

TEXAS STATE VITA

I. Academic/Professional Background

A. Name: **Sandra West Moody** Title: Associate Professor of Biology

B. Educational Background

| Degree | | University | Major | Thesis/Dissertation |
|--------|------|------------------------|---|---|
| B.S. | 1963 | University of Houston | Secondary Education/General Science | |
| M.S. | 1971 | University of Houston | Biology | Penaeid Shrimp Nutrition |
| Ph.D. | 1990 | Texas A & M University | Science Education/ Curriculum & Instruction | Student Perceptions of Teaching Effectiveness |

C. University Experience

| Position | University | Dates |
|--|---|--------------|
| Associate Professor | Texas State University – San Marcos | 1995-Present |
| Assistant Professor | Southwest Texas State University | 1989-1995 |
| Research Assistant | Texas A&M University Marine Education Program | 1986 |
| Laboratory Instructor Anatomy & Physiology | Alvin Community College, Alvin, TX | 1974-75 |
| Laboratory Instructor Freshman Biology | University of Houston, Houston, TX | 1971-72 |

D. Relevant Professional Experience

| Position | Entity | Dates |
|--|--|--------------|
| Science Department Chair/Teacher, 6th and 7th Grade Science teacher | Ed White Middle School, North East I.S.D. San Antonio, TX, | 1987-89 |
| Assistant Principal in Administrative Training | North East I.S.D. | Summer, 1988 |
| Science Department Chair/Teacher, Biology I Honors, Marine Science, and Physical Science | Madison High School, North East I.S.D., San Antonio, TX, | 1978-87 |
| Teacher, Biology I | Marshall High School, Northside I.S.D., San Antonio, TX | 1977-78 |
| Teacher, Biology I & Marine Science | Dobie High School, Pasadena I.S.D., Houston, TX | 1975-77 |

| | | |
|--|--|-------------|
| Assistant Director/Teacher | Montessori Children's Academy, Houston, TX | 1968-75 |
| Teacher, Biology & Homebound Students | Pasadena I.S.D., Houston, TX | 1965 & 1967 |
| Science Department Chair/Teacher, Physical Science | Milby High School, Houston I.S.D., Houston, TX | 1963-65 |

II. TEACHING

A. Teaching Honors and Awards:

SWTSU Delta Zeta Favorite Instructor, 1990
 Superintendent's Award, Recognition of Achievement, 1986, 1987
 SIGMA XI Award for Outstanding Science Educator, 1986

B. Courses Taught:

Biology 7699 Dissertation
 Biology 5399 Thesis
 Biology 4408/5408 Science Processes and Research, 1989-Present
 Biology 4305/5305 Nature Study, 1989-Present
 Education 4681, Supervision of Secondary Science Student Teachers, 1989-Present
 Education 4381, Supervision of Secondary Science Interns, 1989-Present
 General Science 3310, for pre-service elementary teachers, 1990-2000
 General Science 3320, for pre-service elementary teachers, 1989-2007
 Biology 5319 – Topics in Science Education – 1995-Present
 Biology 5110, Seminar in Science Education – 1999 - Present
 Biology 5390, Problems in the Biological Sciences, 1998 - Present
 General Science 3310, General Science for pre-service middle school teachers, 2004-2005
 General Science 3320, General Science for pre-service middle school teachers, 2004-2005
 Biology 5319, Problems in Ecology, Field Ecology for Science Teachers, Designed curriculum and co-taught, 1990-1995
 Biology 1310, General Biology for non-science majors -1989-1991
 Biology 5350, Topics in Physiology/Human Circulatory System - Designed curriculum, taught by instructor, 1992
 Biology 5350, Topics in Physiology/Human Respiratory System - Designed curriculum, taught by instructor, 1992
 Biology 5401, Biological Science Processes/Edwards Aquifer - Designed curriculum, taught with team of instructors, 1992
 Physics 5336, Physical Science for Teachers, Coordinated Thematic Science I – Designed curriculum, taught by team of instructors, 1992
 Biology 5319, Coordinated Thematic Science I - Designed curriculum, taught w/ team of instructors, 1992
 Biology 5319, Coordinated Thematic Science II, 1993
 Chemistry 5337, Physical Science for Teachers, Coordinated Thematic Science I, Designed curriculum, taught by team of instructors, 1993
 Physics 5336, Physical Science for Teachers, Coordinated Thematic Science II, Designed curriculum, taught by team of instructors, 1993
 Biology 5401, Methods & Techniques for Biological Science, 1989-1993

C. Graduate Theses/Dissertations or Exit Committees:

- Melissa Duran, 2007-2010. Thesis: Correlated Geology & Math: Enhanced Student Performance, Supervisor
 Lisa Kennedy, M.S., 2006-2013: Safety in Texas Secondary Science Laboratories, Supervisor.
 Singh, Mamta. 2006-2009. Dissertation: Student Success in Entry Level Biology Courses, Supervisor.
 Lisa Gloyna, 2008, Evaluation of Correlated Science and Math Teacher Training, Supervisor
 James E. Hand, 2006-2010. Ph.D. Exit Committee
 Chad Cryer, M.Ed. 2006. Committee
 Amanda C. Stephenson, M.S. 2003. Thesis, An Analysis of Safety Incident/Accident Reports in Texas Schools, Supervisor.
 James E. Hand, M.S., 2002. Program Evaluation of Texas State Freshman Biology, Supervisor.
 Lin Poor, M.S. Wildlife Biology, 1998, Committee
 Ann S. Miller, Master of Applied Geography, 1996. Evaluation Impact on Environmental Awareness, Committee
 Cayla C. Cieloncki, M.S., 1992. Safety in Texas Science Classrooms, Supervisor

Direction of Graduate Student Non-Thesis, Committee Chair

- Sara Hansen, 2014-current, MSIS in Science & Math Education
 Alisha Sanders, 2014-2015, MS in Biology w/ Life Science Certification
 Nicole Shepard, 2013-2015, MS in Biology w/ Life Science Certification
 Yutian Yu, 2012-2014, MSIS in Science & Math Education
 Anglea Barrerio, 2012-2014, MSIS in Science & Math Education w/4-8 Science Certification
 Alysha Kinsel, 2012-2014, MSIS in Science & Math Education
 Jessica Hart, 2010-2012, MSIS in Science & Math Education
 Jennifer Likert, 2009-2011, MSIS in Science & Math Education
 Iliana Rodriguez, 2012, M.S. Biology
 Kim Loner, 2010, MSIS in Science & Math Education
 Joan Tennison, 2010, MSIS in Science Education
 Amanda Moiser, 2009, M.S. Biology
 Steve Goodman, 2009, M.S.I.S. in Science Education
 Melissa Ponce. 2008, M.S.I.S. in Science Education
 Kiki Corry, 2007, M.S. Biology
 Kathleen Scheinberg, 2006, M.S.I.S. in Science Education
 Courtney Coker, 2006, M.S. Biology/ Science Education
 Katy Furtwangler, 2005, M. Science Education
 Nancy J. Nelson, 2002, M.S. Biology
 James Jankowski, 2000, M.S., M.S. Biology
 Karolyn Adams, M.S., 1995, Biology

Graduate Student Accomplishments

- Kiki Corry, Texas Parks & Wildlife Project WILD! Coordinator
 Cayla Cieloncki, Science Coordinator, Amarillo ISD
 Ann Miller, Texas Parks & Wildlife, Educator
 Deborah Rang, STAT Rookie Science Teacher of the Year
 Scholarships or Grants
 Angela Barrerio, 2012, Terry Scholar, \$10,000

Mamta Singh, 2009, Texas Academy of Science, \$100
 Mamta Singh, 2008, Nat'l Assoc. for Research in Science Teaching Equity
 Scholar, \$500
 Science Education Achievement award, \$100
 Nicole Shepard, 2015
 Bess Reisberg, 2014
 Alysha Kinsel, 2103
 Samantha Wilson, 2012
 Melissa Ponce, 2008
 Kiki Corry, 2006, 2007
 Katy Furtwangler, 2005
 Amanda C. Stephenson, 2003
 Jimmy Hand, 2000, 2002
 Nancy Nelson, 2001
 Emil Lazerri, 1998

D. Courses Prepared and Curriculum Development:

Correlated Geology/Math for Middle School Science and Math Teachers, 2014-2016
 Wrote lectures, designed labs, integrated research papers and organized student presentations

Correlated Physics/Math for Middle School Science and Math Teachers, 2013-2014
 Wrote lectures, designed labs, integrated research papers and organized student presentations

Correlated Physics/Math for Middle School Science and Math Teachers, 2012-2013
 Wrote lectures, designed labs, integrated research papers and organized student presentations

Correlated Geology/Math for Middle School Science and Math Teachers, 2011-2012
 Wrote lectures, designed labs, integrated research papers and organized student presentations

Correlated Chemistry/Math for Middle School Science and Math Teachers, 2010-2011
 Wrote lectures, designed labs, integrated research papers and organized student presentations

Correlated Physics/Math for Middle School Science and Math Teachers, 2009-2011
 Wrote lectures, designed labs, integrated research papers and organized student presentations

Problems Based Learning: Rube Goldberg Light Challenge. Co-developed unit for middle school STEM teachers, 2009.

Problems Based Learning: Rube Goldberg Motion Challenge. Co-developed unit for middle school STEM teachers, 2009

Problems Based Learning: Rube Goldberg Chemistry Challenge. Co-developed unit for middle school STEM teachers, 2008.

Correlated Geology & Math for Middle School Science and Math Teachers, 2008-2009.
 Wrote lectures, designed labs, integrated research papers and organized student presentations

Correlated Space Science & Math for Middle School Science and Math Teachers, 2008-2009. Wrote lectures, designed labs, integrated research papers and organized student presentations

Correlated Mathematical Reasoning and Science for Middle School Science and Math Teachers, 2006-2008

Correlated Chemistry/Math for Middle School Science and Math Teachers, 2006-2008. Wrote lectures, designed labs, integrated research papers and organized student presentations

Chemistry for Middle School Science Teachers, 2006-2007
 Correlated Physics/Math for Middle School Science and Math Teachers, 2005-2007
 Wrote lectures, designed labs, integrated research papers and organized student

Physics for Middle School Science Teachers, 2004-2007

E. Funded External Teaching Grants and Contracts:

My grants are a combination of teaching and research grants, so they are listed in both sections.

As a direct result of my development of *Correlated Science and Math Model* and the *Middle School Science Module*, over \$4,000,000 in grants has been obtained either by me directly or by other Texas State faculty, but based on my work.

- Texas Higher Education Coordinating Board, 2016-2017. Mix It Up: Correlated Geology & Math Teacher/Principal Teams, \$240,000, PI West, PI, Sandra Browning, UH Clear Lake.
- Texas Higher Education Coordinating Board, 2014-2016. Mix It Up: Correlated Geology & Math Teacher/Principal Teams, \$664,000, PI West, PI, Sandra Browning, UH Clear Lake.
- Texas Higher Education Coordinating Board, 2012-2014. Mix It Up: Correlated Physics & Math Teacher/Principal Teams, \$311,492, PI West, PI, Sandra Browning, UH Clear Lake.
- Texas Regional Collaboratives for Excellence in Science and Math, 2011-12, \$111,085. Beginning Teacher Induction and Mentoring 4b. PI West
- Texas A&M University – Corpus Christi, 2010. \$8,905, College and Career Readiness Standards Incorporation. PI West
- Texas Regional Collaboratives for Excellence in Science and Math, 2010-11, \$110,092. Beginning Teacher Induction and Mentoring 3b. PI West
- Texas Higher Education Coordinating Board, 2011-2012. Mix It Up: Correlated Geology & Math Teacher/Principal Teams, \$149,599, PI West, PI, Sandra Browning, UH Clear Lake.
- Texas Higher Education Coordinating Board, 2009-2011. Mix It Up: Correlated Physics/Chemistry & Math Teacher/Principal Teams, \$277,849, PI West, PI, Sandra Browning, UH Clear Lake.
- Texas Space Grant Consortium, 2008-2009, Mix It Up: Correlated Space Science and Math, \$14,970, PI West, Co-PI Doescher
- Texas Higher Education Coordinating Board, 2008-2009. Mix It Up: Correlated Geology and Math and Correlated Space Science and Math, \$87,000, PI West, Larry Price, CoE
- Department of Education, FIPSE, 2006-2009. Mix It Up: Correlated Science and Math. \$714,742, West, Co-PI, Vasquez-Mireles, PI, Math Dept.
- Texas Higher Education Coordinating Board, 2006-2008. Mix It Up: Correlating Science and Math, \$170,000, PI West, Co-PI, Vasquez-Mireles, Math Dept.
- Texas Higher Education Coordinating Board, 2005. Mentor-based TAKS Preparation Program, \$152,000. Co-PI West, PI - Koeck
- Texas Higher Education Coordinating Board. Science Grades 8 Module Implementation. 2004-2005, \$80,000. Koeck, PI. West, Faculty and Collaborator
- Texas Higher Education Coordinating Board. Science Grades 6 & 7 Middle School Module Implementation. 2004-2005, \$80,000. Koeck, PI, West, Faculty and

Collaborator

Texas Higher Education Coordinating Board. Science Grades 6 & 7 Middle School Module. 2004-2005 \$300,000, PI West, Co-PI Lien, V., Curriculum and Instruction Dept.

Texas Statewide Systemic Initiative, Dana Center, Southwest Texas' Venture into Public School, 1998, \$ 29,288

Texas Higher Education Coordinating Board, Southwest WILD!, 1995, \$ 66,912

Texas Higher Education Coordinating Board, Southwest WILD!, 1994, \$ 52,667

Texas Higher Education Coordinating Board, Science II, 1993-1994, \$73,329

Texas Higher Education Coordinating Board, Southwest WILD!, 1993, \$ 36,035

Texas Higher Education Coordinating Board, Science II, 1993, \$40,786

Texas Higher Education Coordinating Board, Science I, 1992-1993, \$70,783

Texas Education Agency, Science I, 1992, \$ 17,976

Texas Education Agency, Science I, 1992, \$ 19,801

Texas Higher Education Coordinating Board, Southwest WILD!, 1992, \$ 27,338

Texas Higher Education Coordinating Board, Science I, 1992, \$25,106

Texas Education Agency, Science I, 1992, \$ 20,083

Texas Higher Education Coordinating Board, Southwest WILD!, 1991, \$ 32, 566

Funded Grants based on *Correlated Science & Math* model, \$476,000

Texas Higher Education Coordinating Board, 2008-2009. Mix It Up: Correlated Science and Math, \$398,000, PI Vasquez-Mireles, S., Math Department

Texas Higher Education Coordinating Board, 2008-2009. Mix It Up: Correlated Science and Math, \$87,000, PI Offer, J., Math Department

Grants Submitted, pending**F. Submitted, but not Funded, External Teaching Grants and Contracts:**

National Science Foundation. 2010. Kepler Discovery: Cyber-enabled Learning for AP Environmental Science in High Schools. Ngu, P.I. West, Co-PI. \$450,000

National Science Foundation. 2009. Kepler Discovery: Cyber-enabled Learning for AP Environmental Science in High Schools. Ngu, P.I. West, Co-PI. \$249,989

Texas Higher Education Coordinating Board. 2005. Science Grades 5-8 TAKS Preparation. \$82,000. West, PI, Koeck, Co-PI.

Teacher Quality Enhancement. 2004. P.I. Reese, West- Science Educator, Program Faculty, Department of Education, \$1,400,000.

Science Curriculum Supplement, 2001. National Institute of Health. Anteon Corp., \$1,200,000.

Central Texas Science Consortium: A Pilot Local Systemic Change Project, 2000.

West, S., Westerlund, J., & Rudzinski, W., Co- P.I., West-Science Educator, Internal Evaluator, & Program Faculty. NSF \$199,471.

Local Systemic Initiative Task Force, 1999. P.I. Rudzinsk, W., West, S, & Westerlund – Co-P.I., West - Science Educator, Internal Evaluator, & Program Faculty. NSF, \$380,000.

Texas Higher Education Coordinating Board, Southwest WILD! '96, \$ 74,832

DOE - TAMU/SWT Science Teaching and Learning Center, \$90,103

DOE - Statewide Systemic Initiative, \$27,427

G. Funded Internal Teaching Grants and Contracts:**H. Submitted, but not Funded, Internal Teaching Grants and Contracts:**

I. Other**Mentoring of Students**

Monica Gomez, 2012, 2013, Puja Malani, 2006-11, Eleanor Ntibayindusha, 2000-2004, Nicole Wrice, 2000-2, Nikita Moore, 2000-2, Alvin Hollinger, III, 2000-2

Mentoring of Biology & Non-biology Students

Bess Reisberg, Alaa Ibrahim, Florance Kajoina, Karinda, Cowan, Candice Bilotta, Jada Escamilla, Natalie Jurischk, Pejmon Afshar, Michael Hemer, Priya John, Debra Rang, Brandy Bagnall, Jackie Logvinoff, Jenny Stearns, Lara Brown, Jill Law, Marianne Nicholson, Renee Kirkpatrick, Holly Brewer, James Vasquez, Connolly Coyle, Steve Moredock, Darla Michealidis, Christina Giles

Direction of Bio. 5390 Problems Courses

2015: Data Analysis of teacher and student performance., Sara Hansen
 2013: Data Analysis of teacher and student performance, Nicole Shepard
 2011: Data Analysis of teacher and student performance, Alysha Kinsel
 2011: Data Analysis of student performance, Ilana Rodriquez
 2008: Landscape for Learning: Ecology Restoration Education, Katie Mallett;
 Program Evaluation in Science Education, Heather Dannemeyer, Fall
 2008: Designing Program Evaluation Methods for Teacher Training, Lisa Gloyna, Spring
 2007: Designing Correlated Science and Math Curricula, Darla Michalidis, Fall
 Science Safety Survey, Elizabeth Kennedy, Fall
 2006: Science Safety Survey Instrument Development, Fall, Elizabeth Kennedy
 Development of a Middle School Chemistry Curriculum, Fall, Courtney Coker
 2005: Research on Accidents in Secondary School Science, Fall, Pejmon Ashfar
 Development of a new General Science 3320 for Grade 4-8 Teacher Candidates,
 Spring, Kiki Corry
 2004: Development of a new General Science 3310 for Grade 4-8 Teacher Candidates,
 Fall, Marianne Nickelson, Deborah Rang
 Development of an Integrated Science Course for Middle School Teachers, Spring,
 Brandy Bagnall
 2002: Revision of General Science 3310 & 3320 Using the New Teacher Certification
 Standards, TExES, Spring – Nancy Nelson, Emil Lazzeri
 2001: Conditions of Teaching in Texas Secondary Science, Nancy Nelson, Fall
 Survey Instruments for Safety in Science Classrooms, Amanda Stephenson, Fall
 2000: Power Point instructional units on Texas Ecology, Nancy Nelson, Spring
 1996: Design of web-based instruction on Using MSDSs & Chemical Labels.
 Currently used in the safety training for the SWT Biology IAs, Bio. 4408, Bio. 4305,
 Student Teachers, and inservice science teachers in Texas, Joy Brooks

Direction of Internship, Bio. 5481

Safety Research in School Science, Laboratory Safety Institute, Fall 2006,
 Pejmon Ashfar.

Direction of Bio. 5110 Seminars

2015: Correlated Science and Math program evaluation, Sara Hanson

- 2014: Science Education Research/STAAR Analyses: Nicole Shepherd, Kristine Adams
- 2012: Science Education Research: Linus Delices, Alaa Ibrahim, Suresh Mahato, Troy Maikis, Shelly Pringle, Megan Smith, Derek Wallace.
- 2010: Jeffrey Carollo, Cristi Palacios. Kimberly Murphey.
- 2009: Science Education Research: Sabin Dolino, Sarah Larocca, Jen Lickert, Chase Phillips, Vincent Quintanilla, Robert Ravenaugh, Iliana Rodriguez, Amanda Schultz, Sean Valdez.
- 2008: Scientific Research Design: Ethnography of Selecting a Research Question, Ivana Mali; How Students Learn Science, Crystal Betts; Katie Mallett, Landscape for Learning; Ecology Restoration Education, Heather Dannemeyer; Amanda Mosier, US Science Safety Requirements; Correlated Science & Math Evaluation, Melissa Ponce, Fall
- 2008: Integrated Science and Math, Lisa Gloyna; Safety in Secondary Science Labs, Lisa Kennedy; How Students Learn Science, Steve Goodman, Spring
- 2007: Graduate Seminar, Fall, Organized reading groups on different topics in Science Education- Mya Patel, Monica Gomez, Joe Koehler, Melissa Ponce
Online lesson on Biological Concepts using Heartworms, Spring, Tiffany Kuhlman
Evaluation of Physical Therapy Programs, Spring, Patty Sullivan
Informal Education by Ranch Wildlife Biologists, Spring, William De Hoyos
Developing an Online Safety Survey, Spring, Lisa Kennedy
- 2006: *How Students Learn Science*, Fall, Kiki Corry, Courtney Coker, Lisa Kennedy, Michael Hemer
- 2005: *How People Learn Science*, Fall, Priya John, Dan Smith, Renee Kirkpatrick, Jason Godeaux, Courtney Coker
Development of a Middle School Ecology Unit, Spring, 2005, Renee Kirkpatrick
- 2004: Development of a Middle School General Science 3310 course,
Kristen Epp, Christopher Farmer, Marianne Nicholson, Deborah Rang, Anna Strong, Arthur Thompson
Science Grades 6 & 7 TEKS Module, Spring, Brandy Bagnall, Kristine Elliott, Katy Furtwangler, Marianne Nicholson, John Wamsley
- 2003: *How People Learn Science*, Fall – Brandy Bagnall, Monica Johnson, Katy Furtwangler, Clay Williams
- 2002: Mycorestoration, Fall, Luz Morris, Amanda Stephenson
Safety in the Biology Classroom, Spring 2002 – Luz Morris, Amanda Stephenson
- 2001: *How People Learn*, National Research Council, Fall, Jimmy Hand, Emil Lazzeri
- 2000: Science Education in Higher Education, Fall 2000 – Minnette Marr, Jim Jankowski, Jimmy Hand, Emil Lazzeri, Nancy Nelson

Direction of Undergraduate Research, Bio. 4299

- 2014: Honors Thesis**, Brent Baker, The Process of Natural Selections: Does Student Understanding Differ Between Rural and Urban Schools?
<https://digital.library.txstate.edu/handle/10877/5046>
- 2009: Honors Thesis**, Matthew Ferreira, A Study of the Impact of Kinesthetic Learning on Biology Students' Mastery of Protein Structure and Folding Concepts using Legos™

Other Teaching Related Experience:

- Guadalupe Blanco River Authority, Gorge at Canyon Lake Scientific Advisory Committee, 2005-Present

U.S. Corps of Engineers, Water Oriented Recreational District, Lindheimer Master Naturalist, 2003-2006, Development of Nature Trail and teaching brochure.

San Antonio River Authority, Middle School Science Aquatic Curricula. 2004-2005

Master Naturalist: Comal County Lindheimer Chapter, Course Designer Instructional faculty, 2002-Present
Hays County Chapter, Instructional faculty, 2007

Faculty member for Agricultural Resources Workshop for Agriscience Teachers, 1995 – 1998

Curriculum Development and Efforts to Improve Teaching

(Student involvement is reflected with an asterisk)

2014-2015

*Video taped master teacher for demonstrating effective pedagogy. Placed on uTube and used in Bio. 4408/5408 and Student Teaching seminars.

<https://www.youtube.com/channel/UCJhmlmakIgL2QaOI48PFFAw>

Texas STEM Conference, January 21-31,, 2015

CLAS-Classroom Assessment Scoring System , August 20-21, 2015.

National Science Teachers Association Seminars, March 11-14, 2015.

Instructional Technology July 28-Aug. 8, 2014. Developing Rubrics for Instructional Effectiveness (60 hours)

Danielson Model for Evaluating Teaching Effectiveness (30 hours), August, 2014

ED 4681 Student Teaching – developed a six-hour online science safety training unit.

*Bio 4408/5408 (Science Processes – high school science methods), 2010. Received a \$8, 905 grant to revise the course to incorporate the College & Career Readiness Standards.

*Bio 4408/5408: 2010-13. Developing a hybrid course for 15% of the content by working with ITAC in recording each lecture of the revised the content and PPTs. I've developed written assignments to correspond with each lesson.

*Bio. 4305/5305 (elementary and middle school science methods) and 4408/5408 (high school science methods): as a class we conduct in-depth reviews of science concepts such as Natural Selection and communally plan a series of lessons. I videotape each of their three lessons. The students review/reflect on the tapes and come back to class to report how they might improve the lesson and then the class and I make suggestions or required changes. Then, the Power Point and lesson plans files for each of the lessons in the series are posted on TRACS for all of the students to download for their teaching repertoire of exemplary standards-based lessons. This process and lesson production is repeated for different science content strands such as Energy, etc. Each year I select a different science strand of TEKS for the students to analyze and use to plant their lessons so that I become familiar with all of them, not just the biology concepts. Every test is primarily essay and the course grade includes multiple types of evaluation of pedagogical knowledge, teaching performance and products such as insect collections.

\$714,742 , 2006-2008, Dept. of Education, FIPSE to develop undergraduate correlated science and math courses that is proposed to be used as undergraduate Honors courses and graduate summer courses for middle school science and math teachers.

\$170,000, 2006-2008, THECB for developing a correlated science and math training modules that can be used as graduate courses for both pre-service and inservice science and math teachers.

\$164,000 2004-2005, THECB for training middle school pre-service and inservice

science teachers. These grants enabled us to enlist more students into the Texas State grades 4-8 teacher preparation program. There is a state-wide shortage in this area. These grants also enable us to increase our graduate student enrollment in the Biology Department and to support our graduate students.

\$160,000 2004-2005 to refine the GS 2210 & GS 3320 courses for Middle School Teachers. Based on the Middle School Science Module (below). Collaborated with Koeck, Chemistry Dept. to obtain two grants for pre--service and inservice middle school science teacher education. These grants enabled Texas State to continue to recruit more students to our middle school science preparation program. The grants provided books for the middle school pre-service teachers and support for seven graduate and four undergraduate students.

\$300,000, 2004-2005, develop the Middle School Science Module, used to create new GS 3310 & GS 3320 courses for Middle School Teachers. PI West, Co-PI Lien, V. Curriculum & Instruction Dept. Collaborated with Curriculum & Instruction Dept. to obtain this grant that I used to review the Texas middle school science content requirements and design two new college science courses for middle school teachers with complete power point files and lesson plans and \$40,000 of equipment and materials. The courses replaced less academically rigorous courses that are designed for elementary pre-service teachers. The grant also paid the tuition/fees and books for four classes (65 students) and books for two classes (30 students) as an incentive to build the middle school science program where there is a severe shortage of science teachers. The grants provided support for seven graduate students. Enlisted Carolina Biological Supply Co. to contribute \$2,000 worth of lab supplies for the new GS 3320 course. Reclaimed from Central Receiving and refurbished three laptop computers, two PC computers, four printers, monitor, data projector, fan, desk, table, chairs and file cabinet for our new middle school science program.

MrInterview Training for designing and using online surveys that can be used for research and teaching. 2006-2007.

Lab Manual/Lesson plans for Bio. 4408/5408 & Bio 4305/5305, 1993-Present. These courses model the recommendations for teaching science effectively as identified in the research on effective science education. After I teach the standards-based (NSES & BSL) inquiry lesson(s), I hand the students a copy of the lesson plans with all of the labs, handouts, etc. that are needed for the students to take into their future classrooms and replicate. 185 pp. The 5E instructional model is the primary model used. The lesson plans and the Power Point files are on TRACS for downloading for the preservice teachers' own teaching resource that they can obtain during the current semester or in the future if they wish. After graduation, students use these in their own classrooms & share with their colleagues. When I'm out in area schools I often see my lessons being used in classrooms.

Resource handouts for science teaching that includes national standards-based (NSES & BSL) and state standards-based lesson plans used in class, a variety of current curriculum materials, teacher and science organizations and Internet addresses & links on TRACS for these and related topics

Video recording of Bio. 4305, 4408/5408. 1996 to present. A 15, 20 minute and 45 minute 5E Learning Cycle model inquiry microteaching assignments on Natural Selection and of a TEKS (a Texas required science concepts) requires the use of Power Point, Digital Camera, web images or clips. The videos are used by the students to reflect on their teaching on how they would improve their lesson. Videos are posted on TRACS for student teaching teams to review and write a critique on the lesson and suggestions for improvement.

Technology Integration into Science Instruction *

Vernier probes (grant purchased) are used in the middle school GS 3310 & 3320 Courses in the physics, chemistry, and biology units.

“TRACS” sites for each class used for all students for assignments, communication, & science phenomenon (i.e. comet, moon phases, wildflowers bloomtime, TV specials). All lesson plans, Power Points, and any resources used to teach in my classes are posted so that students can download them & use the ones that are appropriate to teach their s.

Syllabus and "Laboratory Manual" for Bio. 5319 (Southwest WILD!) 1991-1995 Southwest WILD! was a 180 hour field ecology Eisenhower grant funded course for teachers. The syllabus and field investigations were designed and written to develop an understanding of ecology and how to teach it using inquiry-based instruction. An extensive database of ecological resources has been compiled during successive courses to enable public school teachers to better teach environmental concepts and topics.

Efforts to Improve Teaching

- 2015 Danielson Model for Evaluating Teaching Effectiveness (50 hours)
National Science Teachers Association, (24 hours)
- 2014 Using Rubrics to Improve Instruction, Texas State University Instructional
Technology Services (60 hours)
Danielson Model for Evaluating Teaching Effectiveness (20 hours)
- 2013 Next Generation Science Standards, SRT-STEM Center
- 2012 STEM to ST2REAM Thinking: Ken Wesson
- 2011 Career and College Readiness Standards: Science and Math Faculty
- 2011 TEA End of Chemistry and Physics Course Exams
- 2010 English Language Proficiency Standards training to incorporate in all preservice
and inservice courses.
- 2009 Hybrid Online Course training. Use in planning for revising Bio. 4408 into a
hybrid online course.
- 2009 Math Manipulatives. Use in integrating science and math.
- 2008 Smart Board. Obtained with HECB grant to be used by our 4-8 science
and math and 8-12 science preservice teachers. Went through training with teachers.
- 2007 Vernier Probes. Obtained with HECB grant to be used by our EC-4 & 4-8 science
and math preservice teachers. Went through training with teachers.
- 2006 Pascoe Probes. Obtained with HECB grant to be used by our EC-4 & 4-8 science
and math preservice teachers. Went through training with teachers.
- 2006 TI 84 Silver graphing calculator. Obtained with HECB grant to be used by our 4-8
science and math preservice teachers. Went through training with teachers.
- 2005 Teaching Diverse Students short course at NSTA. Eight hours of learning how to
use effective strategies with diverse learners. \$150 tuition paid by S. West
- 2004-05 Blackboard Training. Texas State. Enhance my ability to better enable me to
teach my students.
- 2004 Vernier Probes. Obtained with HECB grant to be used our science teacher courses
GS 3320 and Bio. 4305/5305 and 4408/5408.
- 2004 E-Instruction. to use in the GS 3310 courses for middle school preservice teachers.
- 2004 Eco Log probes training to to use w/ grant purchased probes for use in the middle
school GS 3310 & 3320 Courses for use in the physics, chemistry, and biology
units.
- 2004 Vernier probes training to use w/ grant purchased probes for use in the middle
school GS 3310 & 3320 Courses for use in the physics, chemistry, and biology units.
- 2004 E-Instruction. Training in E-Instruction for future use my courses

- 2002-2004 U.S. Corps of Engineers, Canyon Lake, TX. Worked with Corps to develop a nature trail in the newly eroded canyon from the 2002 Canyon Lake flood. Also alerted biology faculty of the new system and coordinated two field trips for faculty to assess the desirability of using the gorge as research sites and/or field trip sites. Identified teaching sites along the Guadalupe River Trail below the dam. Identified the plants and designed the Trail Guide to be used by the visitors and field trips for my students and area schools.
- 2003- Present Water Orientation and Recreation District, New Braunfels, TX. Worked with Director to develop nature trails and interpretative guide scripts at the Canyon Recreation Area.
- 2003 Ravenstar, Canyon Lake, TX. Worked with staff to develop curriculum, field trip sites, and possible service projects for preservice teachers.
- 2003- Present Identify and access regional resources such as guest speakers and field study sites for field trips on hydrology, entomology, aquatic invertebrates and fire ecology in Bio. 4305/5305 and Bio. 4408/5408 so that the future teachers could access them for their future classrooms.
- 2000-Present Comal County Master Naturalist training, 40 hours instruction, 40 hours, volunteer, 4 field trips, 8 hours advanced training. Used training to identify additional Bio. 4305/5305 and teacher resources, speakers, and field trips.
- 2000-2004 NSTA/NCATE Program Review Committee. Used experience to learn about national teacher education program standards for design of a new Texas State science teacher education program.
- 2001 Using SWT data bases, SWT Staff Development
- 2001 Digital Chalkboard, Power Point, Faculty Advancement Training
- 2001 Oak Wilt, Habitat Restoration, Native Trees, LBJ Wildflower Center, 16 hours
- 2000 Habits of Highly Successful People, Steven Covey, SWT Quality Program
- 2000 Audited Bio. 1430, 2003
- 1999 Audited Phy. 1340, Astronomy,
- 1998 Audited Bio. 4410, Field Biology of Plants,
- 1997 Using Focus Groups for Assessment, SWT Quality Program, This workshop provided instruction on how to design focus groups, facilitate them, and know when, and how to use the information they generate.
- 1996, 1997 Conference for Curriculum Development in the Life Sciences, University of Texas, Austin. Participated in a one week conference for Texas junior and senior colleges to improve instruction in the life sciences.
- 1996 HTML Workshop, Faculty Advancement Center. Designed to teach faculty how to design websites.

Award Winning Former Students

Lisa Baum, Science Teachers' Association Outstanding Elementary Science Teacher, '14
Debra Rang, STAT Rookie Teacher Awardee, '11

Former Master's Students in Professional Positions above Classroom Teacher level

Christie Lawson, Principal, New Braunfels ISD, 9th Grade Center
Lisa Gloyna, Austin Community College, Biology Instructor
Aryn Standeford, Academic Dean, Canyon HS, Comal ISD
Lisa Baum, Elementary Science Coordinator, Hays ISD
Jan Bettersworth, Principal, Mountain Valley Elementary, Comal ISD
Cayla Cielencki, Secondary Science Specialist, Amarillo ISD
Kiki Corry, Project WILD! Coordinator, TPWD, Austin, TX
Vanessa Westbrook, NSTA Multi-cultural Director, TSELA President

Debra Rang, STAT Rookie Teacher Awardee, Ph.D. candidate, Texas State University,
 Science Coordinator, Manor ISD, Austin, TX
 Denise Baughman, Science Chair, Metzger MS, Schertz-Cibolo ISD, Shertz, TX
 Michael Mary, Schertz-Cibolo ISD Science Coordinator & UTSA Ph.D. candidate

Former Bachelor's Students in Science Teaching

Nicole Shepherd, 8th grade Science, Alaska
 Samantha Wilson, Biology teacher, New Braunfels ISD, 9th Grade Center

Former Master's Students in Science Teaching: Katy Furtwangler, Biology, Katy ISD,
 Karolyn Adams, Chemistry, San Marcos ISD, Courtney Coker, Middle School, Shertz
 Cibolo Universal City ISD, Jimmy Hand, Biology, Lafayette, LA, Melissa Ponce, Katy,
 TX, Samantha Wilson, NBISD, Denise Ortiz, NBISD, Joan Tennison, AISD

III. SCHOLARLY/CREATIVE

A. Works In Print

1. Books (refereed)

NSTA Guide to Planning School Science Facilities, 2007 (2nd Ed.) . Motz, L. Biehle, J. &
 West, S. National Science Teachers Association, Arlington, VA. 142 pp.
NSTA Guide to School Science Facilities, 1999. Biehle, J, Motz, L, & West, S.,
 National Science Teachers Association, Arlington, VA. 100 pp.

a. Scholarly Monographs:

Secondary Science Safety: Findings 2014. 46 pp. Laboratory Safety Institute,
 publisher. In press.

b. Textbooks:

c. Edited Books:

Texas Safety Standards: Kindergarten-Grade 12: A Guide to Laws, Rules,
 Regulations and Safety Procedures for Classroom, Laboratory, and Field
 Investigations. 2000. Contributing Editor. Texas Education Agency, Austin,
 TX. 180pp.

d. Chapters in Books:

Safe and Healthy School Environments, 2006. Edited by Howard Frumkin, Robert J.
 Geller, I. Leslie Rubin and Janice Nodvin. Emory University. Ch. 9, Injury
 Prevention. Oxford Press, 480 pp.

Texas Safety Standards: Kindergarten-Grade 12: A Guide to Laws, Rules,
 Regulations and Safety Procedures for Classroom, Laboratory, and Field
 Investigations. 2000. Introduction, Chapter I, Laws, Rules, and Regulations,
 Chapter IV. Facilities. Texas Education Agency, Austin, TX.

e. Creative Books:

Middle School Science Module, 2005-Present, Texas Education Agency, Austin, TX
 See www.bio.txstate.edu/%7escied/MS_Science

f. Creative Webinars:

Correlated Science & Math Professional Development Model, 2010. National Science
 Teachers Association, Arlington, VA. One hour
<https://sas.illuminate.com/p.jnlp?psid=20101216.1008.M.9681CB0DD16F0909BDA422BB0F3E5E.vcr&sid=2256>

g. Citation in Articles

Texas Journal of Journal of Microscopy, Vol. 44. 2013. Facilitating Inquiry Investigations by Pre-Service Teachers Using Scanning Electron Microscopy. S. L. Westmoreland and K. Foley <http://www.texasmicroscopy.org/Journal/44-1Journal.pdf>

2. Articles

a. Refereed Journal Articles:

- Indicates student author
- *Singh, M. & S. West, 2015. Entry-Level Biology Courses for Majors and Non-Majors: Performance and Assessment. *American Journal of Educational Research*, Vol. 3, No. 5, 581-587 Available online at <http://pubs.sciepub.com/education 3/5/8>© Science and Education Publishing.
- *Singh, M. & S. West. 2014. Ecosystem Health and Environmental Education in South Asia. *Journal of Environmental Pollution and Human Health*. Vol. 2, No. 2, 34-43.
- *Singh, M. & S. West. 2014. Students Enrolled in Biology Majors Pre-Requisite Courses: Effect of High School Academic Performance. *American Journal of Educational Research*, Vol. 2, No. 4, 183-188
- Westerlund, J., Radcliff, R., Smith, D., Lemke, M., & West, S. 2011. Profiles of U.S. science teacher candidates: Safeguards amidst the gather storm. *International Journal of Environmental and Science Education*. 6(3), 213-227.
- West, S. & Browning, S. 2011. Mixed Up: Confusing Language for Science and Math Teachers and Students. *The Texas Science Teacher*. 40(1), pp 6-13.
- *Gloyna, L, West, S., Martin, P. & S/ Browning. 2010. Metric-Asarus: Conceptualizing Scale using Dinosaur Models. *Science Scope*. National Science Teachers Association. November.
- West, S. 2010. An Analysis of the Descriptive, Comparative and Experimental Scientific Research Designs in the 2009 Texas Essential Knowledge and Skills (TEKS). *The Texas Science Teacher*. 39(1).
- West, S. & Skoog, G. 2009. The Adoption Process of the 2009 Science TEKS. *The Texas Science Teacher*. 38(1).
- West, S. 2008. Great Form Equals Great Function, *Principal Leadership*, 8(9).
- Vasquez-Mireles, S & West, S. 2007. Mix it Up: Suggestions for Correlating Science & Math, *The Science Teacher*, 74(2).
- West, S., Vásquez-Mireles, S., & *Coker, C. 2006. Math and/or Science Education: Separate or Integrate?. *Journal of Mathematical Science and Mathematics Education* 1(2).
- West, S. & Vasquez-Mireles, S. 2006. Correlated Science and Math TEKS to Improve Student Understanding. *The Texas Science Teacher* 35(2).
- West, S. & G. Skoog. 2006. The Current Science Education War: Inquiry or Direct Instruction. *The Texas Science Teacher*, 35(1).
- *Corry, Kiki & West, S. 2005. Not Just a Walk in the Woods. *The Texas Science Teacher* 34(3).
- West, S. S. 2005 Conditions that Affect Secondary Science Safety: Results from 2001 Texas Survey, Teacher Characteristics. *The Texas Science Teacher* 34(1).
- West, S. S. Comer, C., Pickhardt, I. 2004 Conditions that Affect Secondary Science Safety: Results from 2001 Texas Survey, Facilities, Teacher Safety Training, Student Safety Training and Accidents. *The Texas Science Teacher* 33 (3).
- West, S. S., Westerlund, J.F., *Nelson, N, *Stephenson, A.L., 2004 Conditions that Affect Secondary Science Safety: Results from 2001 Texas Survey, School or District Characteristics and Teacher Characteristics. *The Texas Science Teacher* 33(2).
- West, S. S., Westerlund, J.F., *Stephenson, A.L., *Nelson, N. 2003 Conditions that

- Affect Secondary Science Safety: Results from 2001 Texas Survey, Overcrowding. The Texas Science Teacher 32(2).
- *Stephenson, A., West, S., and Westerlund, J. 2003. Analysis of Incident/Accident Reports from the Texas Science Laboratory Safety Survey, 2001. School Science and Mathematics, 103(6) October.
- West, S. S., Westerlund, J.F., *Stephenson, A.L., *Nelson, N. 2003 Conditions that Affect Secondary Science Safety: Results from 2001 Texas Survey An Introduction. The Texas Science Teacher, 31(4).
- West, S. and D.J. Tooke. 2003. K-8 Science and Mathematics Integration: Doable? Desirable? The Texas Science Teacher, 32(1):17-26.
- West, S. , Westerlund, J.F., *Nelson, N.C., *Nyland, C.K., and *Stephenson, A. L. 2003. Safety in the Science Classroom: What Research and Best Practice Say. The Educational Forum, 67(2):174-183.
- Trautmann, N. M., W. S. Carlsen, C. J. Eick, J. F. E. Gardner, L. Kenyon, H. Moscovici, J. C. Moore, M. Thomson, and S. West. 2003. Online peer review: Learning science as it's practiced. *Journal of College Science Teaching* XXXII (7): 443-447.
- West, S. S., Westerlund, J.F., *Stephenson, A.L., *Nelson, N.C., and *Nyland, C. 2002. The Secondary Science Safety Profile, 2001. The Texas Science Teacher, 31(1).
- West, S. S., Westerlund, J.F. *Nyland, C. K., *Nelson, N.C., and *Stephenson, A.L. 2002. What the Safety Research Says to Texas Science Teachers. The Texas Science Teacher 31(1).
- Westerlund, J & West, S.S. 2001. Test item analysis of state-wide standardized tests using the National Science Education Standards. Electronic Journal of Science Education. Retrieved 9/02 from World Wide Web at <http://unr.edu/homepage/crowther/ejse/westerlundetal.html>.
- West, S.S. & Tooke, D.J. 2001. Science and Math TEKS Correlations. The Texas Science Teacher. 30(1).
- West, S. 2000. Scientific Inquiry: One Way of Knowing the Natural World. We Have to Understand It Before We Can Assess It. The Texas Science Teacher, 29(2).
- Westerlund, J & West, S. 1999. The Texas Biology I End of Course Examination: A Critique. The Texas Science Teacher, 28 (1).
- West, S., Motz, L.& Biehle, J. 1999. Science Facilities by Design. The Science Teacher, 66(6).
- West, S., Motz, L.& Biehle, J. 1998. Designing Middle School Science Facilities. NSTA Pathways to the Science Standards. pp142-150.
- West, S., Motz, L.& Biehle, J. 1997. Designing Elementary School Science Facilities. NSTA Pathways to the Science Standards. pp 138-145.
- West, S., Motz, L.& Biehle, J. 1996. Designing High School Science Facilities. NSTA Pathways to the Science Standards. pp181-190
- West, S. 1993. The Standards Are Coming, The Standards Are Coming, Hooray, Hooray?. The Texas Science Teacher, 22(1)
- West, S. 1993. National Science Education Standards, The Texas Science Teacher, 22(2)
- West, S. 1993. National Science Education Standards Development Projects, The Texas Science Teacher, 22(2)
- West, S. 1992. Careers... A Tough Act to Follow. The Texas Science Teacher, 21(4)
- West, S. 1991. Lab Safety. The Science Teacher 58(9), p45-49.
- West, S. 1990. Science Laboratory Safety. The Science Teacher, 19 (2), p20-24.
- Ward, S. & West, S., 1990. Accidents in Texas High School Chemistry Labs. The Texas Science Teacher, 19(2), p14-19.

West, S. 1990 Two Statements to the State Board of Education on Restructuring Secondary Science Curriculum, The Texas Science Teacher, 19(2), p17-18.

b. Non-refereed Articles:

Biehle, J., Motz, L. & West, S. 1999. Designing High School Facilities. Construction Specifications Institute. October, pp 35-40.

West, S. 1981. Using the Zoo as a Resource, 38 pp, San Antonio Zoo, San Antonio, Texas.

c. Submitted to Referred Journals:

West, S. & Browning, S. 2015. Correlated Science and Math: A Content Model for Professional Development. Submitted to School Science and Mathematics.

*Singh, M. & West, S. 2014. Student Success in Entry-level Science Courses: A Literature Review. Submitted to School Science and Mathematics.

West, S. & *Gloyna, L. 2014. Landscape for Learning. Science Scope, National Science Teachers Association.

d. Papers in Progress

West, S. & Browning, S. 2015. Confusing Language in Math and Science.

West, S. & Browning, S. 2015. STEM Principal Leadership

e. Publications in Referred Proceedings

Browning, S. & S. West, 2014. Correlated Science and Math Professional Development. Proceedings of the 2014 Hawaiian International Conference on Education. Honolulu, HI.

West, S. & S. Browning, 2014. Mixed Up: Confusing Words in Math and Science. Proceedings of the 2014 Hawaiian International Conference on Education. Honolulu, HI.

West, S. & *L. Kennedy, 2014. Science Safety in Secondary Texas Schools: A Longitudinal Study. Proceedings of the 2014 Hawaiian International Conference on Education. Honolulu, HI.

West, S., & S. Browning, 2010. Correlated Science & Math: A New Model for Linking Science and Math. Proceedings of the 2010 National Association for Research in Science Teaching, Philadelphia, PA.

West, S., & S. Browning, 2009. Correlated Geology & Math: A New Model for Linking Geology and Math. Proceedings of the National Association for Research in Science Teaching,

West, S, *Gloyna, L, *Singh, M. & *Duran, M. 2008. Correlated Science and Math: A New Model for Training Teachers to Link Both Disciplines. Proceedings of the 2009 Annual National Association for Research in Science Teaching, New Orleans, LA, p 174.

*Singh, M. & West, S. 2008. Two Entry-Level Biology Courses Assessment for Biology Majors at Texas State University-Preliminary Results. Proceedings of National Association for Research in Science Teaching, New Orleans, LA.

West, S. & S. Vasquez-Mireles. 2007. Program Evaluation of a Correlated Science and Math Teacher Training. Proceedings of the 2007 Annual International Conference of the Association for the Education of Teachers in Science.

Westerlund, J. & West. S., 1999. Application of the National Science Education Standards to the Texas Biology I End of Course Examination. Proceedings of the 1999 National Association for Research in Science Teaching, Boston, MA., p272.

Westerlund, J. & West, S. 1999. The use of the National Science Education Standards as a tool to critique the Texas Biology I End-Of-Course Examination. Proceedings of the 1999 Annual International Conference of the Association for the Education of Teachers in Science. Edited by: Peter A. Rubba, The Pennsylvania State University, James A. Rye, West Virginia University, Patricia F. Keig, California State University – Fullerton. ERIC Document Reproduction Service No. ED (431626)

3. Abstracts:

* Indicates student author

*A. Sanders & West, S. 2015. Confusing Words in Science & Math. Texas Academy of Science, University of Incarnate Word. San Antonio TX

West, S. & Kern, D. 2015. STEM Principals. Texas Academy of Science, University of Incarnate Word. San Antonio TX

West, S. & L. Motz. 2015. Designing School Science Facilities, National Science Teachers Association, Chicago, IL

*A. Sanders & West, S. 2015. Confusing Words in Science & Math. Conference for the Advancement of Science, Ft. Worth, TX

*Shepherd, N. & S. West. 2015. What do you mean there's no scientific method? Conference for the Advancement of Science, Ft. Worth, TX

West, S. & D. Kern, 2015 STEM Principals. Conference for the Advancement of Science, Ft. Worth, TX

West, S. & *A. Sanders. 2014. Mixed Up Words. Conference for the Advancement of Science, Dallas, TX

*Shepherd, N. & S. West. 2014. What do you mean there's no scientific method? Conference for the Advancement of Science, Dallas, TX

West, S. & Browning, S. 2014. Mix It Up: Confusing Words in Science & Math. Hawaii International conference on Education. Honolulu, HI.

West, S. & S. Browning. 2014. STEM Principals Leadership. School Science and Mathematics, Richmond, VA.

West, S. & S. Browning, 2014. Correlated Science and Math Content PD, School Science and Mathematics, Richmond, VA.

West, S. & S. Browning. 2014. Successful Integration & Improved Student Performance with Correlated Science and Math Professional Develop Model. Hawaii International conference on Education. Honolulu, HI

*Kennedy, L, & S. West. 2014, Safety in Secondary Science Classrooms. Hawaii International conference on Education.

West, S. 2013. STEM Fest: International Festival of Science, Technology, Engineering and Mathematics.

West, S. 2013. Designing Safe Secondary Science Facilities. World Safety Conference, Kuching, Malaysia

West, S. 2013. Safety in Secondary Science Classrooms. World Safety Conference, Kuching, Malaysia

West, S., S. Browning, S. & Tim Matthews, 2013. Mix It Up: Team Collaboration. School Science & Mathematics Association. San Antonio, TX.

West, S. & Browning, S. 2013. STEM Principals: What They Want and Need. School Science & Mathematics Association. San Antonio, TX.

*Kennedy, L, & S. West. 2014, Safety in Secondary Science Classrooms. School Science & Mathematics Association. San Antonio, Tx

- West, S. & Browning, S. 2013, CREATE, Successful Integration & Improved Student Performance with Correlated Science and Math Professional Develop Model. San Antonio, TX
- West, S. & Fuller, L. 2013. Critical Questions in Education. STEM Principals: What They Want and Need. San Antonio, TX.
- *Kennedy, L, & S. West, S. 2013. Critical Questions in Education. Safety in Secondary Science Classrooms. San Antonio, TX.
- Ngu, A. & West, S. 2009. Kepler-Discovery: An Open Source Cyber-Learning Resource for AP Environmental Science. Proceedings of the 112th Annual Meeting of the Texas Academy of Science, Junction, TX p .87
- *Singh, M. & West, S. 2009. Demographic and Academic Factors Related to Student Performance and Success at Entry-Level Biology, Chemistry and Physics Courses. Proceedings of the 112th Annual Meeting of the Texas Academy of Science, Junction, TX p .125
- West, S., Browning, S., Martin, P. 2008. Correlated Geology & Math: A New Model for Linking Two Disciplines. Proceedings of the Geological Society of America, Abstract 144623. Vol. 40, No. 6, p. 560
- *Hemer, M. & West, S. 2008. Evolution on Trial Again. Proceedings of the 111th Annual Meeting of the Texas Academy of Science, Corpus Christi, TX p .
- West, S. 2008. Correlated Science and Math: A New Model for Linking Two Disciplines. Proceedings of the 111th Annual Meeting of the Texas Academy of Science, Corpus Christi, TX p .
- *Kennedy, E. & West, S. 2008. A Longitudinal Study of Safety in Texas School Science. Proceedings of the 111th Annual Meeting of the Texas Academy of Science, Corpus Christi, TX p .
- *Brown, L. & S. West. 2006. Groups of the Periodic Table: An Inquiry Approach for Middle School Science Students. Proceedings of the 109th Annual Meeting of the Texas Academy of Science, Beaumont, TX p 81.
- Corry, K. & S. West. 2006 Not Just a Walk in the Woods: Informal Science. Proceedings of the 109th Annual Meeting of the Texas Academy of Science, Beaumont, TX p 81.
- West, S. & Koeck, D. 2006. Physics First in Middle School Science Teacher Preparation. Proceedings of the 109th Annual Meeting of the Texas Academy of Science, Beaumont, TX p 80.
- *Hand, J. 2005. Design and Implementation of a Discovery Learning Lab for the Purpose of Improving Pre-service Science and Math Teachers' Content. Proceedings of the 108th Annual Meeting of the Texas Academy of Science, Edinburg, TX p102.
- Koeck, D. & West, S. 2005. Proceedings of the 108th Annual Meeting of the Texas Academy of Science, Profiles of Middle School Inservice Teachers Meeting No Child Left Behind. Edinburg, TX p 104.
- West, S & Koeck, D. 2005. Proceedings of the 108th Annual Meeting of the Texas Academy of Science, Profiles of Middle School Inservice Teachers Meeting No Child Left Behind. Edinburg, TX p 104.
- West, S., 2004. Secondary Science Safety Profiles, 2001 & 2003, Proceedings of the 107th Annual Meeting of the Texas Academy of Science, , Kerrville, TX p71.
- *Hand, J. & West, S.S. 2004 Estimating a Best Sequence for an Entry-Level College Biology Course. Proceedings of the 107th Annual Meeting of the Texas Academy of Science, Kerrville, TX. p. 71.
- *Hand, J. & West, S.S. 2003 Assessment of an Entry-Level Biology Majors Program. Proceedings of the 106th Annual Meeting of the Texas Academy of Science, Nacogdoches, TX. p. 72.
- West, S., Westerlund, J., Stephenson, A., & N. Nelson 2003. Texas Secondary Science

- Safety Profile, 2001. Proceedings of the 106th Annual Meeting of the Texas Academy of Science, Nacogdoches, TX p72.
- *Stephenson, A.L, West, S.S., Westerlund, J.F., Nelson, N.C. 2002. Results of Incidents/Accidents Reports in Texas Secondary Science Safety Survey, 2001. Proceedings of the 105th Annual Meeting of the Texas Academy of Science, Laredo, TX. p. 74.
- *Nelson, N.C., West, S.S., Westerlund, J.F. 2002. Conditions of Science Teaching in Texas. Proceedings of the 105th Annual Meeting of the Texas Academy of Science, Laredo, TX. p. 74.
- *Hand, J. & West, S.S. 2002 Evaluation of a Freshman Biology Program. Proceedings of the 105th Annual Meeting of the Texas Academy of Science, Laredo, TX. p. 81.
- West, S. & Westerlund, J. 2002. A Safety Profile of Texas Secondary Science Classes. Proceedings of the 105th Annual Meeting of the Texas Academy of Science, San Marcos, TX p74.
- *Lazzeri, E. & S. West. 2002. Texas Ecology: Flexible Instruction on CD. Proceedings of the 105th Annual Meeting of the Texas Academy of Science, Laredo, TX p74
- West, S. & Westerlund, J. 2001. A safety profile of Texas secondary science classes. Proceedings of the 104th Annual Meeting of the Texas Academy of Science, San Marcos, TX p62.
- Westerlund, J & West. S., 2000. A critique of the Biology ExCET. Proceedings of the 103rd Annual Meeting of the Texas Academy of Science, Kingsville, TX p78.

4. Reports:

- Fieldtrip Safety* (2015).). National Science Teachers Association, Arlington, VA. <http://www.nsta.org/safety/>
- Safety in the Science Classroom, Laboratory or Field Sites* (2015). National Science Teachers Association, Arlington, VA. <http://www.nsta.org/safety/>
- Overcrowding in Instructional Spaces* (2014). National Science Teachers Association, Arlington, VA. <http://www.nsta.org/safety/>
- National Science Foundation's *Labplan*, 2001-current. NSF web site for planning science facilities. Safety Links lists Sandra West's web site four times for issues regarding Overcrowding, Space Considerations, & General Safety Tips. <http://www.labplan.org/needs/safetylinks.htm>
- Middle School Science Mentor Project. Report to Texas Higher Education Coordinating Board. December, 2005.
- Middle School TAKS Preparation II, Report to Texas Higher Education Coordinating Board. September, 2005.
- Middle School TAKS Preparation, Report to Texas Higher Education Coordinating Board. July, 2005.
- Middle School Science I Module, Grades 6 & 7. Report to Texas Higher Education Coordinating Board. December, 2004.
- New York State Department of Education, 1990. Chemical Safety Packet Science Lab Safety Survey: Student Contract, Contact Lenses, Parent Letter, Student Safety Survey, Incident Report, Safety Pretest.

5. Book Reviews:

- National Science Teachers Association, 2010, "Building Basics: The Science of Construction"
- University of Texas Health Science Center San Antonio "Positively Aging/MORE "

2005. External Advisory Panel. <http://teachlearlthk-12.uthsccsa.edu/>. Review curricular materials.
- Investigating Safely: A Guide for High School Teachers, 2004. Kwan, T. & Texley, J. NSTA Press, Arlington, VA.
- Science 8, 2004, Glencoe/McGraw-Hill, Conceptualization Team, Safety Review
- Science 7, 2004, Glencoe/McGraw-Hill, Conceptualization Team, Safety Review
- Science 6, 2004, Glencoe/McGraw-Hill, Conceptualization Team, Safety Review
- Inquiring Safely: A Guide for Middle School Science Teachers, 2003, Kwan, T. & Texley, J. NSTA Press, Arlington, VA
- Jason Academy: Safety in Science Education, 2003. J. Texley. NSTA, Arlington, VA.
- Exploring Safely: A Guide for Elementary Teachers, 2002. Kwan, T. & Texley, J. NSTA Press, Arlington, VA
- Safety is Elementary, 2001. J. Kaufman, Editor. Lab Safety Institute, Natick, MA. 128 pp.

Content Specialist:

- Texas Science Grade 8, 2013, Glencoe/McGraw-Hill, Conceptualization Team
- Texas Science Grade 7, 2013, Glencoe/McGraw-Hill, Conceptualization Team
- Texas Science Grade 6, 2013, Glencoe/McGraw-Hill, Conceptualization Team
- Biology: Dynamics of Life, 2004, Glencoe/McGraw Hill, Nature of Science and Evolution Conceptualization Team, Safety Review
- Lab Management and Safety in the Science Classroom, 2002, Glencoe/McGraw-Hill, Safety Review
- Texas Science Grade 8, 2002, Glencoe/McGraw-Hill, Conceptualization Team, Safety Review
- Texas Science Grade 7, 2002, Glencoe/McGraw-Hill, Conceptualization Team, Safety Review
- Texas Science Grade 6, 2002, Glencoe/McGraw-Hill, Conceptualization Team, Safety Review
- Integrated Physics and Chemistry, 2002, Glencoe/McGraw-Hill, Conceptualization Team, Safety Review
- Science 8, 2000, Glencoe/McGraw-Hill, Conceptualization Team, Safety Review
- Science 7, 2000, Glencoe/McGraw-Hill, Conceptualization Team, Safety Review
- Science 6, 2000, Glencoe/McGraw-Hill, Conceptualization Team, Safety Review
- Biology-The Dynamics of Life, 1999, Safety review, Glencoe/McGraw-Hill Publishing Co.
- Biology-The Dynamics of Life, 1998, Content Specialist, Glencoe/McGraw-Hill Publishing Co.
- Middle School Science, 1997, Integrated Science Conceptualization, Prentice Hall Publishing Co.
- Windows in Science, 1991, Optical Data Corporation, Safety review/edit

6. Invited Articles

- Association of Mathematics Teacher Educators, 2015, Advocating for Math in the Public Policy Arena. <http://amte.net/connections/>
- National Clearinghouse for Educational Facilities, 2009. Facilities. Butin, D., Biehle, J, Motz, L, & West, S. Retrieval at: <http://www.edfacilities.org/pubs/index.cfm?Order=Category>

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- National Science Teachers Association (2015). *Field Trip Safety*, Arlington, VA. <http://www.nsta.org/safety/>

- National Science Teachers Association, (2015). *Safety in the Science Classroom, Laboratory or Field Sites* Arlington, VA. <http://www.nsta.org/safety/>
- National Science Teachers Association (2014). *Overcrowding in Instructional Spaces* Arlington, VA. <http://www.nsta.org/safety/>
- Westmoreland S and Foley K. 2013. *Facilitating Inquiry in Pre-Service Teachers Using Electron Microscopy*. Texas Journal of Microscopy. 44(1): 38-45

8. Other

- CHEM Leaders Guide, contributor, Lawrence Hall of Science, University of California, Berkeley, 1992
- Southwest Texas State University, Curriculum Development Team, Water and Man, 1986
- Texas A&M University Sea Grant field editor, Marine Education: A Seagoing Educational Experience, 1985
- Texas A&M University Sea Grant Writing Team, Marine Organisms in Science Teaching, 1980

Texas Education Agency

- Safety Toolkit web site, Texas Essential Knowledge and Skills, 1998 - 2000. The TEA safety website linked to my web site for the following areas of information: Disabled Students, Facilities, Native Landscape, Face & Eye Protection, Thermometers, Conducting Field Trips/Field Activity Safety Rules, Overcrowding, and Research Design.
- Science Lab Safety and Chemical Waste Disposal, Texas Hazard Communication Act Student Instruction, 1990

B. Works not in Print

1. Papers Presented at Professional Meetings: *Student

2015

- West, S. Safety in School Science, World Safety Conference, Sept. 30, Saskatoon, Canada
- West, S. Correlated Science & Math PD, STEMfest, Sept. 28, Saskatoon, Canada
- West, S. STEM Excellence Factors, STEM Council, February 6, Austin.
- *Sanders, A. & S. West. Conflicting Language in Science and Math, Texas Academy of Science, March 6, San Antonio, TX.
- West, S., D. Kern, M. Estrada., D. Buenello, M. Murphy. Texas STEM Conference, STEM Principals. January 30. Austin TX
- West, S. 10th Annual NSTA Global Conversations in Science Education Conference, Chicago, Illinois

2013

- *Kennedy, L. & S. West. Safety in Texas Secondary Science Classrooms, School Science and Mathematics Association. San Antonio, TX
- West, S., S. Browning & L. Fuller. What Principals Want; What Principals Need. School Science and Mathematics Association. San Antonio, TX
- * Marshall, T, S. West, & S. Browning. Mix It Up Team Collaboration. School Science and Mathematics Association. San Antonio, TX
- West, S. Facilities: Foundation of Safe & Effective STEM & CTE Education. Council for Educational Facilities Planners Institute, Austin, TX.
- West, S., L. Motz & J. Biehle. Using the National Facilities Standards to Plan Science Facilities. National Science Teachers Association, San Antonio, TX
- West, S., L. Motz & J. Biehle. Science Facilities 102. National Science Teachers Association, San Antonio, TX

- West, S., S. Browning, & L. Fuller, Conference for the Advancement of Mathematics Teaching. Successful Integration and Student Performance with Correlated Science & Math Professional Development Model. San Antonio, TX
- West, S., S. Browning, & L. Fuller, Conference for the Advancement of Mathematics Teaching. Correlated Science and Mathematics: A Model of Professional Development for Teachers. San Antonio, TX
- West, S., S. Browning, & L. Fuller, Conference for the Advancement of Mathematics Teaching. STEM Administrators: Critical Attributes. San Antonio, TX
- West, S. CTE and Science Facilities: Safe and Effective, Council of Educational and Financial Planners Institute, April 5. Austin TX

2012

- West, S. & S. Browning, Correlated Science and Mathematics: A Model of Professional Development for Teachers, School Science and Mathematics, Colorado Springs, CO.
- West, S. & S. Browning, Confusing Language in Mathematics and Science: Barriers to Success. Conference for the Advancement of Mathematics Teaching. Houston, TX
- West, S., Motz, L., Biehle, J. National Science Teachers Association, Using the National Facilities Standards to Plan & Design Your School Science Classroom/Laboratory, Indianapolis, IN
- West, S., Motz, L., Biehle, National Science Teachers Association, Science Facilities 101: Safe & Sustainable Facilities, Indianapolis, IN
- West, S., Motz, L., Biehle, National Science Teachers Association, Science Facilities 102: The Architects Have Started Without Me-What Do I Do Now?, Indianapolis, IN

2011

- West, S. & S. Browning, Science and Math Confusions in Language. Conference for the Advancement of Mathematics Teaching. Grapevine, TX
- Westerlund, J., Radcliffe, R., Smith, D., Lemke, M., West, S. Future Science Teacher Profiles: A Step Toward Combating the Gathering Storm with Ten Thousand Teachers for Ten Million Minds, Association for Science Teacher Educators (ASTE). Minneapolis, MN.
- West, S. & S. Browning, Confusing Language in Science and Math. Texas Academy of Science, Proceedings of the 114th Annual Meeting of the Texas Academy of Science, Austin, TX p .83

2010

- West, S. & L. Tacker. Southern Regional Conference of the Council for Educational Facility Planners. Ft. Worth, TX. Trends in Science Education: Implications for Science Facilities.

2009

- West S. & S. Browning. Mix It Up: Grades 5-8 Science and Math Teacher and Principal Teams. Texas Education Agency, Texas School Improvement Conference, Austin TX.
- West, S. *Gloyna, L., *Singh, M. & *Duran, M. National Association for Research in Science Teaching, Garden Grove, CA. Correlated Science & Math: A New Model for Linking Two Disciplines.
- West, S. & L. Motz. National Science Teachers Association. Exemplary Science Facilities. New Orleans, LA

2008

- West, S., Browning, S., Martin, P. 2008. Geological Society of America, Houston, TX Correlated Geology & Math: A New Model for Linking Two Disciplines.
- West, S., Offer, J., *Michaelidis, D. 2008 Conference for the Advancement of Science Teachers, Mix It Up: Correlated Science and Math, Austin, TX.

- *Gloyna, L. & West, S. Program Evaluation of a Correlated Physics, Chemistry and Math Training Project. Southwest Association for Science Teacher Educators, Ft. Worth, TX
- West, S., Browning, S., *Gloyna, M., & *Duran, M. Correlated Science & Math: A New Model for Linking Two Disciplines. Southwest Association for Science Teacher Educators, Ft. Worth, TX
- *Singh, M. & West, S., Evaluation of the Freshman Biology Program. Southwest Association for Science Teacher Educators, Ft. Worth, TX
- 2007**
- West, S. & *Singh, M. 2007. National Association for Research in Science Teaching. Preliminary Results of A Middle School Correlated Science/Math Pilot Project. New Orleans, LA.
- West, S. & *Singh, M. International Conference on College Teaching and Learning, 2007. Science and Math: I Wonder Where We'll Wonder, Point Vedra Beach, FL.
- Vasquez-Mireles, S. & West, S. Texas Mathematical Association of America, 2007, Parallel concepts in Math and Science. University of Texas-Pan American, Edinburg, TX.
- West, S. Marek, G., Pfluger, B. & Fromberg, R. Council of Educational Facility Planners, Science Facility Standards for Excellence in Science Education.
- West, D. & Christenson, G. Texas Association of School Administrators. Ahead of the Curve: Alamo ISD's Facilities Planning Ahead for 3 years of Science, Austin, TX.
- West, S. Marek, G., Pfluger, B. & Fromberg, R. Texas Association of School Administrators. Science Facility Standards for Excellence in Science Education. Austin, TX
- Vasquez-Mireles, S. & West, S. Conference on the Teaching of Mathematics, Mix It Up: Correlating Math and Science, Huntsville, TX
- 2006**
- West, S. Southwest Association of Educators of Teachers of Science, Physics First in Middle School Science Teacher Preparation, San Antonio, TX
- *West, S., S. Vasquez, Long, J., Corry, K., Scheinberg, K., Michaelidis, D., & Giles, Mix It Up: Correlating Middle School Science and Math. Conference for the Advancement of Science, Wichita Falls, TX.
- West, S. Safety in Science Laboratories. Conference for the Advancement of Science, Wichita Falls, TX.
- West, S. Extreme Science Facilites Design. Conference for the Advancement of Science, Wichita Falls, TX.
- West, S. J. Biehle and L. Motz. Extreme Science Facilites: Excellence in Science. National Science Teachers Association, Baltimore, MD.
- 2005**
- West, S. Southwest Association of Educators of Teachers of Science. Course in a Box: Middle School Teacher Preparation, Georgetown, TX
- West, S. Middle School Science I Module. School Science and Mathematics Association, Ft. Worth, TX.
- West, S. Course in a Box... Middle School Teacher Preparation. Southwest Association of Educators of Teachers of Science. San Antonio, TX
- West, S., J. Biehle and L. Motz. Effective Science Facilities. National Science Teachers Association. Dallas, TX.
- Kwan, T., Texley, J. and West, S. Inquiring Safely. National Science Teachers Association, Dallas, TX.

2004

- West, S. Conference for the Advancement of Science Teaching, 2004, An Advocacy Guide for Excellence in Science Education, Corpus Christi, TX.
- West, S., J. Biehle and L. Motz. Safe Science Facilities. National Science Teachers Association. Richmond, VA.
- Kwan, T., Texley, J. and West, S. Inquiring Safely. National Science Teachers Association, Richmond, VA.
- West, S., J. Biehle and L. Motz. 2004. Safe Science Facilities. National Science Teachers Association. Seattle, WA

2003

- Kwan, T., Texley, J. and West. Inquiring Safely. National Science Teachers Association, Philadelphia, PA.
- West, S., J. Biehle and L. Motz. Safe Science Facilities. National Science Teachers Association. Philadelphia, PA.
- Texley, J., Kwan, T., and West, S. Exploring Safely. National Science Teachers Association, Philadelphia, PA.

2002

- West, S., J. Biehle and L. Motz. Safe Science Facilities. National Science Teachers Association. San Diego, CA.
- West, S. & Westerlund, J. A Profile: "2001 Texas Science Safety Survey" National Association of Research on Science Teaching. New Orleans, LA
- Texley, J., Kwan, T. & West, S. Exploring Safely. National Science Teachers Association, Louisville, KY.
- Kwan, T., Texley, J. and West, S. Inquiring Safely. National Science Teachers Association, Portland, OR.
- West, S. Safety in Texas Science Classrooms. Texas Science Education Leadership Association, El Paso, TX.
- West, S. and I. Pickhardt. Trends in Texas Science Safety. Texas Science Summit. Texas Science Education Leadership Association, San Antonio, TX.
- West, S. Research Findings in Science Safety. International Science Safety Conference. Boston, MA.

2001

- *Stephenson, A, *Nelson, N. & West, S. A Profile of Safety in Secondary Science Classrooms. Texas Academy of Science, San Marcos, TX
- *Hand, Jimmy & West, S. Program Evaluation of Freshman Biology at SWT, Texas Academy of Science, San Marcos, TX
- West, S. & Collins, J. Safety in Texas Science Classroom and Field Settings, Texas Association of Secondary School Principals Conference, Austin, TX
- West, S., Westerlund, J., Comer, C., Pickhardt, I., Hinojosa, M, & Nichols, N. Implications of the "2001 Texas Science Safety Survey" for Superintendents and School Boards, Texas Association of Supervision and Curriculum Development, Austin, TX

2000

- West, S. & Drummer, S. Using Evaluation Standards to Assess Science Education Programs. Association for Educators of Teachers. Akron, OH.
- West, S. Legal Aspects of Safety, Conference for the Advancement of Science Teaching, College Station, TX.
- West, S. Science Facilities, Conference for the Advancement of Science Teaching, College Station, TX.
- West, S. Science Program Evaluation, Texas Academy of Science, Kingsville, TX
- *Nelson, N. & West, S. Converting a Multimedia Lesson into a Web-based Lesson,

- Texas Academy of Science, Kingsville, TX
- *Rang, D., *Kropp, K., *Gustafson, N. & West, S. Students for the Advancement of Science Education, Texas Academy of Science, Kingsville, TX
- *Hand, Jimmy & West, S. Evaluation of an Entry Level College Biology Program, Texas Academy of Science, Kingsville, TX
- *Lazzeri, E. & West, S. Alternative Strategies for Distance Learning, Texas Academy of Science, Kingsville, TX
- West, S. & Westerlund, J. A Critique of the Biology ExCET, Texas Academy of Science, Kingsville, TX
- *Barker, K., *Gibson, M., & West, S. Student Designed Web-based Lessons, Texas Academy of Science, Kingsville, TX
- *Cates, C., *McCarron, H., *Burton, C. & West, S. Point of Light: A Science Education Students' Inquiry & Service Project, Texas Academy of Science, Kingsville, TX
- Westerlund, J & West, S. Application of the National Science Education Standards in the evaluation of the Texas Biology end-of-course examination. National Association for Research on Science Teaching, Boston, MA.
- *Lazzeri, E & West, S. Science Instruction Using an Ecology Database, Texas Academy of Science, Seguin, TX
- *Jones, J West, S. Web-based Safety Instruction, Texas Academy of Science, Seguin, TX.
- West, S. & Lewis, M. Evaluation of a Standard's-Based Pilot Life Science Course for Preservice Elementary Teachers which included a School Component, Association for the Education of Teachers of Science, Austin, TX.
- Westerlund, J & West, S. The application of the National Science Education Standards in the evaluation of the Texas Biology end-of-course examination. Association for the Education of Teachers of Science, Austin, TX.
- Westerlund, J. & West, S. A Critique of the Texas Biology End-of-Course Examination. Conference for the Advancement of Science Teaching, Lubbock, Tx
- West, S. Legal Aspects of Safety, Conference for the Advancement of Science Teaching, Lubbock, TX.
- *Lazzeri, E. & West, S. Science Instruction Using an Ecology Database, Association for the Advancement of Computing in Education. San Antonio, TX.
- Westerlund, J & West, S. Application of the National Science Education Standards to the Texas Biology I End of Course Examination. National Association for Research in Science Teaching, Boston, MA.
- West, S. Legal Aspects of Safety. Conference for the Advancement of Science Teaching.
- 1998**
- West, S. 1998. Designing Science Facilities for the 21st Century. Conference for the Advancement of Science Teaching.
- West, S. 1998. Science Certification Recommendation, Texas Science Education Leadership Association.
- 1997**
- West, S. 1997. Laboratory Safety and Legal Considerations. Conference for Curriculum Development in the Life Sciences.
- West, S. 1997. Interactive Forum on Science Teacher Education, National Science Teachers Association.
- West, S. 1997. Update on Recent Changes in Safety Laws, Regulations, & TEA

School Facilities Standards. Conference for the Advancement of Science Teachers.

1996

- West, S. 1996. Scientific Inquiry: One Way of Knowing the Natural World. Texas Association of Supervision & Curriculum Development, Houston, TX.
- West, S. & Lewis, M., 1996. Using Benchmarks and Standards for Developing Middle School Curricula, Units , and Lessons. Conference for the Advancement of Science Teaching.
- West, S. 1996. Update on Recent Changes in Safety Laws, Regulations, & TEA School Facilities Standards. Conference for the Advancement of Science.
- West, S. & Simpson, R, 1996. Southwest WILD! Field Ecology for Teachers. Texas Academy of Science.
- *Brooks, J & West, S. 1996. Project WILD! training for SWT elementary inservice teachers.
- *Jones, J & West, S. Student Activities for Texas Haz Com Act, October, 1994, CAST

1994

- West, S. & Lewis, M. 1994. Integrated Science-What do you Teach & How do you Teach It to Teachers?, National Science Teachers' Association, Anaheim, CA.
- West, S. 1994. History of Science I, Texas Academy of Science Houston, TX
- West, S. 1994. Evaluation of Science I Textbooks, Texas Academy of Science. Houston, TX.
- West, S. 1994. Science I Curriculum, Texas Academy of Science. Houston, TX
- Crawley, F & West, S. 1994. Voices of Science I Teachers, Texas Academy of Science, Houston, TX.
- Lewis, M. & West, S. 1994. Integrated Science at the University Level: It Can Actually Be Done, Association for the Education for the Teachers in Science, El Paso, TX

1993

- West, S. 1993. Models of Instruction for Coordinated Thematic Science, National Science Teachers' Association, Anaheim, CA.
- West, S. 1993. Integrated Science, Texas Academy of Science. Denton,
- West, S. 1993. Update on Texas Hazard Communication Act and New Safety Laws, CAST

1992

- West, S. 1992. Science Programs That Work With Minorities, CAST '92
- West, S. 1992. Texas Science Supervisors' Association, Science Teacher Certification in Texas, Austin, TX.
- West, S. 1992. A Safety Survey of Texas Secondary Science Labs, CAST '92
- West, S. 1992. Models of Instruction for Coordinated Thematic Science, Panel., CAST'92
- West, S. 1992. Texas Academy of Science Position Paper on Investigating as a Process Skill, American Association for the Advancement of Science Boston, MA.
- West, S & * Cielencki, C .1992. Lab Safety in Texas, Texas Academy of Science Wichita Falls, TX.
- West, S. 1992. Safety in Texas. Science Labs. Texas Science Supervisors' Association, Austin, TX.

1991

- West, S. 1991. Coordinated Thematic Science, Texas Academy of Science Nacogdoches, TX

West, S. 1991. Texas State Board of Education Testimony on Restructuring Science Education,

West, S. Legal Aspects of Safety , CAST, 1988- 91

West, S. NSTA/NABT High School Biology Test, 1987-91

Texley, J., McInerney, J. & West, S. Development of the NSTA/NABT High School Biology Test, 1986-91, National Science Teachers' Association

1990

West, S. , McInerney, J. & Texley, J. Development of the NSTA/NABT High School Biology Test, 1986-91, National Biology Teachers' Association

McInerney, J & West, S. Assessment in Biology, National Biology Teachers' Association

1988

West, S. Teacher Perspectives on Business Partnerships, Texas Alliance for Science, Technology & Mathematics Education. College Station, TX, 1988

West, S. Development of reflective thinking skills about pedagogy during a 15 month intern program. Southwest Educational Research Association Conference. San Antonio, TX, 1988

1987

West, S. Teacher Perspectives Document, Texas Alliance for Science, Technology & Mathematics Education. Austin, TX, 1987

2. Invited Talks, Lectures, and Presentations

2015

3rd International Conference on Safety in Science, Education and Industry, Current Research on Safer School Science Practices and Facilities. October 1, 2015. Saskatoon, SK, Canada.

Texas Science Education Leadership Association, 2015 Science Education Legislative Update, June 19, 2015, Austin, TX

2014

Conference for the Advancement of Science Teaching, Advocating for STEM in Texas, November 21, Dallas, TX

TAMU STEM Collaborative Colloquium, STEM Policy in Texas, October 19. Austin, TX

2013

International Conference on Safety in Science, Education and Industry, Kuching, Malaysia. Current Research on Safer School Science Facilities.

Houston A+ National Speakers' Series, *Next Generation Science Standards: Will Texas be Left Behind?*, Houston, TX.

UT Medical Branch SRT-STEM Center, *Next Generation Science Standards*, Science and Engineering Practices. Galveston, TX

2012

Smithsonian Institute National Science Research Center Leadership and Assistance for Science Education Reform (LASER) initiative and Houston Science Education Institute for Leadership Development and Strategic Planning, Verbal Literacy, Houston, TX

Texas Alliance of Black School Administrators, Integrated Science and Math, San Antonio, TX

2011

College and Career Readiness Initiative. Supporting Success in College Science, Confusing Language in Science and Math, Grapevine, TX

San Antonio Girls Leadership Academy, San Antonio ISD, Woman in Science, San Antonio, TX

2010

Texas Academy of Science, Evolution in Texas Science Education Standards, Stephenville, TX.

South Texas Council for Educational Facility Planners. Austin, TX. Trends in Science Education, San Antonio, TX

2009

Texas Science Education Leadership Association, New TEKS in Scientific Research Designs, Galveston, TX

Council for Educational Facility Planners Southern Regional Conference. Austin, TX. Science Facilities Standards

Administrator's Science Education Institute. Science Facilities Standards for Excellence in Science Education. Galveston, TX.

2008

Texas Science Facilities Standards, Pfluger Architects. San Marcos, TX

2007

Science Teachers Association of Texas, Current Profile of Safety in Texas Science Laboratories, Austin, TX

Central Texas Council for Educational Facility Planners, Science Facilities. Kyle, TX

Texas Science Education Leadership Association. What do you mean there's no Scientific Method!, Austin, TX

2006

San Antonio Science and Mathematics Institute. The Current Science Education War: Inquiry or Direct Instruction. San Antonio, TX.

Texas Science Education Leadership Association. Eye and Face Protection in Science Labs. Wichita Falls, TX.

2005

Administrator's Science Education Institute. Science Safety. Houston, TX.

Howard Hughes Institute, Pay It Forward: Mentoring the Next Generation of Science Educators, Lubbock, TX.

American Chemical Society, How People Learn Science, San Antonio, TX

Conference for the Advance of Science Teaching, Administrative Conference, Legal Aspects of Science Safety, Houston, TX

Texas Science Education Leadership Association, Inquiry or Direct Instruction: What the Research Says, Houston, TX.

Texas Science Education Leadership Association, Texas Legislative Update and Future Issues, Austin TX.

2004

Texas Science Education Leadership Association, Safety and Overcrowding in Science, Austin, TX

San Antonio Super Science, New Research Links with Accidents and Overcrowding, San Antonio, TX

Texas State Board of Education, TEA Science Safety Study, Austin, TX

Texas Science Education Leadership Association, Grade 6 & 7 Science Module, Corpus Christi TX.

San Antonio Science and Math Saturday. What the Safety Research Says to Texas Science Teachers. San Antonio, TX.

Lindheimer Chapter of Texas Master Naturalists, Soil as a System. New Braunfels, TX.

2003

Texas Science Education Leadership Association, Research Findings From the 2003 Texas Science Safety Survey, Austin, TX

Texas Science Education Leadership Association, Research Findings From the 2001 Texas Science Safety Survey, Houston, TX

Lindheimer Chapter of Texas Master Naturalists, Wildflowers of the Hill Country

2002

International Conference on Safety in Science and Science Education, Safety in School Science Facilities, Fairfield, CN

Corpus Christi ISD, 2001. Authentic Scientific Inquiry. Corpus Christi, TX

2001

El Paso Science Supervisors' Association, Research Findings From the "2001 Texas Science Safety Survey", El Paso, TX

2000

Texas Education Agency Science Summit, Safe Science Facilities: The Research Base, San Antonio, TX

1999

Society for Chemical Hazard Communication. How Do Teachers Use MSDSs & Chemical Labels?, San Antonio, TX

Texas Education Agency Science Summit, Texas Teacher Certification, San Antonio, TX

1998

Conference for the Advancement of Science Teaching, Legal Aspects of Safety, November, CAST '98, Corpus Christi, TX

Mohon International, Safer Science Facilities Design. Atlanta, GA

1997

Agricultural Resources Workshop for Teachers of Agriscience.. Aquatic Field Study, Southwest Texas State University, San Marcos, TX

Safety in college life science labs at the Conference for Curriculum Development in the Life Sciences.

1996

Agricultural Resources Workshop for Teachers of Agriscience. Aquatic Field Study, Southwest Texas State University, San Marcos, TX

1995

University Interscholastic League. Impact of UIL Expansion on Academics, Austin, TX

1995

Public Risk Management Association. Hazardous Chemicals and Laboratory Safety, Seattle, WA

1993

National Biology Teachers' Association, Safety in the Biology Classroom, Texas Education Agency

CHEM for Region Service Center Specialists,

CHEM, Science Summit I

Texas Association of Secondary School Principals, Restructuring the Science Curriculum in Secondary Schools,

ACT₂ - Welch Conference, Where is Chemistry Today?

National Science Teachers' Association/Texas Higher Education Coordinating Board, Models of Instruction for Coordinated Thematic Science, Panel

1992

Higher Education Coordinating Board Eisenhower Conference, Retraining for Coordinated Thematic Science Instruction

1991

Conference for Advancement of Science Teaching - TAMU - Science Restructuring In Texas

Texas State Board of Education Texas Academy of Science positions papers

TAS Position Paper on Science Education Restructuring in Texas

TAS Position Paper on Research Design in Science

Multicultural/Gender Studies - Women in Science/Math: A Lifetime of Gender-based Impediments

Girl Scout Adult Leadership Training Conference,

Panel Speaker, Encouraging Girls to Enter Math/Science Career.

Using Project WILD & Learning Tree in Scouts,

Indiana Computer Educators Association - School/Business Partnerships

1990

'90 Conference for Advancement of Science, Ft. Worth – Panel

Moderator/Coordinator Update on Science Education in Texas

Texas Association of Biology Teachers. Panel Moderator/Coordinator - Science Education in Texas

Texas Teachers of Physical Science, Dallas - Safety in Texas Physical Science Classrooms

3. Presider at Professional Meetings

2009 National Association for Research in Science Teaching, Strand 15-Policy: How Science Education Policy is Made (or Not).

4. Consultancies:

Texas Hazardous Communication Act Training

2011: Shertz, Cibolo, Universal City, San Antonio, TX

2010: ESC 3

Hays CISD, Kyle, TX

Ft. Worth ISD, Ft. Worth, TX, Art Safety

2009: Hays CISD, Kyle, TX

Ft. Worth ISD, Ft. Worth, TX, Art Safety

2008: Eanes ISD, Austin, TX

Ft. Worth ISD, Ft. Worth, TX

ESC 13, Austin, TX

Hays CISD, Kyle, TX

2007: Ft. Worth ISD, Ft. Worth, TX

ESC 13, Austin, TX

Hays CISD, Kyle, TX

2006: Ft. Worth ISD, Ft. Worth, TX

ESC 10, College Station, TX

San Marcos, ISD, San Marcos, TX

2005: Allen ISD, Allen, TX

Ft. Worth ISD, Ft. Worth, TX

Austin ISD, Austin, TX

2004: San Marcos, ISD, San Marcos, TX

Alice ISD, Alice, TX

Ft. Worth ISD, Ft. Worth, TX

Seguin ISD, Seguin, TX

- 2003: Houston ISD, Houston, TX
 Ft. Worth ISD, Ft. Worth, TX
 Bandera ISD, Bandera, TX
 Conroe ISD, Conroe, TX
 Comal ISD, Seguin ISD, New Braunfels ISD, New Braunfels, TX
- 2002: United ISD, Laredo, TX
 Spring Branch ISD, Houston, TX
- 2001: United ISD, 2001, Laredo, TX
 Texas Educational Service Center VI, Huntsville, TX
- 2000: Texas Educational Service Center II, Corpus Christi, TX
 Texas Educational Service Center XV, San Angelo, TX
 Center for Leadership in Science, Math, & Technology San Antonio, TX
 Edgewood ISD, Elementary, San Antonio, TX
 Hurst-Eules-Bedford ISD, Bedford, TX
- 1999: Texas Educational Service Center VI, Huntsville, TX
 Edgewood ISD, San Antonio, TX
 Del Rio ISD, Del Rio, TX
 Texas Educational Service Center V, Beaumont, TX
 El Paso ISD, El Paso, TX
- 1998: Houston, ISD, Houston, TX
 Aldine ISD, Houston, TX
 Texas Educational Service Center XV, San Angelo, TX
- Science Lab Safety Audit
- 2005, North East ISD, San Antonio, TX
 2004, Ft. Worth ISD, Ft. Worth, TX
 2003, Lake Travis HS, Lake Travis, TX
 2002, Round Rock ISD, Round Rock, TX
 2000, Jourdanton, ISD, Jourdanton, TX
 2000, Hurst, Eules, Bedford ISD, Bedford, TX
 1998, Houston ISD, Houston, TX
- Science Facilities Design,
- 2007, La Port ISD, La Port, TX
 2007, Stanton ISD, Stanton, TX
 2007, Sunnyvale ISD, Sunnyvale, TX
 2006, Northside ISD, San Antonio, TX
 2006, Alamo Heights ISD, San Antonio, TX
 2005, Loomis Chaffee School. Windsor, CT
 2004, Ft. Worth ISD, Ft. Worth, TX
 2003, Pflugerville ISD, Pflugerville, TX
 2000-01, Jourdanton ISD, Jourdanton, TX
- Center for Excellence in Science, Technology, & Mathematics, 1999, 2000. Safety, Inquiry.
- Sequin ISD
- 2007 – Correlated Science and Math
 2001 – Curriculum Development
 TEKS correlations,
 Benchmark Grades K-5 Science Assessment Development
- 2000 – Curriculum Development
 TEKS correlations,
 Benchmark Grades 6-8 Science Assessment Development
- 1999 - Curriculum Development, TEKS correlations,

Assessment in Science, 2000
 Edgewood ISD, Elementary, San Antonio, TX
 Edgewood ISD, Secondary, San Antonio, TX
 Center for Leadership in Science, Math, & Technology, San Antonio, TX
 CHEM "Chemistry, Health, Environment and Me", Lawrence Hall of Science, University
 of California at Berkeley, Exxon Chemical Americas 1992, Aldine, San Marcos,
 Houston, Baytown, Austin
 Laredo State University
 1993, Higher Order Thinking Skills Using Elementary Science Topics, Middle
 School Interdisciplinary Curriculum/Voyage of the Mimi
 1993, Higher Order Thinking Skills Using Elementary Science Topics, Science
 Education Standards for Secondary Science
 Prentice Hall Publishing Co.
 Coordinated Thematic Science, Science I textbook review, inservice for teachers,
 1993
 Lab Safety Workshop
 1992, 1993, 1994, Knoxville, TN, Knoxville County School District
 Authentic Scientific Inquiry
 Texas Educational Service Center XX, 1997, San Antonio, TX

5. Workshops:

Short Courses (6-24 hours)

- West, S. & Kaufman, J. 2012. Chemical Hygiene Officer Safety Training, (24 hours),
 Department of Defense School System, Okinawa, Japa
- West, S. & Kaufman, J. 2010. Chemical Hygiene Officer Safety Training, (24 hours),
 Department of Defense School System, Mainheim, Germany
- West, S. & Kaufman, J. 2009. Chemical Hygiene Officer and Security Officer
 Safety Training, (24 hours), Department of Defense School System,
 Yokoda, Japan
- West, S. & Kaufman, J. 2008. Chemical Hygiene Officer and Security Officer
 Safety Training, (24 hours), Department of Defense School System,
 Yokoda, Japan
- West, S., Motz, L., & Biehle, J. 2008, Planning for School Science Facilities.
 (6 hours), National Science Teachers Association, Boston, MA
- West, S. & Kaufman, J. 2007. Chemical Hygiene Officer Safety Training, (20 hours),
 Department of Defense School System, Aviano, Italy
- West, S. & Kaufman, J. 2007. Chemical Hygiene Officer Safety Training, (20 hours),
 Department of Defense School System, Mainheim, Germany
- West, S., Motz, L., & Biehle, J. 2007, X-Treme School Science Facilities Makrover for
 Effective Teaching and Learning. (6 hours), National Science Teachers Association,
 Detroit, MI
- West, S. & Kaufman, J. 2007. Chemical Hygiene Officer and Security Officer
 Safety Training, (20 hours), Department of Defense School System,
 Yokoda, Japan
- West, S. & Kaufman, J. 2007. Chemical Hygiene Officer and Security Officer
 Safety Training, (20 hours), Department of Defense School System,
 Atlanta, GA.
- West, S., Motz, L., & Biehle, J. 2006, Designing and Building the State-of-the-
 Art Science Facility: An Introduction to NSTA's NEW Guide to School
 Science Facilities and Tour of Exemplary New Facilities. (8 hours),
 National Science Teachers Association, Baltimore, MD.

- West, S. & Kaufman, J. 2006. Chemical Hygiene Officer and Security Officer Safety Training, (20 hours), Department of Defense School System, Yokoda, Japan
- Kwan, T., J. Texley, J. and. S. West. 2006. Inquiring Safely. NSTA, Baltimore, MD.
- West, S. & Kaufman, J. 2006. Chemical Hygiene Officer and Security Officer Safety Training, (20 hours), Department of Defense School System, Quantico, VA.
- West, S. & Kaufman, J. 2006. Chemical Hygiene Officer Safety Training, (20 hours), Department of Defense School System, Mainheim, Germany
- West, S. 2005. Laboratory Safety, (16 hours), Prairie View A&M University, Prairie View, TX
- West, S. & Pesthy, C. 2005. Laboratory Safety, (24 hours), Texas State University- San Marcos, San Marcos, TX
- Kwan, T., Texley, J. and. West, S. 2005. Inquiring Safely. NSTA, Dallas, TX.
- West, S., Motz, L., & Biehle. J. 2004, Designing and Building the State-of-the-Art Science Facility: An Introduction to NSTA's NEW Guide to School Science Facilities and Tour of Exemplary New Facilities. (8 hours), National Science Teachers Association, Atlanta, GA.
- Kwan, T., Texley, J. and. West, S. 2004. Inquiring Safely. NSTA, Atlanta, GA.
- West, S. & Kaufman, J. 2004. Laboratory Safety, (24 hours), Texas State University- San Marcos, San Marcos, TX
- West, S. & Kaufman, J. 2004. Chemical Hygiene Officer and Security Officer Safety Training, (20 hours), Department of Defense School System, Yokoda, Japan
- West, S. & Kaufman, J. 2004. Chemical Hygiene Officer and Security Officer Safety Training, (20 hours), Department of Defense School System, Ft. Campbell, KY.
- West, S. & Kaufman, J. 2004. Chemical Hygiene Officer Safety Training, (20 hours), Department of Defense School System, Frankfurt, Germany
- West, S. 2004. Laboratory Safety, (16 hours), Laboratory Safety Institute, Arlington, TX
- West, S. 2003. Texas Hazard Communication Act Safety Requirements. Comal ISD, Seguin ISD, and New Braunfels ISD. New Braunfels, TX.
- West, S. & Pena-Weiss, M. 2003. Designing Safe State-fo-the-Art Science Facility & Tour of New Facilities, (8 hours), Conference for the Advancement of Science Teaching, Houston, TX.
- West, S. & Kaufman, J. 2003. Laboratory Safety, (24 hours), Texas State University System, San Marcos, TX
- Kwan, T., Texley, J. and. West, S. 2003. Inquiring Safely. NSTA, Philadelphia, PA.
- West, S., Motz, L., & Biehle. J. 2003, Designing and Building the State-of-the-Art Science Facility: An Introduction to NSTA's NEW Guide to School Science Facilities and Tour of Exemplary New Facilities. (8 hours), National Science Teaching Association, Philadelphia, PA.
- West, S. & Kaufman, J. 2003. Science Laboratory Safety, (24 hours), Texas A&M University System, College Station, TX
- West, S. & Pena-Weiss, M. 2002. Designing Safe State-fo-the-Art Science Facility & Tour of New Facilities, (8 hours), Conference for the Advancement of Science Teaching, El Paso, TX.
- West, S. S. Texas Hazard Communication Act.(6 hours), Southwest Texas State University, San Marcos, TX.

- Motz, L, Biehle, J. & West, S., 2002, Designing and Building the State-of-the-Art Science Facility: An Introduction to NSTA's NEW Guide to School Science Facilities and Tour of Exemplary New Facilities. (8 hours), National Science Teachers Association, Louisville, KY.
- West, S., Motz, L., & Biehle, J. 2002, Designing and Building the State-of-the-Art Science Facility: An Introduction to NSTA's NEW Guide to School Science Facilities and Tour of Exemplary New Facilities. (8 hours), National Science Teachers Association, Portland, OR.
- West, S. & Kaufman, J. 2002. Chemical Hygiene Officer and Security Officer Safety Training. (20 hours), Department of Defense School System, Okinawa, Japan
- West, S. & Kaufman, J. 2001. Chemical Hygiene Officer and Excel Training, (32 hours), Department of Defense School System, Ft. Bragg, N. Carolina.
- West, S. 2001. Designing TEKS-based Elementary Science Curriculum, (24 hours) Seguin ISD, Seguin, TX
- West, S. 2001. Safety in Florida Science Classrooms, Bay School District, Panama City, FL.
- Kaufman, J. & West, S. 2001. Security Officer Safety Training, (20 hours), Department of Defense School System, Weisbaden, Germany
- West, S., Motz, L., & Biehle, J. 2001, Designing Science Facilities: NSTA Pathways to the Science Standards. (8 hours), National Science Teachers Association, Salt Lake City, UT.
- West, S. & Pena-Weiss, M. 2001. Science Facilities, (8 hours), Conference for the Advancement of Science Teaching, Austin, TX.
- West, S. & Kaufman, J. 2001. Security Officer Safety Training, (20 hours), Department of Defense School System, Naples, Italy
- West, S., Motz, L., & Biehle, J. 2001, Designing Science Facilities: NSTA Pathways to the Science Standards. (8 hours), National Science Teachers Association, Memphis, TN.
- West, S. 2001. Safety in Maryland Science Classrooms, (6 hours) Prince William County School District, Woodbridge, MD
- Motz, L., Biehle, J. & West, S., 2000, Designing Science Facilities: NSTA Pathways to the Science Standards. (8 hours) National Science Teachers Association, Orlando, FL.
- Kaufman J. & West, S. 2000. Safety in Secondary Science Laboratories. (24 hours) Southwest Texas State University, San Marcos, TX.
- West, S. & Kaufman, J. 2000. Chemical Hygiene Officer and Excel Training, (32 hours) Department of Defense School System, Weisbaden, Germany.
- West, S. 2000. Safety in Florida Science Classrooms, (6 hours) Bay School District, Panama City, FL.
- West, S. 2000. Safety in Texas Science Classes, (8 hours), Conference for the Advancement of Science Teaching, College Station, TX.
- West, S. & Pena-Weiss, M. 2000. Science Facilities, (8 hours), Conference for the Advancement of Science Teaching, College Station, TX.
- Biehle, J, West, S., & Motz, L., 2000, Designing Science Facilities: NSTA Pathways to the Science Standards. (8 hours), National Science Teachers Association, Milwaukee, WI.
- West, S. 2000. Designing TEKS-based Middle School Science Curriculum, (24 hours) Seguin ISD, Seguin, TX
- West, S., Motz, L., & Biehle, J. 2000, Designing Science Facilities: NSTA Pathways to Science Standards. (8 hours) National Science Teachers Association, Baltimore,

- MD.
- Biehle, J., West, S., Motz, L., &. 2000, Designing Science Facilities: NSTA Pathways to the Science Standards. (8 hours), National Science Teachers Association, Phoenix, AZ.
- West, S. & Kaufman, J. 1999. Chemical Hygiene Officer and Excel Training, (32 hrs) Department of Defense School System, Weisbaden, Germany.
- West, S. 1999. Safety in Texas Science Classes, Conference for the Advancement of Science Teaching, Lubbock, TX.
- West, S. & Pena-Weiss, M. 1999. Science Facilities, Conference for the Advancement of Science Teaching, Lubbock, TX.
- West, S., Motz, L., & Biehle, J. 1998, Designing Science Facilities Short Course: NSTA Pathways to the Science Standards. (8 hours) National Science Teachers Association, St. Louis, MO.
- West, S. 1998. Safety in Texas Science Classes, Conference for the Advancement of Science Teaching, Corpus Christi, TX.
- West, S., Motz, L., & Biehle, J. 1997, Designing Facilities: NSTA Pathways to the Science Standards. (8 hours) National Science Teachers Association, Phoenix, AZ.
- West, S. & Kaufman J. 1997. Safety in Secondary Science Laboratories. Southwest Texas State University, San Marcos, TX.
- West, S., Motz, L., & Biehle, J. 1997, Designing Facilities: NSTA Pathways to the Science Standards. (8 hours) National Science Teachers Association, New Orleans, LA.
- West, S. & Kaufman, J. 1996. Safety in Secondary Science Laboratories. A 20 hour short course. Southwest Texas State University, San Marcos, TX.
- West, S., Motz, L., & Biehle, J. 1996, Designing Facilities: NSTA Pathways to the Science Standards. (8 hours) National Science Teachers Association, Phoenix, AZ.

Project WILD

- Texas State Bio. 4408/5408 for secondary preservice science teachers, 1990-Present
- Texas State Bio. 4305 for preservice elementary and middle school science teachers, 1990-Present
- Texas State GS 3320 for grades EC-8 preservice teachers, 1990-2008
- SWTSU, Bio. 5319, 1990-1995
- Girl Scout Adult Leadership Training, Austin, September, 1991

Project Learning Tree

- Texas State - Bio. 4305/5305 for preservice elementary teachers, 1990-2005
- Texas State - Bio. 4408/5408 for secondary science teachers, 1990-2005
- SWTSU Bio. 5319, 1990-1995
- SWTSU G. S. 3320 for preservice elementary teachers, 1990-92

6. Other:

Exhibits

(Student involvement is indicated with an asterisk)

“Correlated Science & Math,” 2008-2011. Bio. 4305 students*

“Middle School Science I – A New Idea!” 2007.

“Turtles of Texas”, 2002-2007 with Bio. 4408/5408 students* An exhibit of a student initiated interest resulting from their Amphibian Watch training. Located in display across from Sci. 224.

“A Semester Up in Smoke”, 1999-2000 with Bio. 4305 & 4408/5408 students*

Freeman Ranch Nature Trail, 1999 with Bio. 4305 students *
 Wetlands Project Exhibit at Aquarena Gift Shop, 1997 with Bio. 4305 students *
 Higher Education Coordinating Board Eisenhower Mathematics & Science Education
 Programs in Texas at Science Teachers Association of Texas, CAST '93

C. Grants and Contracts

1. Funded External Grants and Contracts:

My grants are a combination of teaching and research grants, so they are listed in both sections

As a direct result of my development of *Correlated Science and Math* Professional Development Model and the *Middle School Science Module*, approximately \$4,000,000 in grants has been obtained.

Texas Higher Education Coordinating Board, 2016-2017. Mix It Up: Correlated Geology & Math Teacher/Principal Teams, \$240,000, PI West, Co-PI, Sandra Browning, UH Clear Lake, CoE.

Texas Higher Education Coordinating Board, 2014-2016. Mix It Up: Correlated Geology & Math Teacher/Principal Teams, \$659,000, PI West, Co-PI, Sandra Browning, UH Clear Lake, CoE.

Texas Higher Education Coordinating Board, 2012-2014. Mix It Up: Correlated Physics & Math Teacher/Principal Teams, \$311,492, PI West, Co-PI, Sandra Browning, UH Clear Lake, CoE.

Texas Regional Collaboratives for Excellence in Science and Math, 2010, \$111,085. Beginning Teacher Induction and Mentoring 4b. PI West

Texas A&M University – Corpus Christi, 2010. \$8,905, College and Career Readiness Standards Incorporation. PI West

Texas Regional Collaboratives for Excellence in Science and Math, 2010, \$110,092. Beginning Teacher Induction and Mentoring 3b. PI West

Texas Higher Education Coordinating Board, 2009-2012. Mix It Up: Correlated Physics/Chemistry & Math Teacher/Principal Teams, \$470,190, PI West, Co-PI, Sandra Browning, UH Clear Lake, CoE.

Texas Higher Education Coordinating Board, 2008-2009. Mix It Up: Science & Math Teacher/Principal Teams. \$200,000, PI West, Co-PI Sandra Browning, UH Clear Lake, CoE

Texas Space Grant Consortium, 2008-2009, Mix It Up: Correlated Space Science and Math, \$14,970, PI West, Co-PI Doescher

Texas Higher Education Coordinating Board, 2008-2009. Mix It Up: Correlated Geology and Math and Correlated Space Science and Math, \$87,000, PI West, Larry Price, CoE

Department of Education, FIPSE, 2006-2009. Mix It Up: Correlating Math and Science. \$714,742, West, Co-PI, Vasquez-Mireles, PI, Math Dept.

Texas Higher Education Coordinating Board, 2006-2008. Mix It Up: Correlating Science and Math, \$170,000, PI West, Co-PI, Vasquez-Mireles, Math Dept.

Texas Higher Education Coordinating Board, 2005-2006. Mentor-based TAKS Preparation Program, \$152,000. Co-PI West, PI - Koeck

Texas Higher Education Coordinating Board. Science Grades 8 Module Implementation. 2004-2005, \$80,000. Koeck, PI. West. Faculty and Collaborator

Texas Higher Education Coordinating Board. Science Grades 6 & 7 Module Implementation. 2004-2005, \$80,000. Koeck, PI, West. Faculty and Collaborator

Texas Higher Education Coordinating Board. Science Grades 6 & 7 Module. 2004-2005 \$300,000, PI West, Co-PI Lien, V., Curriculum and Instruction Dept.

Laboratory Safety Institute, Secondary Safety in Texas, 2001, \$200.
 Texas Education Agency, Secondary Safety in Texas, 2001, \$3,000.
 Texas Statewide Systemic Initiative, Dana Center, Southwest Texas' Venture into Public School, 1998, \$ 29,288
 Texas Higher Education Coordinating Board, Southwest WILD!, 1995, \$ 66,912
 Texas Higher Education Coordinating Board, Southwest WILD!, 1994, \$ 52,667
 Texas Higher Education Coordinating Board, Science II, 1993-1994, \$73,329
 Texas Higher Education Coordinating Board, Southwest WILD!, 1993, \$ 36,035
 Texas Higher Education Coordinating Board, Science II, 1993, \$40,786
 Texas Higher Education Coordinating Board, Science I, 1992-1993, \$70,783
 Texas Education Agency, Science I, 1992, \$ 17,976
 Texas Education Agency, Science I, 1992, \$ 19,801
 Texas Higher Education Coordinating Board, Southwest WILD!, 1992, \$ 27,338
 Texas Higher Education Coordinating Board, Science I, 1992, \$25,106
 Texas Education Agency, Science I, 1992, \$ 20,083
 Science Teachers' Association of Texas, 1991, Safety, \$ 500
 Texas Higher Education Coordinating Board, Southwest WILD!, 1991, \$ 32, 566
 Science Teachers' Association of Texas, 1990, Safety, \$ 500
 GTE Growth Initiatives For Teachers (GIFT), 1989. \$12,000
 Correlation of Grades of Students Who Eat Breakfast & Students Who Do Not Eat Breakfast, North East I.S.D. 1986, \$300

2. Funded Internal Grants and Contracts:

Faculty Advancement Center Technology Scholarship, 2001
 Merrick Curriculum Development, 1990, \$1500

3. Submitted, but not Funded, External Grants and Contracts:

National Science Foundation. 2010. Kepler Discovery: Cyber-enabled Learning for AP Environmental Science in High Schools. Ngu, P.I. West, Co-PI. \$450,000
 National Science Foundation. 2009. Kepler Discovery: Cyber-enabled Learning for AP Environmental Science in High Schools. Ngu, P.I. West, Co-PI. \$249,989
 Texas Higher Education Coordinating Board, 2008-2009. Mix It Up: Correlated Geology and Math. \$87,000, PI West, Larry Price, CoE
 Texas Higher Education Coordinating Board. Science Grades 5-8 TAKS Preparation. 2005, \$82,000. PI, West, Co-PI. Koeck
 Teacher Quality Enhancement. P.I. Reese, West- Science Educator, Program Faculty, 2004, Department of Education, \$1, 400,000.
 Case Studies of Science Accidents, 2003. West, S. Texas State University Research Enhancement Grant. \$7,740.50.
 Science Curriculum Supplement, 2001. National Institute of Health. Anteon Corp., \$1,200,000.
 Central Texas Science Consortium: A Pilot Local Systemic Change Project, 2000. West, S., Westerlund, J., & Rudzinski, W., Co- P.I., West-Science Educator, Internal Evaluator, & Program Faculty. NSF \$199,471.
 Local Systemic Initiative Task Force, 1999. Rudzinski, W., West, S, & Westerlund – Co-P.I., West - Science Educator, Internal Evaluator, & Program Faculty. NSF, \$380,000.
 Texas Higher Education Coordinating Board, Southwest WILD! '96, \$ 74,832
 DOE - TAMU/SWT Science Teaching and Learning Center, \$90,103
 DOE - Statewide Systemic Initiative, \$27,427
 Texas Higher Education Coordinating Board - Safety in Science Classroom - 1989,

\$30,054

Grant Collaboration on Funded Projects

NSF-Career, Schwinning, S., Ecohydrology of Karst Savannas, 2015. West: Science Education: Summer teacher training.

CoEd for STEM Teacher Recruitment Program: 2011-2014. \$2,000,000. Science Methods course and student teacher supervision.

ESC 3 Collaborative for Excellence in Science Teaching, 2009-2010, \$140,000, Victoria, Tx

NSF, Career: Characterization of new Arabidopsis mutants with altered response to auxin, \$549,999, PI N. Dharmasiri. 2009 West: Science Education with graduate and high school students.

Texas Collaborative for Excellence in Science Teaching, 2006. \$300,000. Austin ISD.

TEA Accelerated Science Achievement Program, 2005. San Marcos ISD. \$50,000

TEA Accelerated Science Achievement Program, 2005. Hays CISD. \$50,000

Middle School Supplemental Materials, San Antonio River Authority, 2004-2005, P.I. G. Longley, \$75,000. West – Materials review and program faculty.

Environmental Inquiry by College Science Students: Original Research and Peer Review Using Web-Based Collaborative Tools. 2001-2002. CCLI- Educational Materials Development. \$74,261.

Academics 2000, Pflugerville ISD, Heydrick, K., P.I., West – Science Educator, Program Faculty. 2001. Texas Education Agency, \$175,000.

SWT Middle School Math Certification Initiative. 1999, 2000. Kennedy, P. & Vazquez, S. Co-P.I., West – Science Educator, Internal Evaluator, and Program Faculty. National Science Foundation, \$1,500,000.

TRIP, Teach Recruitment and Induction Project 1999, 2000, 2001, 2002.

Huling, L. & Resta, V. Co P.I., West – Science Educator and Program Faculty. U.S. Department of Education \$1,000,000.

Grant Collaboration on Unfunded Projects

NSF-Career, Schwinning, S., Ecohydrology of Karst Savannas, 2007. \$500,000. West: Science Education: Summer teacher training.

4. Fellowships, Awards, Honors:

Awards – NOTE: I have received every state and national available for Science Education Leadership. I am the ONLY Texan to receive all of these honors.

Science Teachers Association of Texas, Virginia Woods Award for leadership in Texas Science Education, 2013

Texas Science Education Leadership Association, Outstanding Leadership in Science Education Award, 2012

National Science Education Leadership Association, Outstanding Leadership in Science Education Award. 2009.

http://www.txstate.edu/news/news_releases/news_archive/2009/02/ScienceEducationAward020909.html

American Association for the Advancement of Science, AAAS Fellow, Science Education Award, 2008.

Awarded for “efforts on behalf of the advancement of science for distinguished contributions to science education policy and its impact on laws, regulations in the field of safety, facilities, teacher certification and curriculum standards.”

Science Teachers Association of Texas, 2006, Skoog Cup Award

“Awarded for a sustained record of leadership in science education, advocacy for quality K-12 science education for all students, contributions to STAT and other professional science organizations, and development of effective programs for pre-service and in-service teachers of science.”

TEA Commissioner of Education’s Science Initiative Taskforce & National Assessment of Educational Progress (NAEP) 2009 Science Framework Project Committee, 2005

http://www.txstate.edu/news/news_releases/news_archive/2005/03/West032805.html

Texas State University College of Science Nominee for Scholarship, 2005
 SWT School of Science Faculty Award, Biology Program Assessment, 1999
 Texas Academy of Science, 1996, Texas Academy of Science Fellow
 Science Teachers Association of Texas, 1994, Grady Parker Award
 Science Teachers Association of Texas, 1991, Honorary Life Member Award
 Science Teachers Association of Texas, 1991, Region Director Recruitment Award

Honors

Named as a Contributor to Student’s Academic Career
 2015 – Bess Reisberg
 2014 – Yutian Yu
 2013 – Tony Arredondo, Kimberly Sapp
 2012 – Samantha Wilson, Jennifer Lickert
 2011 – Margaret Smith
 2010 – Joan Tennison
 2009 – Amanda Moiser, Steve Goodman, Kiki Corry
 2008 - Melissa Ponce
 2007 – Natalie Jurischk, Amanda Moiser, Priya John

Other

Interviewed or quoted as a safety expert in science education in news articles or television.
 FOX News. 2007 “Overcrowding in Science Laboratories.” Austin, TX
 CNN.com. 2006 “High schools trying to get rid of radioactive materials”. Found at www.cnn.com/2006/EDUCATION/11/27/radioactive.schools.ap/index.html.
 Education Week. 2003. Science-Lab Safety Upgraded After Mishaps. David Hoff. Found at http://www.edweek.org/ew/ew_printstory.dfm?slug+33Labsafety.h22

Video

Principals Perspectives of the value of *Mix It Up* STEM Leadership training, 2015
 AAAS 5 Criteria for Content Selection, 2014
 3 Principles for Planning Effective Science Lessons, 2014
 Beginning instruction – Cody Mize, <https://www.youtube.com/watch?v=qEx6TSQ9rgw>
 Tutoring – Cody Mize <https://www.youtube.com/watch?v=1IPqrp4p66U>
 Effective Math Time Use – Cody Mize
<https://www.youtube.com/watch?v=21ScdN-RWpw>
 Safety in Tx Science Classrooms, 2013, 2014, 2015
 Texas Education Agency Educational Television, 2007. TEA Science Facilities Standards and the Requirement of Four Years of Science.
 University of Texas-El Paso, 2007. Podcast, Safety for New Science Teachers
 Texas Education Agency Educational Television, 1996. “Eye on Earth”,
What to do with Waste?

Professional Testimony on Science Education Policy

(Student co-authors are designated with an asterisk)

*Texas State Board of Education, November, 2015, Nicole Shepherd
 Texas State Board of Education, July, 2015
 House Education Committee, March 24, 2015
 House Education Committee, October, 8, 2014
 Texas State Board of Education, September, 18, 19, 2014
 Texas State Board of Education, July 18, 2014
 House Education Committee, May 14, 2014
 Texas State Board for Educator Certification, May 2, 2014
 House Education Committee, April 22, 2014
 Senate Education Committee, April 16, 2014
 Texas State Board for Educator Certification, February 14, 2014
 Texas Legislators – STAT day at Capitol, January 31, 2014
 Texas State Board of Education, January 30, 2014
 Texas State Board of Education, November 21, 2013
 House Education Committee, February 12, 2013
 Texas State Board of Education, January 20, 2011
 Texas State Board of Education, Nov. 18, 2010
 Texas State Board of Education, April 3, 2010
 Texas State Board of Education, Feb. 6, 2010
 Texas State Board of Education, Sept. 17, 2009
 Texas State Board of Education, July 16, 2009
 Texas State Board of Education, May 21, 2009
 Texas State Board for Educator Certification, Jan. 18, 2009
 Texas State Board of Education, July 17, 2008
 Texas State Board for Educator Certification, May 4, 2007
 Texas State Board for Educator Certification, March 9, 2007
 Texas State Board of Education, February 4, 2007
 Texas State Board of Education, November 15, 2006
 Texas State Board of Education, April 27, 2006
 Texas State Board of Education, Nov. 9, 2005
 Texas State Board of Education, April 28, 2005
 Texas State Board for Educator Certification, Jan 14, 2005
 Texas State Board of Education, July 15, 2004
 Texas State Board of Education, February 25, 2004
 Texas State Board for Educator Certification, November 8, 2003
 Texas State Board of Education, June 11, 2003
 Texas State Board of Education, March 9, 2003
 Texas State Board for Educator Certification, January 10, 2003
 Texas State Board of Education, January 7, 2003
 Texas State Board of Education, September 12, 2002
 Texas State Board for Educator Certification, August 2, 2002
 Texas State Board of Education, March 21, 2002
 Texas State Board of Education, September 6, 2001
 Texas State Board of Education, May 10, 2001
 Texas State Board of Education, February 1, 2001
 Texas State Board of Education, May 11, 2000
 Texas State Board for Educator Certification, May 5, 2000
 Texas State Board for Educator Certification, April 25, 2000
 Texas State Board of Education, March 2, 2000 *

Texas State Board for Educator Certification, January 4, 2000
 Texas State Board of Education, July 9, 1999
 Texas State Board for Educator Certification, May 20, 1998
 Texas State Board of Education, May 7, 1998
 Texas State Board of Education, March 12, 1998
 Texas State Board of Education, July 10, 1997 *
 Texas State Board of Education, May 8, 1997
 Texas State Board of Education, February 6, 1997 – Texas Academy of Science
 Position Statement
 Texas State Board of Education, January, 31, 1997
 Texas State Board of Education, July 1, 1996
 Texas State Board of Education, June 12, 1996 *
 Texas State Board of Education, April 11, 1996
 Texas State Board of Education, March, 21, 1996
 Texas State Board of Education, January, 31, 1996 *
 Texas Legislature, Joint Public Education Committee, 1995
 University Interscholastic League, 1995
 Texas State Board of Education, 1991- Texas Academy of Science Position Statement
 Texas State Board of Education, 1990

In general, these testimonies of Bio.4408/5408 and Bio. 4305/5305 students and mine were a request for higher standards in areas such as TASP scores, teacher certification, ExCET/TEXES scores, passing all parts of the ExCET/TEXES, ExCET/TEXES content, increase of minimum science requirements for graduating high school students, allowing teachers to take undergraduate content courses for the Continuing Education requirement, accuracy in the science TEKS, and increased standards for teacher certification. One of three members on the Expert Review Committee for TAKS.

Results of these testimonies:

1. The Texas Academy of Science Position Statement presentation resulted in correcting the TEA definition of scientific research design.
2. The Science TEKS were more aligned with the National Science Education Standards
3. The Science TEKS were corrected for 22 errors.
4. Undergraduate content courses are included for the Continuing Education requirement for inservice teachers.
5. New, more rigorous ExCET/TEXES were implemented in 2002 and I was appointed to the SBEC Science Standards Development Committee.
6. The Texas State Board of Education has focused more on teacher certification calling for certification standards based on research on student achievement and best practice.
7. The Texas State Board for Educator Certification has added new science certificates (Physics/Math and Chemistry).

IV. SERVICE

A. University:

Graduate Science Education Advisor, 2006-Present
 CoS STEM Committee '09-Present. Created new Composite Science teaching degree
 plan
 Mitte Teaching and Research Garden landscape coordinator, 2010
 Teacher Education Council

Recruited and hosted Texas State College of Education faculty, Dr. Julie Jackson,
for the department's seminar series, 2007
Texas State Science Education webmaster, 1998-Present
Texas State Campus Facilities Planning Committee, 2007-Present
Faculty Senate Facilities and Environmental Committee, 2006-2008, Chair
University Interscholastic League Region IV-AA Science Contest Coordinator, 1997-
2010
Attended Graduate Student Recruitment workshop 2007
Assisted with coordination for the Bobcat Build site at the Canyon Lake Gorge, 2007.
Collaborative Learning Community Mentor, 2006-2008, Puja Malani
Assisted with coordination for Pre-Med/Pre-Dent Society guest speaker, Dr. Paul Meyer,
retired surgeon and Commander of USAF Wilford Hall, 2008.
Collaborative Learning Community Mentor, 2000-2002, (Eleanore Ntibayindusha, Nicole
Wrice, Nikita Moore, Alvin Hollinger, IIII).
Alliance for Minority Participation, 2000-2002, 2006-2007
Texas State Point of Light (trash cleanup at Science Bldg.) by Pre-service Teachers,
1996-Present
Lights, Camera, Science!, 1998-2009
Akido Club Sponsor, 1997-2007
Alkek Library Professional Resources, 1995-Present
Genetic Update Seminar for High School Honors Biology Students, 1995-Present
Science Education Workshops for Pre-service Teachers, 1993-present
Lab Safety Seminar, 1992-Present
Teacher Education Council, 1991-Present
Teacher Education Council, Executive Committee, 1991-Present
Advisor for Science Teacher Education, 1999-Present
NCATE, Science Division Chair, 2003-2004
Coordinator for New Braunfels Christian Academy College of Science site visit, 2004
Women in Science and Engineering, 1999-2005
Aquarena Education Web Page, 1997-2005
Students for the Advancement of Science Education, 1999-2002
Agricultural Resources for Teachers Committee, 1996-1998
MAES, 1997-1998
Teacher Education Student Teaching Committee, Chair, 1997
Aquarena Springs Inc., Science Education/Business Partnership Committee, 1991-93
Chair - SWT College of Science Education Council, 1990-92
NCATE, Science Division Chair, 1990-91

B. Departmental:

Undergraduate Curriculum committee, 2005 – current
Safety Committee Chair, 1993 – 2008
Science Education labs (219, 224, 233) and storerooms (215, 190) supervise maintenance
& cleaning
College of Science Teacher Education Advisor 1989 - Present (Advised over 600 science
teaching candidates to date)
General Science 3320 Textbook Committee, 2000-02, 2006
Texas Chapter of The Wildlife Society's Conservation Education Workshops for
Teachers, 2004 – worked with Dr. Simpson to coordinate seminar
Texas School Safety Institute of Southwest Texas State University, 2002-2004
Pasco Scientific Instruments technology training coordination for SWT – 2002
Post Tenure and Promotion Review, Service Committee, 2001 – 2004

Assessment Committee, 1996 – 2003
 Science Education Search Committee, Co-Chair, 1998-99
 Seminar Committee, 1991-92
 Biology 1310 Textbook Committee, 1990-91
 SWTSU Environmental Education Leadership Institute - 1990-91

C. Community:

Comal County Biological Advisory Committee, 2007-2010
 Night Out for Parents of Disabled Children, Mark 9 Ministry, Oakwood Baptist Church, 2006-2010
 Guadalupe Blanco River Authority Gorge at Canyon Lake Scientific Advisory Committee, 2005 – Present
 Master Naturalist, Comal County Lindheimer Chapter, 2003-2008
 Texas Institute for Health Education Research, 1999 - 2004, Vice President
 Master Naturalist, Comal County Lindheimer Chapter, 2001-2002 Program Coordinator
 Carver Academy, San Antonio - Science Facilities Design Team – 2000-2001
 Brauntex Performing Arts Theater Board of Directors, New Braunfels, 1999
 New Braunfels YMCA Committee on After School Program for Middle School Students, 1998 - 1999
 American Cancer Society Speaker, 1997- Present
 Canyon Lake First Baptist Church, Assoc. Teacher & Outreach Leader, 1995- 2005
 New Braunfels Christian Academy Science Education Advisor, 2001-2006
 School at Mission Springs Science Education Advisor, San Antonio, 2000-2005
 Trinity Baptist Church, Asst. Secretary, Adult 6 Sunday School Department, 1992-93
 Leadership Training Director, Shearer Hills Baptist Church, San Antonio, TX, 1981-86
 Co-Director, Young Married Adults Sunday School, 1978-86
 Docent, San Antonio Zoo, 1980-84
 Director, High School Youth Church Training, 1971, Teacher, Special Education, 1961-77
 Co-Director, Young Married Adults Sunday School, 1975-77, Park Place Baptist Church, Houston, TX,
 President, Houston Area Coaches' Wives Association, 1976-77

D. Professional:

Professionally, I am extremely active at the state and at the national level with science education policy issues. Thus my efforts provide a positive impact on millions of students internationally. My safety research is cited and used as a basis for the national science education standards (*NSTA Guide to Planning School Science Facilities*) and the *Texas Education Agency School Facilities Standards*. The currently I work with the National Science Teachers Association on developing and refining national standards in the areas of laboratory and field safety and science lab facilities. I attend and testify at the Texas State Board of Education and the State Board for Educator Certification bi-monthly meetings, presenting policy issues and current research to the science and science education communities, business leaders and legislators. The Science Teachers Association of Texas appointed me to chair several programs and as the legislative liaison, all of which required multiple trips to Austin and other cities, generally at my own expense.

Appointed National Service:

National Science Foundation, 2015. Not allowed to cite specific review committee.
 National Science Foundation, *Innovation through Institutional Integration*, I3, Program Review Panel, May 19-20, 2008. Reviewed 1 proposal as primary reviewer,

5 as secondary reviewer and one as author of panel summary. As a panel, we reviewed about 15 proposals

National Science Foundation, *Discover Research K12* Program Review Panel, Mar. 13-14, 2008. Reviewed 1 proposal as primary reviewer, 6 as secondary reviewer and one as author of panel summary. As a panel, we reviewed about 25 proposals

National Science Foundation, *Discover Research K12* Program Review Panel, Jan.7, 2007. Reviewed 1 proposal as primary reviewer, 5 as secondary reviewer and one as author of panel summary. As a panel, we reviewed about 20 proposals.

National Science Foundation, *Teacher Enhancement* Program Review Panel, 1996

Appointed State Service:

Texas Education Agency Teacher certification Review Committee, January, 2016.

Texas Education Agency Facilities Standards Review Committee, March 27, 2014 - Current

Texas Education Agency CTE TEKS Review Committee, July 21-22, 2014

Texas Education Agency Texas Assessment of Knowledge and Skills (TAKS) Content Validation Review Panel, 2003-2013

Texas State Board for Educator Certification, Master Science Teacher EC-6 Teacher Certification Committee, 2011

Texas Education Agency Physics PD Review Committee, 2011

Texas Education Agency Chemistry PD Review Committee, 2011

Texas State Board for Educator Certification EC-6 Teacher Certification Committee, 2010

Texas Higher Education Coordinating Board, *Creation Science Institute* Review Committee, Jan. 7, 2008. Reviewed the application for a Master's in Science Education. The review committee unanimously agreed that the Institute lacked the quality of faculty and program to meet the required standards.

Texas Education Agency, Science TEKS Revision Committee, 2007-2008. Met Jan.10-12, Sept. 11-13 to revise the K-8 science TEKS. Scheduled to meet again in November after public input and Expert Panel review before they are presented to the SBOE for first reading in January and final approval in March.

Governor Perry's Science Initiative Task Force. 2004-2006. We identified areas of Science Education research that are needed, obtained funds for the Meta-analysis that resulted in the identification of *Effective Science Teaching Strategies*.

See www.bio.txstate.edu/%7escied/.

Texas Education Agency

NAEP 2009 Science Framework Project Panel, 2006

Texas Presidential Awardees for Excellence in Science and Mathematics Teaching Selection Committee, 2005, 2006.

Texas School Science Facilities Standards Committee, 2003-2004

Texas Science Summit, Planning Committee, 1999, 2000, 2002

Review of elementary science textbook, *Science & Technology for Children*. 1998

School Science Facilities Standards Committee, 1998 - 2002

Editorial Service:

Texas Safety Standards K-12, 2000

K-12 Science Facilities Standards, 2002

Design of TEA Toolkit Safety Web site, 1998

State Board of Education TEKS Review Committee, 1996-1997

Science III Textbook Proclamation Committee, 1992

Elementary ExCET Science Content Committee, 1991-92

Science I Essential Elements Committee, 1991
 Committee for Paperwork Reduction Committee, 1986
 Implementation of Science Essential Elements Committee, 1985

Texas State Board for Educator Certification

Master Science Teacher Certification Committee, 2003-2005
 Science Certification Framework Committee, 1999-2001
 Middle School Science Certification Exam Committee, 1997
 Middle School Science ExCET, Design of content & format Committee, 1993

Offices held in Professional Societies:

Texas Academy of Science Executive Committee: AAAS Representative, 1991-Present;
 Science Education, 1990-2000.
 Science Teachers Association of Texas:
 Immediate Past President, 1989-90; President, 1986-87; Vice President, 19882-83;
 Secretary, 1980, Legislative Chair, 2006-Present, Honorary Life Member
 Committee, 2010

Professional Society Committees:

National Association for Research in Science Teaching

Reviewer of conference proposals, 2006-Present

Texas Academy of Science, Evolution Statement Committee, 2007-2008. Co-authored the
 TAS letter to TEA re Evolution and the need for properly credentialed TEA staff.

Chair TAS/CAST Regional Conference, 1990

Chair, Science Education Committee, 1990-1991

Vice Chair, Science Education Section, 1990-1991

Chair, Science Education Section, 1991-1992, 1999-2000

National Science Teachers Association

Safety Committee, 2012-16, Developed NSTA *Safety and School Science Instruction*,
Field Safety, See <http://www.nsta.org/about/positions/safety.aspx>

Safety Committee, 2006-2010. Developed NSTA *The Integral Roll of Laboratory*
Investigations in Science Instruction. See

<http://www.nsta.org/about/positions/laboratory.aspx>. Developed the *Liability of Science*
Educators for Laboratory Safety Position Statement. See

<http://www.nsta.org/about/positions/liability.aspx>. Developed a *Student Safety*
Agreement.

NSTA National Advisory Board for Exemplary Science Programs, 2006-Present

Task Force on Science Facilities and Equipment, 1997 – Present

Committee on Research in Science Education, 2003-2004

Safety Committee – 2005

Elementary Scope, Sequence and Coordination Committee, 1990-1991

Co-Chair, Local Arrangements, NSTA/CAST '87 Area Conference

Co-Chair, NSTA/NABT Biology Test Committee, 1985-1990

NSTA/NCATE, National Science Teachers Association/National Council for the
 Accreditation of Teacher Education Program Review Committee, 2000-2004

National Biology Teachers' Association

Honorary Life Membership Committee, 1994-1995

Co-Chair, NSTA/NABT Biology Test Committee, 1985-1990

Science Teachers Association of Texas

CAST Administrator Institute Program Chair, 2006-Present
 CAST Program Committee 2006-2007
 STAT Legislative Liaison, 2005 - Present
 STAT Foundation Belief's Committee, 2005
 Safety Program Strand Coordinator for CAST, 1998 – 2004
 Region 20 STAT Director, 1978-95
 1987-88, CAST '93, Local Arrangements Committee, Social Events
Texas Science Educators Leadership Association
 Science TEKS Review Committee, 2007-2008
 Position Statement Committee, 2002-2005
 Teacher Certification Committee, 1991-1998, 2000-2004
 Safety Committee, 1990-2002
 Textbook Review Committee, 1990-1996
 Review Committee on TEA Education for Sexual Responsibility curriculum, 1993
 Co-Sponsor of Texas Science Supervisors' Association winter meeting at SWT, 1991
Texas Center for Science/ Mathematics
 National Science Education Standards Assessment Review Committee, 1995
CHEM, (Chemicals, Health, Environment and Me) Lawrence Hall of Science,
 University of California, Berkeley Texas Trainer, 1989-1996
 CEPUP, (Chemical Education for Public Understanding Project) Hall of Science,
 University of California, Berkeley, Texas Trainer, 1990-1996
Texas Alliance for Science, Technology & Mathematics Education, 1986 - 2004
 Technology, & Mathematics Education - Executive Committee, 1986 - 2004
 Planning Committee - 92, 94, 96, 98, 00 Governor's Conference for Science,
 Co-Chair - Governor's Conference Publicity, Technical Support Committees, 1994
 Chair - Collaborations in Technology Education, 1991, Chair, 1990-91
 Co-Chair, Governor's Conference on Science, Technology & Mathematics, 1990
Project WILD Facilitator, 1992 – Present
Project Aquatic WILD Facilitator, 1992 – Present
Project Learning Tree Facilitator, 1990 – Present
San Marcos ISD Science Education Liaison, 2004-2005
 Docent, Armand Bayou Nature Center, 1971-77
 Docent, Houston Zoo, 1971-77
 American Institute of Foreign Studies, Marine Biology for Secondary Studies in Hawaii,
 1984
 Science Mentor Program for Biology I Honors students with San Antonio area scientists,
 1979-89
 American Cancer Society, Teacher Education/Workshop Committee - 1980-89
 North East I.S.D.
 Co-Chair, N.E.I.S.D. Mathematics/Science Task Force, 1988-89
 Administrative Training Program, Assistant Principal, 1988-89
 Academic Decathlon Committee - 1983-89
 District Curriculum Writing Teams for Marine Science, Marine Biology, Biology I,
 Biology I Honors, Physical Science, and Laboratory Management, 1980-89
 Symposium for Encouragement & Support of Women in Math & Natural Sciences, Business
 Partnership Committee, 1990
 Alamo Regional Science Fair & Texas Junior Academy enlistment of judges and
 coordination of judging committees. - 1978 - 1991
 Chair, Master Planning Committee for Restructuring Science Education in Texas, 1990-91
 Career Day speaker, NEISD Alternative Middle School 1991

Science Curriculum Reform Conference - Center for Mathematics & Science
Education/TAMU Discussion Leader, 1991
Judge – S. Texas Academic Decathlon Super Quiz, 1992

E. Organizations

1. Honorary:

Phi Delta Kappa
Pi Mu

2. Professional:

American Association for the Advancement of Science
Association for Education of Teachers of Science
National Association for Research in Science Teaching
School Science and Mathematics Association
American Association of University Women
Association for Supervision and Curriculum Development
American Educational Research Association
National Biology Teachers Association
National Science Teachers Association
Science Teachers Association of Texas
Southwest Association for Educators of Teachers of Science
Texas Academy of Science
Texas Association for Supervision and Curriculum Development
Texas Association of Biology Teachers
Texas Council of Elementary Science
Texas Earth Science Teachers Association
Texas Integrated Science Teachers Association
Texas Marine Education Association
Texas Teachers of Physical Science
Texas Science Education Leadership Association