

# Anthony R. Rosales

Department of Chemistry and Biochemistry • University of Notre Dame  
305 McCourtney Hall, Notre Dame, IN 46556  
(406) 217 – 1905 • TRRosales@gmail.com • www.nd.edu/~arosale4

## Education

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<b>Ph.D. Chemistry</b> • U. of Notre Dame <i>Notre Dame, IN 46556</i> Advisors: Olaf Wiest & Paul Helquist	Expected May 2019 GPA 3.9
<b>B.A. Chemistry</b> • Carroll College <i>Helena, MT 59625</i> Magna cum Laude	May 2014 GPA 3.6

## Research Experience

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<b>Doctoral Research</b> • U. of Notre Dame Development of Quantum Guided Molecular Mechanics (Q2MM) and the application of Q2MM and other computational methods as predictive and mechanistic tools in asymmetric catalysis.	Dec. 2014 – Present
<b>Summer Research Fellow</b> • U. of Notre Dame Synthesis, characterization, and reactivity of several dinuclear group 1 and group 2 metals for use in polymerization of CO <sub>2</sub> .	July 2014 – Sept. 2014
<b>Undergraduate Research</b> • MT State University Synthesis, characterization, and coordination of asymmetric ligands for the catalytic hydroamination of aminoalkenes using yttrium.	June 2013 – Aug. 2013

## Honors and Awards

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<b>U. of Notre Dame</b>	
Carl Storm Underrepresented Minority Fellowship	2017
Physical Organic Chemistry Gordon Research Conference	
Chemistry-Biochemistry-Biology Interface Fellowship	2016 – Present
International Research Experience for Students Fellowship	2016
AstraZeneca/U. of Gothenburg; Prof. Per-Ola Norrby	
Striving in Excellence in College Teaching Certificate	2015
Kaneb Center for Teaching and Learning	
Fellowship to attend Summer School in Computational Chemistry	2015
U. of Heidelberg	

## Carroll College

Presidential Scholarship	2010 – 2014
Dean's List	2010 – 2014
Phi Sigma Tau Honors	2013
Philosophy Department	

<b>MT State University</b>	
NSF-REU Fellowship	2013

### Publications and Presentations

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#### Publications

- Hansen, E.; Rosales, A.; Tutkowski, B.; Norrby, P.-O.; Wiest, O. Predictions of Stereochemistry using Q2MM. *Acc. Chem. Res.*, **2016**, 49, 996 -1005.

#### Presentations

- Rosales, A.R.; Hansen, E.; Berkel, N.; Norrby, P.-O.; Helquist, P.; Wiest, O. The Prediction of Stereochemistry from Q2MM Developed Transition State Force Fields. Poster Presentation. Gordon Research Seminar and Conference, Holderness School, NH. June 24-30, 2017
- Rosales, A.R. Q2MM Methodology and Development. Oral Presentation
  - CBBI Symposium, U. of Notre Dame, Notre Dame, IN. May 5, 2017
  - COS-JAM, U. of Notre Dame, Notre Dame, IN. May 4, 2017
- Rosales, A.R. Q2MM Derived Force Fields. Oral Presentation
  - CBBI seminar, U. of Notre Dame, Notre Dame, IN. Sept. 1 2016.
  - End-summer IRES symposium, U. of Stockholm, Stockholm, Sweden. Aug. 24, 2016.
  - Mid-summer IRES symposium, AstraZeneca, Gothenburg, Sweden. June 27, 2016.
  - IRES symposium, U. of Stockholm, Stockholm, Sweden. May 9, 2016.
- Rosales, A.R.; Helquist, P.; Norrby, P.-O.; Wiest, O. Q2MM Force Field Development for Asymmetric Heck Reaction. Poster Presentation. 33<sup>rd</sup> H. C. Brown Lectures in Organic Chemistry, Purdue University, West Lafayette, IN, April 15, 2016.
- Rosales, A.R. Mechanisms of Asymmetric Heck-Type Reactions. Oral Presentation. Department Seminar, U. of Notre dame. Jan. 30, 2015.
- Rosales, A.R.; Livinghouse, T. Synthesis of (1R)-Amino-(2R)-(1-pyrolidino)cyclohexane for Use in Asymmetric Hydroamination/Cyclization of Aminoalkenes. Poster Presentation.
  - Montana Fall Regional ACS meeting, Pray, MT. Oct. 2013.
  - Undergraduate Poster Presentation. MT State University, Bozeman, MT. Aug. 2013.

### Teaching Experience

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<b>Department of Chemistry and Biochemistry • U. of Notre Dame</b>	
Teaching Assistant • General Chemistry I Tutorials	2015
Teaching Assistant • Organic Chemistry I Labs	2015

Teaching Assistant • General Chemistry I Labs	2014
<b>Kaneb Center for Teaching and Learning Workshops • U. of Notre Dame</b>	
Gathering Early Semester Feedback	2015
Foundations of STEM IV	2015
Foundations of STEM III	2015
Foundations of STEM II	2015
Foundations of STEM I	2015
<b>Carroll College</b>	
Tutor • Chemistry	2013 – 2014
Lab Aid • General/Organic Chemistry, Instrumental Methods	2011 – 2014
<b>Professional Roles</b>	
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<b>Chemistry Graduate Student Organization • U. of Notre Dame</b>	
President	2017 – Present
Vice President	2016 – 2017
Representative	2015 – 2016
<b>Y Disciple • Queen of Peace Parish, Mishawaka, IN</b>	
Youth Minister	2016 – Present
<b>Carroll College</b>	
Pep Band Director	2012 – 2014
Community Hall Advisor	2012 – 2013
<b>Benefis Health Systems • Great Falls, MT</b>	
Certified Nursing Assistant	2010 – 2014