

David E. Thompson, Ph.D.

Associate Professor of Chemistry, Sam Houston State University, P.O. Box 2117, Huntsville, TX 77341
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Academic Training

- 1999-2002 Post-doctoral research. *Condensed Phase Vibrational Dynamics*
Mentor: Dr. Michael D. Fayer, Stanford University, Stanford California
- 1991-1998 Ph.D. in Chemistry. *Measuring and modeling the contribution of the complex refractive index to infrared four-wave mixing lineshapes in mixtures of fully deuterated benzene and 1,8 nonadiyne*
Mentor: Dr. John C. Wright, University of Wisconsin, Madison Wisconsin
- 1984-1988 B.A. in Chemistry. Carleton College, Northfield Minnesota

Professional Experience

Current : Associate Professor of Chemistry, Sam Houston State University
Prior: Fall 2006 Sabbatical, Richard Van Duyn Research Group, Northwestern University; 2002-2009 Assistant Professor of Chemistry, Lawrence University, Appleton, WI; 1999-2002 Postdoctoral Researcher, Stanford University; 1991 Chemistry Technician, H.B. Fuller, Vadnais Heights, MN; 1990 U.S. Peace Corps Trainer for Science Teachers, Cape Coast, Ghana; 1988-1990 U.S. Peace Corps Secondary School Science Teacher, Ghana.

Master's Theses

Md. Nure Alam 2017, Pursuing a Ph.D. (Dr. Vince Remcho) at Oregon State University; Xinmei Dong 2016, Pursuing a Ph.D. (Dr. Michael Summers) at the University of Maryland, Baltimore County; Manpinder Kaur 2016, Chemtos Company in Austin, Texas; Prajwol Tuladhar 2015, U.S. Army; Sarowar Hossain 2015, Xenobiotics Laboratories, WuXi App Tech, Plainsboro, New Jersey; Deepthika de Silva 2013, Pursuing a Ph.D. (Dr. Isaiah Warner) at Louisiana State University; Secondra Holmes 2012, Pursuing a Ph.D. (Dr. Damian Young) at the Baylor College of Medicine; Asish Parbatani 2012, Dow Chemical 2012-2015, pursuing a Ph.D. (Dr. Bin Yu) in NanoScience at SUNY CNSE, Albany, New York.

Undergraduate Honors Theses

Antonio Carrillo 2016. McNair Scholar and former Project Seed Student, *Currently in chemical Engineering program at Texas A&M University*; Stephen A. Lee 2014. Pursuing a Ph.D. in chemistry (Dr. Julie Biteen) at the University of Michigan, Ann Arbor.

Selected Scholarly Contributions

- 1 Kiss L, Duke A, Kovacs K, Barcza T, Kiss M, Petrikovics I, Thompson DE. Sealing Effects on the Storage Stability of the Cyanide Antidotal Candidate, Dimethyl Trisulfide. *Drugs in R&D*, **2017**, 1-5. DOI: 10.1007/s40268-017-0220-x
- 2 Kiss L, Bocsik A, Walter FR, Ross J, Brown D., Mendenhall BA, Crews SR, Lowry J, Coronado V, Thompson DE, Sipos P, Szabo-Revesz P, Deli MA, Petrikovics I. In Vitro and In Vivo Blood-Brain Barrier Penetration Studies with the Novel Cyanide Antidote Candidate Dimethyl Trisulfide in Mice. *Toxicological Sciences*, **2017**, 160, 398-407. DOI: 10.1093/toxsci/kfx190
- 3 Dong X, Kiss L, Petrikovics I, Thompson DE. Reaction of Dimethyl Trisulfide with Hemoglobin. *Chemical Research in Toxicology*, **2017**, 30, 1661-1663. DOI: 10.1021/acs.chemrestox.7b00181
- 4 Kiss L, Holmes S, Chou CE, Dong X, Ross J, Brown D, Mendenhall B, Coronado V, De Silva D, Rockwood GA, Petrikovics I, Thompson DE. Method development for detecting the novel cyanide antidote dimethyl trisulfide from blood and brain, and its interaction with blood. *Journal of Chromatography B* **2017**, 1044, 149–157. DOI: 10.1016/j.jchromb.2017.01.010
- 5 De Silva D, Lee S, Angalakurthi S, Chiou CE, Ebrahimpour A, Thompson DE, Petrikovics I. Intravascular Residence Time Determination for the Cyanide Antidote Dimethyl Trisulfide (DMTS) in Rat by Using Liquid-Liquid Extraction Coupled with High Performance Liquid Chromatography (HPLC). *Journal of Analytical Methods in Chemistry*. **2016** DOI 10.1155/2016/6546475

- 6 Rockwood GR, Thompson DE, Petrikovics I. Dimethyl Trisulfide: A Novel Cyanide Countermeasure. *Toxicology and Industrial Health*. **2016** 32 (12) 2009-2026. DOI: 10.1177/0748233715622713
- 7 Thompson DE and Petrikovics I. "Cyanide physicochemical properties, synthesis, uses and applications" a book chapter in: *Toxicology of Cyanides and Cyanogens: Experimental, Applied and Clinical Aspects*, Ed. Hall, Isom, and Rockwell. Wiley-Blackwell. **2015**, 41-53.
- 8 Petrikovics I, Budai M, Kovacs K. Thompson DE. Cyanide antagonism: past, present and future. *World Journal of Methodology*. **2015**, 5(2) 88-100. DOI: 10.5662/wjm.v5.i2.88
- 9 Bhandari RK, Oda RP, Petrikovics I. Thompson DE, Brenner M, Mohan SB, Bebartá VS, Rockwood GA, Logue BA, Cyanide toxicokinetics: the behavior of cyanide, thiocyanate and 2-amino-2-thiazoline-4-carboxylic acid in multiple animal models. *Journal of Analytical Toxicology*. **2014**, 38 (4) 218-225.
- 10 Miller EN, Palm DC, De Silva D, Parbatani A, Meyers AR, Williams DL, Thompson DE. Microsphere lithography on hydrophobic surfaces for generating gold films that exhibit infrared localized surface plasmon resonances. *The Journal of Physical Chemistry B*. **2013**, 117 (49), 15313-15318 DOI 10.1021/jp403439e

Funded External Grants

- 1 NSF DUE IUSE program, Award # 1725674. A Comprehensive Model for Improving the Success of STEM Majors through the STEM Center. Brian Loft (PI), David E. Thompson (Co-PI), Donna Artho (Co-PI), Faruk Yildiz (Co-PI), Taylor Martin (Co-PI). **2017-2022** Total \$ 2,028,798
- 2 NIH-NIAID/ USAMRICD-IAA-1 Program: (SHSU Subcontract with ICD). Preclinical Development Studies with Cyanide Countermeasures: Brain Targeting Investigations. Ilona Petrikovics PI, David Thompson research collaborator Y1: (Sept1, **2016**-Aug 31, **2017**), Thompson: \$11,549 Total: \$235,649, Y2: (Sept1, **2017**-Aug 31, **2018**): Thompson: \$11,889, Total: \$239,025.
- 3 NIH-NIAID/ USAMRICD-IAA-1 Program: (SHSU subcontract with ICD). *Investigations on Advanced Formulated Cyanide Antidotes; Blood Brain Barrier (BBB) Penetration; Brain Targeting*. PI Ilona Petrikovics, co PI David E. Thompson Y1: Sept 1, **2014**-Aug 31, **2015**, Thompson: \$10,314, Total: \$176, 530, Y2: Sept 1, **2015**-Aug 31, **2016**, Thompson: \$10,623, Total: \$193,631;
- 4 American Chemical Society Project Seed Awards (In collaboration with the ACS- Greater Houston Local Section - Ms. Carolyn Burnley Project SEED local section coordinator). **2017** (\$2500), **2016** (\$3000), **2015** (\$2500), **2014** (\$6,000), **2013** \$5,000, **2012** (\$3000), **2011** (2500)
- 5 Army Institute of Chemical Defense Grant Extension. *Investigation of Next Generation Cyanide Antidotes* PI Dr. Gary Rockwood USAMRICD; *Development and Efficacy Testing of Next Generation Cyanide Antidotes* (SHSU Subcontract) PI-Dr. Ilona Petrikovics Fall **2013**. Thompson: \$9,925, Total: \$192,880; Fall **2012**. Thompson: \$9,637, Total: \$192,880
- 6 Army Institute of Chemical Defense Grant Extension. *Investigation of Next Generation Cyanide Antidotes* PI Dr. Gary Rockwood USAMRICD; *Investigation of Sulfur Donors and Next Generation Biomarkers* (SHSU Subcontract) PI-Dr. Ilona Petrikovics. Fall **2011**. Thompson: \$9,390, Total: \$237,844; Fall **2010**. Thompson: \$18,063, Total: \$218,682.
- 7 National Science Foundation Major Research Instrumentation Grant. *Acquisition of a Powder X-Ray Diffractometer for Multidisciplinary/Multi-institutional Research and Training*. Andrew C. Knudsen, David E. Thompson, Jeffrey Collett, John A. Luczaj, Marcia Bjornerud. Awarded summer **2007**. \$180,000
- 8 HP Technology for Teaching Grant. *Inside-out: use of mobile technology to support field and laboratory activities in an introductory environmental science course*. Jeff Clark, Jodi Sedlock, David Thompson, Marcia Bjornerud, and Andrew Knudsen. Awarded spring **2007**. \$68,000
- 9 Cottrell College Science Grant *Developing and investigating noble metal infused porous silicas as multilayered substrates for surface enhanced Raman spectroscopy*. David E. Thompson. Awarded fall **2006**. \$43,717
- 10 NSF-NUE Grant. *Expanding the Nanoscience and Nanotechnology Program at Lawrence University*. Karen Nordell, David Hall, Jeff Collett, Andrew Knudsen, David E. Thompson. Awarded fall **2005**. \$199,952

Funded Institutional Grants

SHSU Teaching Innovation Grant. *Redesign of course, instruction and assessment of chemical kinetics in General Chemistry II: improving student learning via active, practice-oriented performance expectations*. Thompson, DE; Villalta-Cerdas A; Zall C. Fall **2017**. \$6000.

Sam Houston State University Enhancement Research Grant Program. *Raman Enhancing Nanoarrays for Amplifying Weak Signals*. PI: David E. Thompson. Awarded spring **2010**. \$14,000.

Honors

Nominated for the SHSU College of Science Faculty Excellence in Teaching Award in 2014 and 2016; Lawrence University Mortar Board Honorary Award, "To a faculty member or administrator who best advances the spirit of scholarship, recognizes and encourages leadership, and provides service, those ideals upon which Mortar Board was established." Lawrence University, 2008; The Roger Carlson Memorial Award. Division of Analytical Chemistry, University of Wisconsin, 1997.

Service

Organized "Nanofacilitated Sensing" sessions at the 2013 (Milwaukee), 2016 (Minneapolis), 2017 (Reno), and 2018 (Atlanta) FACCS – Sci X Conferences; Review Panel RSC Advances 2016, 2017, 2018; 30 master's committees, 50+ undergraduate research projects, 13 Undergraduate Honors Contracts, 3 McNair Scholars; ACS Analytical Exam Development committee 2016, 2017; Worked with the Analytical Sciences Digital Library developing materials related to calibration in analytical chemistry 2012, 2013; ACS Project Seed Mentor 2011-2018.

Affiliations

American Chemical Society, International Union of Pure and Applied Chemistry, Rotary International