

Philip Carlson

Assistant Professor of Chemistry and Physics

Ph.,D., Physical Chemistry, Iowa State University
M.A., Biblical Studies, Louisiana Baptist University
B.S., Mathematics Wayland Baptist University
B.S., Chemistry, Wayland Baptist University
B.A., Evangelism and Missions, Patriot Bible University
A.S., Chemistry, Garden City Community College

Books

Boyd, Joel E.; Pretzer, Lori A.; Carlson, Philip J.; "Composite Catalytic Material and Process for Manufacture of Such Material." Dec. 28, 2010; Patent No. 7,858,552 B2

Boyd, Joel E.; Pretzer, Lori A.; Carlson, Philip J.; Skiles, Stephanie L.; "Metal Oxide Deposition Strategies for Photocatalytic Water Purification." In Handbook of Photocatalysts ed. Castello, Geri K. Hauppauge, NY; Nova Science Publishers, Inc. 2010. 323-339

Academic Articles

Carlson, Philip J.; Izgorodina, Eketrina; MacFarlane, Douglas; Gordon, Mark S.; "Computational Investigation of Similar ΔpK_a Amine Systems" to be submitted to the Journal of Physical Chemistry

B Carlson, Philip J.; Bose, Sayantan; Armstrong, Daniel W.; Hawkins, Tommy; Gordon, Mark S.; Petrich, Jacob W.; "Structure and Dynamics of the 1-Hydroxyethyl-4-amino-1,2,4-triazolium Nitrate (HEATN) High Energy Ionic Liquid System" Journal of Physical Chemistry B, 116, 503-512, 2012

Kee, Tak W.; Adhikary, Ramkrishna; Carlson, Philip J.; Mukherjee, Prasun; Petrich, Jacob W.; "Femtosecond Fluorescence Upconversion Investigations of the Excited-State Photophysics of Curcumin" Australian Journal of Chemistry 64, 23-30, 2011

Adhikary, Ramkrishna; Carlson, Philip J.; Kee, Tak W.; Petrich, Jacob W.; "Excited-State Intramolecular Hydrogen Atom Transfer of Curcumin in Surfactant Micelles" Journal of Physical Chemistry B 114, 2997-3004, 2010.

Pretzer, Lori A.; Carlson, Philip J.; Boyd, Joel E.; "The Effect of Pt Oxidation State and Concentration on the Photocatalytic Removal of Aqueous Ammonia With Pt-modified Titania" Journal of Photochemistry and Photobiology, A: Chemistry, 200, 246-253, 2008.

Carlson, Philip, J.; Pretzer, Lori, A.; Boyd, Joel, E. "Solvent Deposition of Titanium Dioxide on Acrylic for Photocatalytic Application" Industrial and Engineering Chemistry Research, 46 (24), 7970 -7976, 2007.

Carlson, Philip J.; "A Mind at Twelve: Edwards, Anti-Intellectualism, and a Challenge to the Christian Mind" The RealApologetics Theological Journal, Vol 1. 29-34, 2011

Exhibit or Performance

Curriculum Development - Chemistry Major courses 2012 Belhaven University

Curriculum Development - Physical science program revitalization (courses, labs, instrumentation, facility) 2012 Belhaven University

Professional Leadership

Belhaven University Department of Chemistry Safety Officer One Student Affiliate's Chapter of the American Chemical Society at Belhaven University Faculty Adviser One

Professional Presentations

Carlson, Philip J.; Adhikary, Ramkrishna; Kee, Tak W.; Petrich, Jacob W.; "Excited-State Intramolecular Hydrogen Atom Transfer and Solvation Dynamics of Curcumin in Surfactant Micelles" 239th A.C.S. National Meeting, San Francisco, CA 2010.

Carlson, Philip J.; Gordon, Mark S.; "Application of the Fragment Molecular Orbital (FMO) Method to the High Energy 1-Hydroxyethyl-4-amino-1,2,4-triazolium Nitrate (HEATN) Ionic Liquid System" 239th A.C.S. National Meeting, San Francisco, CA 2010.

Pretzer, Lori A.; Carlson, Philip J.; Boyd, Joel E.; "Photocatalytic degradation of Ammonia Over Platinized TiO₂" 63rd Southwest Regional A.C.S. Meeting, Lubbock, TX 2007

Skiles, Stephanie L.; Carlson, Philip J.; Boyd, Joel E.; "Pd/TiO₂ Photocatalyst for Nitrate Reaction." 63rd Southwest Regional A.C.S. Meeting. Lubbock, TX. 2007.

Carlson, Philip J.; Pretzer, Lori A.; Boyd, Joel E.; "TiO₂ Deposition on Acrylic Support Material for Photocatalytic Degradation of NO₃⁻ ions." 110th Texas Academy of Science Meeting. Waco, TX. 2007

Academic Awards

2010 Teaching Excellence Award Iowa State University

Academic Research

Other

High energy materials investigation using ab initio quantum chemistry methods Application of the fragment molecular orbital (FMO) method to systems of interest Scientific methodology from a Christian worldview Systematic study on the Christian mind as revealed in the Scriptures