

**TERRY L. LASHLEY, Ph.D.**  
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### **CAREER SUMMARY**

Thirty-five years of progressive education and experience in managing program design and development of K-12 instruction and curricular reform for teachers and students, conducting classes in science, mathematics and information technology for elementary teachers and middle/high school students and teachers, evaluation of large scale reform projects, grant development and development of undergraduate, graduate and pre-service teachers. Seventeen of the last thirty years includes extensive interactions with scientists/mathematicians/engineers at the Oak Ridge National Laboratory and program work in higher education. Provided standards-based professional development in content and pedagogy in fifteen (15) states. Serve in executive leadership positions for local, regional, and national science/education/professional development programs and teacher academies/institutes.

### **PROFESSIONAL EXPERIENCE**

#### **PRESIDENT, 2007-Current**

Learning Curve Educational Consulting, Inc., Knoxville, Tennessee

Learning Curve Educational Consulting, Inc. is a WBE dedicated to school improvement through data-driven teaching and learning. Manage and deliver multiple programs focused on STEM professional development and evaluation. Focus for all programmatic work is the evaluation of data to guide development and delivery of all services.

- Leadership training through the Center for Creative Leadership, Chapel Hill, NC (2009)
- Professional Development for KIPP Schools, Indianapolis, 2007-2008
- Facilitator for National Science Foundation's Learning to Lead Mathematics Professional Development program by WestEd
- Invited presenter for the 2007 Tennessee Urban Summit
- Organizer and Chairperson for the Inaugural Mathematics and Science Symposium
- Strategic Planning Facilitator
- Developer and principal author for the 2009-2014 21<sup>st</sup> Century Community Learning Center grant, funding at \$8.5m
- External Evaluator for the 2007-2010 Central Kentucky Partnership Math Science Partnership (CKPIMS) grant
- External Evaluator for the 2009-2012 Central Kentucky High School Math Science Partnership (CKHS MSP) grant
- External Co-Evaluator for the 2009-2014 Western Kentucky National Science Foundation NOYCE grant.
- "Using Data" Consultant for TERC, Cambridge, Massachusetts
- Formative Assessment in Science Content Professional Development Consultant for the Massachusetts Department of Education, 2009, 2010

- Researcher and VISTA curriculum pilot with LessonLab, Santa Monica, CA

**ASSISTANT PROFESSOR**, August 2004 - 2007  
**Tennessee Technological University**, Cookeville, Tennessee

Taught undergraduate elementary and middle school science, mathematics, social studies methods, and middle school coursework in the 2+2 program. Supervise practicum students.

- Served as a Math and Science Program Improvement Review evaluation expert for a newly funded U.S. Department of Education FIPSE grant which spans the period of student teaching and the induction year
- Certified as a National Science Teacher Association Science Program Improvement Review (SPIR) consultant with expertise in data collection and evaluation of school and district science programs. Participated in the evaluation of school district science programs in Kentucky, Tennessee, West Virginia, Ohio and Virginia
- Piloted LessonLab Research Institute's Videocases for Science Teaching Analysis (VISTA) (2006-2008) with preservice and inservice teachers leading to improved science pedagogy and questioning strategies

**ADJUNCT PROFESSOR**, August 2004 -2007  
 The University of Tennessee  
*East Tennessee Science Partnership (ETnSP) a state Math Science Partnership Grant*  
*Tennessee Appalachian Center for Higher Education (TnACHE)*

Project Director for ETnSP focusing on improvement in middle grades science instruction. Previously Principal Investigator for TnACHE, a project which worked to increase the educational attainment through post-secondary education in underserved, economically-distressed Appalachian counties. Served TnACHE and ARSI in an advisory capacity.

**DIRECTOR**, August 1997-2004  
**Resource Collaborative at the University of Tennessee**, Knoxville, Tennessee  
*Appalachian Rural Systemic Initiative (ARSI) Resource Collaborative*  
*East Tennessee Science Partnership*  
*Tennessee Appalachian Center for Higher Education*  
*Gaining Early Awareness of Undergraduate Programs (GEAR-UP)*

Managed multi-discipline education and curriculum projects, achieving systemic reform and promoting improved mathematics and science instruction achievement. Interact with State Departments of Education, Superintendents and key administration personnel in school districts in Tennessee, Kentucky, and North Carolina, for improved mathematics and science instruction and achievement, and systemic reform. Aggressive in brokering services and resources through networking and collaboration throughout this region. Responsible for an annual budget exceeding \$1.4m.

Facilitated multi-disciplined projects and programs for/between school districts, Appalachian Regional Commission (ARC), National Science Foundation (NSF), National Science Resource Center (NSRC), American Association for the Advancement of Science (AAAS), National Science Teachers Association (NSTA) and U. S. Department of Education/State Department Education (SDE) staff, enhancing the teaching/learning capabilities, funding levels and science/mathematics curricula standards for grades K-12. Work with community colleges, 4-year

colleges and universities to build K-16 partnerships and infrastructure for the improvement of science, mathematics and technology education.

- Served as Project Director and a professional development provider for a state MSP grant, the East Tennessee Science Partnership. Focus is on improvements in middle school science teaching and learning
- Using Data Getting Results Data Certified Facilitator. Have also provided UDGR professional development through an MSP grant and a RSI
- Participated in the data collection and evaluation reporting for multi-state math and science programs
- Participated in use of the Michigan State University Science Teacher Analysis Matrix (STAM). Collected and used STAM data for the evaluation of science instruction
- Served as a Local Co-PI for the Appalachian Math Science Partnership (AMSP) grant (UK, UVa-Wise and UT). The AMSP is a \$22.4m grant which is providing improved content knowledge within a K-16 teaching and learning environment
- Facilitated Project Acclaim Mathematics Professional Development Teams & associated college/university partners in Tennessee and North Carolina. The project focus was middle and secondary mathematics improvement (2002-2003)
- Competitively selected as a State Coordinator for the NSTA Building a Presence for Science Program (BAP). BAP is currently building a communication infrastructure for approximately 1800 science educators across the state promoting high-quality, standards-based instruction in science and professional development of science educators
- Recruited by NSF and the Rice University Teachers Experiencing the Arctic and Antarctic program to assist with the development of activities and curriculum for national distribution to promote and encourage studies in polar science and global environmental science issues
- Competitively selected for WestEd's National Academy for Science Education Leadership program (First Cohort: 1998-2000). Served as a Mentor for other Academy participants in 2002
- Selected and trained for the AAAS Project 2061 Science Literacy Leaders for a Changing Future Professional Development cadre
- Continuously facilitating interactions and resources between communities, school districts and the National Science Foundation, National Science Resource Center, Appalachian Regional Commission, National Science Teachers Association, U.S. Department of Education, State department education staff and private foundations

**EDUCATION PARTNERSHIPS TEAM LEADER/PROGRAM MANAGER, 1991-1997**  
**Lockheed Martin Energy Research Corporation, Oak Ridge, Tennessee**

*Contractor for the Department of Energy's (DOE) Oak Ridge National Laboratory (ORNL)*  
Managed and implemented creative science, mathematics, and technology activities/programs for K-12 educators. Responsible for annual budgets exceeding \$500K

- Managed budget and staff/resources for programs for area public schools and the Tennessee Department of Education resulting in improved instructional pedagogy and resources
- Selected by the Eisenhower Mathematics and Science Consortium at the Appalachia Educational Laboratory to provide regional Standards-based Science Workshops promoting educational reform

- Developed evaluation expertise through a 4-year relationship with the WestEd National Center for Improving Science Education (NCISE) resulting in the evaluation of all K-12 science, mathematics, and technology programs offered through the Department of Energy's (ORNL) Office of University and Science Education
- Secured competitive funding to increase educational outreach
- Managed, designed, and developed Science/Mathematics/Technology Programs for selected teachers on site and in outreach in Appalachia, including the Appalachian Regional Commission's Summer Science Honors Academy
- Budgeted, designed, and managed a collaborative program with Argonne National Laboratory and the Chicago Academy of Sciences resulting in a national effort promoting water quality outreach activities with a select cadre of museum educators
- *Funded Projects:* NSF Arctic Research Experience, Appalachian Rural Systemic Initiative Professional Development, Memphis Urban Systemic Initiative Professional Development, SW Virginia Education Consortium Professional Development, and University of Alabama Preservice/Inservice Programs

**DIRECTOR, 1990-1991**

**Oak Ridge National Laboratory's Ecological and Physical Sciences Study Center, Oak Ridge, Tennessee**

- Supervised subcontract staff and managed outreach program for K-12 students and teachers, part-time
- Evaluated program and curriculum effectiveness
- Recruited participants and developed program content for regional/state outreach events such as National Science and Technology Week, National Chemistry Week, Earth Day, and other national programs

**SCIENCE TEACHER, 1989-1991**

**Knox County Schools, Knoxville, Tennessee**

*The Center School*

- Selected, prepared, and taught science curriculum for returning high school dropouts, ages 17-25. Assisted with instruction in other subject areas (mathematics and English)

**SCIENCE TEACHER, 1977-1989**

**Knox County Schools, Knoxville, Tennessee**

*Cedar Bluff Middle School*

- Taught earth science to eighth grade students and was the lead instructor and author for Knox County School's interdisciplinary gifted science education program, Science Seminar

**SCIENCE TEACHER, 1971-73**

**Fayette R-III Schools, Fayette, Missouri**

- Taught AP Biology, Biology and Physical Science

## EDUCATION

UNIVERSITY OF TENNESSEE

**Ph.D. in Science Education with a concentration in Theory and Practice in Teacher Education & Instructional Technology**

**M.S. in Curriculum and Instruction concentration in Secondary Science Education**

UNIVERSITY OF WISCONSIN, Superior

**B.S. in Biology/Secondary Education**

## OTHER

### Committees/Awards

- Professional Development Chairperson, Tennessee Science Education Leadership Association 2007-current
- 2007 YWCA Tribute to Women Honoree in the category of Educator
- Videocases for Science Teaching Analysis (ViSTA) LessonLab Research Institute Pilot participant, 2006-2008
- Supercomputing 2007 Education Program Committee Member Supercomputing 2006 Education Conference Mentor and Team Leader, 2006 & 2007
- Purdue University Summer Supercomputing Team Leader, 2006
- Supercomputing 2005 Team Leader, Seattle, WA
- “Distinguished Educator of the Year” 2005, Tennessee Science Teachers Association
- National Science Teachers Association Building a Presence for Science State Coordinator 2000-present
- NAEP Science Focus Framework Committee, 2005
- Tennessee Technological University Science, Technology, Engineering and Mathematics Planning Committee and Education Representative, 2005-2007
- Education Programming Committee, Oak Ridge Schools, 2004
- Appalachian Mathematics and Science Partnership (NSF), Local Co-PI, 2001-2004
- Appalachian Mathematics and Science Partnership (NSF), Management Team Member, 2001-current
- Appalachian Mathematics and Science Partnership (NSF), Design Team Member, 2006-Current
- Appalachian Scholars Advisory Board, College of Mathematics at UT
- Appalachian Collaborative Center for Learning and Instruction in Mathematics,
- Professional Development Committee and Professional Development Team Advisory Board (2001-2003)
- Tennessee Regional Mathematics and Science Summit IV Director/Chairperson
- Tennessee Gateway Testing Consultant and Team Leader, 2000
- Southern Regional Education Board, Rural Advisory Panel 1999-2001
- State Mathematics and Science Leadership participant, 1998
- 1998-2000 Cohort National Academy for Science Education Leadership (competitively selected)
- AAAS Project 2061 Science Literacy Professional Development (competitively selected) Cadre
- 1997 NSF Arctic Research Experience (competitively selected), Toolik, Alaska

- TN Science Teachers Association Executive Board (elected)
- National Science Scholars Scholarship Panel (selected)
- YWCA Tribute to Women 1996 *Finalist*
- U.S. Department of Energy, Education Program Evaluation Cadre
- State Department of Education Eisenhower Mathematics/Science Program Presenter
- Appalachian Math Science Partnership Advisory Board Member
- Tennessee Appalachian Center for Higher Education Board Member
- Tennessee Tech University Science, Technology, Engineering, and Mathematics Faculty Representative for Outreach 2004-2006
- Appalachia Educational Laboratory Steering Committee Appalachia Educational Laboratory (AEL)
- National Science Education Standards/Tennessee Science Framework Trainer and Team Leader (East Tennessee)
- Lockheed Martin Energy Research Corporation/Lockheed Martin Energy Systems Corporation Advisory Board for Persons with Disabilities

### Grants

- Conceptualized and developed the ACE CCLC grant funded at \$8.5m over five years (2009-2014)
- Conceptualized and developed the state-level East Tennessee Math Science Partnership for Maryville College. Funded at \$1.88m over three years (2008-2010)
- Developed the Evaluation Plan for the Central Kentucky Partnership in Mathematics and Science (CKPIMS) (2008-2010)
- Assisted with the development of a Kentucky-Tennessee FIPSE grant which is examining student teaching and first year teacher practices. Funded at \$650K over 3 years. Now serving as an expert science program reviewer for the grant
- Conceptualized, developed, and directed a state-level Math Science Partnership grant providing assistance to middle grades science teachers in 6 rural school districts. This grant provides data-driven, science content professional development leading to the attainment of highly qualified status via the HOUSSE Matrix. Funded at \$810K over 3 years
- Conceptualized and directed the development of a U.S. Department of Education “GEARUP: GRADKIDS” Grant funded at \$3m. The goals of this project are to improve educational opportunities and programs in all academic disciplines and to increase post-secondary educational attainment in two Appalachian Regional Commission distressed counties. Serve as Project Director
- Conceptualized and directed the development of a Whirlpool Foundation Strategic Grant funded at \$30K. Served as the Principal Investigator
- Conceptualized and developed a Tennessee Appalachian Center for Higher Education Network. Serve as Principal Investigator 2002-present. Funding fluctuates annually
- Conceptualized and directed the development of a \$20K NASA-funded project for rural Appalachia “Starwatch: Observational Astronomy in Rural Appalachia” served as a community-based project involving community members with science-focused activities. Fourteen teachers as well as community members were trained as facilitators to serve as the community-based, astronomy outreach educators
- Developed program and budget, delivered and managed a \$25K grant “Addressing the Science Inquiry Standard: Curriculum, Instruction and Assessment” resulting in authentic student assessments for inquiry-driven classrooms

- Developed program and budget, delivered and managed a \$25K grant “Strategic Support for Science Literacy in Tennessee” resulting in the examination of aligned curriculum materials
- Developed program and budget and managed a \$30K grant “Advanced Tools for Mathematics and Science” resulting in the integration of mathematics and science instruction with technology and computer science
- Directed, staffed and managed a \$95K Teacher Enhancement project in Science, Mathematics and Technology resulting in the professional development of over 150 teachers in standards-based instruction and improvement in student achievement scores
- Developed, staffed and managed a \$10K Curriculum Alignment Project funded by the Appalachia Educational Laboratory resulting in ARSI school district initial work on curriculum guides aligned with the State of Tennessee Assessments

### Professional Affiliations

- Tennessee STEM Leadership Council
- Tennessee Science Teachers Association Board Member
- Tennessee Science Education Leadership Association, Professional Development Chairperson
- National Staff Development Council
- National Association for Research in Science Teaching
- National Science Education Leadership Association
- National Science Teachers Association Building a Presence/Science Matters for Science, State Coordinator
- National Council of Teachers of Mathematics
- School Science and Mathematics Association

### Publications and Proposals

- Identifying Critical Causes in Science Education Related to Kids in Poverty, NSTA, 2010
- Lashley, T. L., and Wallace, D.G. (2005, July). Using data to prescribe professional development. [www.nces.org](http://www.nces.org).
- Lashley, T. L. and Skolits, G. (2005) Early indicators of the impact of data-driven assistance and professional development. In *Proceedings of the Fourth International Conference on Science, Mathematics and Technology Education*, Victoria, British Columbia, Canada.
- Lashley, T. L., Skolits, G., and Melear, C.T. (2005) Short-term effects of data-driven professional development for middle school teachers of science. In *Proceedings of the International Association of Science Teacher Educators* at <http://aste.chem.pitt.edu>.
- Skolits, G and Lashley, T. L., (2006) Data-driven professional development for middle school teachers of science. In *Symposium of Powerful Teaching*. Harriman Tennessee: Roane State Community College.
- The East Tennessee Science Partnership, a state-level MSP, 2004, funded at \$810K
- Lashley, T. L. (2003) Designing external evaluations for funded projects, Institute for Assessment and Evaluation (IAE) Conference, University of Tennessee, published IAE website.

- “The Sustainability of GEAR UP Project Initiatives in middle schools of East Tennessee: A study of the Residual Impact of the University of Tennessee GEAR UP partnership” MSERA, 2003.
- “The Transformative Experiences of a Scientist-Professor with Teacher Candidates,” an unpublished dissertation
- “The Transformative Experiences of a Scientist-Professor with Teacher Candidates accepted/presented at the National Association for Research in Science Teaching Annual Conference in New Orleans, LA, March, 2002
- “Transformative Experiences of a Scientist Instructor with Teacher Candidates” accepted/presented at the Association for the Education of Teachers of Science Conference, Charlotte, NC, January 2002
- “Appalachian Rural Systemic Initiative: An Account of and Reflection on a Service Learning Collaboration of Two Science Educators” accepted for the AERA Convention, 2001.
- “Developing Leadership for 21<sup>st</sup> Century Mathematics and Science Education” proposal, not funded
- Tennessee Appalachian Higher Education Network, Appalachian Regional Commission proposal, 2002, funded ARC proposal
- “GRADKIDS” U. S. Department of Education GEARUP proposal 2000, funded
- Whirlpool Strategic Grant 2000, funded
- “Addressing the Science Inquiry Standard” Eisenhower proposal 1999-2000, funded
- “Strategic Support for Science Literacy in Tennessee,” Eisenhower proposal 1998-99, funded
- “Advanced Tools for Mathematics and Science,” Eisenhower proposal, 1997-98, funded
- Multi-state Integrated Standards-based Curriculum, 1996-97
- “Excellence in Appalachia,” Eisenhower proposal, 1996-97, funded
- “Bettering an Enterprise Area with Mathematics and Science (BEAMS),” Goals 2000 proposal, 1997, funded
- Featured in: “Visions of Teaching and Learning,” 80 Exemplary Middle Level Projects, 1990
- Science Seminar Curriculum, Integrated Science Program for Talented and Gifted Students in Knox County Schools, 1987

#### Grant Reviews

- Minority Science Engineering Improvement Program (MSEIP), U.S. DE
- Smaller Learning Communities (SLC), U. S. DE (2002, 2003, 2004, 2006, 2007, 2008)
- And other smaller state and regional grant reviews

#### Presentations

- National Science Teachers Association, Multiple years including 2008-2010
- National Science Educational Leadership Association, 2008 and 2009
- Using Data Getting Results, KIPP Indianapolis College Preparatory School
- Florida Science Academy Network and SERVE, Tampa, FL
- Data-Driven MSPs at the Appalachian Colleges Association, Abingdon, VA
- East Tennessee Math Science Partnership at SSMA, Raleigh, NC
- Strategic Planning for Non-Profits and Agencies
- 2007 Urban Summit



- Teaching and Learning Beyond Proficiency
- Closing the Achievement Gap in Middle Grades
- Learning to Lead Mathematics Professional Development
- Using Data Getting Results (Multiple States)
- Curriculum Topic Study
- Adult Learning Theory and Methodology
- Use of Assessment Probes and Formative Assessment
- Individualizing Professional Development for K-12 Teacher Data-driven Professional Development
- “Backward Design” Lesson and Unit Planning
- Using Data to Support Effective Schools
- College Access Issues
- Using Data for School Improvement including Analyzing Student Work
- Experimental Design
- Teacher Preparation
- Talented and Gifted Curriculum/Instruction in Science
- Science Education Reform
- Science Inquiry
- Multiple Intelligences and Science Inquiry
- Proposal Preparation/Grantsmanship
- Curriculum Alignment