

## **Justin R. Ragains, Ph.D.**

*Professor of Chemistry*  
Louisiana State University  
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### **Education**

- B.S. Chemistry, Ball State University, Muncie, IN, 2000 (*Magna Cum Laude*)
- Ph.D. Organic Chemistry, University of Pennsylvania, Philadelphia, PA, 2006, Dissertation: *I. Synthesis and Biological Evaluation of Manzamine Analogs II. Applications of the Intramolecular, Crossed [2+2] Photocycloaddition of Vinylogous Amides with Olefins*  
Advisor: Professor Jeffrey D. Winkler

### **Professional Experience**

- Professor, Louisiana State University, Baton Rouge, LA (August 2022 – Present)
- Associate Professor, Louisiana State University, Baton Rouge, LA (August 2017-August 2022)
- Assistant Professor, Louisiana State University, Baton Rouge, LA (August 2010-August 2017)
- Postdoctoral Associate, Center for Systems Biology, Massachusetts General Hospital, Boston, MA (November 2008-July 2010)  
Advisors: Professor Jon Clardy and Professor Ralph Mazitschek
- Postdoctoral Associate, Broad Institute of Harvard and MIT, Cambridge, MA (June 2007-October 2008)  
Advisors: Professor Jon Clardy and Professor Ralph Mazitschek
- Postdoctoral Associate, Harvard Medical School, Boston, MA (April 2006-May 2007)  
Advisor: Professor Jon Clardy

### **Honors and Awards**

- LSU College of Science Excellence in Diversity, Equity, and Inclusion Mentoring (2022)
- LSU College of Science Graduate Teaching Award (2020)

Tiger Athletic Foundation College Undergraduate Teaching Award (2014)  
Louisiana Board of Regents RCS (2013)  
Louisiana Board of Regents PFUND (2011)  
LSU Council on Research Summer Stipend (2011)  
Eli Lilly Pre-Doctoral Fellowship (2003-2004)

**Peer-Reviewed Publications (from independent research at LSU, H-index = 19)**

19. Duong, T.; Valenzuela, E.A.; Ragains, J.R. Benzyne-Promoted, 1,2-*cis*-Selective O-Glycosylation with Benzylchalcogenoglycoside Donors. *Org. Lett.* **2023**, *25*, 8526-8529.
18. Folorunso, A.S.; Mauger, F.; Hamer, K.A.; Jayasinghe, D.D.; Wahyutama, I.S.; Ragains, J.R.; Jones, R.R.; DiMauro, L.F.; Gaarde, M.B.; Schafer, K.J.; Lopata, K. Attochemistry Regulation of Charge Migration. *J. Phys. Chem. A* **2023**, *127*, 1894-1900.
17. Njeri, D.K.; Ragains, J.R. Total Synthesis of a Pentasaccharide O-Glycan from *Acinetobacter baumannii*. *Eur. J. Org. Chem.* **2022**, doi.org/10.1002/ejoc.202201261.
16. Njeri, D.K.; Ragains, J.R. Total Synthesis of an All-1,2-*cis*-Linked Repeating Unit from the *Acinetobacter baumannii* D78 Capsular Polysaccharide. *Org. Lett.* **2022**, *24*, 3461-3465.
15. Njeri, D.K.; Valenzuela, E. A.; Ragains, J.R. Leveraging Trifluoromethylated Benzyl Groups toward the Highly 1,2-*Cis*-Selective Glucosylation of Reactive Alcohols. *Org. Lett.* **2021**, *23*, 8214-8218.
14. Njeri, D.K.; Pertuit, C.J.; Ragains, J.R. 1,2-*cis*-Selective Glucosylation Enabled by Halogenated Benzyl Protecting Groups. *Org. Biomol. Chem.* **2020**, *18*, 2405-2409.
13. Du, S.; Ragains, J.R. MPTGs: Thioglycoside Donors for Acid-Catalyzed O-Glycosylation and Latent-Active Synthetic Strategies. *Org. Lett.* **2019**, *21*, 980-983.
12. Lacey, K.D.; Quarels, R.D.; Du, S.; Fulton, A.; Reid, N.J.; Ragains, J.R. Acid-Catalyzed O-Glycosylation with Stable Thioglycoside Donors. *Org. Lett.* **2018**, *20*, 5181-5185.
11. Du, S.; Kimball, E.A.; Ragains, J.R. Visible-Light-Promoted Remote C-H Functionalization of *o*-Diazoniaphenyl Alkyl Sulfones. *Org. Lett.* **2017**, *19*, 5553-5556.

10. Quarels, R.D.; Zhai, X.; Kuruppu, N.; Hedlund, J.K.; Ellsworth, A.A.; Walker, A.V.; Garno, J.C.; Ragains, J.R. Application of Visible-Light Photosensitization to Form Alkyl-Radical-Derived Thin Films on Gold. *Beilstein J. Nanotechnol.* **2017**, *8*, 1863-1877.
9. Spell, M.L.; Deveaux, K.; Bresnahan, C.G.; Ragains, J.R. O-Glycosylation Enabled by Remote Activation. *Synlett* **2017**, *28*, 751-761.
8. Spell, M.L.; Deveaux, K.; Bresnahan, C.G.; Bernard, B.L.; Sheffield, W.; Kumar, R.; Ragains, J.R. A Visible Light-Promoted O-Glycosylation with a Thioglycoside Donor. *Angew. Chem. Int. Ed.* **2016**, *55*, 6515-6519.
7. Hollister, K.A.; Spell, M.L.; Conner, E.S.; Deveaux, K.; Maneval, L.; Beal, M.W.; Ragains, J.R. Remote Hydroxylation via Radical Translocation and Polar Crossover. *Angew. Chem. Int. Ed.* **2015**, *54*, 7837-7841.
6. Verberne-Sutton, S.D.; Quarles, R.D.; Zhai, X.; Garno, J.C.; Ragains, J.R. Application of Visible Light Photocatalysis with Particle Lithography To Generate Polynitrophenylene Nanostructures. *J. Am. Chem. Soc.* **2014**, *136*, 14438-14444.
5. McKnight, K.; Hoang, H.D.; Prasain, J.K.; Brown, N.; Vibbert, J.; Hollister, K.A.; Moore, R.; Ragains, J.R.; Reese, J.; Miller, M.A. Neurosensory Perception of Environmental Cues Modulates Sperm Motility Critical for Fertilization. *Science* **2014**, *344*, 754-757.
4. Conner, E.S.; Crocker, K.E.; Fernando, R.G.; Fronczek, F.R.; Stanley, G.G.; Ragains, J.R. Visible Light-Promoted Selenofunctionalization of Alkenes. *Org. Lett.* **2013**, *15*, 5558-5561.
3. Hollister, K.A.; Conner, E.S.; Zhang, X.; Spell, M.; Bernard, G.M.; Patel, P.; de Carvalho, A.C.G.V.; Butcher, R.A.; Ragains, J.R. Ascaroside Activity in *Caenorhabditis elegans* is Highly Dependent on Chemical Structure. *Bioorg. Med. Chem.* **2013**, *21*, 5754-5769.
2. Spell, M.; Wang, X.; Wahba, A.E.; Conner, E.S.; Ragains, J.R. An  $\alpha$ -Selective, Visible Light Photocatalytic Glycosylation of Alcohols with Selenoglycosides. *Carbohydr. Res.* **2013**, *67*, 42-47.
1. Noguez, J.H.; Conner, E.S.; Zhou, Y.; Ciche, T.A.; Ragains, J.R.; Butcher, R.A. A Novel Ascaroside Controls the Parasitic Life Cycle of the Entomopathogenic Nematode *Heterorhabditis bacteriophora*. *ACS Chem. Biol.* **2012**, *7*, 961-966.

**Manuscripts (submitted for publication/under revision)**

## Book Chapters

2. Ragains, J.R. Photochemical Glycosylation. In *Comprehensive Glycoscience – 2<sup>nd</sup> Edition* (Ed. Barchi, J.), Elsevier: Amsterdam, **2021**, pp. 327-364.

1. Ragains, J.R. Photochemical Glycosylation. In *Selective Glycosylations – Synthetic Methods and Catalysts* (Ed. Bennett, C.), Wiley-VCH: Weinheim, **2017**, pgs. 211-230.

## Book Chapters (*submitted for publication/under revision*)

### Manuscripts (*in preparation*)

1. Agarkar, V.; Hart, A.; Ragains, J.R. On the Relevance of Glycosyloxonium Ions to 1,2-*cis*-Selective O-Glycosylation in Ether Solvents. *Manuscript in preparation*.

## Peer-Reviewed Publications (*from research before LSU appointment*)

9. Kim, K.; Sato, K.; Shibuya, M.; Zeiger, D.M.; Butcher, R.A.; Ragains, J.R.; Clardy, J.; Touhara, K.; Sengupta, P. Two Chemoreceptors Mediate Developmental Effects of Dauer Pheromone in *C. elegans*. *Science* **2009**, *326*, 994-998.

8. Butcher, R.A.; Ragains, J.R.; Clardy, J. An Indole-Containing Dauer Pheromone Component with Unusual Dauer Inhibitory Activity at Higher Concentrations. *Org. Lett.* **2009**, *11*, 3100-3103.

7. Butcher, R.A.; Ragains, J.R.; Li, W.; Ruvkun, G.; Clardy, J.; Mak, H.Y. Biosynthesis of the *Caenorhabditis elegans* Dauer Pheromone. *Proc. Nat. Acad. Sci., USA.* **2009**, *106*, 1875-1879.

6. Butcher, R.A.; Ragains, J.R.; Kim, E.; Clardy, J. A Potent Dauer Pheromone Component in *Caenorhabditis elegans* that Acts Synergistically with Other Components. *Proc. Nat. Acad. Sci., USA.* **2008**, *105*, 14288-14292.

5. Floyd, D.L.; Ragains, J.R.; Skehel, J.J.; Harrison, S.C.; van Oijen, A.M. Single-Particle Kinetics of Influenza Virus Membrane Fusion. *Proc. Nat. Acad. Sci., USA.* **2008**, *105*, 15382-15387.

4. Ragains, J.R.; Winkler, J.D. Pseudosymmetry in Azabicyclo[2.1.1]hexanes. A Stereoselective Construction of the Bicyclic Core of Peduncularine. *Org. Lett.* **2006**, *8*, 4437-4440.

3. Winkler, J.D.; Ragains, J.R. Intramolecular Photoaddition of Vinylogous Amides with Allenes: A Novel Approach to the Synthesis of Pyrroles. *Org. Lett.* **2006**, 8, 4031-4033.
2. Winkler, J.D.; Londregan, A.T.; Ragains, J.R.; Hamann, M.T. Synthesis and Biological Evaluation of Manzamine Analogues. *Org. Lett.* **2006**, 8, 3407-3409.
1. Seradj, H.; Cai, W.; Erasga, N.O.; Chenault, D.V.; Knuckles, K.A.; Ragains, J.R.; Behforouz, M. Total Synthesis of Novel 6-Substituted Lavendamycin Antitumor Agents. *Org. Lett.* **2004**, 6, 473-476.

## Invited Presentations

47. "Shedding Light on O-Glycosylation." *Ball State University*, Muncie, IN, Sept. 21, 2023.
46. "New Developments in the Area of O-Glycosylation." *CU-Boulder*, Boulder, CO, Nov. 29, 2021.
45. "New Developments in the Area of O-Glycosylation (in Honor of Professor Debra Dolliver)." *Southeast Louisiana University*, Hammond, LA, Nov. 19, 2021.
44. "Organic Synthesis in the Ragains Group: Where We Were, Where We Are, Where (We Think) We're Going." *Louisiana State University*, Baton Rouge, LA, Sept. 17, 2021.
43. "Baby Steps toward a Glycoconjugate Vaccine." *Invited Presentation to LSU's Tri-Beta Premedical Society (April 1, 2021)*.
42. "O-Glycosylation through Remote Activation." *Preparative Carbohydrate Chemistry – The State of the Art Symposium (August 18, 2020), 260<sup>th</sup> National Meeting of the American Chemical Society, Virtual Meeting*.
41. "Remote Activation Strategies for O-Glycosylation and C-H Functionalization." *University of West Florida*, Pensacola, FL, Nov. 1, 2019.
40. "Remote Activation Strategies for O-Glycosylation and C-H Functionalization." *Southern Illinois University - Edwardsville*, Edwardsville, IL, September 24, 2019.
39. "Remote Activation Strategies for O-Glycosylation and C-H Functionalization." *University of Missouri - St. Louis*, St. Louis, MO, September 23, 2019.
38. "New Strategies for O-Glycosylation and Latent-Active Approaches to Oligosaccharide Synthesis." *Carbohydrates Gordon Conference (June 25, 2019), Hong Kong, China (June 23-28, 2019)*.

37. "Remote Activation Strategies for O-Glycosylation and C-H Functionalization," *Eindhoven University of Technology*, Eindhoven, Netherlands, May 8, 2019.
36. "Remote Activation Strategies for O-Glycosylation and C-H Functionalization," *University of Groningen*, Groningen, Netherlands, April 25, 2019.
35. "Remote Activation Strategies for O-Glycosylation and C-H Functionalization," *Radboud University*, Nijmegen, Netherlands, April 9, 2019.
34. "Remote Activation Strategies for O-Glycosylation and C-H Functionalization," *Utrecht University*, Utrecht, Netherlands, March 29, 2019.
33. "Remote Activation Strategies for O-Glycosylation and C-H Functionalization," *Eindhoven University of Technology*, Eindhoven, Netherlands, March 26, 2019.
32. "Remote Activation Strategies for O-Glycosylation and C-H Functionalization," *Leiden University*, Leiden, Netherlands, March 21, 2019.
31. "Remote Activation Strategies for O-Glycosylation and C-H Functionalization," *Millsaps College*, Jackson, MS, October 29, 2018.
30. "O-Glycosylation Using a Versatile Remote Activation Strategy." *New Directions in Carbohydrate Synthesis Symposium (August 22, 2018), 256<sup>th</sup> National Meeting of the American Chemical Society, Boston, MA, United States.*
29. "Remote Activation Strategies for O-Glycosylation and C-H Functionalization," *University of Alberta*, Edmonton, AB, Canada, February 12, 2018.
28. "Remote Activation Strategies for O-Glycosylation and C-H Functionalization," *University of Pennsylvania*, Philadelphia, PA, February 5, 2018.
27. "4-Aryl-3-butenylthioglycosides: Versatile Donors for O-Glycosylation." *Frontiers in Carbohydrate Synthesis Symposium (August 21, 2017), 254<sup>th</sup> National Meeting of the American Chemical Society, Washington, DC, United States, August 20-24 (2017).*
26. "Visible Light Photochemistry and Single Electron Transfer in the Pursuit of Structure and Function," *Jackson State University*, Jackson, MS, October 14, 2016.
25. "Visible Light Photochemistry and Single Electron Transfer in the Pursuit of Structure and Function," *University of Southern Mississippi*, Hattiesburg, MS, October 7, 2016.

24. "Visible Light Photochemistry and Single Electron Transfer in the Pursuit of Structure and Function," *Louisiana State University*, Baton Rouge, LA, September 9, 2016.
23. "Visible Light Photochemistry and Single Electron Transfer in the Pursuit of Structure and Function," *Lanzhou University*, Lanzhou, China, June 22, 2016.
22. "Visible Light Photochemistry and Single Electron Transfer in the Pursuit of Structure and Function," *Johns Hopkins University*, Baltimore, MD, April 5, 2016.
21. "Visible Light Photochemistry and Single Electron Transfer in the Pursuit of Structure and Function," *University of Toledo*, Toledo, OH, March 25, 2016.
20. "Visible Light Photochemistry and Single Electron Transfer in the Pursuit of Structure and Function," *Wayne State University*, Detroit, MI, March 23, 2016.
19. "Visible Light Photochemistry and Electron Transfer in the Pursuit of Structure and Function," *University of Florida*, Gainesville, FL, October 16, 2015.
18. "Visible Light Photochemistry and Redox Catalysis in the Pursuit of Structure and Function," *Tufts University*, Medford, MA, May 12, 2015.
17. "Visible Light Photochemistry and Redox Catalysis in the Pursuit of Structure and Function," *Northeastern University*, Boston, MA, May 11, 2015.
16. "Visible Light Photochemistry and Redox Catalysis in the Pursuit of Structure and Function," *Clemson University*, Clemson, SC, April 3, 2015.
15. "Visible Light Photochemistry and Redox Catalysis in the Pursuit of Structure and Function," *University of South Carolina*, Columbia, SC, April 2, 2015.
14. "Visible Light Photochemistry in the Pursuit of Structure and Function," *University of South Alabama*, Mobile, AL, January 23, 2015.
13. "Visible Light Photochemistry in the Pursuit of Structure and Function," *Tulane University*, New Orleans, LA, November 24, 2014.
12. "Chemical Synthesis in the Pursuit of Structure and Function." *Organic Chemistry in the SEC Symposium (November 13, 2014), 49<sup>th</sup> Midwest Regional Meeting of the American Chemical Society, Columbia, MO, United States, November 12-15 (2014)*.
11. "Visible Light Photochemistry in the Pursuit of Structure and Function," *University of Arkansas*, Fayetteville, AR, November 10, 2014.

10. "Visible Light Photochemistry in the Pursuit of Structure and Function," *Mississippi State University*, Starkville, MS, October 17, 2014.
9. "Visible Light Photochemistry in the Pursuit of Structure and Function," *Soochow University*, Suzhou, China, June 11, 2014.
8. "Visible Light Photochemistry in the Pursuit of Structure and Function," *Tsinghua University*, Beijing, China, June 9, 2014.
7. "Photoredox Catalytic O-Glycosylation with Selenoglycoside donors." *Young Investigators in Glycochemistry Symposium (March 17, 2014), 247<sup>th</sup> National Meeting of the American Chemical Society, Dallas, TX, United States, March 16-20 (2014).*
6. "Chemical Synthesis in the Pursuit of Structure and Function," *Ball State University*, Muncie, IN, April 18, 2013.
5. "Chemical Synthesis in the Pursuit of Structure and Function," *Hendrix College*, Conway, AR, November 19, 2012.
4. "α-Selective, Visible Light-Promoted O-Glycosylation with Selenoglycoside Donors." *Glycochemistry Symposium (November 6, 2012), 68<sup>th</sup> Southwest Regional Meeting of the American Chemical Society, Baton Rouge, LA, United States, November 4-7 (2012).*
3. "Chemical Synthesis in the Pursuit of Structure and Function," *McNeese State University*, Lake Charles, LA, October 18, 2012.
2. "Carbohydrates and Catalysts: Chemical Synthesis in the Pursuit of Structure and Function," *Southeastern Louisiana University*, Hammond, LA, March 16, 2012.
1. "Nitrogen and Nematodes: Chemical Synthesis in the Pursuit of Structure and Function," *North Carolina A&T State University*, Greensboro, NC, March 31, 2011.

### **Invited Presentations (before appointment at LSU)**

5. "Diradicals, Dauers and Dots: Chemical Synthesis Applied to Problems in Chemistry and Biology," *Louisiana State University*, Baton Rouge, LA, January 2010.
4. "Diradicals, Dauers and Dots: Chemical Synthesis Applied to Problems in Chemistry and Biology," *Kansas State University*, Manhattan, KS, January 2010.
3. "Diradicals, Dauers and Dots: Chemical Synthesis Applied to Problems in Chemistry and Biology," *University of Louisville*, Louisville, KY, January 2010.



2. "Diradicals, Dauers and Drugs: Chemical Synthesis in the Pursuit of Structure and Function," *Northern Kentucky University*, Highland Heights, KY, January 2009.

1. "Diradicals, Dauers and Drugs: Chemical Synthesis in the Pursuit of Structure and Function," *California State University, Northridge*, Northridge, CA, November 2008.

### **Contributed Presentations (from independent research at LSU as PI)**

2. "Visible-Light-Promoted O-Glycosylation with Selenoglycoside and Thioglycoside Donors." *28<sup>th</sup> International Carbohydrate Symposium, New Orleans, LA, United States, July 17-22 (2016).*

1. "Visible-Light Photocatalytic O-Glycosylation." *245<sup>th</sup> National Meeting of the American Chemical Society, New Orleans, LA, United States, April 7-11 (2013).*

### **Memberships in Professional Organizations**

American Chemical Society (member since 2008)

### **Current and Previous Support**

6. [National Science Foundation: Leveraging Protecting Groups, Lewis Bases, and Backside Attack for 1,2-cis-Selective Glycosylation. \(PI \(single-PI grant\), 6/2021-5/2024, \\$459,999\)](#)

5. National Institutes of Health (AREA/R15 grant): Synthesis of Lipooligosaccharide-Capsular Polysaccharide Conjugates for the Prevention and Treatment of Infections Caused by *Acinetobacter baumannii*. (PI (single-PI grant), 3/2019-2/2022, one-year no-cost extension to 2/2023, \$430,960)

4. National Science Foundation: Stable and Easily Activated Thioglycosides for the Stereoselective Synthesis of Oligosaccharides. (PI, 5/2017-4/2020, no-cost extension that ended in 4/2021, \$420,000)

3. Louisiana Board of Regents (Research Competitiveness Subprogram): Visible Light Photocatalytic Glycosylation with Selenoglycosides. (PI, 6/2013-5/2016, \$145,710)

2. Louisiana Board of Regents (PFUND): Photochemical Arylation in the Synthesis of Natural and Unnatural Products. (PI, 3/2011-2/2012, \$10,000)

1. LSU Council on Research: Chemical Genetic Studies on Chemosensation in the Model Organism *Caenorhabditis elegans*. (PI, 7/1/2011-7/31/2011, \$5,000)

### **Pending Proposals**

3. Louisiana Board of Regents: Ocular Herpes Model for Thioglycosides and Selenoglycosides as Antiviral Coat Glycoprotein Decoys. (*co-PI, PI: Roger Laine, submitted 10/2023, pending*)
2. National Institutes of Health (R21): Thioglycoside and Selenoglycoside Decoys to Inhibit Viral Protein Glycosylation. (*co-PI, PI: Roger Laine, submitted 10/2023, pending*)
1. National Science Foundation: O-Glycosylation Mediated by Chalcogen, Halogen, and Pnictogen Bonding. (*PI, submitted 9/2023, pending*)

## **Proposals in Preparation**

1. National Institutes of Health (R21 revision, impact score = 30 on previous submission): Synthesis and Evaluation of a Bivalent Glycoconjugate Vaccine for Prevention of Infection with *Acinetobacter baumannii*. (*PI, In preparation, to be submitted 2/2024*)

## **Federal Grant Submissions**

19. National Science Foundation: O-Glycosylation Mediated by Chalcogen, Halogen, and Pnictogen Bonding. (*PI, submitted 9/2023, pending*)
18. National Institutes of Health (R21 revision): Synthesis and Evaluation of a Bivalent Glycoconjugate Vaccine for Prevention of Infection with *Acinetobacter baumannii*. (*PI, submitted 6/2023*)
17. National Science Foundation: Practical Redesign of Multifunctional Core-Shell Nanoparticles Based on Strategies with Covalent Binding of Organic Coatings. (*co-PI, PI: Jayne Garno, LSU Department of Chemistry, submitted 10/2022, not funded*).
16. National Institutes of Health (R21): Synthesis and Evaluation of a Tumor-Associated Carbohydrate Antigen Vaccine against Hepatocellular Carcinoma. (*co-PI, PI: Andrea Johnston, LSU School of Veterinary Medicine, submitted 6/2022, not funded*)
15. National Science Foundation: DMREF: Collaborative Research to Accelerate the Development of Multifunctional Nanoparticles for Light Harvesting Applications. (*co-PI, submitted 1/21, not funded*)
14. National Science Foundation: Leveraging Protecting Groups, Lewis Bases, and Backside Attack for 1,2-*cis*-Selective Glycosylation. (*PI, submitted 10/20, \$570,850*)

13. National Science Foundation: Stabilization of Glycosyl Sulfonium Ions and Related Intermediates in 1,2-cis-Selective Glycosylation. (*PI, submitted 9/10, not funded*)
12. National Institutes of Health: Synthesis of Lipooligosaccharide-Capsular Polysaccharide Conjugates for the Prevention and Treatment of Infections Caused by *Acinetobacter baumannii*. (*PI, 3/2019-2/2022, \$430,960*)
11. National Institutes of Health: Synthesis of Lipooligosaccharide-Capsular Polysaccharide Conjugates for the Prevention and Treatment of Infections Caused by *Acinetobacter baumannii*. (*PI, submitted 10/17, not funded*).
10. National Institutes of Health: 4-Aryl-3-butenylthioglycosides for the Stereoselective Synthesis of Bacterial Capsular Polysaccharide Subunits. (*Junior Investigator, submitted as part of NIH COBRE grant application, submitted 1/17, not funded*)
9. National Science Foundation: Stable and Easily Activated Thioglycosides for the Stereoselective Synthesis of Oligosaccharides. (*PI, 5/2017-4/2020, \$420,000*)
8. National Institutes of Health: Orthogonal and Stereoselective Visible-Light-Promoted O-Glycosylation with Thioglycosides (*PI, submitted 5/16, not funded*)
7. National Science Foundation: Visible Light Photocatalytic Grafting: A Versatile Method for the Growth of Thin Films with Broad Applications (*PI, submitted 11/15, not funded*)
6. National Science Foundation: CAREER: Remote Activation Strategies for the Manipulation of functionalities with Low Reactivity (*PI, submitted 7/15, not funded*)
5. National Institutes of Health: Synthesis of Value-Added Compounds by Radical Translocation of Alcohol, Amine and Alkyl Halide-Derived Substrates. (*PI, submitted 6/15, not funded*)
4. National Science Foundation: Visible Light-Mediated Surface Chemistry: Grafting and Nanoscale Lithography of Photocatalytically Generated Alkyl and Aryl Radicals. (*PI, submitted 10/14, not funded, "Medium Priority"*)
3. National Science Foundation: Visible Light Photocatalysis for Surface Grafting and Nanoscale Lithography. (*PI, submitted 11/13, not funded, "Tier 2"*)
2. National Science Foundation: CAREER: Visible Light Photoredox Catalytic Generation and Nucleophilic Trapping of Carbocations in the Synthesis of Value-Added Compounds. (*PI, submitted 7/13, not funded*)

1. National Science Foundation: CAREER: Visible Light-Promoted Synthesis with Organoselenium Species. (*PI, submitted 7/12, not funded*)

## **Current Research Group**

### ***Ph.D. Students***

Vinayak Pradeep, B.S./M.S., IISER-TVM	(fall 2023-present)
Brenda Okoko, B.S., University of Nairobi	(fall 2023-present)
Olusegun (Raphael) Adebayo, B.S., Lagos St.	(spring 2023-present)
Helder Ombui, B.S., University of Nairobi	(fall 2022-present)
Tiffany Duong, B.S., San Diego St.	(fall 2019-present)
Varad Agarkar, B.S., IIT-Bombay, M.S., Purdue	(fall 2018-present)
Brandon Conrad, B.S., Lycoming College	(fall 2018-present)
Erik Alvarez Valenzuela, B.S., San Diego St.	(fall 2018-present)

### ***M.S. Students***

### ***Undergraduate Students***

Ava Hart (fall 2022 – present)  
Jackson Parker (fall 2023 – present)

### ***High School Students***

## **Former Group Members**

### ***Ph.D. Recipients***

James Armstrong, B.S., Xavier University – New Orleans, LA (fall 2017 – spring 2023), Dissertation Defense, 5/4/2023, currently pursuing postdoctoral studies at Vanderbilt University (Nashville, TN)

Dancan Njeri, B.S., University of Nairobi – Nairobi, Kenya (fall 2017 – summer 2022), Dissertation Defense, 7/6/2022, currently employed by Ultima Genomics (Fremont, CA)

Ashley Fulton, B.S., Xavier University – New Orleans (fall 2015-fall 2020), Dissertation Defense, 10/19/2020, currently pursuing postdoctoral studies at the Naval Research Laboratory (Washington, D.C.)

Shaofu Du, B.S., Lanzhou University (fall 2014-fall 2019), Dissertation Defense, 12/06/2018, currently employed in the pharmaceutical industry in China

Kristina Deveaux-Lacey, B.S., Georgia Southern University (fall 2012-fall 2017), Dissertation Defense, 11/08/2017, currently employed by Honeywell (Louisiana)

Rashanique D. Quarels, B.S., Southern University (fall 2012-spring 2017), Dissertation Defense, 3/27/2017, currently an Assistant Professor in the Dept. of Chemistry at Rowan University (Glassboro, NJ)

Mark. L. Spell, B.S., University of Louisiana – Lafayette (fall 2011-spring 2016), Dissertation Defense, 3/21/2016, currently employed by Nalco Champion (Houston, TX)

Kyle A. Hollister, B.S., University of Florida (fall 2010-fall 2015), Dissertation Defense, 8/24/2015, currently employed by Chemical Abstracts

Elizabeth C. Balapitiya, B.S., Baylor University (fall 2010-spring 2015), Dissertation Defense, 1/16/2015, currently employed by Nalco Champion (Houston, TX)

### ***M.S. Recipients***

Melissia Porter, B.S., Xavier University – New Orleans (fall 2016-spring 2019), Thesis Defense, 3/5/2019

Elizabeth A. Kimball, B.S., Southeastern Louisiana University (fall 2014-spring 2017), Thesis Defense, 5/19/2017

John Crafton, B.S., McNeese St. University (fall 2013-fall 2015), Thesis Defense, 3/30/2015

Xiaoping Wang, B.S., Beijing Normal University (fall 2011-fall 2014), Thesis Defense, 12/2/2014

### ***Former Postdoctoral Associate***

Amir Wahba, Ph.D., University of Mississippi (fall 2011-fall 2012)

### ***Former Undergraduates***

Bradley Bernard (fall 2013-spring 2015), Michael Beal (fall 2012-fall 2014), Léa Manéval (HHMI student from UJF-Grenoble, Grenoble, France, summer 2014), Chelsea Eaton (fall 2013), William Sheffield (fall 2012-spring 2013), Katherine Crocker (fall 2012-spring 2014), Gary M. Bernard (spring 2011-spring 2012), Austin Firesheets (spring 2015-spring 2016), Valerie Rasolofoarison (fall 2016), Bryce Rushing (spring 2017), Mason Hanzo (fall 2017), Nicholas Reid (spring 2017-spring 2018), Greg Rider (fall 2017-spring 2018), Claude Pertuit (spring 2018-fall 2019), Mallory Granier (fall 2019), Taylor Sigur (summer 2018), Tirth Patel (fall 2019), Alex Wexler (spring 2018), Lebogang Kgoadi (fall 2020), Colette Rainey (fall 2021-spring 2022), Gannon Matlock (summer 2021-fall 2021), Kole

Martin (fall 2021 - spring 2021), Collin Catalano (fall 2021 – spring 2023), Zoe Patton (fall 2022 – spring 2023)

### **Former High School Students**

Josef Hofman, Louisiana School for Math, Science and the Arts (summer 2015), Marika Buchholz, Louisiana School for Math, Science and the Arts (summer 2014), Pratik Patel, Louisiana School for Math, Science and the Arts (summer 2012, summer 2013)

## **Student Presentations**

### **Oral Presentations**

8. Alvarez Valenzuela (invited speaker), Duong, T.; Ragains, J.R. Visible-Light-Induced Activation of Selenoglycosides for O-Glycosylation. *Mid-South Glycoscience Meeting, Oxford, MS, June 29 (2023)*.
7. Agarkar, V. (Presenter); Ragains, J.R. Examining the Authenticity of the “Ether Model” in Glycosylation Reactions. *ACS National Meeting & Exposition, Indianapolis, IN, March 26 (2023)*.
6. Armstrong, II, J.M. (Presenter); Conrad, B.J.; Ragains, J.R. Progress toward the Synthesis of an *Acinetobacter baumannii* Lipooligosaccharide. *Mid-South Glycoscience Meeting, Oxford, MS, June 16 (2022)*.
5. Njeri, D.K. (invited speaker). 1,2-*cis*-Selective Glycosylation through the Synergy of Trifluoromethylated Benzyl Protecting Groups and Lewis-Basic Additives. *Mid-South Glycoscience Meeting, Oxford, MS, July 19 (2021)*.
4. Fulton, A. (presenter). Progress toward the Synthesis of a Pentasaccharide Portion of an *A. baumannii* Lipooligosaccharide. *Retirement Symposium in Honor of Professor Carol M. Taylor, Baton Rouge, LA, November 22 (2019)*.
3. Quarels, R.D. (invited speaker). Brønsted Acid-Catalyzed Disaccharide Synthesis Using Thioglycoside Donors and the Functionalization of Au(111) Surfaces Using Visible-Light Photocatalysis. *Academic Pathways Fellows Program, Nashville, TN, February 26-March 2 (2017)*.
2. Deveaux, K.D. (presenter); Ragains, J.R. Acid Promoted O-Glycosylation via Thioglycoside Donors. *NOBCCChE 44<sup>th</sup> Annual Conference, Minneapolis, MN, October 30-November 2 (2017)*.

1. Deveaux, K.D. (presenter); Ragains, J.R. Synthesis of disaccharides via acid-catalyzed activation of a 4-aryl-3-butenylthioglycoside glycosyl donor. *NOBCChE 43<sup>rd</sup> Annual Conference, Raleigh, NC, November 8-11 (2016)*.

### **Poster Presentations**

13. Duong, T. (Presenter); Alvarez Valenzuela, E.; Ragains, J.R. Benzyne-Promoted 1,2-*cis*-Selective O-Glycosylation with Benzylchalcogenoglycoside Donors. *Mid-South Glycoscience Meeting, Oxford, MS, June 29 (2023)*.

12. Conrad, B.; Armstrong II, J. (presenters); Ragains, J.R. Progress Towards the Synthesis of a Lipooligosaccharide Subunit from *Acinetobacter baumannii*. *Mid-South Glycoscience Meeting, Oxford, MS, United States, June 16 (2022)*.

11. Agarkar, V. (presenter); Ragain, J.R. Examining the Authenticity of the “Ether Model” in Glycosylation Reactions. *Mid-South Glycoscience Meeting, Oxford, MS, June 29 (2023)*.

10. Njeri, D.K. (presenter); Ragains, J.R. Leveraging Trifluoromethylated Benzyl Groups toward the Highly 1,2-*cis*-Selective Glucosylation of Reactive Alcohols. *Professor Isiah Warner’s Retirement Symposium, Baton Rouge, LA, January 14 (2022)*.

9. Fulton, A. (presenter); Kuruppu Arachchige, N. A.; Garno, J. C.; Ragains, J.R. Organic Thin Layer Growth on Gold Surfaces using Photoredox Catalysis. *NOBCChE 43<sup>rd</sup> Annual Conference, Raleigh, NC, United States, November 8-11 (2016)*.

8. Quarels, R.D. (presenter); Zhai, X.; Garno, J.C.; Ragains, J.R. Visible light photoredox catalysis for the nanoscale lithography of Au(111) surfaces using phthalimide esters. *NOBCChE 42<sup>nd</sup> Annual Conference, Orlando, FL, United States, September 21-25 (2015)*.

7. Deveaux, K. (presenter); Ragains, J.R. Remote Hydroxylation of Unactivated Csp<sup>3</sup>-H Bonds. *NOBCChE 42<sup>nd</sup> Annual Conference, Orlando, FL, United States, September 21-25 (2015)*.

6. Hollister, K.A. (presenter); Conner, E.S.; Spell, M.L.; Deveaux, K.; Beal, M.; Ragains, J.R. Photocatalytic C-H Activation: Directed Hydroxylation of Unactivated Aliphatics. *248<sup>th</sup> ACS National Meeting & Exposition, San Francisco, CA, United States, August 10-14 (2014)*.

5. Quarles, R. (presenter); Verberne-Sutton, S.; Zhai, X.; Bolden, O.; Garno, J.; Ragains, J. Photoredox Catalysis with Visible Light Applied for Nanoscale Lithography on Au(111). *69<sup>th</sup> Southwest Regional Meeting of the American Chemical Society, Waco, TX, United States, November 16-19 (2013)*.

4. Conner, E.S. (presenter); Crocker, K.E.; Fernando, R.G.; Fronczek, F.; Stanley, G.G.; Ragains, J.R. Visible Light-Promoted Selenofunctionalization of Alkenes: A Short Synthesis of ( $\pm$ )- $\gamma$ -Lycorane. *69<sup>th</sup> Southwest Regional Meeting of the American Chemical Society, Waco, TX, United States, November 16-19 (2013).*
3. Conner, E.S. (presenter); Crocker, K.; Ragains, J.R. Visible Light-Promoted Selenocyclofunctionalization. *245<sup>th</sup> National Meeting of the American Chemical Society, New Orleans, LA, United States, April 7-11 (2013).*
2. Spell, M. (presenter); Wang, X.; Wahba, A.E.; Conner, E.S. Metal- and Organo-Catalyzed Glycosylations of Alcohols with Selenoglycoside Donors. *245<sup>th</sup> National Meeting of the American Chemical Society, New Orleans, LA, United States, April 7-11 (2013).*
1. Conner, E.S. (presenter); Hollister, K.A.; Noguez, J.H.; Butcher, R.A.; Ragains, J.R. Synthesis and Biological Evaluation of Naturally-Occurring Ascarosides: Effects on the Parasitic Life Cycle of *Heterorhabditis bacteriophora*. *Abstracts, 68<sup>th</sup> Southwest Regional Meeting of the American Chemical Society, Baton Rouge, LA, United States, November 4-7 (2012).*

## Teaching

### Teaching History

Year	Semester	Course ( <i>credit hours</i> )	Enrollment
2010	Fall	CHEM 4562 Intmdt. Organic Chemistry (3)	37
2011	Fall	CHEM 4562 Intmdt. Organic Chemistry (3)	37
2012	Spring	CHEM 2261 Organic Chemistry I (3)	140
2012	Fall	CHEM 4562 Intmdt. Organic Chemistry (3)	28
2013	Spring	CHEM 2261 Organic Chemistry I (3)	52
2013	Fall	CHEM 4562 Intmdt. Organic Chemistry (3)	20
2014	Spring	CHEM 2261 Organic Chemistry I (3)	83
2014	Fall	CHEM 4562 Intmdt. Organic Chemistry (3)	26
2015	Fall	CHEM 4562 Intmdt. Organic Chemistry (3)	34
2016	Spring	CHEM 2261 Organic Chemistry I (3)	160
2016	Fall	CHEM 4562 Intmdt. Organic Chemistry (3)	32
2017	Spring	CHEM 2261 Organic Chemistry I (3)	155
2017	Fall	CHEM 4562 Intmdt. Organic Chemistry (3)	32
2018	Spring	CHEM 2262 Organic Chemistry II (3)	245



2018	Fall	CHEM 7760 Modern Organic Synthesis (3)	11
2019	Fall	CHEM 7760 Modern Organic Synthesis (3)	5
2020	Spring	CHEM 2262 Organic Chemistry II (3)	265
2020	Fall	CHEM 2261 Organic Chemistry I (3)	265
2021	Spring	CHEM 4563 Organic Structure Elucidation (3)	22
2021	Fall	CHEM 2261 Organic Chemistry I (3)	265
2022	Spring	CHEM 4563 Organic Structure Elucidation (3)	22
2022	Fall	CHEM 2261 Organic Chemistry I (3)	265
2023	Spring	CHEM 4563 Organic Structure Elucidation (3)	44
2023	Fall	CHEM 2261 Organic Chemistry I (3)	250
2024	Spring	CHEM 4563 Organic Structure Elucidation (3)	47

### Student Evaluations (out of possible 4.0)

Course	Questions 1-8	Chemistry	College of Science	Overall Instructor (Q 9)	Chemistry	College of Science	Overall Course (Q 10)	Chemistry	College of Science
4562, fall 2010	3.58	3.69 (0.10) UUG	3.64 (0.25) UUG	3.23	3.66 (0.25) UUG	3.48 (0.42) UUG	3.37	3.53 (0.25) UUG	3.48 (0.39) UUG
4562, fall 2011	3.75	3.67 (0.21) UUG	3.67 (0.27) UUG	3.62	3.63 (0.29) UUG	3.55 (0.40) UUG	3.65	3.59 (0.30) UUG	3.53 (0.37) UUG
2261, spring 2012	3.60	3.53, (0.22), IUG	3.54, (0.26), IUG	3.27	3.29 (0.42) IUG	3.34 (0.48) IUG	3.32	3.23 (0.40) IUG	3.31 (0.40) IUG
4562, fall 2012	3.70	3.58 (0.42) UUG	3.69 (0.23) UUG	3.53	3.40 (0.69) UUG	3.61 (0.38) UUG	3.71	3.40 (0.69) UUG	3.57 (0.36) UUG
2261, spring 2013	3.69	3.51 (0.27) IUG	3.54 (0.26) IUG	3.46	3.28 (0.49) IUG	3.33 (0.46) IUG	3.62	3.28 (0.47) IUG	3.48 (0.40) IUG
4562 fall 2013	3.77	3.67 (0.20) UUG	3.70 (0.26) UUG	3.73	3.62 (0.24) UUG	3.60 (0.38) UUG	3.73	3.61 (0.31) UUG	3.59 (0.39) UUG
2261, spring 2014	3.68	3.56 (0.26) IUG	3.56 (0.21) IUG	3.47	3.35 (0.45) IUG	3.35 (0.42) IUG	3.50	3.33 (0.41) IUG	3.31 (0.37) IUG
4562, fall 2014	3.78	3.61 (0.25) UUG	3.71 (0.24) UUG	3.53	3.42 (0.49) UUG	3.58 (0.41) UUG	3.47	3.38 (0.47) UUG	3.59 (0.38) UUG
4562, fall 2015	3.86	3.75 (0.18) UUG	3.74 (0.20) UUG	3.73	3.56 (0.38) UUG	3.61 (0.39) UUG	3.58	3.52 (0.30) UUF	3.62 (0.32) UUG
2261, Spring 2016	3.73	3.58 (0.21) IUG	3.58 (0.22) IUG	3.58	3.32 (0.40) IUG	3.38 (0.45) IUG	3.63	3.30 (0.37) IUG	3.36 (0.41) IUG
4562, fall 2016	3.80	3.72 (0.16) UUG	3.75 (0.19) UUG	3.90	3.57 (0.29) UUG	3.66 (0.30) UUG	3.81	3.57 (0.29) UUG	3.64 (0.29) UUG
2261, Spring 2017	3.71	3.40 (0.25) IUG	3.40 (0.28) IUG	3.61	3.09 (0.43) IUG	3.13 (0.49) IUG	3.58	3.09 (0.42) IUG	3.15 (0.43) IUG

4562, fall 2017	3.75	3.59 (0.34) UUG	3.63 (0.27) UUG	3.71	3.44 (0.56) UUG	3.52 (0.42) UUG	3.67	3.43 (0.52) UUG	3.52 (0.39) UUG
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Key: UUG (figure taken from upper level undergraduate course averages); IUG (figure taken from introductory undergraduate level courses); standard deviations are included in parentheses

Student evaluations from spring 2018 onward are cont'd on the next chart.

Course	Questions 1-9	Dept. Ave.	College Ave.	Instructor (Q 10)	Dept. Ave.	College Ave.
2261, Spring 2018	3.83	N/A	N/A	3.75	N/A	N/A
7760, Fall 2018	3.96	3.54	3.57	4.00	3.30	3.39
7760, Fall 2019	4.00	3.47	3.57	4.00	3.25	3.21
2262, Spring 2020	3.64	3.53	3.58	3.52	3.31	3.42
2261, Fall 2020	3.75	3.49	3.56	3.68	3.30	3.42
4563, Spring 2021	3.80	3.57	3.57	3.69	3.42	3.43
2261, Fall 2021	3.81	3.43	3.53	3.73	3.14	3.35
4563, Spring 2022	3.83	3.58	3.59	3.90	3.42	3.42
2261, Fall 2022	3.74	3.56	3.60	3.67	3.32	3.41
4563, Spring 2023	3.83	3.54	3.58	3.94	3.35	3.41
2261, Fall 2023	3.73	3.51	3.61	3.75	3.26	3.46

## Service Activities

### *Departmental Committees*

Graduate Student Admissions Committee (2010-present): in connection with this responsibility, I have:

- served as Chair of this committee (fall 2017-present)
- surveyed the faculty and met with the Department Chair to determine the target size and composition (subdisciplines of chemistry) of next year's incoming class
- organized and/or attended meetings of the Admissions Committee
- convened meetings with the Assistant Chair of the Admissions Committee to discuss offers and fellowship recipients
- delegated reviewing responsibilities to other members of the Committee
- reviewed applications to the chemistry graduate program and made recommendations
- met with the Department Chair to recommend offers and recipients of fellowships
- coordinated the preparation of applications for funding from programs such as Inclusive Excellence
- met with prospective graduate students as part of their visit to the LSU Department of Chemistry
- collaborated with the Director of Graduate Studies and members of the Graduate Recruiting Committee to deal with pandemic-related admissions shortages (spring/summer 2020)

Facilities & Instrumentation Committee (fall 2015-spring 2017): in connection with this responsibility, I have:

- attended meetings of this committee
- acted as PI for a mass spectrometry instrumentation grant proposal to the LA Board of Regents (*PI, fall 2016, not funded*)
- participated in the preparation of an instrument proposal to the LA Board of Regents (*PI, fall 2013, co-PI, fall 2016, not funded*) where I coordinated the efforts of various participants and participated in the writing and editing of the proposal

Mass Spectrometry Committee (fall 2013-spring 2015): in connection with this responsibility, I have:

- attended meetings of this committee
- participated in the preparation of an instrument pre-proposal for the NSF MRI Program (*PI, fall 2014, not selected for submission*) where I coordinated the efforts of various participants and wrote and edited the pre-proposal
- participated in the preparation of an instrument proposal to the LA Board of Regents (*PI, fall 2013, not funded*) where I coordinated the efforts of various participants and participated in the writing and editing of the proposal

Organic Chemistry Faculty Search Committee (2015-2016, 2016-2017, 2019-2020): in connection with this responsibility, I have:

- attended meetings of this committee

- reviewed applications for tenure-track positions at the rank of Assistant Professor and made recommendations
- hosted faculty candidates

**General Exam/Dissertation/Master's Degree Committees:** In connection with these responsibilities, I have read and edited General Exam documents and Dissertations, attended General Exams and Dissertation Defenses, and provided advice in both formal (during examinations) and informal (individual meetings) settings.

**Dissertation Defenses attended with date of examination:**

Nimesha Rajapaksha, 10/2023	(Advisor: Prof. Mario Rivera)
Matthew He, 10/2023	(Advisor: Prof. Semin Lee)
Aderonke Folorunso, 9/2023	(Advisor: Prof. Kenneth Lopata)
Ovini Kankanamge, 10/2022	(Advisor: Prof. Robin McCarley)
Moshood Ganiu, 03/2022	(Advisor: Prof. Rendy Kartika)
David Siefker, 11/2021	(Advisor: Prof. Donghui Zhang)
Prahald Siwakoti,* 09/2021	(Advisor: Prof. Jiandi Zhang, LSU Dept. of Physics)
Nichole Kaufman, 03/2021	(Advisor: Prof. Graca Vicente)
Joshua Van Houten, 02/2021	(Advisor: Prof. Rendy Kartika)
Joshua Malone, 11/2020	(Advisor: Prof. Rendy Kartika)
Alex Cleveland, 05/2020	(Advisor: Prof. Rendy Kartika)
Jeremy Vasseur (MS, 07/2020)	(Advisor: Prof. Matthew Chambers)
Gerard Ducharme, 10/2019	(Advisors: Profs. Evgueni Nesterov and Carol Taylor)
Joshua Lutz, 10/2019	(Advisor: Prof. Carol Taylor)
Peter Kei, 10/2019	(Advisor: Prof. Evgueni Nesterov)
Mirza Ardella Saputra, 10/2017	(Advisor: Prof. Rendy Kartika)
Chen Wang,* 3/2017	(Advisor: Prof. Bing-Hao Luo, LSU Dept. of Biological Sciences)
Ciera Duronslet, 9/2016	(Advisor: Prof. George Stanley)
Jinbao Cao, 7/2016	(Advisor: Prof. Donghui Zhang)
Yaakoub El Khamra,* 5/2016	(Advisor: Prof. Mayank Tyagi, LSU Dept. of Petroleum Engineering)
Caitlan Ayala, 2/2016	(Advisor: Prof. Rendy Kartika)
Andres Villalpando, 12/2015	(Advisor: Prof. Rendy Kartika)
Xiaoxia He,* 10/2015	(Advisor: Prof. Francisco Hung, LSU Dept. of Chemical Engineering)
Chelliah Navin,* 3/2015	(Advisor: Prof. Chandra Theegala, LSU Dept. of Biological and Agricultural Engineering)
Rasika Nawimanage, 3/2015	(Advisor: Prof. Robin McCarley)
Danielle Meador, 3/2014	(Advisor: Prof. David Spivak)
Venetia Lyles, 9/2013	(Advisor: Prof. Jayne Garno)

\* served as Dean's Representative, department indicated next to Advisor's name

**General Exams attended with date of examination:**

Jose Garfias, 11/2023	(Advisor: Prof. Fatima Rivas)
Harry Spencer, 11/2022	(Advisor: Prof. David Spivak)
Alex Behm, 11/2022	(Advisor: Prof. Mario Rivera)
Stephy Jomy, 12/2021	(Advisor: Prof. Robin McCarley)
Simran Dhingra, 11/2021	(Advisor: Prof. Graca Vicente)
Victoria Valley, 11/2021	(Advisor: Prof. Matthew Chambers)
Monojit Das Bairagya, 10/2020	(Advisor: Prof. Noemie Elgrishi)
Arnab Chakraborty, 10/2020	(Advisor: Prof. Tuo Wang)
Prahald Siwakoti,* 09/2020	(Advisor: Prof. Jiandi Zhang, LSU Dept. of Physics)
Aderonke Folorunso, 04/2020	(Advisor: Prof. Kenneth Lopata)
Aisha Cook, 11/2019	(Advisor: Prof. Mario Rivera)
Binod Nepal, 11/2018	(Advisor: Prof. Rendy Kartika)
Joshua Van Houten, 11/2018	(Advisor: Prof. Rendy Kartika)
Moshood Ganiu, 10/2018	(Advisor: Prof. Rendy Kartika)
David Siefker, 09/2018	(Advisor: Prof. Donghui Zhang)
Alexander Cleveland, 11/2017	(Advisor: Prof. Rendy Kartika)
Joshua Malone, 11/2017	(Advisor: Prof. Rendy Kartika)
Anika Aarons,* 8/2017	(Advisor: Prof. Robert Twilley, LSU Dept. of Oceanography and Coastal Sciences)
Gerard Ducharme, 11/2016	(Advisor: Prof. Evgueni Nesterov)
Neepa Kuruppu, 10/2016	(Advisor: Prof. Jayne Garno)
Joshua Lutz, 10/2016	(Advisor: Prof. Carol Taylor)
Fatemeh Khamespanah, 4/2016	(Advisor: Prof. Evgueni Nesterov)
Chunwa Peter Kei, 4/2016	(Advisor: Evgueni Nesterov)
Yaakoub El Khamra,* 2/2016	(Advisor: Prof. Mayank Tyagi, LSU Dept. of Petroleum Engineering)
Chelliah Navin,* 11/2014	(Advisor: Prof. Chandra Theegala, LSU Dept. of Biological and Agricultural Engineering)
Mirza Ardella Saputra, 11/2014	(Advisor: Prof. Rendy Kartika)
Andres Villalpando, 11/2013	(Advisor: Prof. Rendy Kartika)
Jinbao Cao, 10/2013	(Advisor: Prof. Donghui Zhang)
Qianli Meng, 10/2013	(Advisor: Prof. Graca Vicente)
Caitlan Ayala, 9/2013	(Advisor: Prof. Rendy Kartika)
Xiaoxia He,* 9/2013	(Advisor: Prof. Francisco Hung, LSU Dept. of Chemical Engineering)
Ciera Duronslet, 11/2012	(Advisor: Prof. George Stanley)
Lauren Englade, 11/2011	(Advisor: Prof. Jayne Garno)
Stephen Smith, 10/2011	(Advisor: Prof. David Spivak)

\* served as Dean's Representative, department indicated next to Advisor's name

### **Research Master's Degree Defenses attended with date of examination**

Isaac Dos Reis, 4/2021

(Advisor: Prof. Rendy Kartika)

### **Coursework Master's Degree Defenses attended with date of examination**

Aisha Cook, 04/2022

Heidi Texada, 11/2021

Siddhiaratchige Siddhiaratchi, 6/2021 (Advisor: Prof. Matthew Chambers)

**Assistant Professor Mentoring Committees:** In connection with these responsibilities, I have attended formal meetings and also had informal discussions with colleagues at the rank of Assistant Professor. I have also attended course lectures delivered by these individuals and provided written evaluations of their teaching. The goal is to provide mentoring and guidance for these individuals:

Professor Matthew Chambers (fall 2018 – present)

Professor Victor Garcia-Lopez (fall 2021 – present)

**Peer Teaching Review Committees:** In connection with these responsibilities, I have attended course lectures delivered by these individuals and provided written evaluations of their teaching in preparation for the submission for their third-year reviews or their tenure reviews. I have served for the following individuals:

Professor Amy Xu

Professor Zakiya Wilson-Kennedy

Professor Semin Lee

Professor Noemie Elgrishi

Professor Fatima Rivas

### **College of Science Committees**

College of Science Pre-Medical/Pre-Dental Committee (spring 2019-summer 2022): in connection with this responsibility, I have:

- reviewed and provided evaluations of primary medical school applications to the committee (spring 2019-present)
- attended committee meetings

### **Chem 7800 Organic Division Seminar Series**

- organized the CHEM 7800 Organic Division seminar series (spring 2017, spring 2016, fall 2014, fall 2013, fall 2012)

### **Departmental Colloquium Speakers Hosted**

Professor Thomas Lectka (*Johns Hopkins University*, April 24, 2015)

Professor Viresh Rawal (*University of Chicago*, September 12, 2014)

Professor David Crich (*Wayne State University*, February 28, 2014)

Professor George O'Doherty (*Northeastern University*, December 6, 2013)

Professor John Wood (*Colorado State University*, March 23, 2012)

Professor William R. Roush (*The Scripps Research Institute*, Nov. 11, 2011)

### ***Organic Division Speakers Hosted***

Professor Maciej Walczak (*University of Colorado – Boulder*, May 2, 2023)

Professor Peter Andreana (*University of Toledo*, Oct. 18, 2022)

Professor Jeroen Codée (*University of Leiden*, Nov. 10, 2020)

Professor Julie Pigza (*University of Southern Mississippi*, April 17, 2018)

Professor Matthew Donahue (*University of Southern Mississippi*, August 29, 2017)

Professor Larry Yet (*University of South Alabama*, March 14, 2017)

Professor Jimmie Weaver (*Oklahoma State University*, February 3, 2015)

Professor Nan Zheng (*University of Arkansas*, October, 7, 2014)

Professor Christopher Marvin (*Hendrix College*, February 18, 2014)

Professor Janarthanan Jayawickramarajah (*Tulane University*, April 23, 2013)

### ***IMSD Speakers Hosted***

Professor Rebecca Butcher (*University of Florida*, February 26, 2016, co-hosted with Prof. Graca Vicente)

### ***SACNAS (Society for the Advancement of Chicanos/Hispanics and Native Americans in Science) Speakers Hosted***

Dr. Carlos Tassa (*Google/Verily*, February 17, 2022)

### ***Collaboration with Upward Bound Program***

- organized summer educational activities for Upward Bound students from Tara H.S. (Baton Rouge, LA) including 1) “CSI: Baton Rouge,” a lab geared toward teaching students the basics of deductive reasoning and 2) a lab demonstrating combustion and frontal polymerization and teaching a basic understanding of enthalpy (June/July 2014, June/July 2015, June/July 2016, June/July 2017, June/July 2018, June/July 2019, activities cancelled during the summers of 2020/2021, June/July 2022, June/July 2023)
- organized an educational activity called “Chemistry Day” where all students from the Tara H.S. Upward Bound Program 1) learn basics of molecular structure determination with an interactive lesson on X-ray crystallography, Mass Spec., and NMR 2) participate in various chemistry demonstrations and 3) listen to a graduate student panel discussion about the transition from high school to college to graduate school (June 2013, March 2015)

### ***Continuing Education for LSU Dept. of Chemistry Graduate Students***

- organized a seminar with Dr. Samuel Lahasky (SciGenesis) aimed at educating graduate students about navigating the world of postdoctoral research and finding jobs in industry (spring 2015)
- organized a seminar with Dr. Indu Kheterpal (Albemarle Corporation) aimed at educating graduate students about the responsibilities and expectations of Ph.D. scientists in academia and industry (fall 2014)
- organized a seminar series with Mr. Khanh Bui (University Recruiting Specialist, Albemarle Corporation) aimed at educating graduate students about the job search and interviewing process (spring 2013)

***Service for the American Chemical Society:*** In connection with these responsibilities, I have served on organizing committees for American Chemical Society symposia at both regional and national meetings. Specifically, I have organized and helped to preside over the following symposia:

3. “Recent Advancements and Applications in Organic Synthesis.” *Southwest Regional Meeting of The American Chemical Society, Baton Rouge, LA, United States, November 6-9 (2022)*
2. “Cope Scholar Symposium – Catalysis in Organic Synthesis.” *Southwest Regional Meeting of The American Chemical Society, Baton Rouge, LA, United States, November 6-9 (2022)*
1. “Carbohydrates and Infectious Disease.” *National Meeting of the American Chemical Society, Virtual, April 5-16 (2021)*