

## Kenneth Lamar Martin

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### EDUCATION

1992 – 1997      University of New Orleans  
New Orleans, LA 70148  
Ph.D., Chemistry, 1997  
Major: Physical Chemistry  
Minor: Inorganic Chemistry

1988 – 1992      University of New Orleans  
New Orleans, LA 70148  
B.S., 1992  
Major: Chemistry

### PROFESSIONAL EXPERIENCE

2005 – present      Associate Professor of Chemistry  
Fall 2010 – 2016      Department of Chemistry Chair  
1999 – 2005      Assistant Professor of Chemistry  
Berry College  
Mt. Berry, GA 30149

Summers 2001,  
2002, and 2003      Visiting Assistant Professor of Chemistry  
University of New Orleans  
Lakefront Campus, New Orleans, LA 70148

1997 – 1999      Visiting Assistant Professor of Chemistry  
Truman State University  
100 E. Normal St., Kirksville, MO 63501

### PUBLICATIONS

Martin, K. L.; Breton, G. W. “Computational,  $^1\text{H}$  NMR, and X-ray structural studies on 1-arylurazole tetrazane dimers” *Acta Crystallographica C* **2017**, *73*, in press.

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**PUBLICATIONS** (cont.)

Breton, G. W.; Hughes, J. S.; Pitchko, T. J.; Martin, K. L.; Hardcastle, K. “Unexpected  $\sigma$  bond rupture during the reaction of N-methyl-1,2,4-triazoline-3,5-dione with acenaphthylene and indene” *Journal of Organic Chemistry* **2014**, *79*, 8212.

Greve, B. K.; Martin, K. L.; Lee, P. L.; Chupas, P. J.; Chapman, K. W.; Wilkinson, A. P. “Pronounced Negative Thermal Expansion from a Simple Structure: Cubic  $\text{ScF}_3$ ” *Journal of the American Chemical Society* **2010**, *132*, 15496.

Bettis, S. E.; Matthias, M. W.; Martin, K. L. “Comparison of Crystal Structures of the Tetramethylammonium and Sodium Salts of 3-Nitrophenolate” *Georgia Journal of Science* **2008**, *66*, 115.

Martin, K. L. “Using *SPARTAN* to Enhance the Student’s Understanding of Crystal Field Splitting Diagrams” *The Chemical Educator* **2005**, *10*, 41.

Baughman, R. G.; Martin, K. L.; Singh, R. K.; Stoffer, J. O. “2,4-Dinitrophenylhydrazones of 2,4-dihydroxybenzaldehyde, 2,4-dihydroxyacetophenone and 2,4-dihydroxybenzophenone” *Acta Crystallographica Section C* **2004**, *60*, o103.

Grasa, G. A.; Moore, Z.; Martin, K. L.; Stevens, E. D.; Nolan, S. P.; Paquet, V.; Helene, L. “Structural characterization and catalytic activity of the rhodium-carbene complex  $\text{Rh}(\text{PPh}_3)_2(\text{IMes})\text{Cl}$  (IMes = bis(1,3-(2,4,6-trimethylphenyl)imidazol-2-ylidene)” *Journal of Organometallic Chemistry* **2002**, *658*, 126.

Breton, G. W.; Martin, K. L. “Are 1,2-Dihydrodiazetes Aromatic? An Experimental and Computational Investigation” *Journal of Organic Chemistry* **2002**, *67*, 6699.

Jursic, B. S.; Neumann, D. M.; Martin, K. L.; Stevens, E. D. “Barbituric Acid Initiated Rearrangement of 2,2'-Pyridil into 5,5'-(2-pyridylidene)bisbarbituric Acid” *Organic Letters* **2002**, *4*, 811.

Neumann, D. M.; Jursic, B. S.; Martin, K. L. “Preparation of 5-(cyclohexylmethyl)-barbituric acid derivatives by acid-catalyzed reductive cyclohexylmethylation of barbituric acids with *p*-hydroxy or *p*-methoxybenzaldehydes” *Tetrahedron Letters* **2002**, *43*, 1603.

Nolan, S. P.; Martin, K. L.; Buzatu, D.; Trudell, M. L.; Stevens, E. D. “Synthesis, Thermochemistry, and Structural Characterization of Organoruthenium Arene and Triene Complexes” *Structural Chemistry* **1993**, *4*, 367.

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## **PUBLICATIONS** (cont.)

Nolan, S. P.; Martin, K. L.; Stevens, E. D.; Fagan, P. J. “Enthalpies of Reaction of  $\text{Cp}^*\text{Ru}(\text{CH}_3\text{CN})_3^+ \text{O}_3\text{SCF}_3^-$  ( $\text{Cp}^* = \eta^5\text{-C}_5\text{Me}_5$ ) with Arenes. Solution Thermochemical Study of Arene Binding to the  $\text{Cp}^*\text{Ru}^+$  Fragment” *Organometallics* **1992**, *11*, 3947.

## **PROFESSIONAL PRESENTATIONS**

Martin, Kenneth L.; Wright, Connor J. “Comparative Structures of 3,4-Dichlorophenol and 3,4-Dichlorophenolate”, poster presented at the annual meeting of the American Crystallographic Association, New Orleans, LA, May 2017.

Dawson, M. Tanner; Martin, K. L. “Crystal Structure of Co-Crystal of 2-Methylimidazole and 3-Nitrophenol”, poster presented at the annual meeting of the Georgia Academy of Sciences, Barnesville, GA, 2016.

Wright, Connor; Martin, K. L. “Investigation of the Crystal Structure of 1,2-Dimethylimidazole and 4-Nitrophenol”, poster presented at the annual meeting of the Georgia Academy of Sciences, Barnesville, GA, 2016.

Padgett, James N.; Martin, K. L.; Bacsá, J. “Synthesis and Crystal Structure of Calcium Salt of 4-Nitrophenol”, poster presented at the annual meeting of the Georgia Academy of Sciences, Milledgeville, GA, 2015.

Martin, Kenneth L.; Hughes, Joshua S.; Pitchko, Timothy J.; Breton, Gary W. “Comparative Structures of Products of Reaction Between 4-Methyl-1,2,4-triazole-3,5-dione and Acenaphthylene”, poster presented at the annual meeting of the American Crystallographic Association, Albuquerque, NM, May 2014.

Martin, Kenneth L.; Taylor, Ronald D.; and Timberlake, Todd K. “Transfer of Innovative Teaching Methods Between STEM Disciplines”, *Next Generation STEM Learning: Investigate, Innovate, Inspire*, an AAC&U conference in Kansas City, MO, November, 2012.

Harris, Samantha R.; Bettis, Stephanie E.; Martin, Kenneth L. “Comparison of 3-Nitrophenolate in the *I2/a* and *C2/c* Space Groups”, poster presented at the annual meeting of the Georgia Academy of Sciences, Kennesaw, GA, 2012.

Le, Christina A.; Bettis, Stephanie E.; Martin, Kenneth L. “Space Group Comparison for the Crystal Structure of the Co-crystal of 4-Bromophenol and 2-Pyridinone”, poster presented at the annual meeting of the Georgia Academy of Sciences, Kennesaw, GA, 2012.

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**PROFESSIONAL PRESENTATIONS** (cont.)

Wilkinson, Angus; Greve, Benjamin; Jupe, Andrew; Martin, Kenneth; Chapman, Karena; Chupas, Peter; Lee, Peter “Local Structure and Its Relationship to the Properties of ‘ReO<sub>3</sub>’ Type Frameworks Showing Positive, Low and Negative Thermal Expansion”, paper presented at the annual meeting of the American Crystallographic Association, Chicago, IL, 2010.

Callaway, Tabitha M.; Martin, Kenneth L. “Polymorphism of 1-Methylimidazolium 4-Nitrophenolate Crystals”, paper presented at the 87<sup>th</sup> Annual Meeting of the Georgia Academy of Science, March 2010.

Wilkinson, Angus; Greve, Benjamin; Cetinkol, Mehmet; Jupe, Andrew; Ruschman, Chad; Martin, Kenneth; Chapman, Karena; Chupas, Peter; Lee, Peter “Local Structure and its Relationship to the Physical Properties of Low and Negative Thermal Expansion Materials”, paper presented at the Materials Science & Technology Conference and Exhibition, Pittsburgh, PA, 2009.

Martin, Kenneth L.; Chapman, Karena W.; Greve, Benjamin K.; Lee, Peter L.; Ruschman, Chad J.; Angus P. Wilkinson “Physical Properties and Phase Changes in Scandium Fluoride”, poster presented at the annual meeting of the American Crystallographic Association, Toronto, ON, 2009.

Wilkinson, Angus P.; Greve, Benjamin K.; Jupe, Andrew C.; Ruschman, Chad J.; Cetinkol, Mehmet; Martin, Kenneth L.; Chapman, Karena W.; Chupas, Peter J.; Lee, Peter L. “Local Structure and its Relationship to the Physical Properties of Low and Negative Thermal Expansion Frameworks”, paper presented at the annual meeting of the American Crystallographic Association, Toronto, ON, 2009.

Martin, Kenneth L.; Chapman, Karena W.; Greve, Benjamin K.; Lee, Peter L.; Ruschman, Chad J.; Angus P. Wilkinson “Physical Properties and Phase Changes in Scandium Fluoride”, paper presented at the 86<sup>th</sup> Annual Meeting of the Georgia Academy of Science, April 2009.

Martin, Kenneth L. “Process-Oriented Guided-Inquiry Learning”, presentation as part of the Science Pedagogy Workshop at the 86<sup>th</sup> Annual Meeting of the Georgia Academy of Science, April 2009.

Martin, Kenneth L. “My First Time Teaching General Education Chemistry Using POGIL”, poster presented at the 6<sup>th</sup> POGIL National Meeting, Arlington, TX, 2008.

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**PROFESSIONAL PRESENTATIONS** (cont.)

Martin, Kenneth L.; Anderson, Carolyn S.; Hunter, Abigail V.; Seidel, S. Russell; Baughman, Russell G. “Comparative Crystal Structures of ‘Infinite’ Helical Coordination Compounds”, poster presented at the annual meeting of the American Crystallographic Association, Salt Lake City, UT, 2007.

Stephanie E. Bettis; Martin, Kenneth L.; Stevens, Edwin D. “Comparison of Crystal Structures of the Tetramethylammonium and Sodium Salts of 3-Nitrophenolate”, paper presented at the annual meeting of the American Crystallographic Association, Salt Lake City, UT, 2007.

Kenneth Martin co-facilitated a three-day POGIL workshop at Boise State University, Boise, ID, from Thursday, July 12 through Saturday, July 14, 2007.

Martin, Kenneth L. “Inquiry-Based Learning (IBL) at Berry College”, poster presented at the 5<sup>th</sup> POGIL National Meeting, St. Louis, MO, 2007.

Martin, Kenneth L. “Using *SPARTAN* in the Physical Chemistry Quantum Mechanics Laboratory”, paper presented at the 84<sup>th</sup> Annual Meeting of the Georgia Academy of Science, Albany, GA, March 2007.

Anderson, Carolyn S.; Hunter, Abigail V.; Martin, Kenneth L.; Seidel, S. Russell; Baughman, Russell G. “Comparative Crystal Structures of ‘Infinite’ Helical Coordination Compounds”, paper presented at the 84<sup>th</sup> Annual Meeting of the Georgia Academy of Science, Albany, GA, March 2007.

Bettis, Stephanie E.; Martin, Kenneth L. “Crystal Structure of Tetramethylammonium 3-Nitrophenolate”, paper presented at the 84<sup>th</sup> Annual Meeting of the Georgia Academy of Science, Albany, GA, March 2007.

Daniel T. Murphree; Taylor, Ronald D.; Martin, Kenneth L. “An Investigation of the Knotting Properties of Polypropyne”, paper presented at the Fifth Annual Harriett J. Walton Symposium on Undergraduate Mathematics Research, Atlanta, GA, March 2007.

Martin, Kenneth L. “Teaching Thermodynamics in General Chemistry via POGIL” paper presented at the 58<sup>th</sup> Southeastern Regional Meeting of the American Chemical Society, Augusta, GA, November 2006.

Martin, Kenneth L. “Physical Chemistry Activities Involving Energy”, paper presented at the 58<sup>th</sup> Southeastern Regional Meeting of the American Chemical Society, Augusta, GA, November 2006.

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**PROFESSIONAL PRESENTATIONS** (cont.)

Martin, Kenneth L.; Breton, Gary W.; Stevens, E. D. “Comparative Crystal Structures and Aromaticity Studies of a Diazetine and a Benzodiazetine”, poster presented at the annual meeting of the American Crystallographic Association, Honolulu, HI, 2006.

Anderson, Carolyn S.; Breton, Gary W.; Stevens, Edwin D.; Martin, Kenneth L. “Crystal Structure of  $\alpha$ -Nitro-*trans*-stilbene”, oral presentation at the annual meeting of the American Crystallographic Association, Honolulu, HI, 2006.

Martin, Kenneth L. “Inquiry Based Learning in Chemistry at Berry College”, presentation at the ninth annual Legacy of R.L. Moore Conference in Austin, Texas, May 2006.

Anderson, Carolyn S.; Breton, Gary W.; Stevens, Edwin D.; Martin, Kenneth L. “Crystal Structure of  $\alpha$ -Nitro-*trans*-stilbene”, poster presented at 83<sup>rd</sup> Annual Meeting of the Georgia Academy of Sciences, Lawrenceville, GA, 2006.

Murphree, Daniel T.; Taylor, Ronald D.; Martin, Kenneth L. “An Investigation of the Knotting Properties of Polypeptides”, paper presented at 83<sup>rd</sup> Annual Meeting of the Georgia Academy of Sciences, Lawrenceville, GA, 2006.

Ronald Taylor and Kenneth Martin presented “Multi-disciplinary Inquiry Based Learning at Berry College: A Preliminary Report” at the eighth annual Legacy of R.L. Moore Conference in Austin, Texas, May 2005.

Martin, Kenneth L. “Using *SPARTAN* to Explain Splitting of *d* Orbitals in Various Crystal Fields”, paper presented at the 82<sup>nd</sup> Annual Meeting of the Georgia Academy of Science, Barnesville, GA, 2005.

Kenneth Martin co-facilitated a POGIL workshop with Dr. Andrew Bressette at Berry College, Mt. Berry, GA, on Saturday, 26 March 2005.

Martin, Kenneth; Hasegawa, Madoka; Stevens, Edwin D. “Crystal Structure and Charge Density Analysis of 1:1 Complex of 4-Nitrophenol and Ammonium 4-Nitrophenolate”, poster presented at the annual meeting of the American Crystallographic Association, Chicago, IL, 2004.

Bressette, Andrew; Martin, Kenneth “POGIL from the Trenches: What We Learned in the First Year of Using Student-Centered Learning in Our Classes”, presented at the 18<sup>th</sup> Biennial Conference on Chemical Education, Ames, IL, 2004.

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**PROFESSIONAL PRESENTATIONS** (cont.)

Escobar, Enrique; Martin, Kenneth L. “Thermodynamics by Visible Spectroscopy, A Physical Chemistry Lab”, poster presented at the Georgia Academy of Sciences, Mt. Berry, GA, 2004.

Kenneth Martin was invited by Rick Moog (Franklin & Marshall College and senior personnel of POGIL) to serve as a co-facilitator at the *Process Oriented Guided Inquiry Learning in the Classroom and Laboratory: An NSF Sponsored Workshop (DUE-0231120)*, at Moorehouse College, Atlanta, GA, on Saturday, 21 February 2004. Ken Martin led the afternoon session entitled “Designing Effective Worksheets”.

Hasegawa, Madoka; Martin, Kenneth L. “Comparative Crystal Structures of Sodium 4-Nitrophenolate and Ammonium 4-Nitrophenolate”, poster presented at the Georgia Academy of Sciences, Waleska, GA, 2003.

Martin, Kenneth L.; Breton, Gary W.; Stevens, E. D. “Experimental Electron Density Distribution of 3-Methyl-1,3,5-triazabicyclo[3.2.0]hept-6-ene-2,4-dione”, paper presented at the Southeastern Regional Meeting of the American Chemical Society, Charleston, SC, 2002.

Gordon, James F.; Breton, Gary W.; Martin, Kenneth L. “Synthesis and Investigation of a Substituted Benzodiazetine”, paper presented at the Southeastern Regional Meeting of the American Chemical Society, Charleston, SC, 2002.

Cooper, I. B.; Martin, K. L.; Stevens, E. D. “Crystal Structure and Charge Density Analysis of Sodium 3,5-Dinitrobenzoate”, poster presented at the annual meeting of the American Crystallographic Association, San Antonio, TX, 2002.

Mathias, Michael. W.; Martin, Kenneth L. “Crystallographic Analysis of Sodium 3-Nitrophenolate”, poster presented at the Georgia Academy of Sciences, Milledgeville, GA, 2002.

“Crystal Structure and Electron Density Distribution of 2,3,4,5,6-Pentafluorobenzophenone”, poster presented at the annual meeting of the American Crystallographic Association, Atlanta, GA, 1994.

“The Structure and Thermochemistry of Some Organoruthenium Arene Complexes”, poster presented at the annual meeting of the American Crystallographic Association, Pittsburg, PA, 1992.

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**GRANTS (Funded)**

- December 2016 Berry College Travel Grant to attend and present research at the annual meeting of the American Crystallographic Association in New Orleans, LA; amount of grant \$1333.
- November 2015 Berry College Faculty Development Grant to collect X-ray diffraction data sets at the Emory University X-ray Crystallography Center; amount of grant \$1800.
- April 2015 Berry College Travel Grant to attend and present research at the annual meeting of the Georgia Academy of Science at Milledgeville, GA; amount of grant \$362.05.
- March 2015 Berry College Faculty Development Grant to collect X-ray diffraction data sets at the Emory University X-ray Crystallography Center; amount of grant \$800.
- May 2014 Berry College Travel Grant to attend and present research at the annual meeting of the American Crystallographic Association in Albuquerque, NM; amount of grant \$2685.78.
- June 2012 Berry College Travel Grant to attend the 15<sup>th</sup> Annual Legacy of R. L. Moore Conference in Austin, TX; amount of grant \$495.00.
- March 2010 Berry College Travel Grant to attend and present research at the annual meeting of the Georgia Academy of Science at Columbus State University; amount of grant \$357.80.
- July 2009 Berry College Travel Grant to attend and present research at the annual meeting of the American Crystallographic Association in Toronto, ON; amount of grant \$2123.86.
- May 2009 Berry College Travel Grant to attend and present research at the annual meeting of the Georgia Academy of Science in Atlanta, GA; amount of grant \$225.52.
- September 2008 Berry College Faculty Development Grant to collect synchrotron X-ray diffraction data sets at the Advanced Photon Source at Argonne National Laboratory; amount of grant \$875.
- May 2008 Berry College Travel Grant to attend and present pedagogy at the 6<sup>th</sup> POGIL National Meeting in Arlington, TX; amount of grant \$255.



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**GRANTS (Funded, cont.)**

- July 2007 Berry College Travel Grant to attend and present research at the annual meeting of the American Crystallographic Association in Salt Lake City, UT; amount of grant \$1728.73.
- March 2007 Berry College Summer Course Development Grant to develop CHM 102 to include inquiry-based learning; amount of grant \$1000.
- February 2007 Berry College Summer Course Development Grant to develop materials for Process-Oriented Guided-Inquiry Learning in the Introduction to Chemistry (General Education) classroom; amount of grant \$1000.
- 2006 Berry College Faculty Development Grant to collect X-ray diffraction data sets (at Emory University) of crystals of substituted imidazolium phenolate salts; amount of grant \$1804.80.
- July 2006 Berry College Travel Grant to attend and present research at the annual meeting of the American Crystallographic Association in Honolulu, HI; amount of grant \$2808.64.
- May 2006 Berry College Travel Grant to attend the ninth annual R. L. Moore Conference in Austin, TX; amount of grant \$119.70.
- May 2005 Educational Advancement Foundation Grant [shared with Ron Taylor (PI), Eric McDowell, Todd Timberlake, Andy Bressette, and Kristen Diliberto-Macaluso]; amount of grant \$27280.00.
- April 2005 Berry College Travel Grant to attend and present research at the annual meeting of the Georgia Academy of Science in Barnesville, GA; amount of grant \$233.
- January 2005 Berry College Faculty Development Grant to purchase chemicals and glassware for the synthesis and crystallization of substituted imidazolium phenolate salts; amount of grant \$757.85.
- May 2004 Berry College Travel Grant to attend and present research at the annual meeting of the American Crystallographic Association in Chicago, IL; amount of grant \$1412.84.

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**GRANTS (Funded, cont.)**

- March 2004 Berry College Summer Course Development Grant (co-authored with Dr. Andrew Bressette) to develop materials for Process-Oriented Guided-Inquiry Learning in the General Chemistry classroom; amount of grant \$1000 (\$500 each).
- March 2003 Berry College Travel Grant to attend and present research at the annual meeting of the Georgia Academy of Science in Waleska, GA; amount of grant \$301.00.
- March 2003 Berry College Summer Course Development Grant (co-authored with Dr. Andrew Bressette) to implement Process-Oriented Guided-Inquiry Learning in the General Chemistry classroom; amount of grant \$1000 (\$500 each).
- September 2002 Berry College Travel Grant to attend and present research at the Southeast Regional Meeting of the American Chemical Society in Charleston, SC; amount of grant \$665.56.
- March 2002 Berry College Travel Grant to attend and present research at the annual meeting of the American Crystallographic Association in San Antonio, TX; amount of grant \$965.00.
- March 2002 Berry College Travel Grant to attend and present research at the annual meeting of the Georgia Academy of Science in Milledgeville, GA; amount of grant \$178.25.

**PROFESSIONAL AFFILIATIONS**

American Chemical Society

American Crystallographic Association

Georgia Academy of Science

Sigma Xi

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## **RECOGNITIONS**

Larry McRae Award, 2013

Carol O. Willis Outstanding Student Organization Advisor Award, 2006

Berry College Summer Grant for Course Development, 2003, 2004, and 2007

Heart of Berry Award, 2003 and 2004

Berry College Writing-Across-the-Curriculum Award for Faculty, 2003

University of New Orleans Alumni Association Graduate Student Award (for doctoral degree candidates), 1994

Louisiana Board of Regents Graduate Fellowship, 1992 – 1995

American Chemical Society Award, 1992

University of New Orleans Student Leadership Recognition Award, 1992

Sigma Xi Gold Medal Award for Outstanding Undergraduate Research, 1992

The National Dean's List, 1991 – 1993

American Institute of Chemists Student Award, 1991

University of New Orleans Decennial Honor Award, 1989 – 1992

CRC Press Freshman Chemistry Achievement Award, 1989

University of New Orleans Alumni Association Scholarship, 1988