

Jeffrey S. Carver, Ed. D.

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EDUCATION:

- Ed. D. in Curriculum and Instruction from Illinois State University (2006)
Emphasis: Post-Secondary Education
Complementary field: Science Teacher Education
Dissertation title: Instructional Decision Making of High School Science Teachers
- M.S. in Chemistry from Northern Illinois University, DeKalb, IL (1998)
Emphasis: Organic Chemistry
Thesis title: Application of the extended Grunwald-Winstein equation to the solvolysis of dimethyl chlorophosphate and dimethyl chlorothiophosphate
- B.S. in Chemistry from Illinois State University, Normal, IL (1993)
State of Illinois Grades 6-12 Teaching Credentials in:
Chemistry, Physics, General Science, Physical Science, and Music (Grade 6-9)

PROFESSIONAL POSITIONS:

August 2014-Present	West Virginia University Morgantown, WV Associate Professor of Science Education
May 2012 – Present	West Virginia University Morgantown, WV Director of STEM Education Initiatives
August 2008 – May 2014	West Virginia University Morgantown, WV Assistant Professor of Science Education
August 2001 – May 2008	Illinois Valley Community College Oglesby, IL Professor of Chemistry
August 1998 – May 2001	Northern Illinois University DeKalb, IL Instructor of Chemistry (1/2 Time)
August 1996 – May 2001	Illinois Valley Community College Oglesby, IL Laboratory Instructor
August 1995 – June 1996	Minooka High School

Minooka, IL
Science Teacher

August 1993 – June 1995 Sycamore High School
Sycamore, IL
Science Teacher

SCHOLARSHIP:

Publications:

Research:

- Davis, T. A., Athey, S. L., Vandevender, M. L., Carihfield, C. L., Kolanko, C. C. E., Shao, S., Ellington, M. C. G., Dicks, J. K., **Carver, J. S.**, & Holland, L. A. (2014). Electrolysis of water in the secondary school science laboratory with inexpensive microfluidics, *Journal of Chemical Education*. Article ASAP. DOI:10.1021/ed400757m.
- Ghattas, N. I. & **Carver, J. S.** (2012). Integrating nanotechnology into school education: A review of the literature. *Research in Science and Technological Education*, 30(3), 271-284. DOI:10.1080/02635143.2012.732058.
- **Carver, J. S.**, Brothers, M., & Higgins, T. B. (2010). Assessment in undergraduate chemistry research: Accomplishments at Harold Washington College. In J. Ryan, T. Clark, & A. Collier, (Eds.), *Assessment in the Disciplines Volume 5: Assessment of Chemistry*. (pp. 75-95). Tallahassee, FL: Association for Institutional Research.
- Richards-Babb, M., Michoff, J., **Carver, J. S.**, Fisher, K., & Robertson-Honecker, J. (2010). Keeping it safe: Chemical safety in the high school laboratory. *Journal of Chemical Health and Safety*, 17(1), 6-14. DOI: 10.1016/j.jchas.2009.05.001
- Bergman, J. M., Boesdorfer, S. B., **Carver, J. S.**, Mumba, F., & Hunter, W. (2010). Student learning on atomic theory using the PES data method. *The Chemical Educator*, 15, 370-375. DOI:10.1007/s00897102308a
- Mumba, F. K., **Carver, J. S.**, Chabalengula, V. M., & Hunter, W. J. F. (2009) Chemistry teaching fellows' understanding of the nature of scientific theories and laws. *Journal of Baltic Science Education*, 8(1), 15-21.
- Mumba, F. K., Chabalengula, V. M., Wilson, E., **Carver, J. S.**, & Hunter, W. J. F. (2009). Resident scientists' conceptions of science teaching. *Problems of Education in the 21st Century: Recent Issues in Science and Technology Education*, 11, 129-138.
- Short, B. J., **Carver, J. S.**, Hunter, W. J. F., & Young, J. R. (2001) Moments in Constructivism: How does accepting our failures allow us to examine our teaching? *The Chemical Educator*, 6, 277-287.
- Kevill, D., & **Carver, J. S.** (2004). Rate and product studies with dimethyl phosphorochloridate and phosphorochloridothionate under solvolytic conditions. *Organic Biomolecular Chemistry*, 2, 2040 - 2043.

Practitioner:

- Bergman, J. M., Boesdorfer, S. B., **Carver, J. S.**, Mumba, F., & Hunter, W. J. F. (2013). Teaching atomic theory using photoelectron spectroscopy data. *The Chemical Educator*, 18, 1-5.
- **Carver, J. S.** & Wasserman, B. L. (2012). Hands-on hydroponics. *The Science Teacher*, 79(4), 44-48.
- Brown, K. E., Micklos, A., **Carver, J. S.**, & Hunter, W. J. F., (2004). A teaching plan for introducing gas properties, *The Chemical Educator*, 9, 4.
- Hunter, W. J. F., **Carver, J. S.**, Marsiglio, B.P., Pennekamp, R., Jeans, K. M., & Shewfelt, E. (2001). Online chemistry help service in non-majors general chemistry. *ConfChem: Fall 2001 On-line Chemical Education Conference on Online Teaching Methods* (www.ched-ccce.org/confchem/2001/c/index.html).

Published Conference Proceedings

- Miller, P. M., **Carver, J. S.**, Shinde, A., Ratcliff, B. & Murphy, A. N. (2013). Initial replication results of learning assistants in university physics. *AIP Conference Proceedings*, 1513, 30-33. doi: 10.1063/1.4789644

Doctoral/Masters:

- **Carver, J. S.** (2006). Instructional Decision-making of high school science teachers. Doctoral Dissertation. *Dissertation Abstracts International*, 67(09A), 3277.
- **Carver, J. S.** (1998). *Application of the Expanded Grunwald-Winstein Equation to the Solvolysis of Dimethyl Chlorophosphate and Dimethyl Chlorothiophosphate*. (Unpublished master's thesis). Northern Illinois University, DeKalb, IL.

Grants (funded):

- WVU Teach – A UTeach Replication. National Math and Science Initiative (NMSI) funded \$1,450,000, December 2014. **J.S. Carver, Co-Director**; G. B. Stewart, Co-Director.
- Developing a new model for PhysTEC sustainability at West Virginia University. American Physical Society funded \$160,000, December 2014 – J. C. Stewart, PI, G. Stewart, Co-I, P. Miller, Co-I, J.S. Carver, Co-I
- Expansion of the Arts & Bots Program with Mountainview Elementary School. BelleJAR Foundation granted \$16,015, November 2013. Lynne Schrum, PI; **J.S. Carver, Co-I**
- What's the Weather in Space: An exhibit at the Children's Discovery Museum of West Virginia. WVU Committee on Senate Service granted \$8,696 on April 9, 2013. Paul Cassak, PI; **J. S. Carver, Co-I**.
- The Teaching Excellence At College for High Achievement in West Virginia (TEACH-WV) Scholarship Program. Supplemental Funding Awarded \$35,394 September, 2013 by the National Science Foundation. J. K. Jackson, PI; **J. S. Carver, Co-PI**; J. Bolyard, Co-PI; D. Miller, Co-PI; M. Withers, Co-PI; M. Richards-Babb, Co-PI; E. Scime, Co-PI

- Mountaineer Educational CREATE Center (MECC). Benedum Foundation granted \$208,000 to West Virginia University Foundation. Lynne Schrum, PI; **J.S. Carver, Co-I**; Melissa Luna, Co-I.
- Solar Photovoltaic Installation on Surface Mined Land University High School, Morgantown, WV. Appalachian Regional Commission, Sub-Award Granted: \$40,000 to Monongalia County Schools. P.I. Rebecca Mattern; Co-I Shari Bouis; Co-I Pete Cheesebrough; **J. S. Carver, Science Education Curriculum and Research Consultant.**
- Bio/nanotechnology for Public Security and Environmental Safety. National Science Foundation Research Infrastructure Improvement Program (NSF-RII). Awarded \$20,000,000 August 15, 2010 by the National Science Foundation. P. Hill, PI; **J. S. Carver, Lead Educational Writer/Consultant (\$1,326,244 sub-award)**
- The Teaching Excellence At College for High Achievement in West Virginia (TEACH-WV) Scholarship Program. Awarded \$748,334 October 28, 2008 by the National Science Foundation. J. K. Jackson, PI; **J. S. Carver, Co-PI**; J. Bolyard, Co-PI; D. Miller, Co-PI; M. Withers, Co-PI; M. Richards-Babb, Co-PI; E. Scime, Co-PI
- Faculty Research Grant. Awarded \$1000 May 2007 by the Illinois Community College Faculty Association. **J. S. Carver PI**
- Illinois Bridge Program. Awarded \$68,000, August, 2004 by the Illinois Board of Higher Education W.J.F. Hunter PI . **J. S. Carver** Site Coordinator
- Central Illinois Bridge Program. Awarded \$68,000 in September, 2003 by the Illinois Board of Higher Education. W.J.F. Hunter, P.I. **J. S. Carver** Site Coordinator
- Teach.chem: The Illinois Chemistry Teachers Support Network. Awarded \$55,000 January, 2002 by the Dwight D. Eisenhower Professional Development Program of the Illinois State Board of Education, W. J. F. Hunter PI with B.Short and **J. S. Carver Co-PI.**
- Teach.chem: The Illinois Chemistry Teachers Support Network. Awarded \$364,000 June 23, 2001 by the Illinois State Board of Education. W. J. F. Hunter PI with B. Short and **J. S. Carver Co-PI.**

Presentations:

National/International

- Athey, S., Holland, L. Carver, J.S., Davis, T., Carihfield, C., & Ellington M. (2014, August). *Workshop for teachers to engage students in the electrolysis of water with simple and inexpensive microfluidics: Hands-on training with the instrumentation.* Paper presented at the 248th Meeting and Exposition of the American Chemical Society, San Francisco, CA.
- Miller, D., Jackson, J. K., Bolyard, J., Rye, J., **Carver, J. S.**, Richards-Babb, M., Robertson-Honecker, J., Withers, M., Stueckle, J., Miller, P., & Steel, S. (2013, May). *Recruiting teachers in West Virginia: WVU Noyce program.* Poster presented at the 2013 NSF Robert Noyce Teacher Scholarship Program Conference, Washington, D.C.

- **Carver, J. S.**, Hayes, S. B., Ghattas, N. I. (2013, April). *Engaging in inquiry as professional development: Reconstructing understandings of research, teaching, and learning*. Paper presented at the International Meeting of the National Association of Research in Science Teaching, Rio Grande, PR.
- Miller, P. M., Ratcliff, B., Shinde, A., & **Carver, J. S.** (2013, March). *Progress toward sustainability in the WVU LA program*. Poster presented at the National Physics Teacher Education Coalition Conference, Baltimore, MD.
- **Carver, J. S.**, Ghattas, N. I., & Toth, E. E. (2013, January). *Science teacher attitudes toward nanotechnology and nanotechnology curriculum integration*. Paper presented at the 2013 International Conference of the Association of Science Teacher Educators, Charleston, SC.
- **Carver, J. S.**, Jackson, K., Bolyard, J., Rye, J., Richards-Babb, M., Robertson-Honecker, J., Withers, M., Stueckle, J., Miller, D., Miller, P. M., Steel, S., & Heumann, D. (2012, May). *Self-perceptions of college students' preparedness for success in chemistry: An extension of a Robert Noyce Scholar's action research project*. Poster presented at the 2012 NSF Robert Noyce Teacher Scholarship Program Conference, Washington, D.C.
- Griffith, K., **Carver, J. S.**, Rio, R., & Jackson, K. (2012, May). *Bringing current scientific research into the classroom: Investigation of student attitudes toward science before and after an authentic science experience*. Poster presented at the NSF Robert Noyce Teacher Scholarship Program Conference, Washington, D.C.
- Miller, P. M., **Carver, J. S.**, Shinde, A., Cartwright, T. J., Wilson, B. K., & Hallar, B. (2012, February). *Implementation of learning assistants in three West Virginia institutions*. Poster presented at the 2012 Winter Meeting of the American Association of Physics Teachers, Ontario, CA.
- **Carver, J. S.**, House, R., Hunter, W. J. F., & Ferrence, G. (2011, April). *A comparison of two-year and four-year college students' undergraduate research experiences*. Paper presented at the 2011 International Conference of the National Association of Research in Science Teaching, Orlando, FL.
- Brother, M. R., Higgins, T. B., Hunter, W., **Carver, J.**, & House, R. (2011, March). *Impact of research on community college students*. Poster presented at the 241st National Meeting of the American Chemical Society, Anaheim, CA.
- Hunter, W., Ferrence, G., **Carver, J.**, Higgins, T., Brothers, M., Torallba, R., Dowd, T., & Edler, K. (2011, March). *Assessment in undergraduate chemistry research: Accomplishments and coordination at the community college and university*. Poster presented at the 241st National Meeting of the American Chemical Society, Anaheim, CA.
- **Carver, J. S.** (2011, January). *Science teaching laboratory: A group placement model explored*. Paper presented at the 2011 International Conference of the Association of Science Teacher Educators, Minneapolis, MN.
- Brothers, M. R., Higgins, T. B., Torralba, R., **Carver, J. S.**, Hunter, W. J. F. (2010, March). *Student scholars of the STEM-ENGINES Undergraduate Research Collaborative*. Poster presented at the 239th National Meeting of the American Chemical Society, San Francisco, CA.

- Torralba, R., Brothers, M. R., Higgins, T. B., **Carver, J. S.**, & Hunter, W. J. F. (2010, March). *Engaging community college scientists with research*. Paper presented at the 239th National Meeting of the American Chemical Society, San Francisco, CA.
- **Carver, J. S.**, Brothers, M. R., Hunter, W. J. F., Davis, S., Edler, K., Ferrence, G., Higgins, T. B., Dowd, T., House, R., & Harris, Y. (2010, March). *Student learning gains through undergraduate research experiences with two-year college students*. Paper presented at the 2010 International Conference of the National Association of Research in Science Teaching, Philadelphia, PA.
- **Carver, J. S.** (2010, January). *Safety in the science classroom: it's not an accident*. Experiential session presented at the 2010 International Conference of the Association of Science Teacher Education, Sacramento, CA.
- **Carver, J. S.**, Richards-Babb, M., & Robertson-Honecker, J. (2010, January). *Science classroom safety: A comparison of the perspectives of pre-service and in-service teachers*. Paper presented at the 2010 International Conference of the Association of Science Teacher Education, Sacramento, CA.
- **Carver, J. S.** & Hunter W.J.F. (2008, March). *The Effects of portfolio assessment on student learning in chemistry*. Paper presented at the International Meeting of the National Association of Research in Science Teaching, Baltimore, MD.
- **Carver, J. S.** & Hunter W. J. F. (2007, April). *Portfolio assessment in science education*. Paper presented at the International Meeting of the National Association of Research in Science Teaching, New Orleans, LA.
- **Carver, J. S.** (2007, March). *Which comes first, the standards or the curriculum?* Paper presented at the 233rd national meeting of the American Chemical Society, Chicago, IL.
- Hunter, W. J. F., Mumba, F., Goff, P., **Carver, J. S.**, & Abrams, C. B. (2006, September). *Catalyzing a transition for students: Supporting human resources for under-represented groups in Illinois*. Paper presented at the 232nd national meeting of the American Chemical Society, San Francisco, CA.
- **Carver, J. S.** & Johll, M. (2005, March). *Community college chemistry clubs: Challenges, successes, and ACS recognition*. Paper presented at the 170th national conference of 2YC₃, San Diego, CA.
- Hunter W. J. F., **Carver, J. S.**, Mumba, F. M., Bergman, J., Chabalengula, M.V., Taylor, C. Millen, K., & Micklos, A. (2004, March). *Experimental data in the hands and minds of students*. Paper presented at the 227th Meeting of the American Chemical Society, Anaheim CA.
- Hunter, W. J. F., Ferrence, G. M., **Carver, J. S.**, Bergman, J., Husted, D., & McLachlan, L. (2002, August). *An analysis of atomic structure via PES data*. Paper presented at the 17th Biennial Conference on Chemical Education, Bellingham, WA.
- Hunter, W. J. F., Ferrence, G. M., **Carver, J. S.**, Bergman, J., & McLachlan, L. (2002, April). *Using photoelectron spectroscopy data to teach atomic structure: Lessons learned in three semesters*. Paper presented at the Spring 2002 Meeting of the American Chemical Society, Orlando, FL.

- Short, B. J., **Carver, J. S.**, Young, J. R., & Hunter, W. J. F. (2002, April). *High school and college chemistry teachers: Belief systems that influence pedagogies*. Paper presented at the 2002 Annual Meeting National Association of Research in Science Teaching, New Orleans, LA.
- Hunter, W. J. F., Short, B. J., **Carver, J. S.** (2002, March). *Lessons learned in Teach.chem*. Paper presented at the 2002 National Science Teacher's Association Conference, San Diego, CA.
- Hunter, W. J. F., Short B. J., & **Carver, J. S.** (2001, August). *Mentoring through Teach.chem: The Illinois Chemistry Teachers Support Network*. Paper presented at the Fall 2001 Meeting of the American Chemical Society, Chicago, IL.
- Hunter, W. J. F., Short, B. J., **Carver, J. S.**, & Young, J. R. (2001, August). *Moments in constructivism: Successes and failures of four chemistry teachers*. Paper presented at the Fall 2001 National Meeting of the American Chemical Society, Chicago, IL.
- Kevill, D. N. and **Carver J. S.** (2000, July). *The kinetic influences of sulfur-for-oxygen substitution in the solvolyses of chlorophosphate esters*. Paper presented at the 15th IUPAC Conference on Physical Organic Chemistry, Goteborg, Sweden.
- Kevill D. N., D'Souza, M. J., Rudolph, T. M. and **Carver, J. S.** (1999, September). *The kinetic influence of sulfur-for-oxygen substitution in the solvolyses of acid chlorides*. Paper presented at The Kyushu International Symposium on Physical Organic Chemistry, Fukuoka, Japan.
- Kevill, D. N. and **Carver J. S.** (1999, January). *Correlation of the rates of solvolysis of dimethyl chlorophosphate and dimethyl chlorothiophosphate*. Poster presented at The Eighth International Conference on Correlation Analysis in Chemistry, Chennai, India.

Regional

- **Carver, J.S.** & Waterson R. (2014, September). *Integrating science and social studies: A look at a shared special methods experience*. Poster presented at the annual Mid-Atlantic Regional Conference of the Association of Science Teacher Educators, Blowing Rock, NC.
- Murphy, A. N. & **Carver, J. S.** (2013, September). *Impacts of authentic research experiences on science lesson design*. Poster presented at the annual Mid-Atlantic Regional Conference of the Association of Science Teacher Educators, Daniels, WV.
- Murphy, A. N., & **Carver, J. S.** (2012, September). *Teachers outside of their comfort zone: Preliminary results of a nanotechnology professional development*. Poster presented at the annual Mid-Atlantic Regional Conference of the Association of Science Teacher Educators, Pembroke, VA.
- Ghattas, N. I., & **Carver, J. S.** (2012, September). *Barriers to implementing nanotechnology in science classrooms*. Paper presented at the annual Mid-atlantic Regional Conference of the Association of Science Teacher Educators, Pembroke, VA.
- **Carver, J. S.**, Ghattas, N. I., Cartwright, T., Taylor, D., Toth, E., Woodrum, B., Shinde, A. (2011, September). *Nanobiotechnology education: Small makes a large impact*. Paper presented at the annual Mid-Atlantic Regional Conference of the Association of Science Teacher Educators, Olive Hill, KY.

- Higgins, T. B. & Carver, J. S. (2011, November). *Impacts of undergraduate research on community college students and faculty members*. Paper presented at the 67th Southwest Regional meeting of the American Chemical Society, Austin, TX.
- Carver, J. S. & Ratcliff, B. (2009, September). *Student learning gains through experiential teaching practice*. Paper presented at the 2009 ASTE Mid-Atlantic Regional Conference, Friendship, OH.
- Hunter, W. J. F., Taylor, C., Bergman, J., & Carver, J. S. (2004, June). *Rubrics, Standards, and Peer Assessment in Chemistry and Chemistry Education*. Paper presented at the 36th Central Regional Meeting of the American Chemical Society Chicago, IL.
- Hunter, W. J. F., Ferrence, G.M., Carver, J. S., Bergman, J., & McLachlan, L. (2003, May). *Data driven and student-centered modifications to introductory chemistry*. Paper presented at the 35th Great Lakes Regional American Chemical Society Chicago, IL.
- Carver, J. S. (2001, June). *Integrating technology into the general chemistry laboratory*. Invited Speaker. Paper presented at the Great Lakes Regional Meeting of the American Chemical Society, Grand Rapids, MI.
- Short, B. J., Carver, J. S., Young, J. R., & Hunter, W. J. F. (2001, June). *Moments in constructivism: How does accepting failures allow us to examine our teaching?* Paper Presented at the Great Lakes Regional Meeting of the American Chemical Society, Grand Rapids, MI.

State

- Carver, J. S., Wells, T. R., McCall, L., Spring, E., Khoo, S., & Gibson, C. (2014, November). Integrating new and emerging science into the classroom. Paper presented at the annual conference of the West Virginia Science Teachers Association, Daniels, WV.
- Carver, J. S., McDonald, S. & Rusmisell, J. (2014, November). 3-D animated art: Arts & Bots in the elementary classroom. Paper presented at the annual conference of the West Virginia Science Teachers Association, Daniels, WV.
- Quick-Blanco, C., Workman, D., Karas, L., & Carver, J. S. (2014, July). NEWS FLASH! Innovative technologies invade West Virginia classrooms. Paper presented at the annual West Virginia Statewide Technology Conference, Morgantown, WV.
- Ghattas, N. I. & Carver, J. S., (2013, November). Cultural responsiveness of the Next Generation Science Standards. Paper presented at the annual conference of the West Virginia Science Teachers Association, Morgantown, WV.
- Carver, J. S., Licwov-Channell, V., Mallory, G., Payne, J., Wells, T., & Wollaber, L., (2013, November). Bionanotechnology lessons for middle and high school science classes. Paper presented at the annual conference of the West Virginia Science Teachers Association, Morgantown, WV.
- Athey, S., DeRhonda, F., Vandevender, M. L., Kolanko, C., Shao, S., Davis, T. A., Carihfield, C. L., Holland, L. A., & Carver, J. S. (2013, November). Electrolysis of water in the science laboratory for under \$5 with hand-held microfluidics. Paper presented at the annual conference of the West Virginia Science Teachers Association, Morgantown, WV.

- Smolski, S., **Carver, J. S.**, & Hayes, S. (2013, November). Teacher as researcher through action research. Paper presented at the annual conference of the West Virginia Science Teachers Association, Morgantown, WV.
- **Carver, J. S.**, Cartwright, T., Smith, A., & Toth, E. (2013, November). Nanobiotechnology science to the classroom: Paid research and teaching experiences for high school science teachers. Paper presented at the annual conference of the West Virginia Science Teachers Association, Morgantown, WV.
- **Carver, J. S.**, McNeel, B., LaVergne, K., Robbins, D., Stanescu, E., Gipson, D., Graser, J., Schreiber, T., Bond, T., Rawson, T., Smolski, S., Barker-Fox, B., & Mallory, G., (2012, November). Bionanotechnology lessons for middle and high school science classes. Paper presented at the annual meeting of the West Virginia Science Teachers Association, Martinsburg, WV.
- **Carver, J. S.**, Cartwright, T., Smith, A., Toth, E., & Woodrum, B. (2012, November). Bionanotechnology science to the classroom – PAID research and teaching experiences for science teachers. Paper presented at the annual meeting of the West Virginia Science Teachers Association, Martinsburg, WV.
- **Carver, J. S.**, Blaylock, J., Loyd, J., Athey, S., Kress, K., Coble, J., McCloud, R., Berry, L., Goff, E., Hizer, C., & Boskovic, O. (2011, November). *Integration of nanobiotechnology lessons in middle and high school science*. Paper presented at the Annual Conference of the West Virginia Science Teachers Association, Flatwoods, WV.
- **Carver, J. S.**, Cartwright, T., Hallar, B., Taylor, D., Toth, E., & Woodrum, W. (2010, October). *Nano/biotechnology science in the classroom – PAID Research and teaching experiences for high school science teachers*. Paper presented at the 26th Annual Conference of the West Virginia Science Teachers Association, Wheeling, WV.
- Jacobs, R. & **Carver, J. S.** (2010, October). *Critical thinking in the science classroom: Analyzing current issues in science and technology*. Paper presented at the 26th Annual Conference of the West Virginia Science Teachers Association, Wheeling, WV.
- Hooks, K. & **Carver, J. S.** (2010, October). *Germy potatoes: Teaching microbiology to elementary grades*. Paper presented at the 26th Annual Conference of the West Virginia Science Teachers Association, Wheeling, WV.
- **Carver, J. S.**, Wasserman, B., Ensign, T. (2009, November). *Safe foods? A five minute-a-day long-term science experiment*. Paper presented at the 25th Annual Conference of the West Virginia Science Teachers Association, Daniels, WV.
- Wasserman, B., **Carver, J. S.**, & Ensign, T. (2009, November). *Hooked on Hydroponics*. Paper presented at the 25th Annual Conference of the West Virginia Science Teachers Association, Daniels, WV.
- Toth, E. E., **Carver, J. S.**, Obenauf, P., Rye, J., & Wiesenmayer, R. (2009, November). *What's Hot and New in Science Education at WVU*. Paper presented at the 25th Annual Conference of the West Virginia Science Teachers Association, Daniels, WV.

Local

- Ghattas, N., Erdosne-Toth, E., & Carver, J. S. (2012, April). *Teachers' attitudes towards integrating nanotechnology content into science teaching*. Poster presented at the 2012 WVU College of Education and Human Services Student Research Forum, Morgantown, WV.
- Carver, J. S. (2009, October). *Science education theory into practice: Using data based approaches to teaching and assessing chemistry*. C. Eugene Bennett Department of Chemistry Colloquium, West Virginia University, Morgantown, WV.
- Carver, J. S. (2009, May). *Characteristics of the Adult Novice Learner*. WVNano Symposium on Nanotechnology. Morgantown, WV.
- Carver, J. S. & Hunter, W. J. F. (2004, November). *Chemistry in the classroom: Translating constructivist theory into practice*. Paper presented at Chemical Industry Council of Illinois Teacher's Workshop, LaSalle, IL.
- Hunter, W. J. F. & Carver, J. S., (2003, October). *Chemistry in the classroom: Translating constructivist theory into practice*. Paper presented at Carus Chemical Company Chemistry Teacher's Workshop, Ottawa, IL.
- Carver, J. S. (2004, April). *Classroom Instruction with Blackboard Course Management System*. Illinois Valle Community College Faculty Development Day, Oglesby, IL
- Hunter W. J. F., & Carver, J. S., (2004, March). *Experimenting with Blackboard online*. Paper presented at the Illinois Valley Community College Summer Science Institute, IVCC, Oglesby, IL.
- Carver, J. S. & Jones, S. L. and Hansen, P. *Is it Chemistry or Magic?* © Otis Rothenbeger and James Webb. Presented to various schools, community groups, and The Museum of Science and Industry, ages second grade through adult.
- Carver, J. S. & Jones, S.L. and Hansen, P. *The Magical Quest for Chemistry*. A theatrical presentation of chemistry and its development through time. Presented to groups of all ages.

OTHER WORK CONDUCTED:

External Evaluator

- 2014-Present – ISU SmartGrid for Schools – A school and community educational program for advanced monitoring systems and technologies in electricity.
- 2013-Present – NSF Funded Promoting Students' Spatial Thinking in Upper Elementary Grades using Geographic Information Systems (GIS).
- 2011-2013 – NIH Funded The Mind Project -
- 2009-2011 - NSF Funded STEM-ENGINES – Undergraduate Research Collaborative grant project
- 2009-present – DOE Funded Illinois Earthscope – An Illinois Math and Science Partnership teacher professional development program focused on Earth Science curriculum utilizing the instrumentation and

data collected as the NSF and NGS seismographically map the continental United States.

- 2007-2012 – DOE funded Chemistry Master Teacher Leaders – An Illinois Math and Science Partnership teacher professional development program leading to a newly designed and approved Masters degree in Chemical Education
- 2010-2012 – DOE funded Threatened Species/Threatened Environment – An Illinois Math and Science Partnership teacher professional development program focused on global climate change
- 2010-2012 – DOE funded Engaged STEM – An Illinois Math and Science Partnership teacher professional development program focused on a middle school integrated STEM curriculum
- 2010-present – Illinois Board of Higher Education funded SIPAMS – A teacher professional development program focused in improving middle school teachers content knowledge in the Mathematics or Science disciplines

Editorial Services

- Editor – LabNotes: The publication of the West Virginia Science Teachers Association (published three times annually)
- Associate Editor – Journal of STEM Teacher Education

Reviewer

- Review article submissions for The Chemical Educator
- Review articles submissions for The Journal of Chemical Education
- Review book proposals and books for the NSTA press
- Review proposals for the 2012 International Conference of the Association of Science Teacher Educators
- Review proposals for the 2011 International Conference of the National Association of Research in Science Teaching
- Review proposals for the 2011 International Conference of the Association of Science Teacher Educators
- Review proposals for the 2009 International Conference of the National Association of Research in Science Teaching
- Review proposals for the 2008 Conference of the American Educational Research Association-Division K
- Review proposals for the 2008 International Conference of the National Association of Research in Science Teaching

Fall 2005

The Sextant Project

- Designed a multidisciplinary in-service activity for high school science teachers
- Implemented the in-service activity with groups of 6 -12 teachers

Fall 2005

Teaching Science Constructively

- Designed inquiry-based science in-service activities for elementary school teachers
- Implemented the in-service activity with groups of K-5 teachers

Fall 2003, 2004, 2005

Chemistry Lab Chemical Disposal and Organization.

- Designed a practical workshop for pre-service science teachers on the disposal and organization of chemicals
- Offered the workshop each year for the science methods students at Illinois State University in conjunction with the Science Teaching Methods class

Summer 2002-2004

Teach.chem: The Illinois Chemistry Teachers Support Network

- Designed an in-service workshop for high school science teachers founded in constructivist theory with the focus on application of that theory
- Wrote grants to support the summer workshop activities
- Evaluated the summer workshop
- Served as a Co-PI for the grants received
- Arranged for the utilization of host sites across the state

Summer 2003 & 2004

Illinois Valley Community College Summer Science Institute

- Arranged for speakers and presenters
- Arranged for facilities use
- Arranged lodging for out of town presenters and speakers
- Prepared requested laboratory supplies for speakers and presenters

Summer 1995

TRAC Position at Fermi National Accelerator Laboratory, Batavia, IL

- Conducted research under the supervision of a Fermi Lab scientist.
- Research involved designing a process by which a ceramic power coupler designed for a linear particle accelerator could be coated with a uniformly thick titanium coating.

PROFESSIONAL AFFILIATIONS:

- Association of Science Teacher Educators (ASTE)
 - Member (2008-present)
- Mid-Atlantic Association of Science Teacher Educators (MA-ASTE)
 - Member (2008-present)
- National Association of Research in Science Teaching (NARST)
 - Member (2007-present)
- American Educational Research Association (AERA)
 - Member (2007-present)
- National Science Teachers Association (NSTA)
 - Member (2007-present)
- West Virginia Science Teachers Association (WVSTA)
 - Member (2008-present)
 - Executive Board (College/University Liaison 2010-2012, Newsletter Editor 2011-present)

- American Chemical Society (ACS)
 - Member (1993-present) Chemical Education Division
- Illinois Association of Chemistry Teachers (IACT)
 - Member (1993-07), Regional Vice President (1999), President Elect (2000), President (2001), Past President (2002), Web Page Developer (2001-07)
- Illinois Articulation Initiative (IAI) Chemistry Major's Panel Member
- ICCB/IBHE Associate of Arts in Teaching (AAT) Science Committee Member