

**Xue (Snow) Xu Ph. D.**

*Clinical Assistant Professor*  
*Department of Chemistry, Mississippi State University*  
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**Working Experience**

2016-present        **Clinical Assistant Professor**, Mississippi State University, Starkville, MS  
2015 – 2016        **Chemistry Professor**, Polk State College, Winter Haven, FL  
                         **Chemistry Assessment Coordinator**, Polk State College, Winter Haven, FL  
2013 – 2014        **Adjunct Instructor**, University of South Florida  
2013 – 2014        **Adjunct Instructor**, Polk State College, Lakeland, FL  
2013 – 2014        **Adjunct Instructor**, Hillsborough Community College, Tampa, FL  
2009 – 2012        **Graduate Research Assistant**, University of South Florida, FL

**Service**

2008-2013        **Group Instrument Manager**, in charge of GC-MS and HPLC, University of South Florida, FL  
2010                **Committee Member** of Castle Conference, University of South Florida, FL  
2015                **Organic Chemistry Judge** for Castle Conference, University of South Florida, FL  
2015                **Science Review Committee**, Polk County Regional Science & Engineering Fair, FL  
2015-2016        **Chemical Hygiene officer**, Polk State College, Winter Haven, FL  
2016-present     **NMR Facility Manager**, Mississippi State University, Starkville, MS  
2017                **Search Committee for Clinical Professor**, Mississippi State University, Starkville, MS  
2017-now         **Departmental Facility committee**, Mississippi State University, Starkville, MS  
2017-now         **Distance Education Team**, Mississippi State University, Starkville, MS  
2019                **Judge** for Reaxys PhD Prize  
2020                **Judge** for Reaxys PhD Prize

**Course Taught**

- *Introductory Chemistry lecture & Laboratory*
- *General Chemistry lecture & Laboratory*
- *Organic Chemistry lecture & Laboratory*
- *General Chemistry Hybrid course*
- *Prof. Chemistry: Literature*
- *Preparatory Chemistry (Newly created online/distance course)*

**Education Background**

2012 – 2015        Postdoc, Organic and Organometallic Chemistry  
                         University of South Florida, Tampa, Florida

- 2007 – 2012            Ph.D., Organic and Organometallic Chemistry  
University of South Florida, Tampa, Florida
- 2003 – 2006            B.S., Chemistry/Chemical Engineering,  
Anhui University, Anhui, China

### **Professional Training**

- 2018                    Avance I NMR training course, Bruker BioSpin Corp.

### **Honnars and Awards**

- Finalists for the **Reaxys Ph.D. Prize**, 2013
- **Research Talk Award**, Castle Conference, USF, 2012
- **Barbara B. Martin Fellowship**, USF, 2011
- **Tharpe Fellowship**, USF, 2011
- **Research Talk Award**, Castle Conference, USF, 2009
- **AnHui University Scholarship Awards**, 2003-2006

### **Research Publications**

1. **Xu, X.**; Wang, Y.; Cui, X.; Wojtas, L.; Zhang, X. P. "Metalloradical Activation of  $\alpha$  Formyldiazoacetates for Catalytic Asymmetric Radical Cyclopropanation of Alkenes" *Chem. Sci.* **2017**, *8*, 4347–4351. [[Link](#)]
2. Li, Z.-Y.; Chaminda Lakmal, H. H.; Qian X.; Zhu, Z.; Donnadiou, B.; McClain, S. J.; **Xu X.**; Cui X.\* "Ruthenium-Catalyzed Enantioselective C–H Functionalization: A Practical Access to Optically Active Indoline Derivatives" *J. Am. Chem. Soc.* **2019**, *141*, 15730.
3. Qian X.; Zhou, H.; Chaminda Lakmal, H. H.; Luore, J. (*undergraduate researcher*); Wang, X.; Valle, U. H.; Donnadiou, B.; **Xu X.**; Cui X.\* "Fe(III)-Based Tandem Catalysis for Amidomethylative Multiple Substitution Reactions of  $\alpha$ -Substituted Styrene Derivatives" *ACS Catal.* **2020**, *10*, 10627.
4. Chaminda Lakmal, H. H.; Xu, J. X.; **Xu, X.**; Ahmed, B.; Fong, C.; Szalda, J. D.; Ramig, K.; Sygula, A.; Webster, E. C.; Zhang, D.; Cui X. "Synthesis of C-Unsubstituted 1,2-Diazetidines and Their Ring-Opening Reactions via Selective N–N Bond Cleavage" *J. Org. Chem.* **2018**, *83*, 9497-9503. [[Link](#)]
5. Zhou, H.; Chaminda Lakmal, H. H.; Baine, M. J.; Valle, U. H.; **Xu, X.**; Cui, X. "Catalytic [2 + 2 + 2] cycloaddition with indium(III)-activated formaldimines: a practical and selective access to hexahydropyrimidines and 1,3-diamines from alkenes" *Chem. Sci.* **2017**, *8*, 6520. [[Link](#)]
6. Cui, X.; **Xu, X.**; Jin, L. M.; Wojtas, L.; Zhang, X. P. "Stereoselective Radical C–H Alkylation with Acceptor/Acceptor-Substituted Diazo Reagents via Co(II)-Based Metalloradical Catalysis", *Chem. Sci.* **2015**, *6*, 1219–1224. [[Link](#)]
7. **Xu, X.**; Zhu, S.-F.; Cui, X.; Wojtas, L.; Zhang, X. P. "Cobalt(II)-Catalyzed Asymmetric Olefin Cyclopropanation with  $\alpha$ -Ketodiazoacetates" *Angew. Chem. Int. Ed.* **2013**, *52*, 11857–11861. [[Link](#)] [Highlighted in [Synfacts](#)]
8. Cui, X.; **Xu, X.**; Jin, L. M.; Wojtas, L.; Zhang, X. P. "Stereoselective Radical C–H Alkylation with Acceptor/Acceptor-Substituted Diazo Reagents via Co(II)-Based Metalloradical Catalysis", *Chem. Sci.* **2015**, *6*, 1219–1224. [[Link](#)]
9. Jin, L-M; **Xu, X.**; Lu, H-J.; Cui, X.; Wojtas, L.; Zhang, X. P. "Effective Synthesis of Chiral *N*-Fluoroaryl Aziridines via Enantioselective Aziridination of Alkenes with Fluoroaryl Azides" – *Angew. Chem. Int. Ed.*

- 2013, 52, 5309–5313. [[Link](#)] [Highlighted in [Synfacts](#)] [Highlighted in [Organic Chemistry Portal](#)]
10. Cui, X.; **Xu, X.**; Wojtas, L.; Kim, M.; Zhang, X. P. “Regioselective Synthesis of Multisubstituted Furans via Metalloradical Cyclization of Alkynes with  $\alpha$ -Diazocarbonyls: Construction of Functionalized  $\alpha$ -Oligofurans” *J. Am. Chem. Soc.* **2012**, *134*, 19981–19984. [[Link](#)] [Highlighted in [SynForm](#)] [Highlighted in [Organic Chemistry Portal](#)]
  11. **Xu, X.**; Lu, H.-J.; Ruppel, J. V.; Cui, X.; Mesa, S.; Wojtas, L.; Zhang, X. P. “Highly Asymmetric Intramolecular Cyclopropanation of Acceptor-Substituted Diazoacetates by Co(II)-Based Metalloradical Catalysis: Iterative Approach for Development of New Generation Catalysts” *J. Am. Chem. Soc.* **2011**, *133*, 15292-15296. [[Link](#)] [Highlighted in [Synfacts](#)]
  12. Belof, J. L.; Cioce, C. R.; **Xu, X.**; Zhang, X. P.; Space, B.; Woodcock, H. L. “Characterization of Tunable Radical Metal–Carbenes: Key Intermediates in Catalytic Cyclopropanation” *Organometallics*. **2011**, *30*, 2739–2746. [[Link](#)]
  13. Lu, H.-J.; Dzik, W. I.; **Xu, X.**; Wojtas, L.; de Bruin, B.; Zhang, X. P. “Experimental Evidence for Existence of Cobalt(III)-Carbene Radical: Key Intermediate in Co(II)-Based Metalloradical Cyclopropanation” *J. Am. Chem. Soc.* **2011**, *133*, 8518–8521. [[Link](#)]
  14. Cui, X.; **Xu, X.**; Lu, H.-J.; Zhu, S.-F.; Wojtas, L.; Zhang, X. P. “Enantioselective Cyclopropanation of Alkynes with Acceptor/Acceptor-Substituted Diazo Reagents via Co(II)-Based Metalloradical Catalysis” *J. Am. Chem. Soc.* **2011**, *133*, 3304–3307. [[Link](#)] [Highlighted in [Synfacts](#)]
  15. Zhu, S.-F.; **Xu, X.**; Perman, J. A.; Zhang, X. P. “A General and Efficient Cobalt(II)-Based Catalytic System for Highly Stereoselective Cyclopropanation of Alkenes with  $\alpha$ -Cyano-Diazoacetates” *J. Am. Chem. Soc.* **2010**, *132*, 12796–12799. [[Link](#)] [Highlighted in [Synfacts](#)] [Highlighted in [Organic Chemistry Portal](#)]
  16. Dzik, W. I.; **Xu, X.**; Zhang, X. P.; Reek, J. N. H.; de Bruin, B. “‘Carbene Radicals’ in Coll(por)-Catalyzed Olefin Cyclopropanation” *J. Am. Chem. Soc.* **2010**, *132*, 10891–10902. [[Link](#)]
  17. Gao, G.-Y.; Ruppel, J. V.; Fields, K. B.; **Xu, X.**; Chen, Y.; Zhang, X. P. “Synthesis of Diporphyrins via Palladium-Catalyzed C–O Bond Formation: Effective Access to Chiral Diporphyrins” *J. Org. Chem.* **2008**, *73*, 4855–4858. [[Link](#)]
  18. **Xu, X.**; Cui, X.; Zhang, X. P. “Application of  $\alpha$ -Formyldiazoacetates for Highly Asymmetric Olefin Cyclopropanation via Co(II)-Based Metalloradical Catalysis” *Angew. Chem. Int. Ed.* Submitted.
  19. **Xu, X.**; Cui, X.; Zhang, X. P. “Highly Enantioselective Synthesis of 2,3-Dihydrofurans via Co(II)-Based Metalloradical Catalysis” – In Preparation, **2015**.

### Seminars and Presentations

1. **Xue Xu** “NMR Seminar: Instrument preparation, Data acquisition and Departmental Policy”, Annual Seminar Series, Department of Chemistry, Mississippi State University.
2. **Xue Xu** and X. Peter Zhang, “Stereoselective Cyclization Reactions via Co(II)-Based Metalloradical Catalysis”, Invited Seminar, HeiFei University of Technology, China. (June 2015)
3. **Xue Xu** and X. Peter Zhang, “Stereoselective Cyclization Reactions via Co(II)-Based Metalloradical Catalysis”, Invited Seminar, Murray State University, KY. (April 2015)
4. **Xue Xu**; Xin Cui; Shifa Zhu; Hongjian Lu and X. Peter Zhang, “Stereoselective Atom/Group Transfers via

- Co(II)-Based Metalloradical Catalysis” 2014 Reaxys Inspiring Chemistry Conference, Invited poster, Grindelwald, Switzerland. (September 2013)
5. **Xue, Xu.** “Highly Asymmetric Cyclopropanation Reactions by Co(II)-Based Metalloradical Catalysis” *Drug Discovery Colloquium*, Invited Seminar, University of South Florida, FL. (November 2011)
  6. **Xue Xu;** X. Peter Zhang, “Co(Porphyrin) catalyzed Asymmetric Dihydrofuran Formation. Developed from ‘Unwanted’” *Castle Conference*, Department of Chemistry, University of South Florida. (April 2012)
  7. **Xue Xu;** Hongjian Lu; Shifa Zhu; Xin Cui and X. Peter Zhang, “Highly asymmetric cyclopropanation reactions by Co(II)-based metalloradical catalysis” *243<sup>rd</sup> American Chemical Society National Meeting*, San Diego, California. (March 2012)
  8. **Xue Xu;** Xin Cui; Shifa Zhu; X. Peter Zhang, “Asymmetric synthesis of functionalized cyclopropane via Co(II)-based metalloradical catalysis” *243<sup>rd</sup> American Chemical Society National Meeting*, San Diego, California. (March 2012)
  9. **Xue Xu;** Yang Hu; Ying Chen; Guang-Yao Gao; Joshua V. Ruppel; Kimberly B. Fields and X. Peter Zhang, “Design and Synthesis of Functionalized Porphyrins ” *New Horizons MOF Conference*, University of South Florida, FL (July 2011)
  10. **Xue Xu;** Joshua V. Ruppel; Hongjian Lu; Xin Cui; Silke Lopez de Mesa; X. Peter Zhang, “Design and Synthesis of Cobalt(II) Porphyrin Catalysts for Stereoselective Intramolecular Cyclopropanation” *240<sup>th</sup> American Chemical Society National Meeting*, Boston, Massachusetts. (August 2010)
  11. **Xue Xu;** Ying Chen; Shifa Zhu; Joshua V. Ruppel; Hongjian Lu; Wojciech I. Dzik; Joost N. H. Reek; Bas de Bruin and X. Peter Zhang, “Design and Synthesis of Cobalt(II) Porphyrin Catalysts for Stereoselective Inter- and Intra-molecular Cyclopropanation” *240<sup>th</sup> American Chemical Society National Meeting*, Boston, Massachusetts. (August 2010)
  12. **Xue Xu;** Joshua V. Ruppel; Hongjian Lu; Xin Cui; Silke Lopez de Mesa; X. Peter Zhang, “Design and Synthesis of Cobalt(II) Porphyrin Catalysts for Stereoselective Intramolecular Cyclopropanation” *FAME (Florida ACS Meeting)*, Tampa, Florida. (May 2010)
  13. **Xue Xu;** Ying Chen; Joshua V. Ruppel; Shifa Zhu; Xin Cui; Kimberly B. Fields and X. Peter Zhang, “Donor-Acceptor Carbene Transfer Reaction on Cyclopropanation towards Electron Deficient Olefins” *BITT Conference*, University of South Florida. (October 2009)
  14. **Xue Xu;** X. Peter Zhang, “Donor-Acceptor Carbene Transfer Reaction on Cyclopropanation towards Electron Deficient Olefins” *Castle Conference*, Department of Chemistry, University of South Florida. (April 2009)
  15. Xin Cui; **Xue Xu;** Limei Jin; Hongjian Lu; Yang Hu; X. Peter Zhang “Metalloradical Catalysis for Stereoselective Organic Synthesis” *2014 Gordon Research Conferences, Modern Stereochemistry in Synthesis, Catalysis, and Chemical Biology*, Salve Regina University, Newport, RI. (July 2014)
  16. Xin Cui; **Xue Xu;** Yang Hu; Limei Jin; Hongjian Lu; X. Peter Zhang “Stereoselective Atom/Group Transfers via Co(II)-Based Metalloradical Catalysis” *43<sup>rd</sup> National Organic Chemistry Symposium*, University of Washington, Seattle, Washington. (June 2013)
  17. Xin Cui; **Xue Xu;** Lukasz Wojtas; X. Peter Zhang “Enantioselective Cyclopropanation and Regioselective Furan Formation via Co(II)-Based Metalloradical Cyclization” *245<sup>th</sup> American Chemical Society National*

*Meeting & Exposition*, New Orleans, LA. (April 2013)

18. Kimberly Fields; Joshua V. Ruppel; Chelsea A. Huff; Shifa Zhu; Hongjian Lu; **Xue Xu**; Guang-Yao Gao; Ying Chen; Andrew J. Colvin; Allen Brett and X. Peter Zhang, "Modular approaches to porphyrin synthesis: A route to novel chiral porphyrins" *238<sup>th</sup> American Chemical Society National Meeting*, Salt Lake City, Utah. (March 2009)

### **Patent Application**

1. X. Peter Zhang; **Xue Xu**, "Catalytic Intramolecular Cyclopropanation" U.S. Provisional Patent Application 61/514,867 (2011).