

# Brant L. Kedrowski

Department of Chemistry  
University of Wisconsin Oshkosh  
800 Algoma Blvd. Oshkosh, WI 54901

(920) 424-3488 (office)  
(920) 424-2042 (fax)  
[kedrowsk@uwosh.edu](mailto:kedrowsk@uwosh.edu)

## **Part I: Professional Experience and Education**

- 2022-present Distinguished Professor, Department of Chemistry  
University of Wisconsin Oshkosh
- 2013-2022 Professor, Department of Chemistry  
University of Wisconsin Oshkosh
- 2008-2013 Associate Professor, Department of Chemistry  
University of Wisconsin Oshkosh
- 2002-2008 Assistant Professor, Department of Chemistry  
University of Wisconsin Oshkosh
- 2000-2002 Postdoctoral Research Associate, Department of Chemistry  
University of California – Berkeley  
Research Adviser: Clayton H. Heathcock
- 1994-2000 Ph.D., Organic Chemistry  
University of Minnesota – Minneapolis  
Research Adviser: Wayland E. Noland
- 1991-1994 Chemical Industrial Experience  
3M Company – Dental Products Division
- 1990-1994 B.S. *summa cum laude*, Chemistry  
University of Minnesota – Minneapolis

## **Part II: Research and Scholarly Growth**

### **Publications and Patent Applications** (undergraduate coauthors are underlined)

- 2022 Brant Kedrowski, B. L.; Villaire, M. “Synthesis of the Natural Product *E*-Anethole from Anisole: A Multistep Synthesis Experiment for Second-Year Undergraduate Organic Laboratory” *Chemical Educator*, **2022**, 27, 65-68.
- 2016 Kedrowski, B. L.; Wacholtz, W. F. “Thematic Use of Ribavirin as an Example to Illustrate NMR Principles and Techniques” In *NMR Spectroscopy in the Undergraduate Curriculum: Upper-Level Courses and Across the Curriculum Volume 3*; ACS Symposium Series 1225; Soulsby, D., Anna, L. J., Wallner, A. S., Eds. American Chemical Society: Washington, DC, **2016**.
- 2014 Wang, X. -N.; Yeom, H. -S; Fang, L. -C.; He, S.; Ma, Z. -X.; Kedrowski, B. L.; Hsung, R. P. “Ynamides in Ring Forming Transformations” *Accounts of Chemical Research*, **2014**, 47, 560-578.

- 2014 Kedrowski, B. L.; Gutow, J. H.; Stock, G.; Smith, M.; Jordan, C.; Masterson, D. S. "Glutathione Reductase Activity With an Oxidized Methylated Glutathione Analog" *Journal of Enzyme Inhibition and Medicinal Chemistry*, **2014**, *29*(4), 491-494.
- 2014 Kedrowski, B. L.; Shors, T., "Methods To Isolate Anti-Microbials From Fruit or Seed Extracts" US Patent Application. Assignee: Wisconsin Alumni Research Foundation. Application number US 13/918,070, filling date 6/14/2013. Publication number US20140004214 A1, publication date 1/2/2014
- 2011 Crass B. A.; Kedrowski B. L.; Baus, J.; Behm, J. A. "Residue Analysis of Bone Fueled Pleistocene Hearths" In: *From The Yenisei To The Yukon: Interpreting Lithic Assemblage Variability In Late Pleistocene/Early Holocene Beringia*; Goebel, T., Buvit, I., Eds.; Texas A&M University Press: College Station, Texas, **2011**; p 192.
- 2010 Masterson, D. S.; Kedrowski, B. L.; Blair, A. "An Improved Protocol for the Preparation of Protected (*R*)-2-Methylcysteine and its Use in Solution Phase Synthesis of a Glutathione Analogue" *Synlett*, **2010**, *19*, 2941-2943.
- 2009 Kedrowski, B. L.; Crass, B. A.; Behm, J. A.; Luetke, J. C.; Nichols, A. L.; Moreck, A. M.; Holmes, C. E. "GC-MS Analysis of Fatty Acids From Ancient Hearth Residues at the Swan Point Archaeological Site" *Archaeometry*, **2009**, *51*, 110-122.
- 2008 Kedrowski, B. L.; Hoppe, R. "A Concise Synthesis of ( $\pm$ )-Cacalol" *Journal of Organic Chemistry*, **2008**, *73*, 5177-5179.
- 2003 Kedrowski, B. L. "Synthesis of Orthogonally Protected (*R*)- and (*S*)-2-Methylcysteine via an Enzymatic Desymmetrization and Curtius Rearrangement" *Journal of Organic Chemistry*, **2003**, *68*, 5403-5406.
- 2002 Noland, W. E.; Kedrowski, B. L. "Reactivity of Nitrovinylquinones With Cyclic and Acyclic Enol Ethers" *Journal of Organic Chemistry*, **2002**, *67*, 8366-8373.
- 2002 Kedrowski, B. L.; Heathcock, C. H. "Thiazoline Ring Formation From 2-Methylcysteines and 2-Halomethylalanines" *Heterocycles*, **2002**, *58*, 601-634.
- 2000 Noland, W. E.; Kedrowski, B. L. "Quinone Approaches toward the Synthesis of Aflatoxin B<sub>2</sub>" *Organic Letters*, **2000**, *2*, 2109-2111.
- 2000 Tantbirojn, D.; Rozzi, S. M.; Mitra, S. B.; Kedrowski, B. L.; Douglas, W. H. "In Vitro Inhibition of Enamel Demineralization by a Polymerizable Amphiphilic Film" *European Journal of Oral Sciences*, **2000**, *108*, 564-568.
- 1999 Noland, W. E.; Kedrowski, B. L. "Synthesis of Angular Quinoid Heterocycles from 2-(2-Nitrovinyl)-1,4-benzoquinone" *Journal of Organic Chemistry*, **1999**, *64*, 596-603.
- 1994 Mitra, S. B. and Kedrowski, B. L. "Long-term Mechanical Properties of Glass Ionomers" *Dental Materials*, **1994**, *10*, 78-82.

### Grant Proposals Funded

- 2023 "Replacing the solvent methylene chloride in undergraduate organic teaching labs" Brant Kedrowski (Faculty Development teaching component proposal) – *funded at 7.5% CAS (\$5,662.95), 3/13/2023*

- 2022 "Raspberry Seed Meal Extraction Using Ethanol Rather Than Methanol" WiSys Launch Grant (T150019) – *funded at \$1988*
- 2020 "Improving teaching in polymer chemistry" Brant Kedrowski (Faculty Development teaching component proposal) – *funded at 7.5% CAS (\$5,662.95), 3/20/2020*
- 2017 "Methods to Isolate Ellagic Acid or Other Skin Lightening Compounds from Fruit Seed Extracts" WiSys Innovation Grant, awarded 9/2017 – *funded at \$6,767*
- 2016 "MRI: Acquisition of a Nuclear Magnetic Resonance Spectrometer" (instrumentation with W. Wacholtz and S. Lense), NSF MRI grant – *funded at \$355,244*
- 2015 "Skin whitening agent(s) from fruit and vegetable seed extracts" WiSys Wisconsin Small Company Advancement Program Grant, with Botanic Innovations – *funded at \$23,339*
- 2013 "In Vivo Dose Finding Study and POC Study of Cranberry Extract Against Influenza Virus" WiSys WiTAG grant, awarded 6/2013 for \$21,549
- 2012 "Exploration of Bioactive Compounds from Cranberries for Antiviral Nutraceutical Potential" WiSys WiTAG grant, with T. Shors, awarded 2/2012 for \$29,308.87
- 2012 "Synthesis of Allenamides" sabbatical proposal – *funded for spring 2013*
- 2012 "From Harvest to Health in Wisconsin" WiSYS Applied Research Grant (ARG), with T. Shors – *funded at \$34,421*
- 2012 "Exploration of Bioactive Compounds from Cranberries for Antiviral Nutraceutical Potential" UW Oshkosh External Grants Expansion Program, with T. Shors – *funded at \$15,000*
- 2010 "Exploration of Bioactive Compounds from Cranberries for Antiviral Nutraceutical Potential" WiSys Wisconsin Small Company Advancement Program Grant, with T. Shors, Semba Biosciences, Botanic Innovations – *funded at \$81,277*
- 2010 "Isolation of Antiviral Compounds from Cranberries Using a Novel Separation Process" Wisconsin Agricultural Development & Diversification Grant, with T. Shors and Semba Biosciences – *funded at \$50K*
- 2010 "Bioorganic Research at USM" NSF ROA, with D. Masterson – *funded at \$12K*
- 2009 "Exploration of Bioactive Compounds from Wisconsin Cranberries and Grapes for Antiviral Nutraceutical Potential" UW System WiSys ARG grant – *funded at \$22K over 2 years*
- 2009 "Isolation, Identification, and Activities of Antiviral Agents in Commercial Juices" UW Oshkosh Faculty Development Grant – *funded at 7.5% continuing academic salary for one year*
- 2007 "Collaborative Research in Chemistry and Biology" Merck-AAAS Undergraduate Science Research Program – *funded at \$60K over 3 years*
- 2006 "Development of Methodology for Synthesis of Pterocarpanes by Desymmetrization of C<sub>2</sub>-Symmetric Stilbene-2,2'-diols" UW Oshkosh Faculty Development Grant – *funded at 15% continuing academic salary for one year*
- 2005 "Synthesis of the Snake Anti-Venom Cabenegrin A-II" UW Oshkosh Faculty Development Grant – *funded at 15% continuing academic salary for one year*

- 2004 "Determination of the Occurrence of SSRI Antidepressants In Local Water Systems" UW Oshkosh Faculty Development Grant – *funded at 15% continuing academic salary for one year + \$250 expenses*
- 2003 "Exploration of Quinones as Precursors For Benzofurans in Organic Synthesis" Petroleum Research Fund Type GB Grant - *Funded at \$35K over two years*
- 2003 "Synthesis of The Natural Product Radermachol" UW Oshkosh Faculty Development Grant - *Funded at 15% continuing academic salary for one year + \$2435 expenses*

### National and Regional Research Presentations

(student coauthors are underlined, the presenting author(s) is/are starred\*)

- 2020 "Introduction of Non-Traditional NMR Active Nuclei in Advanced Undergraduate Inorganic and Spectroscopy Courses" Kara Gillette, Holleigh Graminske, Lindsey Westphal, Brant Kedrowski, William Wacholtz. 2020 Biennial Conference on Chemical Education (BCCE). Terminated on 4/2/2020 due to COVID-19 pandemic. Accepted. Yes.
- 2019 "A NMR Study of Organometallic Platinum(II) Compounds" Lindsey M. Westphal,\* Brant L. Kedrowski, William F. Wacholtz. Sigma Xi Annual Meeting & Student Research Conference. Madison, WI. Published. Yes.
- 2019 "Synthesis of (R)- and (S)-2-Methylproline" Jason Lopez\* and Brant Kedrowski, 2019 NCUR Meeting, April 11-13, 2019, Kennesaw State University, Kennesaw, GA.
- 2018 "Synthesis of the natural product anethole from anisole: A multistep synthesis experiment for the undergraduate organic chemistry laboratory" Brant Kedrowski\* Poster presentation at the 2018 Biennial Conference on Chemical Education, South Bend, IN, July 30<sup>th</sup>, 2018.
- 2014 "Thematic Use of Ribavirin as an Example to Illustrate NMR Principles and Techniques" Kedrowski, B. L.\*; Wacholtz, W. F. Poster presentation at the 2014 Biennial Conference on Chemical Education, Allendale, MI, August 5<sup>th</sup>, 2014.
- 2014 "Synthetic Utilization and Exploration of Gallium" A. J. Landreth\*; Strom, K.; Snyder, J.; Kedrowski, B. L. Poster presentation at the 247<sup>th</sup> American Chemical Society National Meeting, New Dallas, TX, March 17<sup>th</sup>, 2014.
- 2013 "Thematic Use of Ribavirin as an Example to Illustrate NMR Principles and Techniques" Kedrowski, B. L.\*; Wacholtz, W. F. Oral presentation at the 245<sup>th</sup> American Chemical Society National Meeting, New Orleans, LA, April 7<sup>th</sup>, 2013.
- 2013 "An Advanced NMR-Centered Undergraduate Interpretive Spectroscopy Course" Wacholtz, W. F.\*; Kedrowski, B. L.\* Poster presentation at the 245<sup>th</sup> American Chemical Society National Meeting, New Orleans, LA, April 7<sup>th</sup>, 2013.
- 2013 "Synthesis of the Electron Transport Inhibitor NQNO via a Modified, Microwave-promoted Camps Cyclization" Landreth, A. J.\*; Kedrowski, B. L. Poster presentation at the 245<sup>th</sup> American Chemical Society National Meeting, New Orleans, LA, April 7<sup>th</sup>, 2013.
- 2011 "An Improved Protocol for the Preparation of Protected (R)-2-Methylcysteine and its Use in Solution Phase Synthesis of a Glutathione Analogue" Masterson, D. S.;

Kedrowski, B. L.\*; Blair, A. Presented at the 42nd National Organic Symposium, Princeton, NJ, June 5-9, 2011.

- 2009 “A Synthesis Precursor, 4(1H)-Quinolone, of the Cytochrome *bf* Quinone Reductase Site Inhibitor NQNO is an Effective Inhibitor of the Quinol-Oxidase Site”, S. Zuleger\*, A. Ott\*, D. Rivera, B. L. Kedrowski, T. Kallas, presented at the 35<sup>th</sup> Annual Midwest/Southeast Photosynthesis Meeting, Turkey Run, IN, November 13-15, 2009.
- 2009 “Synthesis of Benzofuran Natural Products Cacalol and Radermachol”, B. L. Kedrowski\* University of Southern Mississippi, Hattiesburg, MS, August 28, 2009 (Invited seminar).
- 2007 “Synthesis of Benzofuran Natural Products Cacalol and Radermachol”, B. L. Kedrowski\* invited seminar at Northern Michigan University, Marquette, MI, October 26, 2007 (Invited seminar).
- 2007 “Paleolithic Hearths as Viewed from Swan Point.” B. A. Crass\* and B. L. Kedrowski, Presented at the Annual Meeting of the Alaska Anthropological Association. Fairbanks, AK March 14-17, 2007.
- 2005 “Studies Toward the Synthesis of the Natural Product Radermachol” B. L. Kedrowski\*, Presented at the 39<sup>th</sup> National Organic Chemistry Symposium, Sponsored by the American Chemical Society, at the University of Utah, Salt Lake City, UT, June 12-16, 2005.
- 2003 “Synthesis of Orthogonally Protected (*R*)- and (*S*)-2-Methylcysteine via an Enzymatic Desymmetrization and Curtius Rearrangement” B. L. Kedrowski\*, Presented a paper at the 38<sup>th</sup> National Organic Chemistry Symposium, Sponsored by the ACS, University of Indiana, Bloomington, IN, June 8-12, 2003.

### **Instate Research Presentations, 2002-Present**

(student coauthors are underlined, the presenting author is starred\*)

- 2023 “Green Chemistry in Novel Organic Chemistry Reactions” Daisy Wilson\*, Brant Kedrowski, WiSys Spark Symposium, UW Oshkosh, August 6-8, 2023.
- 2022 “The Chemical Recycling of Polystyrene: Modification, Depolymerization, and Oxidation to Synthesize Terephthalic Acid” Ethan Groshens\*, Brant Kedrowski, WiSys Spark Symposium, UW La Crosse, July 31 – August 2, 2022.
- 2017 “*Cosmetic Applications of Seed Meal Extracts*” B. L. Kedrowski\*; Poster presentation at the 2017 Regional Materials and Manufacturing Network Symposium, Platteville, WI, October 15-16, 2017.
- 2017 “*Cosmetic Applications of Seed Meal Extracts*” B. L. Kedrowski\*; Poster presentation at the 2017 Wisconsin Science and Technology Symposium, Platteville, WI, July 24-25, 2017.
- 2016 “Tyrosinase inhibitors from seed meal extracts: potential applications for skin whitening and skin tone evening agents ” B. L. Kedrowski\*; Poster presentation at the 2016 UW System Chemistry Faculties Meeting, Stevens Point, WI, October 28-29, 2016.
- 2016 “*Commercial Applications of Seed Meal Extracts*” B. L. Kedrowski\*; Poster presentation at the 2016 Wisconsin Science and Technology Symposium, Oshkosh, WI, August 2-3, 2016.

- 2015 “Commercial Applications of Seed Meal Extracts” B. L. Kedrowski\*; Invited presentation at WiSys Technology Foundation board meeting, Oshkosh, WI, October 13<sup>th</sup>, 2015.
- 2013 “An Advanced NMR-Centered Undergraduate Interpretive Spectroscopy Course” Wacholtz, W. F.\*; Kedrowski, B. L.\* Poster presentation at the 40<sup>th</sup> UW System Chemistry Faculties Meeting, River Falls, WI, October 25-26, 2013.
- 2013 “Organic Research at UW Oshkosh, A Series of Short Stories” B. L. Kedrowski\*; Invited seminar at UW Madison School of Pharmacy, Madison, WI, May 3<sup>rd</sup>, 2013.
- 2012 “Isolation of Powdered Fruit Juice Pigments Using a Method of Simulated Continuous Solid Phase Extraction” Kedrowski, B. L.\*; Aretz, C.; Maciolek, J. Poster presentation at the 39<sup>th</sup> UW System Chemistry Faculties Meeting, Whitewater, WI, October 12-13, 2012.
- 2011 “Exploring the Antiviral Potential of Wisconsin Cranberries” B. L. Kedrowski\*; T. Shors Presented at the fourth annual Wisconsin Science and Technology Symposium, Whitewater, WI, July 28-29, 2011.
- 2010 “Isolation & Characterization of Antiviral Compounds From Commercial Cranberry Juice” B. L. Kedrowski\* Presented at the third annual Wisconsin Science and Technology Symposium, Green Bay, WI, July 22-23, 2010.
- 2010 “An Improved Protocol for the Preparation of Protected (*R*)-2-Methylcysteine and its Use in Solution Phase Synthesis of a Glutathione Analogue” D. S. Masterson, A. Blair, and B. L. Kedrowski\* 38<sup>th</sup> Annual UW System Chemistry Faculties Meeting, UW Parkside, Oct. 22-23, 2010.
- 2010 “Isolation of Organic Compounds from Vaccinium Macrocarpon (Cranberry Juice)” Z. McCluskey\*, D. Sanders\*, T. Shors, B. L. Kedrowski. UW Oshkosh Research and Scholarship Day, April 26, 2010.
- 2010 “Inhibition of Vaccinia Virus by Cranberry Compounds” R. Mesko\*, P. Fischer, M. Verma, D. Sanders, Z. McCulskey, T. Shors, B. Kedrowski. UW Oshkosh Research and Scholarship Day, April 26, 2010.
- 2009 “Vaccinium Macrocarpon as a Viral Inhibitor” T. Shors, P. Fisher, Z. McCluskey, B. L. Kedrowski, R. Mesko\*, presented at the American Society for Microbiology North Central Branch Conference, UW-La Crosse, October 9, 2009.
- 2009 “The Antiviral Properties of Flavonols in Cranberry (Vaccinium macrocarpon) Powder” P. Fischer\*, R. Mesko, A. Petersen, J. Curless, Z. McCluskey\*, T. Shors, B. L. Kedrowski, Wisconsin Public Health Association –WALHDAB Annual Conference, Appleton, WI, July 7-9, 2009.
- 2008 “GC/MS Analysis of fatty Acids From Ancient Hearth Residues at the Swan Point Archaeological Site” B. L. Kedrowski\*, B. A. Crass, J. A. Behm, J. C. Luetke, A. L. Nichols, A. M. Moreck, and C. E. Holmes, Presented at the 2008 Annual UW System Chemistry Faculties Meeting, UW Eau Claire, Eau Claire WI, October 10-11, 2008
- 2008 “NMR-based Identity Assay for Bacterial Polysaccharides” A. L. M. Haffa\*, W. K. Kovac, B. L. Kedrowski, Presented at the 2008 Annual UW System Chemistry Faculties Meeting, UW Eau Claire, Eau Claire WI, October 10-11, 2008

- 2008 "Isolation and Characterization of Antiviral Agents Present in Commercial Cranberry Juices" B. L. Kedrowski\*, T. Shors, and P. Fischer, Presented at the Wisconsin Science and Technology Symposium, UW Stout, July 17-18, 2008.
- 2008 "Synthesis of The Natural Product Cacalol", B. L. Kedrowski\*, UW River Falls, River Falls, WI, January 30, 2008 (Invited seminar).
- 2007 "A Concise Synthesis of Cacalol" B. L. Kedrowski\* and R. Hoppe, Presented at the 2007 UW System Chemistry Faculties Meeting, Green Bay, WI, October 19, 2007.
- 2006 "Studies Toward the Synthesis of the Natural Product Radermachol" B. L. Kedrowski\*, H. Adams, and A. L. Nichols, Presented at the 2006 UW System Chemistry Faculties Meeting, Oshkosh, WI, October 20, 2006.
- 2006 "Synthesis of Phosphonic Acids with Long Double Alkane Tails" B. Koshel, J. Seefeldt, B. L. Kedrowski, and J. H. Gutow\*, Presented at the 2006 UW System Chemistry Faculties Meeting, Oshkosh, WI, October 20, 2006.
- 2004 "Synthesis of the Natural Product Radermachol as an Example of Benzofurans From Quinines" B. L. Kedrowski and H. Adams\*, Presented at the spring Celebration of Scholarship meeting, UW Oshkosh, April 27, 2004.
- 2003 "Chemical Recipes From Nature's Kitchen: An Introduction To Natural Products and Their Synthesis" B. L. Kedrowski\*, Presented at the fall meeting of Sigma Xi, UW Oshkosh chapter, November 18, 2003 (Invited seminar).
- 2003 "Synthesis of the Natural Product Aflatoxin B<sub>2</sub>" B. L. Kedrowski\*, Presented at a local ACS meeting UW Green Bay in Green Bay, WI, on April 1, 2003 (Invited seminar).
- 2002 "A Brief Introduction To Natural Products and Their Synthesis" B. L. Kedrowski\*, Presented at the UW Oshkosh Chemistry Department's weekly seminar, October 18, 2002.

### **Reviewing professionally-related manuscripts, papers, books**

*Present-2003: Reviewed multiple manuscripts for:*

*The Journal of Organic Chemistry, Organic Letters, Beilstein Journal of Organic Chemistry, Frontiers in Organic Chemistry, The European Journal of Medicinal Chemistry, The Journal of Chemical Education, Tetrahedron Letters, Arkivoc, The Journal of Peptide Science, The Journal of Archaeological Sciences, and The Petroleum Research Fund.*

### **Participation in major professional workshops**

- 2018 Participated in a Nuclear Magnetic Resonance spectrometer training course "Avance I" hosted by instrument manufacturer Bruker Biospin, Billerica, MA, June 4 – June 7, 2018.
- 2014 Participated in the NSF-sponsored "Chemistry Collaborations, Workshops & Communities of Scholars" (cCWCS) workshop on the implementation of inquiry-based laboratories in undergraduate organic chemistry courses. University of Minnesota, Minneapolis, MN, June 8 – June 13, 2014.
- 2013 Participated in the NSF-sponsored "Chemistry Collaborations, Workshops & Communities of Scholars" (cCWCS) workshop on medicinal chemistry. University of Minnesota, Minneapolis, MN, July 29 – August 2, 2013.

### **Sabbaticals taken**

I took a one semester sabbatical in spring 2013 (FDS442) titled, 5-Membered Rings From Allenamides. The work was carried out in the lab of Professor Richard Hsung in the College of Pharmacy at the University of Wisconsin Madison.

### **Awards**

- 2009 UW Oshkosh Edward M. Penson Distinguished Teaching Award
- 2014 UW Oshkosh John McNaughton Rosebush University Professorship
- 2016 UW Oshkosh Edward M. Penson Faculty Award