

## **William B. Euler**

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### Education

1979, Ph.D., Inorganic Chemistry, Florida State University  
1976, B.S., Chemistry and Mathematics, University of Wisconsin-LaCrosse

### Professional Experience

2020 - Chair, Department of Chemistry, University of Rhode Island

1993- Professor, Department of Chemistry  
University of Rhode Island

2002-2017 Chair, Department of Chemistry, University of Rhode Island

1996-2003 Co-Director, Sensors and Surface Technology Partnership for Education  
and Research, University of Rhode Island

1988-1993 Associate Professor, Department of Chemistry  
University of Rhode Island

1982-1988 Assistant Professor, Department of Chemistry  
University of Rhode Island

1979-1982 Postdoctoral Research Associate, Department of Chemistry and Materials  
Research Center, Northwestern University; Advisor: Brian M. Hoffman

1976-1979 Graduate Student, Department of Chemistry, Florida State University;  
Advisor: Barry B. Garrett

### Membership in Professional Societies

American Association for the Advancement of Science  
American Chemical Society  
Division of Inorganic Chemistry  
Solid State Subdivision  
Division of Polymer Science  
Vice-Chair, Rhode Island Section, 1989  
Chair, Rhode Island Section, 1990

### Publications

More than 100 publications in peer reviewed journals including topics in solid state chemistry and physics, conducting materials, inorganic chemistry, polymer synthetic chemistry, polymer reaction chemistry, photochemistry, quantum chemical calculations, sensors, thermal analysis, surface chemistry, and IR, NMR, UV-Vis, and EPR spectroscopy.

1. "Quadrupole and Magnetic Resonance of Linear Chain RbFeCl<sub>3</sub> and CsFeCl<sub>3</sub>," William B. Euler, Christopher Long, William G. Moulton, Barry B. Garrett, *J. Magn. Reson.*, **1978**, 32, 23-32.
2. "Chlorine and Rubidium Resonances in RbNiCl<sub>3</sub>," William B. Euler, Christopher Long, William G. Moulton, Barry B. Garrett, *J. Magn. Reson.*, **1978**, 32, 33-38.
3. "Double Ordering in Magnetic Linear Chain Systems," Barry B. Garrett, William B. Euler, *Sol. State Commun.*, **1978**, 28, 505-507.
4. "Covalency from Quadrupole Coupling in ABCl<sub>3</sub> Systems," William B. Euler, Leonard E. Mohrmann, Jr., B. B. Garrett, *J. Magn. Reson.*, **1979**, 35, 185-192.
5. "Ground State Properties of CsCoCl<sub>3</sub>," William B. Euler, Barry B. Garrett, *J. Phys. Chem. Solids*, **1981**, 42, 7-12.
6. "Optical Selection Rules and Magnon Assignments for the Low Temperature Magnetic Spin Structures of CsCoCl<sub>3</sub> and CsNiCl<sub>3</sub>," William B. Euler, Barry B. Garrett, *J. Phys. Chem. Solids*, **1981**, 42, 13-18.
7. "Carrier Properties of Porphyrinic Molecular Metals," William B. Euler, Jens Martinsen, Laurel J. Pace, Brian M. Hoffman, James A. Ibers, *Mol. Cryst. Liq. Cryst.*, **1981**, 77, 949-960.
8. "Thermodynamics of Molecular Metal Formation: Metallophthalocyanine and Tetrathiafulvalene Iodides," William B. Euler, Mary E. Melton, Brian M. Hoffman, *J. Am. Chem. Soc.*, **1982**, 104, 5966-5971.
9. "Synthesis, Characterization, and EPR Spectral Studies of the Multi-Metal Species (Fe(MS<sub>4</sub>)<sub>2</sub>)<sup>3-</sup> (M=Mo, W)," G. Delbert Friesen, John W. MacDonald, William E. Newton, William B. Euler, Brian M. Hoffman, *Inorg. Chem.*, **1983**, 22, 2202-2208.
10. "Double Integration and Titration of the Electron Paramagnetic Resonance Signal in the Molybdenum Iron Protein of *Azotobacter Vinlandii*," William B. Euler, Jens Martinsen, John W. MacDonald, Gerald D. Watt, Z.-C. Wang, *Biochemistry*, **1984**, 23, 3021-3024.
11. "Madelung Energy Calculations on the Highly Conducting Molecular Metal Nickel Phthalocyanine Iodide," William B. Euler, *Inorg. Chem.*, **1984**, 51, 2645-2650.
12. "Extended Hückel Calculations on Azo and Azine Analogues of Polyacetylene," William B. Euler, Charles R. Hauer, *Sol. State Commun.*, **1984**, 51, 473-476.
13. "Exact Results for EPR **g** and **A** Tensors in the **S**<sub>1</sub>=1, 3/2, 2, 5/2, **S**<sub>2</sub>=1/2 Spin-Coupled Systems. The Effect When **S** is Not a Good Quantum Number," William B. Euler, *Inorg. Chem.*, **1986**, 25, 1871-1875.
14. "Extended Hückel Calculations on the Pi System of Polyaniline," William B. Euler, *Sol. State Commun.*, **1986**, 57, 857-859.
15. "The Structure of 2,3-Butanedionedi-hydrazone and IR Study of Higher Polyazines: A New Class of Polymeric Conductors," Charles R. Hauer, Gregory S. King, Erica L. McCool, William B. Euler, Joseph D. Ferrara, Wiley J. Youngs, *J. Am. Chem. Soc.*, **1987**, 109, 5760-5765.
16. "Extended Hückel Calculations on Defect States in the Pi System of Polyazine," William B. Euler, *J. Phys. Chem.*, **1987**, 91, 5795-5800.
17. "Steric and Electronic Interactions Between Cofacial Metallocene Rings," Regina Arnold, Bruce M. Foxman, Myron Rosenblum, William B. Euler, *Organometallics*, **1988**, 7, 1253-1259.
18. "Infrared Spectra of Iodine Doped Polyazines," William B. Euler, *Sol. State Commun.*, **1988**, 68, 291-293.
19. "Solid State NMR on Oligomeric and Polymeric Azines," William B. Euler, James E. Roberts, *Synthetic Metals*, **1989**, 29, E545-E549.
20. "A Solid State <sup>13</sup>C NMR Study of Oligomeric and Polymeric Azines," William B. Euler, James E. Roberts, *Macromolecules*, **1989**, 22, 4221-4225.
21. "The Effect of Increasing Propyl Group Substitution on Permethyl Polyazine," William B. Euler, Gregory S. King, *Macromolecules*, **1989**, 22, 4664-4666.

22. "The Synthesis, Characterization, and Iodine Doping of a Soluble Polyazine: The Propyl-Methyl Substituted Derivative," William B. Euler, *Chemistry of Materials*, **1990**, 2, 209-213.
23. "Synthesis, Structure, Infrared Spectra, and Iodine Doping of Unsubstituted Polyazines," William B. Euler, Benjamin C. Gill, *Advanced Organic Solid State Materials*, Materials Research Society Symposium Proceedings, L. Y. Chiang, P. M. Chaikin, D. O. Cowan, eds., **1990**, 173, 375-378.
24. "The Structure of Glyoxal Dihydrazone and Synthesis, Characterization, and Iodine Doping of Unsubstituted Polyazine," Benjamin Chaloner-Gill, Clair J. Cheer, James E. Roberts, William B. Euler, *Macromolecules*, **1990**, 23, 4597-4603.
25. "Preparation and Characterization of a Ni(en)<sub>2</sub><sup>2+</sup> Complex of Permethylpolyazine," William B. Euler, *Polyhedron*, **1991**, 10, 859-865.
26. "<sup>13</sup>C and <sup>15</sup>N Solid State NMR of Partially Methyl Substituted Polyazines," Benjamin Chaloner-Gill, William B. Euler, James E. Roberts, *Macromolecules*, **1991**, 24, 3074-3080.
27. "Direct Evidence of a Bipolaron Charge Carrier in Conducting Polyazines by <sup>13</sup>C and <sup>15</sup>N Solid State NMR; Detection of a Nitrenium Cation by Natural Abundance <sup>15</sup>N Solid State NMR," Benjamin Chaloner-Gill, William B. Euler, Paul D. Mumbauer, James E. Roberts, *J. Am. Chem. Soc.*, **1991**, 113, 6831-6834.
28. "X-Ray Powder Diffraction on Oligomeric and Polymeric Permethylpolyazine," William B. Euler, Andrew Szabo, *Sol. State Commun.*, **1991**, 79, 547-549.
29. "A Comparative Theoretical Study of Hydrazine," Brian K. Schmitz, William B. Euler, *J. Molec. Struct. (Theochem)*, **1992**, 257, 227-242.
30. "Optical Spectroscopy and Photochemistry of Thin Films of Propylmethylpolyazine," Bradford C. Sherman, William B. Euler, *Electrical, Optical, and Magnetic Properties of Organic Solid State Materials*, Materials Research Society Symposium Proceedings, L. Y. Chiang, A. F. Garito, D. J. Sandman, eds., **1992**, 247, 675-679.
31. "Dimeric Ruthenium Complexes of Dicyanopyrazines: Complexes with an Unstable Mixed-Valence State," Eric C. Kessler, William B. Euler, *Polyhedron*, **1992**, 11, 3109-3115.
32. "The Electrochemical Synthesis and Electrochromic Properties of a Conducting Polymer: Polyaniline," Bradford C. Sherman, William B. Euler, R. Ken Forcé, *J. Chem. Ed.*, **1994**, 71, A94-A96.
33. "A Computational Study of Azine, Azoethene and Diimine linkages in the Poly/oligoazine System," Brian K. Schmitz, William B. Euler, *J. Comp. Chem.*, **1994**, 15, 1163-1175.
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35. "The Solvent Sensitive Reaction of Phenyl Substituted Poly(iminomethylene)," Jingxian Sun, Jiuntang Huang, William B. Euler, William Rosen, *Proceedings of the Second International Conference on Intelligent Materials*, C. A. Rogers, G. G. Wallace, ed., Technomic Publishing Co., Lancaster, PA, **1994**, 1223-1229.
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40. "Synthesis and Characterization of Oligonaphthylamines," Brian K. Schmitz, William B. Euler, *J. Electroanal. Chem.*, **1995**, 399, 47-52.

41. "IR Spectroscopy of Pristine and Iodine-Doped Permethylpolyazine," William B. Euler, *Chem. Mater.*, **1996**, 8, 554-557.
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48. "The Sensors and Surface Technology Partnership for Education and Research at the University of Rhode Island," Stephen V. Letcher, William B. Euler, *ChemTech*, **1998**, 28, 10-13.
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51. "Configurational and Conformational Mobility in a Cross Conjugated Derivative of 1,3-Diketo-2-iminopropane," Yueyang Song, Lynne Spencer, William B. Euler, William Rosen, *Org. Lett.*, **1999**, 1, 561-564.
52. "Convenient Syntheses of 2,2'-Biindole," Darrell J. Koza, William B. Euler, *Heterocyclic Communications*, **1999**, 5, 399-402.
53. "End Group Effects on the Structure and Spectroscopy of Oligoazines," William B. Euler, Meng Cheng, Chao Zhao, *Chem. Mater.*, **1999**, 11, 3702-3708.
54. "A Temperature Insensitive Smart Optical Strain Sensor," Kimberly A. Thomas, William B. Euler, Everett E. Crisman, Otto J. Gregory, *Proceedings SPIE: Smart Structures and Materials 2000: Smart Systems for Bridges, Structures, and Highways*, S. C. Liu, editor, SPIE Press, vol. 3988, **2000**, 429-439.
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57. "UV-vis Spectroscopy of  $\text{Ru}(\text{bpy})_2\text{L}^{2+}$  Complexes Where L is a Linear Oligoazine," William B. Euler, Meng Cheng, C. Zhao, *Polyhedron*, **2001**, 20, 507-514.
58. "An Electrochemical, Spectroscopic, and Theoretical Study of Poly(2,3-diaminophenazine)," Kimberly A. Thomas, William B. Euler, *J. Electroanal. Chem.*, **2001**, 501, 235-240.

59. "Comparison of Analytical Methods for Characterization of the Thermochromic Transition of Poly(3-alkylthiophene)s," Carmen Beildeck, Brett L. Lucht, William B. Euler, *Polym. Prepr.*, **2001**, 42(2), 211-212.
60. "The Role of Solution Phase Water on the Deposition of Thin Films of Poly(vinylidene fluoride)," Marcel Benz, William B. Euler, Otto J. Gregory, *Macromolecules*, **2002**, 35, 2682-2688.
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64. "Synthesis and Solution Characterization of [Ru(bpy)<sub>2</sub>]<sup>2+</sup> Modified Polyazines," Meng Cheng, William B. Euler, *Inorg. Chem.*, **2003**, 42, 5384-5391.
65. "Photoconductivity of Single Wall Carbon Nanotubes Under CW NIR Illumination," Igor A. Levitsky, William B. Euler, *Appl. Phys. Lett.*, **2003**, 83, 1857-1859.
66. "Photoconductivity of Single-Walled Carbon Nanotubes Under CW Illumination," Igor A. Levitsky, Peter T. Kanelos, William B. Euler, *IEEE\_Nano 2003 Proceedings*, **2003**, vol 2, p. 619-622.
67. "Novel Actuating System Based on a Composite of Single-Walled Carbon Nanotubes and an Ionomeric Polymer," Igor A. Levitsky, Peter T. Kanelos, William B. Euler, *Mat. Res. Soc. Symp. Proc.*, **2004**, 785, D9.1.1 – D9.1.6.
68. "Unusual Chromic and Doping Behavior of Ether Substituted Polythiophenes," Yu Wang, William B. Euler, Brett L. Lucht, *ChemComm*, **2004**, 686-687.
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71. "Observation of Two-Step Thermochromism in Poly(3-docosylthiophene): DSC and Reflection Spectroscopy," Yu Wang, Nadia Archambault, Adrienne Marold, Lucy Weng, Brett L. Lucht, William B. Euler, *Macromolecules*, **2004**, 37, 5415-5422.
72. "Hybrid Solar Cells Based on Porous Si and Copper Phthalocyanine Derivatives," Igor A. Levitsky, William B. Euler, Natalya Tokranova, Bai Xu, James Castracane, *Appl. Phys. Lett.*, **2004**, 85, 6245-6247.
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77. "Photoactuation in Nafion-Carbon Nanotube Bilayer Composites," Igor A. Levitsky, Peter T. Kanelos, Elana A. Viola, William B. Euler, *Proc. SPIE Nanosensing: Materials and Devices II*, **2005**, 6008, 600802-1 – 600802-6.
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79. "Photoactuation from a Carbon Nanotube – Nafion Bilayer Composite," Igor A. Levitsky, Peter T. Kanelos, Destiny S. Woodbury, William B. Euler, *J. Phys. Chem. B*, **2006**, *110*, 9421 – 9425.
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83. "Mesophase Formation in Poly(3-alkylthiophene)s Containing Long Chain Alkyl Groups," Yu Wang, Nadia Archambault, Allison M. Belcher, David B. Damon, Devin Busse, Ashley Mills, Amanda E. Riddle, Ivan J. Samardjiev, Brett L. Lucht, William B. Euler, *Macromolecules*, **2008**, *41*, 7115 – 7121.
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87. "Gas Phase Sensors for Bases Using Rhodamine B in Nafion Films," Eunhae Hwang, Igor A. Levitsky, William B. Euler, *J. Appl. Polym. Sci.*, **2010**, *116*, 2425 – 2432.
88. "Two-Step Thermochromism in Poly(3-docosyloxy-4-methylthiophene): Mechanistic Similarity to Poly(3-docosylthiophene)," Dinesh Chalasani, Joshua K. Potvin, Brett L. Lucht, William B. Euler, *J. Polym. Sci. A Polym. Chem.*, **2010**, *48*, 4370 – 4373.
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93. *Photophysics of Carbon Nanotubes Interfaced With Organic and Inorganic Materials*, Igor A. Levitsky, William B. Euler, Victor A. Karachevtsev, Springer, **2012**, London.
94. "Fluorescent Species Formed by the Reaction of Trinitroaromatics With N,N-Dimethylformamide and Hydroxide," Christopher A. Latendresse, Syrena C. Fernandes, Sangmin You, Hui Qi Zhang, William B. Euler, *J. Phys. Chem. A*, **2013**, *117*, 324 – 332.

95. "Light Trapping to Amplify Metal Enhanced Fluorescence with Application for TNT Sensing," Meredith A. Matoian, Richard Sweetman, Emily C. Hall, Shayna Albanese, William B. Euler, *J. Fluoresc.*, **2013**, 23, 877 – 880.
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99. "Role of Mixed Solvation and Ion Pairing in the Solution Structure of Lithium Ion Battery Electrolytes," Daniel M. Seo, Stefanie Reininger, Mary Kutcher, Kaitlin Redmond, William B. Euler, Brett Lucht, *J. Phys. Chem. C*, **2015**, 119, 14038 – 14046.
100. "Detection of Gas-Phase Explosive Analytes Using Fluorescent Spectroscopy of Thin Films of Xanthene Dyes," Hui Qi Zhang, William B. Euler, *Sens. Actuat. B: Chem.*, **2016**, 225, 553 – 562.
101. "Structural Evolution of Ultrathin Films of Rhodamine 6G on Glass," Mingyu Chapman, Matthew Mullen, Elsa Novoa-Ortega, Mona Alhasani, James F. Elman, William B. Euler, *J. Phys. Chem. C*, **2016**, 120, 8289 – 8297.
102. "The Influence of Interfacial Effects on the Photophysics of Rhodamine 6G Thin Films on a Poly(vinylidene fluoride) Surface," Matthew Mullen, William B. Euler, *Langmuir*, **2017**, 33, 2194 – 2204.
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110. "The Role of Zn<sup>2+</sup>-Doping on the Surface Chemistry of Poly(vinylidene difluoride) Thin Films," Angela Thach, Satu Heiskanen, Brett L. Lucht, William B. Euler, *Surfaces & Interfaces*, **2021**, 23, 101005.
111. "Evolution of Surface Morphology of Spin-Coated Poly(methyl methacrylate) Thin Films," Navid Chapman, Mingyu Chapman, William B. Euler, *Polymers*, **2021**, 13, 2124.

## Patents

1. "Sensing System Based on a Fluorophore Array," William B. Euler, Serial No. 15/430,320, Filed February 10, 2017, patent pending.
2. "Thermochromic Indicator Materials with Controlled Reversibility," Brett L. Lucht, William B. Euler, Yu Wang, patent number 7,943,063, issued May 17, 2011.
3. "Thermofluorescent Pigments for Security and Safety Applications," Brett L. Lucht, William B. Euler, Yu Wang, Nadia Archambault, patent number 7,833,438, issued November 16, 2010.
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