteins", PCT No. PCT/US2012/022054.
  5. Liu W. & Schultz P.G., "Genetic Incorporation of Unnatural Amino Acids into Proteins in Mammalian Cells", U.S. Application No. 12/311,545.
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**Current Extramural Grants:**

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|--|-------------|-----------------------|
| 1. NIH-R01GM085092   | \$141,325   | 10/01/2014-09/30/2018 |
| "Development and application of bioorthogonal chemistry"   |             |                       |
| Principal investigator: Qing Lin, Ph.D. at University at Buffalo, the State University of New York               |             |                       |
| Co-PI: Wenshe Liu, Ph.D.   |             |                       |
| 2. Welch Research Grant A-1715   | \$240,000   | 06/01/2015-05/31/2018 |
| "Novel chemical biology tools for investigating the protein ubiquitination system"                               |             |                       |
| Principal investigator: Wenshe Liu, Ph.D.  |             |                       |
| 3. NSF CAREER Award CHE-1148684  | \$575,000   | 04/01/2012-03/31/2017 |
| "CAREER: Site-specific dual-labeling of a protein through two genetically incorporated noncanonical amino acids" |             |                       |
| Principle investigator: Wenshe Liu, Ph.D.  |             |                       |
| 4. NIH-1R01CA161158  | \$1,483,085 | 07/01/2011-04/30/2016 |
| "Phage display with two genetically incorporated noncanonical amino acids"                                       |             |                       |
| Principle investigator: Wenshe Liu, Ph.D.  |             |                       |
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**Finished Extramural Grants:**

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|---|-----------|-----------------------|
| 1. National Institute of Health   | \$154,032 | 01/01/2013-08/31/2015 |
| "Chemical/biochemical tools for studying novel protein acyl lysine modifications" |           |                       |
| Principal investigator: Hening Lin, Ph.D. at Cornell University                   |           |                       |

Co PI: Wenshe Liu, Ph.D.

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|---|-----------|-----------------------|
| 2. Welch Research Grant A-1715<br>"Sensors for small molecules and enzymes"<br>Principal investigator: Wenshe Liu, Ph.D.                                  | \$225,000 | 06/01/2012-05/31/2015 |
| 3. Research Grant from Suzhou Origen Biotech<br>"Selective modification of insulin"<br>Principle Investigator: Wenshe Liu, Ph.D.                          | \$40,000  | 03/01/2012-12/31/2014 |
| 4. Welch Research Grant A-1715<br>"Synthesis and evaluation of methyltransferase-mediated alkylating agents"<br>Principle investigator: Wenshe Liu, Ph.D. | \$150,000 | 06/01/2009-05/30/2012 |
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### **Invited Seminars:**

1. Department of Chemistry, Ohio State University, 03/03/2016
2. Department of Chemistry, University of Houston, 09/21/2015
3. Department of Chemistry, University of South Florida, 09/03/2015
4. Department of Chemistry, University of California-Davis, 01/06/2015
5. Shanghai Institute of Organic Chemistry, Shanghai, China, 07/01/2014
6. Department of Chemistry, University of North Carolina, 02/19/2014
7. Department of Microbiology & Molecular Genetics, The University of Texas Medical School at Houston, 02/06/2014
8. Department of Chemistry and Biochemistry, University of Georgia, 10/10/2013
9. Department of Chemistry, Mercer University, 10/09/2013
10. Department of Biochemistry, Michigan State University, 02/21/2013
11. Department of Chemistry, North Carolina State University, 01/16/2013
12. Department of Chemistry, Duke University, 01/15/2013
13. Department of Chemistry, Princeton University, 11/05/2012
14. Department of Chemistry, University of Illinois at Urbana Champaign, 10/15/2012
15. Department of Chemistry, University of California-Irvine, 09/28/2012
16. Department of Chemistry, University of Utah, 09/06/2012
17. Department of Chemistry, University of California-Berkeley, 09/04/2012
18. Department of Chemistry, Baylor University, 08/24/2012
19. Department of Chemistry, Wuhan University, 07/25/2012
20. Department of Physics, Huazong University of Science and Technology, 07/24/2012
21. Department of Chemistry, Peking University, China, 06/16/2012
22. Department of Chemistry, University of Delaware, 05/02/2012
23. Department of Chemistry, University of South Carolina, 04/19/2012
24. Skaggs Institute of Chemical Biology, Scripps Research Institute, 04/17/2012

25. Department of Chemistry, University of New Mexico, 04/13/2012
  26. Department of Chemistry, Cornell University, 04/09/2012
  27. Department of Chemistry, Columbia University, 04/10/2012
  28. Department of Chemistry, University of Chicago, 04/06/2012
  29. School of Medicine, University of Miami, 03/20/2012
  30. Department of Chemistry, Arizona State University, 03/09/2012
  31. Department of Chemistry, Boston College, 02/14/2012
  32. Department of Chemistry, Massachusetts Institute of Technology, 02/13/2012
  33. Department of Chemistry, University of Nebraska-Lincoln, 02/03/2012
  34. Department of Pharmacology, Johns Hopkins Medical School, 02/01/2012
  35. Interdisciplinary Faculty of Toxicology, Texas A&M University, 01/23/2012
  36. Department of Chemistry and Biochemistry, University of Texas-Austin, 01/20/2012
  37. Department of Chemistry, Stanford University, 12/13/2011
  38. Sutro Biopharma Inc., 12/12/2011
  39. Department of Molecular and Cellular Oncology, UT Anderson Cancer Center, 10/12/2011
  40. Department of Biochemistry, University of Texas Health Science Center at San Antonio, 09/30/2011
  41. Department of Molecular Biophysics and Biochemistry, Yale University, 09/07/2011
  42. School of Pharmacy, Wuhan University, 07/28/2011
  43. Department of Chemistry, Shandong University, 07/8/2011
  44. Department of Chemistry, University of California-Davis, 1/11/2011
  45. Institute of Organic Chemistry, Chinese Academy of Science, 06/01/2010
  46. Department of Biochemical Engineering, East China University of Science and Technology, 05/28/2010
  47. Department of Natural Sciences, Albany State University-Georgia, 10/21/2008
  48. Department of Chemistry, Beijing University, 01/11/2008
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**Talks and Posters at Conferences and Meetings:**

1. Liu W.R., A refined mechanism of the copper(I)-catalyzed azide-alkyne Huisgen cycloaddition reaction, Pacifichem 2015, Honolulu, HI, Dec 15-20, 2015 (Scheduled, invited speaker)
2. Liu W.R., Using structurally defined nucleosomes to profile epigenetic targets of histone lysine deacylases and demethylases, Pacifichem 2015, Honolulu, HI, Dec 15-20, 2015 (scheduled, invited speaker)
3. Liu W.R., Using structurally defined nucleosomes to profile epigenetic targets of histone lysine deacylases and demethylases, Konstanz Symposium Chemical Biology 2015, Konstanz, Germany, Oct 8-9, 2015 (scheduled, invited speaker)

4. Liu W.R., Wang Y.-S., Fang X & Kurra Y., Engineering pyrrolysyl-tRNA synthetase for the genetic incorporation of tyrosine, phenylalanine, and histidine derivatives, Gordon Research Conference, Waterville Valley, NH, June 14-19, 2013
5. Liu W.R. & Lee Y.J., A genetically encoded acrylamide functionality, the 9<sup>th</sup> Sino-US Symposium on Organic Chemistry, Chengdu, China, Jul 12-14/2013 (oral)
6. Liu W.R. & Lee Y.J., A fascinating chemistry of a genetic encoded acrylamide, Gordon Research Conference, Proctor Academy, NH, June 9-14, 2013 (oral)
7. Liu W.R., A Rationally Designed Pyrrolysyl-tRNA Synthetase Has a Broad Substrate Spectrum, Gordon Research Conference, Proctor Academy, NH, June 10-15, 2012
8. Tharp J.M., Wang Y.-S. & Liu W.R., Increasing Insulin Yield by Fusion with Superfolder Green Fluorescent Protein, Abstracts of Papers, 243<sup>rd</sup> ACS National Meeting & Exposition, San Diego, CA, United States, March 25-29, 2012, CHED-433
9. Odoi K.A. & Liu W.R., Alternative Codon Study for Genetic Code Expansion in *Escherichia coli*, Abstracts of Papers, 243<sup>rd</sup> ACS National Meeting & Exposition, San Diego, CA, United States, March 25-29, 2012, BIOL-135
10. Wang Y.-S. & Liu W.R., Tools to Study Posttranslational Lysine Modifications of Histone, Chemistry and Biology of Peptides, Gordon Research Conference, Ventura, CA, 02/19-24/2012
11. Wang Y.-S. & Liu W.R., Tools to Study Posttranslational Lysine Modifications of Histone, Chromatin: Structure and Function, Aruba, 12/05-08/2011
12. 67<sup>th</sup> Southwest Regional Meeting of the American Chemical Society, Austin, TX, 11/09-11/2011
13. Wang Y.-S. & Liu W.R., Genetic Encoding of Methyl- and Acetyl-lysine Analogs into Proteins, Abstracts of Papers, 242<sup>nd</sup> ACS National Meeting & Exposition, Denver, CO, United States, August 28-September 1, 2011 (2011), BIOL-116
14. Jacobs K.J., Wang Y.-S. & Liu W. "Probing the active site of alanine racemase by incorporation of non-canonical amino acids". Abstracts of Papers, 241<sup>st</sup> ACS National Meeting & Exposition, Anaheim, CA, United States, March 27-31, 2011 (2011), CHED-352
15. Huang Y., Wan W. & Liu W. "Facile system for genetic incorporation of two different noncanonical amino acids into one protein in *Escherichia coli*". Abstracts of Papers, 241<sup>st</sup> ACS National Meeting & Exposition, Anaheim, CA, United States, March 27-31, 2011 (2011), BIOL-51.
16. Huang Y. & Liu W.R., Site-specific Installation of Two Lysine Derivatives in Histone H3, Enzyme Mechanism Conference, St. Petersburg, FL, 01/02-06/2011
17. Wang Y.-S., Wu B. & Liu W. "Genetically encoded photocaged *N*<sup>e</sup>-methyl-L-lysine". Abstracts of Papers, 240<sup>th</sup> ACS National Meeting, Boston, MA, United States, August 22-26, 2010 (2010), BIOL-156.
18. Dodd L.E., Wang Y.-S. & Liu W. "Site specific post-translational modifications of protein by expanding the genetic code: Protein methylation and structure enrichment". Abstracts of Papers, 239<sup>th</sup> ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010 (2010), CHED-458.



19. Wan W., Huang Y. & Liu W.R., Genetic Incorporation of Two Different Noncanonical Amino Acids into One Protein, Challenges in Organic Chemistry and Chemical Biology (ISACS1), San Francisco, 07/06-09/2010
  20. Wan W., Huang Y. & Liu W.R., Genetic Incorporation of Two Different Noncanonical Amino Acids into One Protein, Bioorganic Chemistry, Gordon Research Conference, Proctor Academy, 06/13-18/2010
  21. Liu W.R., Engineering Pyrrolysyl-tRNA Synthetase for Genetic Code Expansion, The 3<sup>rd</sup> Texas Enzyme Conference, Austin, TX, 01/80-09/2010
  22. Liu W.R., The Genetic Code Expansion, The 4<sup>th</sup> Sino-US Symposium on Organic Chemistry, Beijing, China, 06/12-13/2008 (oral)
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**Teaching Experience:****Texas A&M University****08/2007 – current**

- Spring 2014: CHEM 630-Bioorganic Chemistry (enrolment: 7); CHEM 681.605-Seminar (enrolment: 12)
- Fall 2013: CHEM 228.504-Organic Chemistry II (enrolment: 69)
- Spring 2013: CHEM 630-Bioorganic Chemistry (enrolment: 14); CHEM 681.605-Seminar (enrolment: 13)
- Fall 2012: CHEM 228.504-Organic Chemistry II (enrolment: 76)
- Fall 2011: CHEM 228.503-Organic Chemistry II (enrolment: 68); CHEM 690.609-Theory of Chemistry Research (enrolment: 5)
- Spring 2011: CHEM 630-Bioorganic Chemistry (enrolment: 4); CHEM 681.605-Seminar (enrolment: 12)
- Fall 2010: CHEM 627-Principles of Biological Chemistry (enrolment: 19)
- Spring 2010: CHEM 689.603-S. T. in Chemical Biology (enrolment: 6)
- Fall 2009: CHEM 627-Principles of Biological Chemistry (enrolment: 22)
- Spring 2009: CHEM 228-Organic Chemistry II (enrolment: 39)
- Fall 2008: CHEM 689.603-S. T. in Chemical Biology (enrolment: 6)
- Fall 2007: CHEM 689.603-S. T. in Chemical Biology (enrolment: 6)
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**Postdoctoral Researchers Mentored**

NAME	PROGRAM	DATE	Comments
Dr. Yanyan Yang	Chemistry	10/2012-12/21014	Left for Univ. of N. Carolina
Dr. Catrina Reed	Chemistry	09/2012-08/2014	Left for TAMU Vet School
Dr. Yu Zeng	Chemistry	10/2011-08/2015	Transfer to another group
Dr. Xinqiang Fang	Chemistry	09/2011-06/2012	Left for Cornell
Dr. Yadagiri Kurra	Chemistry	07/2011-current	
Dr. Xuejuan Xin	Chemistry	07/2010-06/2011	Left for ECUST
Dr. Zhiyong Wang	Chemistry	09/2008-02/2011	Left for Troy University

Dr. Yang Wang	Chemistry	09/2007-08/2008	Left for Novartis
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**PhD Students Mentored**

NAME	PROGRAM	DATE	COMMENTS
Zhipeng Wang	Chemistry	07/2014-current	
Erol Vatansever	Chemistry	04/2014-current	
Wesley Wang	Chemistry	10/2013-current	
Xiaoshan Wang	Chemistry	11/2012-current	
Jeffrey Tharp	Chemistry	11/2012-current	
Vanmayee Sharma	Chemistry	11/2012-current	
Sasha Chihak	Chemistry	11/2012-current	
Willie Hsu	Chemistry	01/2012-current	
Xiaoyan Wang	Chemistry	10/2011-current	
Alfred Tuley	Chemistry	11/2011-08/2015	Graduated
Keturah Odoi	Chemistry	11/2009-current	
Yan-Jiun Lee	Chemistry	10/2008-07/2015	Graduated
Bo Wu	Chemistry	10/2008-05/2014	Graduated
Ying Huang	Chemistry	10/2007-12/2011	Graduated
Yane-Shih Wang	Chemistry	10/2007-05/2012	Graduated

**Master Students Mentored**

NAME	PROGRAM	DATE	COMMENTS
Meghna Muralidhar	BIOT-non-thesis	06/2011-06/2012	Graduated

**Undergraduate Students Mentored**

NAME	PROGRAM	Dates
Melissa Leonhardt	Bio/Bio	05/2015-current
Jason McCandless	Chemistry	09/2014-06/2015
Anastasia Lopez	Chemistry	09/2014-06/2015
Andrew Daugherty	REU Student	06/2014-08/2014
Lauren Fore	Chem Engineering	01/2014-08/2014
Jeannelle Stevens	Chemistry	01/2014-06/2015
Yuanpeng Bi	Chem Engineering	01/2014-05/2014
Andrew Bach	Chemistry	05/2013-08/2013
Josh Chen	Chemistry	05/2011-09/2012

## **Curriculum Vitae**

**Wenshe Liu**

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Ashley Wallace	Chemistry	05/2011-09/2011
Willie Hsu	Chemistry	01/2011-12/2011
Jeff Tharp	REU Student	06/2011-08/2011
Kimberly Jacobs	REU Student	06/2010-08/2010
Yin Moe	REU Student	06/2009-08/2009
Lindsey Dodd	REU Student	06/2009-08/2009
John Oliver	Chemistry	09/2008-06/2010
Hiren Bhakta	Chemistry	09/2007-06/2008
Clayton Mercer	Chemistry	09/2007-06/2008

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### **Committee Membership:**

2015-current	Chair, Chemistry mass spectrometry user committee
2015	Chair, American Chemical Society Texas A&M Local Section
2014-current	Member, Department of Chemistry Executive Committee
2013-current	Member, Texas A&M Faculty Senate
2012	Member, Department of Chemistry Self Study Committee
2011-current	Member, Professional Program in Biotechnology Executive Committee
2009-2013	Member, Professional Program in Biotechnology Recruiting Committee
2007-current	Member, Undergraduate Student Award Committee
2007-current	Member, Graduate Student Recruiting Committee

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### **Editorial Board Member:**

*Frontiers in Chemical Biology, Scientific Reports*

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### **Journal Article Review:**

*Nature Chemistry, Frontiers in Chemical Biology, Science China Chemistry, Angewandte Chemie, JACS, ACS Chemical Biology, Nutrition & Metabolism, Acta Biochimica et Biophysica Sinica, Molecular BioSystems, Biochemistry, FEBS Letters, Chemistry & Biology, Bioorganic & Medicinal Chemistry Letters, Applied Biochemistry & Biotechnology, ChemBioChem, Genome Research, Nucleic Acid Research, Medical Oncology, Bioconjugate Chemistry, PLOS One, Nature Communications, Chemical Communications, and Chemical Sciences.*

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### **Grant Proposal Review:**

09/2015	Panellist, National Science Foundation, Division of Chemistry
05/2015	Reviewer, French National Research Agency Science Program
09/2014	Reviewer, National Science Foundation CAREER Award Program
09/2014	Reviewer, W.M.Keck Foundation Medical Research Program

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07/2014	Reviewer, UNL Biomedical Research Seed Grant Program
05/2014	Reviewer, Texas A&M-NSFC Research Grant Program
04/2014	Panellist, National Science Foundation, Division of Chemistry
02/2014	Reviewer, National Institutes of Health, Study Section: BCMB
05/2013	Reviewer, National Science Foundation, Division of MCB
04/2013	Reviewer, Israel Science Foundation
02/2013	Panellist, National Science Foundation, Division of Chemistry
03/2012	Panellist, National Science Foundation, Division of Chemistry

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