William Matthew Dunne
Part I – Administrative Resume

Purpose – Highlight administrative accomplishments and responsibilities

Associate Dean for Research & Technology
College of Engineering (2009 – present)

This position is one of three associate deans and three directors that report directly to the Dean of a College with 7 departments, about 145 tenure-line faculty members, over 3,700 graduate and undergraduate students, and total annual expenditures over $100,000,000. This staff position has responsibility for research-related administration, plus issues related to facilities in service to the College and the Dean.

Example Activities and Accomplishments:

Lead for startup of the UTK-Oak Ridge National Laboratory (ORNL) Distinguished Graduate Fellowship (DGF) Program – UTK and ORNL initiated two new joint graduate programs and began DGF in AY2010. From a "cold start" in December at the request of the Provost and the Associate Lab Director for University Partnerships, I led the UTK effort in coordination with colleagues at ORNL. We worked with communication staff in both organizations, the UTK Graduate School, UTK colleges and departments, and ORNL directorates and divisions to recruit, evaluate and select the first Fellows. We focused on quality and recruited 3 Fellows who are the first doctoral students of the Bredesen Center for Interdisciplinary Research (CIRE).

Co-chair of CoE Translational Research Committee – TPrior to the last reorganization of UTRF, I co-chaired an ad hoc committee with Lee Martin working with departmental faculty representatives to improve the environment for intellectual property development. We ultimately focused on using the provisional patent mechanism as a means to overcome the long-standing issues and failures related to disclosure agreement processing and the UT Research Foundation (UTRF). That effort then dovetailed with the UTRF reorganization.

Support for complex center-scale proposal – A statewide NSF EPSCoR infrastructure proposal with UT System coordination, and substantive UTK faculty involvement failed to garner needed logistical support. With the Dean's approval, I stepped in and provided research coordinator support for proposal development, plus "ran interference" as needed to assist this faculty-led proposal. The TN-SCORE team is now funded at about $18 million and operational.

Involvement in campus-level facilities planning and classroom renovation – The Vice Chancellor for Finance and Administration and I co-chaired the campus Master Planning Committee, which under the guidance of the Chancellor,

created the current UTK Master Plan featuring a priority for buildings to support STEM-related disciplines, furthering previous plans to create green space and a campus-based environment, and addressing sustainable and energy-efficient practices, while creating a welcoming environment for all constituencies.
Also, as chair of the Classroom Renovation Subcommittee, I led the development and implementation of new classrooms to serve a variety of student-learning modes. The major outcome was the $3.7m renovation of the campus classroom building to include 37 new classrooms with flexible furniture, all-around whiteboards and digital projection and robust wireless technology plus 2 student informal work areas and a food facility. This effort succeeded through involvement of the Provost's Office, Facilities Services, Teaching Learning Center, Office of Information Technology, Registrar's Office, College of Arts & Sciences, Student Government Association, and others.

Representative Responsibilities:

Research Administration

1) Supervision of College's two research coordinators to facilitate proposal development and research issue resolution primarily for College faculty.
2) Oversight of six College-level research centers including a THEC Center of Excellence, a major transportation-related center ($7.5 million expenditures), an industry-supported materials center, an industry service center for reliability, and an ORU-based multidisciplinary center in start-up mode.
3) Assist College in industry relationships (e.g., primary for VW Group of America, and support for Teledyne, Electric Power Research Institute (nonprofit), URS, etc.), including collaboration with Office of Research and UT Development Office.
4) Assist College efforts related to intellectual property, patents, licensing agreements and related industry collaborations
5) Meet with and advise junior faculty members annually concerning their research plans and progress
6) Review and approval for all research proposals from the College.
7) Serve as a primary campus reviewer for research proposal selection for such programs as IGERT, MRSEC, MRI, JDRD, etc.
8) Supervise data gathering & submission plus perform data validation for the College to national surveys of colleges of engineering.

Facilities-related Administration

1) Serve as the college representative for capital building programs (4 total), including program development, relocation planning, and user representation before, during and after construction.
2) Allocate research laboratory space for College as a function of funding, personnel needs, special space requirements, and external recognition of research
3) Review and process all College-funded requests for space renovations (projects range up to +$100,000). Resolve facilities-related issues for the College from maintenance issues ("raining ceilings", failure of chilled water systems, etc.) to large-scale challenges such as completing renovations for Governor's Chairs.
4) Supervise ARRA NSF-funded research renovation for Sustainable Energy Laboratory in Dougherty Hall as post-award Principal Investigator ($1.8 million).

Associate Dean for Research, Facilities and Graduate Student Policies, College of Arts & Sciences (2002 – 2009)

This position was then one of four associate deans and four directors that report directly to the Dean of a College with 21 departments, about 450 tenure-line faculty members, over 9,000 graduate and undergraduate students, and total annual expenditures over $100,000,000. This staff position was responsible for several aspects of the College-level administration in service to the unit and the Dean.

Example Accomplishments:

Growing a new research initiative – as a new associate dean, a key goal was to identify opportunities to increase institutional prestige through scholarship and research. The humanities had promising leadership, high quality scholars, and a number of new exciting hires, but a lack of experience with external funding. Collaborating with heads and faculty members, we established a grants advisor, persuaded the Chancellor and Dean to create new institutional support for humanities faculty, and refocused scholarly expectations at the department level. Initial outcomes were 8 prestigious AAU-recognized fellowships plus 5 others in 2 years, and use of academic workshops, seminars and subvention awards to strengthen the scholarly culture in the humanities.

Contributing to growing a secondary school Math-Science initiative – In 2003, I became the local principal investigator for a $24 million NSF-funded initiative based at the University of Kentucky for building partnerships between schools, school districts, colleges and universities to improve science and math education, and increase the number of students pursuing math and science education in Appalachia. My understanding about K-16 STEM-related outreach was enhanced as an active member of the management team, by participation in national conferences, NSF site visits, external review team visits; and partnering with teachers, district administrators, members of the College of Education Human and Health Sciences.

Assisting development of a new agency-based research focus – The then VCR recognized that UTK had a "deficit" in its success with Department of Defense funding. He initiated a new effort to use UTK research strengths to increase our DoD research funding. I assisted this effort by identifying appropriate faculty participants for DoD program officer visits, coaching some faculty colleagues about best practices, and representing the College and at times the University in the visits. This activity has continued on occasion in my present appointment.

Assisting partnership-building between organizations – The Colleges of Arts & Sciences and Engineering (CoE) are key contributors to research success at UTK. They have similar needs for facilities, startup costs, compliance issues, etc. By initiating good-faith collaboration with colleagues in CoE's Dean's office, we built a coordinated advocacy for the solutions to these needs, benefiting UTK. This approach garnered respect from the central administration, particularly as we involved other colleges. A key outcome was creating "a place at the table" with central administrators

for decisions about research and facilities. Thus, as partners we improved the transparency and input for decisions by the central administration at that time.

Representative Responsibilities:

Research Administration

1) Assist the College in establishing and growing its role for UTK in the partnership with ORNL, including identification and support of best UTK research opportunities in the partnership, and working to use collaborations such as joint faculty positions
2) Meet annually with department heads to discuss the status, goals and opportunities in research/scholarship/creative activity, including review of all faculty workload reports. The purpose is to focus their efforts, learn from them and offer support in achieving institutional goals in research, scholarship and creative activity.
3) Meet annually with groups of new faculty members to educate them about issues related to research, facilities, equipment and graduate students in their departments, the College, the campus and the System. These meetings also introduce me to the new talent and opportunities in the College.
4) Define startup packages for new hires in negotiation with department heads and Vice-Chancellor for Research to distribute the costs between Chancellor, College and department (about $3 million budget per year).
5) Allocate Research Incentive Funds from F&A recovery to College to support startup matches, provide other equipment matches, support research initiatives, provide bridging support, and support faculty and graduate student professional travel (about $650K a year in new funds).
6) Review, consider and prioritize applications from across the College for professional development, foreign travel and small grants with the campus.
7) Serve as a primary campus reviewer for research proposal selection for such programs as IGERT, MRSEC, MRI, JDRD, etc.
8) Coordinate student submissions and faculty judging for the College component of the UTK Undergraduate Research and Creative Achievement Exhibition
9) Serve as the College representative for research compliance issues, particularly with respect to Federal regulations, which continue to grow in number and complexity.
10) Review and approval all research proposals for the College.

Facility-related Administration

1) Serve as the college representative for all building programs (8 total) for the College, including program development, relocation planning, and user representation before and during construction.
2) Allocate research laboratory space for College as a function of funding, personnel needs, special space requirements, and external recognition of research
3) Review and process all College requests for space renovations
4) Coordinate and prioritize equipment-related competitions for instructional equipment, computer-lab upgrades, faculty & staff computers, research and Infrastructure equipment, and College one-time equipment calls (about $1.2 million a year).

Head of Department of Geological Sciences (1997-2002)

At UTK, a department head serves at the pleasure of the Dean with the support of the faculty. In Geological Sciences, the head was assisted by an associate head, a modest administrative staff, and a series of faculty committees that manage academic programs, curriculum, graduate admission and development funds. Ultimate responsibility for decisions rests with the Head, who represents the department to administration and the administration to departmental faculty, staff and students.

Example Accomplishments:

Creating an attractive message for departmental growth – As a new head starting just after institution-wide, multi-year budget cuts, a key approach to achieving departmental growth was to create a positive message rooted in the departmental strengths that was attractive to institutional goals. I led the faculty to develop a common vision centered around "near-surface earth systems" that garnered such support.

Leading a redefinition of a department – Having matured over four years as a head, I recognized a need to position a medium-sized geological science department, to "punch above its weight class" to achieve greater external recognition. Also, many of my faculty colleagues perceived that our department was poised for a transition. I led the effort to redefine our department with significant faculty involvement and feedback as an Earth and Planetary Sciences unit in preparation for our 10-year program review. The effort succeeded, was validated by the review team and brought further resources.

Improving departmental faculty diversity – During my headship, we filled two of our three faculty vacancies with female candidates, and in one case, had a primary pool of candidates that was all female. Prior, during and after the interview process, I encouraged female candidates to believe that they would be welcomed and respected as departmental colleagues. My second associate head was a female Hispanic faculty member who I also recommended to be interim head, when I stepped aside as head. She subsequently became Head.

Establishing quantitative and qualitative standards for evaluating faculty performance –During a year-long effort, I convinced the faculty to develop discriminating quantitative measures and qualitative standards for faculty evaluation in research, teaching and service. New bylaws passed unanimously. They formed the basis for data-driven and constructive faculty evaluations. This approach enhanced our departmental standing in the College and University administrations, where such evaluations were otherwise rare at the time.

Continuing growth of alumni support – Following on 20 years of departmental effort, I worked to strengthen and in some cases rebuild alumni relationships. This effort yielded a 25% increase in departmental endowment gifts over 5 years, while also providing an additional 15% in funds that were spent on current departmental and student needs. It was a pleasure to have the opportunity to visit and work with the incredible people who are the alumni and friends of the department.

Representative Responsibilities:

Planning

1) Strategic planning – provide leadership during faculty development of departmental vision that drives decisions for several years while having outcomes that attract increased support from central administration and greater involvement from other units and organizations on and off campus
2) Equipment planning – develop reasoned lists of equipment needs for competitions for institutional equipment funds with faculty input

Personnel Management

1) Mentoring, retention review, annual review and promotion/tenure submissions as appropriate for all departmental faculty members
2) Leadership role in the recruitment of new faculty members and retention of quality faculty members
3) Annual review of staff and advocacy for pay increases and promotions that recognize true workload of staff members
4) Advisor to student organizations, ad hoc student mentor, and when appropriate advocacy of student needs to faculty

Fiscal Responsibilities

Responsible for managing departmental state, research and endowment accounts, while assuring that principle investigators practice fiscally responsible behavior with their grants (about $3.5 million dollars per year).

Alumni Development

1) Leadership role in continuing and developing relationships with alumni and friends of the department, including alumni events and communications. Work in consultation with faculty and College development staff.
2) Leadership role in annual alumni board meeting
3) Point of contact for alumni needs and enquiries
4) Responsibility for either saying “thank you” or assuring that appropriate recipients say “thank you”

Part II - Academic Curriculum Vita

Education:

B.S., Geology, University of Bristol, England	1977
Ph.D., Geology, University of Bristol, England	1980

Positions Held:

University of Bristol Postgraduate Scholarship	1977 -1980
Assistant Professor of Geology, West Virginia University	1980 -1986
Associate Professor of Geology, West Virginia University	1986 -1988
Associate Professor of Geology, University of Tennessee	1988 -1995
Professor of Geological Sciences (EPS), University of Tennessee	1995 - Present
Head of Geological Sciences, University of Tennessee	1997 - 2002
Associate Dean, College of Arts & Sciences, Univ. of Tennessee	2002 – 2009
Associate Dean, College of Engineering, Univ. of Tennessee	2009 - Present

Awards and Honors:

Department of Geological Sciences SGE Teaching Award	1991, 1995
University of Tennessee Chancellor's Excellence in Teaching Award	1994
UTK College of Arts & Sciences Senior Faculty Teaching Award	1995
UTK College of Arts & Sciences Outstanding Service Award	2009
Geological Society of America Fellow	2009

Appointments:

Editorial Advisory Board of the Journal of Structural Geology	1999 – 2006
Editor of the Journal of Structural Geology	2006 – Present

RESEARCH

Articles in refereed journals:

Onasch, C.M., Farver, J.R., and Dunne, W.M., 2010, The role of dilation and cementation in the formation of cataclasite in low temperature deformation of well cemented quartz-rich rocks. Journal of Structural Geology, v. 32, p. 1912-1922.

Roy, A., Perfect, E., Dunne, W.M., and Odling, N., 2010, Lacunarity Analysis of Fracture Networks: Evidence for Scale-Dependent Clustering. Journal of Structural Geology, v. 32, p. 1444-1449.

Onasch, C.M., Dunne, W.M., Cook, J.E., and O'Kane, A., 2009, The effect of fluid composition on the behavior of well cemented, quartz-rich sandstone during faulting. Journal of Structural Geology, v. 31. p. 960-971.

Roy, A., Perfect, E., Dunne, W.M., and McKay, L.D., 2007. Fractal Characterization of Fracture Networks: An Improved Box-counting Technique. Journal of Geophysical Research. v. 112, p. B12201

Cook, J.E., Dunne, W.M., and Onasch, C.M., 2006. Development of a dilatant damage zone along a thrust relay in a low-porosity quartz arenite. Journal of Structural Geology, v. 28, p. 776-792.

Vandewater, C.J., Dunne, W.M., Mauldon, M.M., Drumm, E.C., and Bateman, V., 2005, Geologic Control on Rockfall Hazard Potential. Environmental and Engineering Geology, v. 11, 141-154.

Hoffman, W., Dunne, W.M., Mauldon, M.M., 2004, Probabiliistic-mechanistic simulation of bed-normal joint patterns. Geological Society of London Special Publication. Engelder, T., Cosgrove, J., (eds.) The initiation, propagation, and arrest of joints and other fractures, v. 231, 269-284.

Dunne, W.M., Ferrill, D.A., Crider, J.G., Hill, B., La Femina, P., Waiting, D., Fedors, R., Morris, A.P., 2003, Orthogonal jointing during coeval igneous degassing and normal faulting, Yucca Mountain, Nevada, Geological Society of America Bulletin, v. 115, p. 1492-1509.

Rohrbaugh, M.B., Jr., Dunne, W.M., and Mauldon, M., 2002, Estimating joint trace intensity, density and mean length using circular scanlines and circular windows. American Assocation of Petroleum Geologists Bulletin, v. 86, p. 3089-2104.

Spraggins, S.A., and Dunne, W.M., 2002, Deformation history of a forleand thrust belt in a recess: An example from the Roanoke recess, Appalachains, USA. Journal of Structural Geology, v. 24, p. 411-433.

Hogan, J.P., and Dunne, W.M., 2001, Calculation of shortening due to outcrop-scale deformation and its relation to regional deformation patterns. Journal of Structural Geology, v. 23, 1507-1530.

Mauldon, M., Dunne, W.M., and Rohrbaugh, M.B., Jr., 2001, Circular scanlines and circular windows: new tools for characterizing the geometry of fracture traces. Journal of Structural Geology, v. 23, 247-258.

Smart, K. J., Krieg, R. D., and Dunne, W. M., 1999, Deformational responses to blind thrusting: insights from finite element modeling: Journal of Structural Geology, v. 21, 855-874.

Williams, R.T., Dunne, W.M., and Glover, L.G., III, 1999, Global Geoscience Transect 20. Central Appalachians: Cratonic North America to the Atlantic abyssal plain: International Geology Review, v. 41, p. 711-738.

Dunne, W.M. and Caldanaro, A., 1997, Evolution of solution structures in a deformed quartz arenite: geometric changes related to permeability changes. Journal of Structural Geology, v.19, p. 663-672.

Smart, K. J., Dunne, W. M., and Krieg, R. D., 1997, Roof sequence response to emplacement of the Wills Mountain duplex: The roles of forethrusting and scales of deformation: Journal of Structural Geology, v. 19, 1443-1459.

Thorbjornsen, K.L., and Dunne, W.M., 1997, The origin of thrust-related folds: Geometric vs. kinematic tests: in Anastasio, D.J., Erslev, E. A., and Fisher, D. M., (eds.), Fault-related Folding, Journal of Structural Geology, v. 19, p. 303-320.

Dunne, W.M., 1996, The role of macroscale thrusts in the deformation of the Alleghanian roof sequence in the central Appalachians: A re-evaluation. American Journal of Science, v. 296, p. 549-575.

Couzens, B.A., and Dunne, W.M., 1994, Displacement transfer at thrust terminations: The Saltville thrust and Sinking Creek anticline, Virginia, U.S.A., Journal of Structural Geology, v. 16, p. 781-793.

Couzens, B.A., Dunne, W.M., Onasch, C.M., and Glass, R., 1993, Strain transition at the juncture of two diachronous thrust systems: Southern vs. central Appalachian

foreland: in Hudleston, P.J., Casey, M., Dietrich, D., Ford, M., and Watkinson, A.J., (eds.), The Geometry of Naturally Deformed Rocks, Journal of Structural Geology v. 15, 451-463.

Onasch, C.M., and Dunne, W.M., 1993, Variation in quartz arenite deformation mechanisms between a roof sequence and duplexes: in Hudleston, P.J., Casey, M., Dietrich, D., Ford, M., and Watkinson, A.J., (eds.), The Geometry of Naturally Deformed Rocks, Journal of Structural Geology v. 15, 465-475.

Evans, M.A., and Dunne, W.M., 1991, Strain factorization and partitioning in the North Mountain thrust sheet, central Appalachians, U.S.A.: Journal of Structural Geology, v. 13, 21-35.

Foreman, J.L., and Dunne, W.M., 1991, Conditions of vein formation in the southern Appalachian foreland: Constraints from vein geometries and fluid inclusions: Journal of Structural Geology, v. 13, p. 1173-1183.

Dunne, W.M., and North, C.P., 1990, Orthogonal fracture systems at the limits of thrusting: An example from southwestern Wales: Journal of Structural Geology, v. 12, p. 207-215.

Dunne, W.M., Onasch, C.M., and Williams, R.T., 1990, The problem of strain-marker centers and the Fry method: Journal of Structural Geology, v. 12, p. 933-938.

Meyer, T.J., and Dunne, W.M., 1990, Deformation of Helderberg Limestones above the blind thrust system of the central Appalachians: Journal of Geology, v. 98, p. 108-117.

Scott, P.B., and Dunne, W.M., 1990, Deformation history of an outcrop-scale fault system in the central Appalachians: Southeastern Geology, v. 31, p. 93-107.

Bennett, M.C., Dunne, W.M., and Todd, S.P., 1989, Reappraisal of the 'Cullenstown Formation': implications for the Lower Palaeozoic tectonic history of SE Ireland: Geological Journal, v. 24, p. 317-329.

Ferrill, D.A., and Dunne, W.M., 1989, Cover deformation above a blind duplex: an example from West Virginia, U.S.A.: Journal of Structural Geology, v. 11, 421-431.

Dunne, W.M., and Ferrill, D.A., 1988, Blind thrust systems: Geology, v. 16, p. 33-36.

Dunne, W.M., 1986, Mesostructural development in detached folds, an example from West Virginia: Journal of Geology, v. 94, p. 473-488.

Dunne, W.M., and Schultz, D.P., 1986, A mesoscopic thrust system in West Virginia: Its deformation history and regional importance: Southeastern Geology, v. 26, p. 131-139.

Dunne, W.M., 1983, Tectonic evolution of southwest Wales during the upper Paleozoic: Journal of the Geological Society of London, v. 140 p. 257-266.

Hancock, P.L., Dunne, W.M., and Tringham, M.E., 1981, Variscan structures of southwest Wales: Geologic En Mijnbouw, v. 60, p. 81-88.

Dunne, W.M., Hancock, P.L., and Tringham, M.E., 1980. The structure of southwest Dyfed: Proceedings of the Geological Association, v. 90, p. 237-238.

Edited volume:

Dunne, W.M., Stewart, I.S., Turner, J.P., Evans, J.P., 2001. Brittle microtectonics, neotectonics, and archeoseismology in honour of Paul Lewis Hancock, Journal of Structural Geology, v. 23, p. 163-584.

Chapters in books:

Dunne, W.M. and Hancock, P.L., 1993, Palaeostress analysis of small-scale brittle structures: in P.L. Hancock, ed., Continental Deformation, Pergamon Press, p. 101-120.

Hancock, P.L., Dunne, W.M., and Tringham, M.E., 1983, Variscan deformation in southwest Wales: in P.L. Hancock, ed., The Variscan Fold Belt in the British Isles, Adam Hilger, Bristol, England, p. 17-73.

Hancock, P.L., Dunne, W.M., and Tringham, M.E., 1982, Variscan structures in south Pembrokeshire: in M.G. Basset, ed., Geological excursion guide to Dyfed, University of Wales Press, Cardiff, Wales, p. 215-248.

Other items in print:

Dunne, W.M., 2000, Cleavage, Folding, and Rock Deformation. In: Hancock, P.L., Skinner, B.J., Dineley, D.L., The Oxford Companion to The Earth, Oxford University Press, Oxford, England, p. 117-118, 225-226, 357-360.

Mauldon, M., Rohrbaugh, M.B., Jr., Dunne, W.M., and Lawdermilk, W., 1999a, Fracture intensity estimates using ciruclar scanlines: Proceedings 37th Rock Mechanics Symposium, p. 777-784, Balkema, Rotterdam, Netherlands.

Mauldon M., Rohrbaugh, M.B., Jr., Dunne, W.M., and Lawdermilk, W., 1999b, Mean fracture tracelength and density estimators using circular scanline: Proceedings 37th Rock Mechanics Symposium, 785-792, Balkema, Rotterdam, Netherlands.

Dunne, W.M., and Ferrill, D.A., 1995, Fractal strain distribution and its implications for cross-section balancing: Discussion. Journal of Structural Geology. v. 17, p. 757-760.

Billman, D.A., Dunne, W.M., and Johnston, M., 1989, Penetrative strain contribution to cover deformation in the central Appalachians: Proceedings of the Appalachian Basin Industrial Associates, v. 16, p. 147-165.

Dunne, W.M., 1989, Day Two - Valley and Ridge Province in eastern West Virginia: in Woodward, N.B., ed., International Geological Congress Fieldguide for Field Trip 357, p. 15-24.

Dunne, W.M., 1989, Day Six - Valley and Ridge Province in eastern West Virginia: in Engelder, T., ed., International Geological Congress Fieldguide for Field Trip 166, p. 53-61.

Dunne, W.M., and Ferrill, D.A., 1988, Reply on "Blind thrust systems": Geology, v. 16, p. 856-857.

Dunne, W.M., Morley, R.A., and Lannan, M.A., 1985, Cumulative regional fracture patterns: An example from the central Appalachians: Proceedings of the Appalachian Basin Industrial Associates, v. 8, p. 182-214.

Shumaker, R.C., Wilson, T.H., Dunne, W.M., Knotts, J., and Buckley, R., 1985, Pennsylvania, Virginia and West Virginia sections: in N.B. Woodward, ed., Valley and Ridge Thrust Belt: Balanced cross sections, Pennsylvania to Alabama, University of Tennessee Studies in Geology, v. 12, p. 6-35.

Dunne, W.M., and Williams, G.D., 1984, Discussion on "Tectonic evolution of SW Wales during the Upper Paleozoic": Journal of the Geological Society of London, v. 141, p. 383-385.

Funded grants:

Hines, J.W., Hamel, W., Khomami, B., Dunne, W.M., 2010-2013, ARI-R2: Sustainable Energy Laboratory, Chemical, Bioengineering, Environmental, and Transport Systems Division, National Science Foundation, $1,830,000 (Construction funding – Dunne is PI during award period and Hines led the proposal submission team).

Dunne, W.M., and Lashley, T., 2003-2008, Appalachian Mathematics and Science Project – UT subcontract from University of Kentucky from National Science Foundation, $1,200,000 budget at UTK. This project was conducted in collaboration with faculty and staff in Colleges of Arts & Sciences and College of Education, Health and Human Sciences. Dunne served as UTK PI.

Drumm, E., Mauldon, M., Dunne, W.M., and Bateman, V., 2002-2005, Rockfall management system for Tennessee:Phase II. Tennessee Division of Transportation, $820,000 total budget. This project was conducted in collaboration with faculty and staff in College of Engineering at UTK, at Virginia Tech, and with staff of the Tennessee Department of Transport.

Dunne, W.M., 2001-2005, The role of water and fluid pathways in low temperature deformation of quartz-rich rocks: Earth Science Division, National Science Foundation, $91,890.

Mauldon, M., Drumm, E., Dunne, W.M., and, Bateman, V., 2000-2002, Rockfall management system for Tennessee:Phase I. Tennessee Division of Transportation, $300,000 total budget.

Mauldon, M., and Dunne, W.M., 2000-2004, Characterizing rock fractures from borehole and tunnel data. Civil and Mechanical Systems Division, National Science Foundation, $241,604 total budget.

Byerly, D. W., Bennett, M. E., and Dunne, W. M., 1998-1999, Development of web-based instructional modules to facilitate geoscience education using the theme, geologic controls of landscape evolution, National Science Foundation, $41K for total budget.

Orvis, K. H., and Dunne, W. M., 1997-1999, GPS instrumentation for improved instruction in GIS and field geology courses, Using expertise of geology and geography departments, National Science Foundation, $20,000 for total budget.

Mauldon, M., and Dunne, W.M., 1996-1998, Correcting a common sampling bias for fracture intensity of sedimentary rocks, American Chemical Society Petroleum Research Fund, $50,000 for total budget.

Dunne, W., Driese, S., & Mora, C. , 1992-1993, A cathodoluminescence microscope for investigating 3-dimensional fold evolution, pedogenic carbonate precipitation and metamorphic fluid-rock interactions, Earth Science Division, National Science Foundation, $16,850 for total budget.

Dunne, W.M., and Onasch, C.M., 1990-1991, Collaborative Research: Kinematic interactions between cover and duplexes, Earth Science Division, National Science Foundation, $100,000 for total budget.

Evans, M., Dunne, W.M., and Anderson, T.H., 1986-1988, A study of the deformation history of a roof thrust sheet and underlying duplex: An example from Northwestern Virginia, central Appalachians: Earth Sciences Division, National Science Foundation, $80,900 for total budget.

Dunne, W.M., 1983, Investigation of fault-induced fractures adjacent to an allochthon: NSF-EPSCOR, $25,000.

Dunne, W.M., 1982-1984, Mesostructural suites in lithotectonic units within the central Appalachians: American Chemical Society, $10,000.

Dunne, W.M., 1981-1983, Investigation of mesostructural suites in the Oriskany Sandstone of West Virginia: Unified Energy Research Center of West Virginia University, $22,000.

Oak Ridge National Laboratory Contract:

Dunne, W.M., 1991-1994, Conasauga Group fracture characterization, Subcontract #11XSJ590V, $51,303.

Presented papers:

Beddingfield, C. B., Burr, D. M., and Dunne, W. M., 2013, Evidence for contraction within the leading hemisphere section of the South Polar Terrane Boundary for Enceladus. Lunar and Planetary Science Conference.

Roy, A., Perfect, E., Dunne, W.M., and Odling, N., 2008, Lacunarity Analysis of Fracture Networks. Geological Society of America Abstracts with Program, v. 39., Paper No. 161-8. (Dunne presenter)

Cook, J.E., Dunne, W.M., and Onasch, C.M., 2005. Development of a dilatant damage zone along a thrust relay in a low-porosity quartz arenite. Geological Society of America Abstracts with Programs, v. 36, n. 7, Paper No. 101-8.

Onasch, C.M., O'Kane, A., Cook, J., Dunne, W., and Farver, J. 2005. Controls on the style of low-temperature, fault-related deformation in quartz-rich rocks: A tale of two fluids. Geological Society of America Abstracts with Programs, v. 36, n. 7, Paper No. 106-11.

Cook, J., Dunne, W.M., and Onasch, C., 2004. Damage zone development during folding of a well cemented quartz arenite. Geological Society of America Abstracts with Programs, v. 35, n. 7, Paper No. 182-19.

Dunne, W.M., Heiny, C.J., Mauldon, M., and Wang, X., 2003, Using borehole-wall fracture traces to estimate mean fracture size and aspect ratio. Geological Society of America Abstracts with Programs, v. 34, n. 7, A112.

Onasch, C.M., Dunne, W.M., Harrison, M., and Nickelsen, R., 2003, The role of fluids in the microstructural evolution of quartz-rich rocks during low temperature, fault-related deformation. Geological Society of America Abstracts with Programs, v. 34, n. 7, A605.

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Hogan, J.P., and Dunne, W.M., 1999, Using outcrop-scale deformation to complete the shortening “picture” and to detect regional deformation patterns: Geological Society of America Abstracts with Programs, v. 31.

Mauldon, M., Rohrbaugh, M. B., and Dunne, W. M., 1999, Fracture intensity estimates using circular scanlines: Proceedings of the 37th U. S. Rock Mechanics Symposium.

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Rohrbaugh, M. B., Mauldon, M., and Dunne, W. M., 1999, Estimating fracture intensity using circular scanlines: American Association of Petroluem Geologists Bulletin, v. 83.

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*Spraggins, S. A., and Dunne, W. M., 1998, Measuring deformation intensity to detect southern Alleghanian blind thrusting at the junction of the southern and central Appalachians: Geological Society of America Program and Abstracts, v. 30.

*Smart, K.J., Couzens, B.A., Dunne, W.M., and Krieg, R.D., 1997, Kinematic behavior and structural geometry of thrust systems: Comparison of numerical and analog models: Geological Society of America Program and Abstracts, v. 29, n. 3, A70.

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*Dunne, W.M., 1994, "Active Learning" exercises in an undergraduate class about structural geology: Geological Society of America Program and Abstracts, v. 26, n. 7, A421.

*Dunne, W.M., Srinivasan, K., Thorbjornsen, K., and Walker, K.R., 1994, Timing of bed-normal veins in foreland thrust sheets of the southern Appalachians: syn-thrusting or older?: Geological Society of America Program and Abstracts, v. 26, n. 7, A209.

Smart, K.J., and Dunne, W.M., 1994, Partitioning Alleghanian shortening above blind duplexes in the central Appalachians: Where is the deformation?: Geological Society of America Program and Abstracts, v. 26, n. 7, A315.

Connelly, J.B., and Dunne, W.M., 1993, Strain variations and strain factorization within an external crystalline thrust system, Great Smoky Mountains, Tennessee: Geological Society of America Abstracts with Programs, v. 25, n. 6, p. A-231.

Caldanaro, A, J., and Dunne, W.M., 1992, Three-dimensional development of a buckle fold: Geological Society of America Abstracts with Programs, v. 23, n. 5, p. A183.

Couzens, B.A. and Dunne, W.M., 1992, Displacement transfer at thrust terminations: The Saltville thrust - Sinking Creek anticline, Virginia, revisited: Geological Society of America Abstracts with Programs, v. 24, no. 7, p. A362.

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Couzens, B.A., Dunne, W.M., Onasch, C.M., and Glass, R., 1991, Transitions in strain and microstructures from diachronous thrusting: Southern vs. central Appalachian foreland: Geological Society of America Abstracts with Programs, v. 23, n. 5, p. A362.

*Dunne, W.M., 1991, The role of map-scale thrusting in the Alleghanian roof sequence of the central Appalachians: A re-evaluation: Geological Society of America Program and Abstracts, v. 23, no. 1, A25.

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*Dunne, W.M., 1990, Orthogonal fractures and thrust systems: Vanderbilt University, Tennessee.

Dunne, W.M., William, R.T., and Glover, L, III, 1990, Central Appalachian Geoscience Transect: Geological Society of America Abstracts with Programs, v. 22, no. 7, A191.

Evans, M.A., and Dunne, W.M., 1990, Tectonite fronts in ancient thrust systems: Implications for Paleo-taper determination and thrust wedge dynamics: Thrust Tectonics Symposium, London, England, p. 15.

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*Williams, R.T., and Dunne, W.M., and Glover, L., 1989, Central Appalachian Geoscience Transect: Abstracts of 28th International Geological Congress, 3-363.

Billman, D.A., Johnston, M.A., and Dunne, W.M., 1988, Role of strain for cover geometry in Valley and Ridge Province of West Virginia: American Association of Petroleum Geologist Bulletin, v. 72, p. 956.

Dunne, W.M., Billman, D.A., Johnston, M.A., Rohaus, D., and Gerritsen, S., 1988, Cover deformation above foreland thrust systems and strain in sandstones: Geological Society of America Abstracts with Programs, v. 20, A57.

Evans, M.A., and Dunne, W.M., 1989, Geometry of a foreland tectonite front: Geological Society of America Abstracts with Program, v. 21, n. 6, A67.

Dunne, W.M., and Ferrill, D.A., 1988, BCF diagrams for cover responses to blind thrust systems: Geological Society of America Abstracts with Programs, v. 20, p. 299.

Evans, M.A., and Dunne, W.M., 1988, Vertical strain variation in a thrust sheet: An example from the North Mountain thrust sheet, Virginia: Geological Society of America Abstracts with Programs, v. 20, p. 299.

Gerritsen, S., and Dunne, W.M., 1988, Re-examination of the Smoke Holes, WV, and the role of faulting in cover deformation within the central Appalachians: Geological Society of America Abstracts with Programs, v. 20, p. 299.

*Dunne, W.M., 1987a, Variation of joint development in a single locality: Workshop on the development of joints and fractures in the Appalachian fold-thrust belt, Pennsylvania State University.

*Dunne, W.M., 1987b, Cover deformation in the central Appalachians: University of Cardiff, Wales

*Dunne, W.M., 1987c, Problems of cross-section construction in blind duplexes: Examples from West Virginia and Maryland: Geological Society of America Penrose Conference, The construction of geological cross-sections.

North, C.P., and Dunne, W.M., 1987, Orthogonal fracture systems at the limits of thrusting: An example from southwest Wales: British Tectonic Studies Group, Manchester, England, Abstracts with Programs, p. 40.

Ferrill, D., and Dunne, W.M., 1986, Analysis of differential shortening across the Hanging Rock anticline, West Virginia: Southeastern section of the Geological Society of America, Abstracts with Program, v. 18, p. 220.

Meyer, T.J., and Dunne, W.M., 1986, Cleavage development in macrofolds for the Helderberg Group Limestones in the central Appalachians: Southeastern section of the Geological Society of America, Abstracts with Program, v. 18, p. 255.

*Dunne, W.M., Morley, R.A., and Lannan, M.A., 1985, Regional development of Oriskany fracture patterns in the Valley and Ridge of Maryland and the Virginias: in R.P. Nickelsen, and R.T. Faill, conveners, Symposium: Deformation of the Middle Appalachian Foreland: Geometry, Sequence, Environment, and Mechanism, Northeastern section of the Geological Society of America, Abstracts with Program, v. 17, p. 16.

*Meyer, T.J., Dunne, W.M., and Smosna, R.A., 1985, Structural petrology and mesostructures of the Helderberg limestones in the central Appalachians: R.P. Nickelsen, and R.T. Faill, conveners, Symposium: Deformation of the Middle Appalachian Foreland: Geometry, Sequence, Environment, and Mechanisms, Northeastern section of the Geological Society of America, Abstracts with Program, v. 17, p. 16.

Dunne, W.M., 1984, Variscan deformation history in southwest Dyfed, Wales: available geological constraints and remaining problems: British Tectonic Studies Group, Swansea, Wales, Abstracts with Program, p. 26.

Dunne, W.M., and Schultz, D.P., 1984, Intraphase refolding of a ramp: An example from the central Appalachians of West Virginia, U.S.A.: British Tectonic Studies Group, Swansea, Wales, Abstracts with Program, p. 27.

Dunne, W.M., 1983, Surface examples of fracture pattern in the Oriskany Sandstone: 10th Appalachian Petroleum Geology Symposium, Morgantown, West Virginia.

Dunne, W.M., 1981, Fold asymmetry caused by the development of mesostructures: Northeastern section of the Geological Society of America, Abstracts with programs, v. 13, p. 130.

Dunne, W.M., 1979, Control of fold location and style by sedimentary features: British Tectonic Studies Group, Nottingham, England, Abstracts with Programs, p. 15.

*invited papers

Consulting:

Subcontractor to Southwest Research Institute that was contracted to the Nuclear Regulatory Commission for the purpose of investigating the role of rock fractures in the potential performance of the proposed nuclear waste repository at Yucca Mountain, Nevada. 1996-2003

TEACHING

Invited and accepted position as UTK Teaching Mentor for Graduate Teaching Assistants in 1996 – 1997, 1998 – 1999, and 2001 – 2002.
Served on the Advisory Board for the GTA Mentoring Program
Member and Chair of Faculty Senate Teaching Council, Chair of Committee for Chancellor's Excellence in Teaching Awards (1996-1999)
Chaired 5 peer-review teaching assessments in Department of Geological Sciences

Courses from 2000 to 2013:
Geology 101 - Intro Physical Geology (4 cr. hr., enrollment 150) – F01
Geology 370 - Structural Geology (4 cr. hr., enrollment 12) – F00
Geology 380 – Planetary Geology (4 cr. hr., enrollment 10, cotaught) – Sp14, Sp13, Sp12, Sp11, Sp10, Sp09, Sp08, Sp07, Sp06, Sp05
Geology 440 - Field camp (5 cr. hr., enrollment 12, cotaught) – S02, S01, S00
Geology 570 – Advanced Structural Geology (4 cr. hr., enrollment 5, Graduate, cotaught) – F10, F04, F02
Geology 575 - Tectonics (4 cr. hr., Graduate, enrollment 6, cotaught) – F03, F01
Geology 590 – Methods in Structural Geology (3 cr. hr., Graduate, enrollment 3) – Sp 03, Sp 02, Sp 01
Geology 596 – Graduate Student Speaker Training (1 cr. hr., Graduate, enrollment 10) – Sp 03, Sp02, Sp01, Sp00
Geology 670 – Sedimentation and Tectonics Seminar (3 cr. hr., Graduate enrollment 8, cotaught) – F00
FYS 101 – First Year Studies – (1 cr. hr., University undergraduate, enrollment 24) – F06, F05, F04
UHS 127 – Freshman Honors Seminar – Scientific Method (1 cr. hr, enrollment 16) – Sp01, Sp00

Senior Thesis Supervision:
Between 1980 and 1988 at West Virginia University, supervised 4 undergraduate theses.
Doolin, D., 1994, Reproducibility of the Modified-Ring test as a measure of fracture toughness for Berea Sandstone and Indiana Limestone.
Sharp, D. M., 1994, Causes of fold formation in the hangingwall ramp of the Miller Cove thrust sheet, western Blue Ridge foothills.

Graduate Student Supervision:
Between 1980 and 1988 at West Virginia University, supervised 15 M.S. students and 2 M.S. problem theses.
Caldanaro, A.J., 1993, Trading space for time: An example of fold development from the central Appalachians, M.S. (Technician, Geology, Smith College)
Cook, J., 2005, Role of lithology and scale in subgreenschist facies deformation behavior, M.S. (Ph. D. student, University of Wisconsin - Madison, now at BP)

Couzens B. A., 1992, Strain transitions across the junction of the southern and central Appalachians, Virginia and West Virginia, M.S. (Ph.D. at Texas A.M., now at Shell Research)

Heiny, C., 2004, Fracture characterization from cylinder-shaped rock samples. M.S. (environmental geoscientist, Arcadis Corp.)

Hoffman, W., 2001, Rules-based quantitative description of bed-normal joint patterns in sedimentary rocks, M.S. (petroleum geologist, ExxonMobil)

Hogan, J., 2000, Outcrop-scale contribution to deformation, M. S. (environmental geoscientist, Hull Associates)

Rohrbaugh, B., 2000, co-chair with Matthew Mauldon in Civil and Environmental Engineering, Characterization of joints using circular scanlines, M.S. (environmental geologist, Tennessee Dept. Environ. Conservation)

Smart , K, 1997, co-chair with Raymond Krieg in ESM, Kinematic analysis and mechanical modelling of the Appalachian foreland response to emplacement of the Alleghanian blind thrust system, Ph.D, (research structural geologist, Southwest Research Institute).

Spraggins, A., 1999, Strain distribution and timing at the junction of the southern and central Appalachians, M. S. (geologist/remote sensor, Lockheed Martin/NASA)

Thorbjornsen, K., 1995, Three-dimensional development of a natural thrust-related fold, M.S. (Environmental geoscientist, Shaw E. & I. Corp.)

Vandewater, C., 2003, Geological controls on rockfall hazard magnitude, M.S. (petroleum geologist, ExxonMobil)

SERVICE

(Selection of activities from 1995 to present, not including responsibilities as a department head or associate dean)

Professional

External reviewer, DoE BES Geosciences Symposium (2010)
Panelist, Geoscience Panel, Science Foundation Ireland (2007- 2008)
Chair, Structural Geology and Tectonics Division, Geological Society of America (2006 – 2007)
1st Vice chair, Structure and Tectonics Division, Geological Society of America (2005 – 2006)
2nd Vice chair, Structure and Tectonics Division, Geological Society of America (2004-2005)
Division representative on Geological Society of America Joint Technical Program Committee (2004-2006)
Appalachian Tectonic Studies Group Fieldtrip Leader (1996, 2004).
Organizer of special debate session at National Geological Society of America Meeting entitled "Kinematics vs. mechanics: Are only one or both useful rationales for understanding rock deformation" (2000)
Lead Special Editor for Special Issue of Journal of Structural Geology to honor Paul L. Hancock (1999 – 2000)
Chair of Geological Society of America Structure and Tectonics Division Best Paper Committee (1996)
Numerous reviews for NSF, PRF, and journals such as Journal of Structural Geology, Bulletin of Geological Society of America, and Tectonophysics (1995 – present)

University

Member of SACS Accreditation Quality Enhancement Plan (QEP) Team (2013-present)
Member of Laboratory Safety Committee (2013 - present)
Member of Classroom Renovation Subcommittee (2013 – present, 2002 - 2006)
Chair of Search Committee for Director of Faculty Development Team (2013)
Member of Search Committee for Associate Vice Chancellor for Facilities (2011)
Member, Research Task Force for the "Top 25 Initiative" (2010 – present)
Chair of the Search Committee for the Director of the Joint Institute for Computational Sciences (2010 - 2011)
Lead, Initiation of UTK-ORNL Distinguished Graduate Fellowship Program (2009 – 2010)
Co-Chair of the UTK Campus Master Planning Committee (2009 – 2012)
Member of Search Committee for Vice Chancellor, Communications (2009)
Chair of Search Committee for the Director of Office of Research (2008)
Member of Search Committee for Dean, College of Engineering (2008 – 2009)
Chair of Chancellor's Synchronous Learning Taskforce (2007 – 2008)
Member of UTK Strategic Planning Committee (2007 – 2008)
Member of Graduate Council Bylaws Revision Committee (2007 – 2008)
Member of Search Committee for Vice Chancellor for Research (2007)
Chair of Search Committee for Associate Dean, College of Communication and Information (2007)
Chair of Classroom Renovation Subcommittee (2006 – 2013, $0.85 million annual budget)
Member of committee to review Fringe Benefit Rates (2005 – 2006)
Member of committee to implement COEUS client for electronic proposal submission (2004 – 2008)
Member of the UTK Faculty Senate Faculty Affairs Committee (2004 – 2006)
Chair of Search Committee for Associate Vice Chancellor for Research (2004)

Faculty Representative to University of Tennessee Research Corporation (2002–2003)
Faculty Representative to University Athletic Board (2001 – 2004)
Member of the UTK Faculty Senate Taskforce to Revise the Faculty Handbook (2001 – 2005)
Member of the UTK Faculty Senate ad hoc Committee for Developing a Senate Policy Response to proposed Post-Tenure Review Procedures (1998-1999)
Member of the Internal Program Review Team for the University Library (1996, 2000)

College of Arts and Sciences

Member of College Strategic Planning Committee (2007 – 2008)
Coordinator for Science Department Heads Forum (2001 – 2002)
Chair of Search Committee for Head of English Department (2001 – 2002)
Chair of Search Committee for Head of Anthropology Department (1999 – 2000)
Member of the Dean's Advisory Council (1996-1997)
Member of Liberal Arts Curriculum Committee (1995)

College of Engineering

Chair of College Faculty Research Awards Committees (2010 - present)

Departmental

AAPG Student Chapter Advisor (1997 – 2003)
Student Geology Club Advisor (1995 – 2002)
Chairman of Graduate Admissions Committee (1996)
Fieldcamp Director (Summer 1996)
Chairman of GTA Assignment Committee (1995-1997)
Intro Courses Coordinator (1995-1997)
Departmental Seminar Coordinator (1995)
Departmental Webpage Coordinator (1995)
Member of the Graduate Admissions Committee (1995-1997)
Member of Computer Room Adhoc Committee (1995)
Departmental Representative for the 21st Century Campaign (1995)

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Professional Memberships:

American Geophysical Union 1982-Present
Geological Society of America 1986-Present