

Speaker Name & Background
Water Quality Short Course

University of Missouri-Extension
April 10-12, 2007

Greg Anderson, MDNR; Nonpoint Source Management Plan: Issues & Opportunities; 30 min.; .5 CEU (PD); presentation #1

Greg Anderson - Missouri DNR Nonpoint Source Coordinator and 319 Nonpoint Source Grant Administrator

Education: BA Psychology, MS Environmental Science

Work history: Toxicology Lab Technician at Monsanto Environmental Health Labs, working with pesticides.

Microbiology Technician at Heun Norwood Pharmaceutical Labs, working with water, air testing and antibiotic assays

Chemical Lab Technologist for 7 UP - Instrumental analyses and Methods Development.

Land Reclamation Specialist for MDNR, Surface Coal Mine Reclamation enforcement for three years, Bond and Liability Release for three years, and Permitting/Liability Release Supervisor for five years - reclamation and remediation at surface coal mines.

NPS Coordinator and NPS Unit Chief at MDNR, administer the state's 319 Grant; oversee NPS subgrant management for 319, 604b and 104b grants. Contact and partner for state's watershed based planning efforts.

Paul Andre, MDA; Pesticides & Pest Management: Impacting the Environment ; 30 min.; .5 CEU (PM) ; presentation #11

Paul A. Andre - has served as Program Coordinator: Missouri Department of Agriculture, Pesticide Program, since August 1990. He works with federal initiative programs such as Water Quality Protection, Worker Protection Standards, and Endangered Species Protection. Previously, Paul was a Certification Program Manager (1986 to 1990) with the Pesticide Program, Missouri Department of Agriculture.

He was appointed Chair of the State-FIFRA Issues Research and Evaluation Group (SFIREG) Working Committee for Water Quality and Pesticide Disposal for a two-year term (July 1998 - June 2000). He has been a member of the SFIREG Working Committee for Water Quality and Pesticide Disposal since 1994.

Paul holds a M.S. in Horticulture, University of Missouri-Columbia, and a B.S. in Agronomy, University of Missouri-Columbia.

Dr. Claire Baffaut, UMC; Watershed Management Assessment Through Modeling; 30 min.; .5 CEU (SW); presentation # 24

Claire Baffaut - Program Director-Watershed in the Environmental group of FAPRI. She grew up in Paris, France and obtained her B.S. in Hydraulic Engineering at the Polytechnic Institute of Grenoble, France. She then came to West Lafayette, Indiana where she obtained her Ph.D. in hydrology at Purdue University.

Prior to joining FAPRI in August 1999, she worked for 3 years as a consulting engineer in Paris, France where she has worked on river and watershed issues. From 1993 till 1996 she conducted research related to the Water Erosion Prediction Model (WEPP) at the National Soil Erosion Laboratory in West Lafayette, Indiana. She has recently been involved with work that deal with problems at a watershed level and that provide objective information to water resource managers.

Chris Barnett, UMC; Web-Based Tools for Environmental Planning; 30 min.; .5 CEU (PD); presentation # 12

Chris Barnett - Co-Director of the Center for Agricultural, Resource and Environmental Systems (CARES) in the College of Agriculture, Food and Natural Resources at the University of Missouri. Chris has been with CARES since 1992, and oversees and participates in a number of projects utilizing Geographic Information Systems (GIS) technology. His current work deals with Internet applications for GIS information and services. He holds a B.A and an M.A. in Geography at the University of Missouri.

Miya Barr, USGS; Water Quality Monitoring: Data Collection & Analysis; 35 min.; .5 CEU (SW) ; presentation # 23

Miya Barr - Hydrologist with the USGS Missouri Water Science Center. Her career began in February 1996 as a student in the sediment laboratory. Since 2000, Miya has been involved with all surface-water quality programs as the Water Science Center's water quality database administrator. She oversees all database issues, fills water-quality related data requests, reviews and develops data collection protocols within the Water Science Center, and is responsible for the publication of water quality data in the USGS-MWSC's annual data report. Miya works closely with field technicians as well as management for planning

**Speaker Name & Background
Water Quality Short Course**

**University of Missouri-Extension
April 10-12, 2007**

and developing programs for cooperators. She is also the project chief of a study being performed on the East Fork of the Black River and Black River to monitor environmental and water quality changes due to the reservoir failure at the Taum Sauk Hydro Power Plant operated by AmerenUE near Lesterville, MO.

Clif Baumer, NRCS; Water Quality Indicators Guide; 55 min.; 1.0 CEU (SW) ; presentation # 7

Clif Baumer - environmental engineer with the USDA-Natural Resources Conservation Service in Columbia, Missouri. He works statewide with a multi-disciplinary planning and engineering team to develop environmentally sound solutions to natural resources management problems. He has over 20 years of engineering experience in water quality, urban stormwater management, stream restoration, and hazardous waste management. Clif holds a Master of Science degree in agricultural engineering from the University of Missouri-Columbia and is a registered Professional Engineer in Missouri.

Dr. Andy Carson, UMC; Microbial Source Tracking: Emerging Technology for Water Quality; 30 min.; .5 CEU (NM) ; presentation #14

Dr. Andy Carson – doctor of Veterinary Medicine with an MS and PhD in Microbiology. Dr. Carson spent two years in U.S. Army Veterinary Corps. -He has also worked in private veterinary practice (large and small animal) for several years. He has been in university teaching, research and service for a number of years. Has been working in the field of water quality for eight years. -The major focus of Dr. Carson's research is water quality. Emphasis is on advancing technology for identification of human and nonhuman sources of fecal pollution in waterways. His laboratory is also engaged in bacterial source tracking services based on DNA fingerprinting methods.

Ange Corson, MDC; Stream Dynamics II: Morphology; 60 min.; 1.0 CEU (SW) ; presentation # 16

Ange Corson - Streams Biologist for the Missouri Department of Conservation in Sedalia. She has a B.S. and M.S. in Biology from Central Missouri State University specializing in fisheries and habitat associations. She has been with MDC full time since June 2000. Ange's responsibilities with the stream unit include developing and presenting stream workshops and assisting field staff with stream technical advice. Previously, she was the Natural Resource Manager for Whiteman Air Force Base, and taught Biology through State Fair Community College on base.

Dan Downing, UM-Ext; Watershed Management Planning; 30 min.; .5 CEU (SW) ; presentation # 25

Dan Downing - Education: M.S. Education - University of Missouri 1991, B.S. Agriculture – University of Missouri 1983, Kettering Foundation – Conflict resolution certification, Community Development Academy – Participant and Instructor
Work History: 1985 – Present – University of Missouri Extension
Positions include: 1996–Present – Water Quality Associate, 1991-96 4-H Youth Program Coordinator, 1985–91 4-H Youth Education Assistant
Primary Responsibilities: Travel throughout the state of Missouri and assist in the organization, coordination, and efficacy of watershed management groups. In the late 90's main focus was on assisting small communities in the establishment of watershed groups to help maintain compliance with drinking water standards, especially relating to agricultural pesticides. Today the main focus is on water bodies listed as impaired (on the Missouri 303d list). These are primarily rural Ozark streams in areas with intensive livestock production with the most common impairments being elevated nutrient and bacterial levels.

Charlie Fulhage, UM-Ext; Latest on CAFO Regulations and Livestock Manure; 30 min.; .5 CEU (NM) ; presentation # 18

Charlie Fulhage - Professor, Extension Agricultural Engineer
Education - B.S. Grain Science, 1968, Kansas State University; M.S. Agricultural Engineering, 1970, University of Missouri; Ph.D. Agricultural Engineering, 1972, University of Missouri
Specialization - Primary: Manure/Nutrient Management; Secondary: Residential Sewage, Composting, Energy
Research Program: NIR Sensing of Manure Nutrients (Six-state Consortium), Design and Economic Analysis of Swine Waste Management Systems (Six-state Consortium), Ammonia Volatilization in Swine Lagoons (Extension, Experiment Station)
Extension Programs: 1) Conduct state-wide Livestock Manure Management Program. 2) National curriculum for regulatory compliance (EPA funded). 3) On-

Speaker Name & Background
Water Quality Short Course

University of Missouri-Extension
April 10-12, 2007

farm environmental assessment (cooperation with NPPC). 4) Environmental Assurance for Swine Producers. 5) Nutrient Management (train-the-trainer, NRCS, UOE)

Jim Gaughan, DOHSS; 35 min.; .On-Site Sewage Disposal: Rules & Regulations; 5 CEU (NM) ; presentation # 13

Jim Gaughan - Onsite Sewage Program manager for the Missouri Department of Health and Senior Services. As an environmental engineer with the department for seven years, he provides design review and technical assistance for department and local onsite agency staff. He is also responsible for the Onsite Sewage Program training and registration activities for onsite wastewater professionals. Jim holds a BS in Agricultural Engineering from the University of Missouri, Columbia and is a professional engineer in the State of Missouri. Prior to joining the department, he worked for a consulting engineering firm designing wastewater treatment facilities, including onsite systems.

Dr. Michael Gold, UMC & Ranjith Udawatta, UMC; Conservation Buffers & Pollution Reduction; 105 min.; 1.5 CEU (SW) ; presentation # 17

Dr. Michael Gold - came to the University of Missouri in 1998. He is Associate Director at the University of Missouri's Center for Agroforestry and an Associate Professor in the Department of Forestry at MU. His responsibilities include directing the Center's agroforestry research program that contains over 60 different projects involving over 30 scientists. Water quality / riparian buffer research is a major dimension of the Center for Agroforestry research portfolio. For a quick overview of Center for Agroforestry activities, we produce an annual Research Highlights: <http://www.centerforagroforestry.org/pubs/annual05.pdf>.

Mike also leads a super team of colleagues who are responsible for the Center for Agroforestry Technology Transfer program. The Center recently produced an updated "Training Manual for Applied Agroforestry Practices" which is available on the University of Missouri Center for Agroforestry website: <http://www.centerforagroforestry.org/pubs/training/index.asp>

He is directly involved in marketing research on nontraditional products to enhance agroforestry land use practices and is also involved in research to develop Chinese chestnut as a new horticultural orchard crop for Missouri producers. He currently serves as the Editor of the Chestnut Growers of America Newsletter. His annual teaching responsibilities focus on a senior/graduate level course on agroforestry.

Mike is a Michigan native and received his B.S. and Ph.D. in Forestry at Michigan State University. He worked in the faculty at Michigan State University as director of international forestry programs for 14 years before coming to MU.

Ranjith P. Udawatta - received his M.S. in Soil Science at University of Florida and Ph.D. in Forestry at University of Missouri. Ranjith is a MU graduate and has been working at the Center for Agroforestry since 1999.

The primary objective of Ranjith's research is to quantify environmental benefits of agroforestry practices and prairie restoration. He conducts water and soil quality research at both the Greenley Research Center and at Horticulture and Agroforestry Research Center. His primary research objective is to understand how agroforestry can be used to improve soil and water quality.

In addressing these issues he examines how trees and grass buffers change surface and subsurface water quality by reducing nutrient and sediment losses in runoff when intercropped in row crop agriculture. Changes in soil physical properties, X-ray computed tomography measured pore characteristics, competition among vegetation types, root density, and soil water dynamics, microbial diversity are also being evaluated in an agroforestry cropping practice. Soil carbon sequestration and microclimatic differences as influenced by permanent vegetation are other areas in which he conducts research.

Liz Grove, CCWWC; What's Coming Downstream; 35 min.; .5 CEU (CM) ; presentation # 20

**Speaker Name & Background
Water Quality Short Course**

**University of Missouri-Extension
April 10-12, 2007**

Liz Grove - Bachelor of Arts degree from Truman State University, Kirksville, MO – 1980 MBA from Quincy University, Quincy, IL. – 1993
1980 –1983: Staff planner and grant administrator for the Mark Twain Regional Council of Governments. Duties included developing plans for local area communities and counties in northeast Missouri. Also worked securing funding through grants and loans for local communities, rural water districts and counties in the service area of the planning commission.
1983 – 1990: Private consultant: Worked with local communities, rural water and sewer districts and counties to secure funding for public works projects which included water systems, wastewater systems, roads, bridges, etc.
1990 - present: General Manager, Clarence Cannon Wholesale Water Commission. Responsible for the daily operations and the overall planning and development of a regional water supply cooperative that supplies drinking water to twenty rural communities and public water supply districts in northeast Missouri.

Clayton Lee, NRCS; Cropland Erosion, Sediment Delivery, & Deposition; 30 min.; .5 CEU (SW) ; presentation # 3

Clayton Lee -
Education
-Associate of Science Agribusiness –1975 at Missouri Western State College.
-Bachelor of Science Agronomy – 1977 at Missouri Western State College.
-Graduate Studies in Soils and Geology at Northwest Missouri State University, University of Nebraska-Lincoln, and the University of Missouri-Columbia.
Work Experience
-Grain Inspector with USDA, Federal Grain Inspection Service in Galveston, Texas and Kansas City, Missouri for 16 months.
-Soil Scientist with the Missouri Department of Natural Resources in Northwest Missouri (Nodaway, Andrew, and Atchison Counties) for six years (1978-1984).
-Joined the USDA-Natural Resources Conservation Service in 1984 as a soil scientist and worked in Putnam, Grundy and Mercer Counties, Missouri.
-Soil Scientist/Project Leader in Adair County, Missouri (1987-89).
-Area Soil Scientist in Lincoln, Nebraska (1989-91).
-Soil Scientist Specialist in the Nebraska State Office (1991-94).
-Soil Scientist in the Missouri State Office since July 1994. Current responsibilities include coordination of update soil surveys, technical soil services, wetland determinations, and appeals coordination.

Dr. John Lory, UMC; Phosphorus in the Environment; 40 min.; .5 CEU (NM) ; presentation # 4

John A. Lory - Associate Professor of Extension with the Commercial Agriculture Program and the Division of Plant Sciences at the University of Missouri. B.S. in Agronomy from Cornell University and my M.S. and Ph.D. in Soil Science from University of Minnesota. He has been a faculty member at University of Missouri since 1995. His extension and applied research program focuses on nutrient management planning, decision support tools for nutrient management, phosphorus loss from agricultural fields and the impact of proposed regulations on concentrated animal feeding operations. Key products include the Spatial Nutrient Management Planner (SNMP), the Missouri Phosphorus Index and the Animal Feeding Operation Site Evaluation Tool. For access to many Missouri nutrient management tools visit the web site <http://nmplanner.missouri.edu/>.

Dr. Doug Novinger; 45 min.; Stream Dynamics I: (Ecology) Biological Significance of Degraded Water Quality;.5 CEU (SW) ; presentation # 15

Douglas Novinger - Resource Scientist specializing in Aquatic Systems with the Missouri Department of Conservation. He conducts research and monitoring for endangered stream fishes including Niangua darter, Topeka shiner, Ozark cavefish, and Neosho madtom. Doug investigates how environmental conditions such as water quality, physical habitat, and community composition interact with species' ecologies to aid in recovery efforts.

Dan Obrecht, UMC; Lake and Reservoir Dynamics; 40 min; .5 CEU (NM) ; presentation # 9

**Speaker Name & Background
Water Quality Short Course**

**University of Missouri-Extension
April 10-12, 2007**

Dan Obrecht - received his Bachelor's degree in Fisheries and Wildlife from UMC in 1993 and is currently a Senior Research Specialist at the University. He has worked in the Limnology laboratory at the University for over a dozen years and has been involved in all aspects of research on Missouri's lakes. Current projects include co-coordinating the Lakes of Missouri Volunteer Program, a long-term monitoring of Table Rock Lake, and an ongoing statewide lake assessment.

Tim Rielly, MDC; Macroinvertebrate Sampling & ID; 45 min.; .5 CEU (SW) ; presentation # 6

Tim Rielly - employed with the Missouri Department of Conservation as the Volunteer Water Quality Monitoring Coordinator with the Stream Team Program. He coordinates training for volunteers, volunteer monitoring and development of new educational materials regarding water quality. Prior to working with MDC, Tim was with DNR eight years, one year as a Water Pollution Control Program inspector and over seven years with the Water Quality Monitoring Unit. His primary responsibility was Quality Assurance/Quality Control for the Volunteer Water Quality Monitoring Program. In addition he also worked on special water quality projects such as biological criteria, bacterial monitoring and complaint sampling. He has B.S. in Biology with an emphasis in Ecology, Environment and Evolution from Southern Illinois University at Edwardsville.

Tim Rielly, MDC & Priscilla Stotts, MDNR; Field Trip to Grindstone Creek; 110 min.; 2.0 CEU (SW) ; presentation # 8

Tim Rielly – see above
Mary Clark – Mary has worked for DNR for 20 years. She spent 17 years working with communities needing drinking water and waste water infrastructure improvements. She also worked with TMDL (Total Maximum Daily Loads) at DNR. Mary became a DNR Stream Team coordinator two years ago and has been teaching workshops with other coordinators. Her educational background is that she has a bachelor's in Biology Education, a master's in Science Education, and a masters in Geology from the University of MO, Columbia. She is also a member of the Geology Development Board for MU.

Dr. John Sadler, USDA-ARS; Conservation Effects Assessment Program; 40 min.; .5 CEU (CM) ; presentation # 10

John Sadler - Research Leader of the USDA-ARS Cropping Systems & Water Quality Research Unit in Columbia. John was raised in St Clair County, MO, on a farm with where they raised wheat, soybeans, sorghum, and hay for a cow/calf operation. His BS from UMC in 1976 and his MS and PhD from Texas A&M University are all in Agronomy. Between his PhD and return to Columbia in 2003, he was a Soil Scientist at the Coastal Plains Soil, Water & Plant Research Center in Florence, SC, where he worked on water quality, crop water use and stress, irrigation equipment and management, and several aspects of precision farming. Current research includes watershed scale measurement and modeling of water quality in addition to his sustained interest in irrigation and precision agriculture.

Dr. Peter Scharf, UMC; Nitrogen in the Environment; 50 min.; 1.0 CEU (NM) ; presentation # 5

Peter Clifton Scharf - Nutrient Management Specialist and Associate Professor
 Department of Agronomy, 210 Waters Hall University of Missouri Columbia, MO 65211

Education

<u>Degree</u>	<u>Date</u>	<u>Institution</u>	<u>Major field(s)</u>
Ph.D.	May 1993	Virginia Polytechnic Inst. and State University	Crop & Soil Environmental Sciences
M.S.	July 1988	Virginia Polytechnic Inst. and State University	Agronomy
B.S.	August 1982	University of Wisconsin	Biochemistry, Genetics

Professional Experience

2002 to present - *Associate Professor* in the Agronomy Department of the University of Missouri. Responsible for applied research and adult education in the area of nutrient management for crop production.

Speaker Name & Background
Water Quality Short Course

University of Missouri-Extension
April 10-12, 2007

1995 to 2002 - *Assistant Professor* in the Agronomy Department of the University of Missouri.

Areas of Expertise

- Crop response to fertilizers
 - *Prediction of crop yield response to fertilizers based on:
 - ~soil analysis
 - ~crop color measurements
 - ~plant tissue analysis
 - *Field-specific, soil-specific, and variable-rate fertilizer recommendations
- Minimizing environmental impacts of fertilization and other nutrient applications

Phil Schroeder, MDNR; Water Quality Standards, The 303(d) List, and TMDLs; 40 min.; .5 CEU (PD) ; presentation # 2

Phil Schroeder – Phil has been employed with the Missouri Department of Natural Resources for 27 years and is currently the Chief of the Water Quality Monitoring and Assessment Section for the Water Protection Program. He graduated from Central Missouri State University in Warrensburg in 1979 with B.S. Degree in Wildlife Biology. Mr. Schroeder began his career with the department in 1980 as a Reclamation Specialist in the Land Reclamation Program where he assisted with the review of applications for surface mining permits and in assessing the quality of reclamation work. When joining the Water Protection Program in 1998, he was initially assigned to the Permits Section to oversee the drafting of the NPDES and stormwater discharge permits in Missouri. He transferred to the Water Quality Monitoring and Assessment Section in January 2004 and is currently managing efforts to monitor the state's water quality and establish appropriate standards for water quality protection.

Dr. Allen Thompson, UMC; Urban Erosion & Sediment Pollution; 40 min.; .5 CEU (SW) ; presentation # 19

Dr. Allen Thompson - Associate Professor Biological Engineering Department, University of Missouri-Columbia has a B.S. and M.S. from Washington State University and a PhD from the University of Nebraska. He has been a faculty member in the Biological & Agricultural Engineering Department at UMC since 1986. He teaches classes in Surface Water Management, Watershed Modeling, Soil & Water Conservation Engineering, and Irrigation & Drainage Engineering.

Dr. Thompson's research focuses on bioenvironmental topics including: runoff, erosion, use of polyacrylamides, and water quality in agriculture and urban settings; rainfall simulator designs for research and demonstration; flow hydraulics and treatment efficiency of constructed wetlands for wastewater treatment, and the management and modeling of sprinkler irrigation systems. He is a team member of MU faculty working with Campus Landscape Services on BMPs for stormwater runoff control.

Jim Vandike, MDNR; Missouri Groundwater Assessments; 45 min.; .5 CEU (SW) ; presentation # 22

James E. Vandike - hydrogeologist with the Missouri Department of Natural Resources. He is currently the chief of the Groundwater Geology Section at the department's Water Resources Center in Rolla. For the past nine years he has also served as an adjunct professor and lecturer at University of Missouri-Rolla in the Department of Geological Sciences and Engineering, teaching classes in hydrogeology and karst hydrogeology. He received a Bachelor of Science degree in Earth Science Education from Northeast Missouri State University in 1975 and a Master of Science degree in Geology from South Dakota School of Mines and Technology in 1979. In his 28 years with the Department he has authored or co-authored more than 35 technical papers, reports, and guidebooks on various aspects of groundwater hydrology, many dealing with groundwater investigations in karst areas of the Ozarks.

Abby Welschmeyer, Betty Wyse, & Candy Schillig; WRASP, SIP, and Water Quality Standard; 40 min.; .5 CEU (SW) ; presentation # 21

Speaker Name & Background
Water Quality Short Course

University of Missouri-Extension
April 10-12, 2007

Abby Welschmeyer - I grew up on a farm in central Missouri and graduated from the University of Missouri with a Bachelor of Science degree in Agribusiness Management in 2003. During my college career I held two internships with agriculture chemical companies. My employment with the Environmental Resources Coalition started in April of 2003 doing part-time field work. As a field manager, after going full-time, I assisted with the Watershed Research Assessment and Stewardship Project (WRASP) and the Stewardship Implementation Project (SIP). I primarily scouted, helped with field duties, field events, and prepared documents regarding the project. After two years my job title was changed to Project Coordinator. During that time my focus area was planning educational field events, brochures, displays, and other project promotions. Currently I work on the SIP and Ecological and Water Resources Assessment Project (EWRAP). I have prepared various Use Attainability Analysis (UAAs) on streams in Missouri for the EWRAP project along with doing the field work to gather information regarding UAAs. Other work has involved field testing in reference streams of Missouri for dissolved oxygen levels during the summer of 2006 and projected for 2007. My time is also spent writing milestone reports, researching projects, giving presentations regarding company projects, and filling in wherever I am needed on a season to season basis.
To learn more about ERC please visit our website – www.erc-env.org.

Betty Wyse - Betty is a former high school biology and business teacher, microbiological quality control technician with Banquet foods, and worked for ten years with the Department of health in microbiology, mycology, parasitology, and field work. In her nineteen years with DNR she developed Missouri's NPS program and served as manager for ten years. She spent seven years with DNR's Hazardous Waste Program, serving as Budget and Planning Section Chief and acting program director. She also served two years as director of DNR's Financial Assistance Center before retiring from DNR. Betty is currently Program Director with the Environmental Resources Coalition, and project manager for water quality projects in southwest Missouri.

Candy Schilling – No biographical data included. Candy Schilling produced the DVD that the group will be showing; she is accompanying Abby Welschmeyer & Betty Wyse who will actually make the presentation & field any questions.

Frank Wideman, UM-Ext; Locating Assistance to Improve Water Quality; 40 min.; .5 CEU (SW) ; presentation # 26

Frank Wideman - Received Bachelor of Science and Masters of Science in Agricultural Engineering from the University of Missouri - Columbia in 1974 and 1975.
Has worked for the MU Extension service for 31 years. A significant part of the work time was spent developing and delivering environmental education programming. Currently serves an 8-county area in southeast Missouri. Some of the programming included animal waste management, including seminars and personal consultations, throughout his career. From 1985 to 1995, he developed several working animal waste management plans. He also developed the MU Extension Missouri Manure Management Action Group web site.
Serves as a member of the Water Quality Focus Team. This team plans the future direction of educational programming for MU Extension in areas of watershed management, drinking water quality, non-point pollution prevention, ground water quality, on-site septic system planning and design, and other issues that affect the water resources of the State of Missouri. Maintains the Water Quality Focus Team web site.
Serves as the regional contact for the Missouri Household Hazardous Waste Telephone Advice program, the Home*A*Syst/Farm*A*Syst program, The Well Closure Demonstration team, Secondary Containment of Pesticides team, Environmental Assessment for Real Estate Professionals teaching team, and the Management Intensive Grazing teaching team. Is also on the board of the Perry Soil & Water Conservation District.
Member of the Missouri and National 4-H technology teams primarily working with GPS/GIS geospatial projects planning and training. Frank is a professional engineer in the State of Missouri, and has worked extensively developing plans for animal waste management and on-site domestic sewage to meet Missouri Department of Health and Missouri Department of Natural Resources permitting requirements.