



VCU Engineering

2006 3-DAY SCIENCE TEACHER WORKSHOP

"SCIENCE OF NUCLEAR ENERGY & RADIATION"

took place

FROM 4:00 PM WEDNESDAY JULY 19, 2006

TO 6:00 PM SATURDAY JULY 22, 2006

AT VIRGINIA COMMONWEALTH UNIVERSITY IN RICHMOND

STAFF



Dr. Ross Anderson

Instructor

Dr. Ross Anderson (Ph.D. and M.E., UVa, Nuclear Engineering; B.S., Applied Mathematics/Physics, Western Michigan University) has more than 24 years experience in Nuclear Risk Analysis, Safety Analysis and Operations. He is a Licensed Professional Engineer, has held a Shift Technical Advisor certificate and is a recent Top Industry Practice (TIP) award winner. He is currently working in Dominion's Probabilistic Risk Analysis group.



Mrs. Donna Armani

Instructor

Mrs. Donna Armani teaches Chemistry, Independent Science Research, and Advanced Placement Chemistry at Briar Woods High School, located in Loudoun County, Ashburn, Virginia. Mrs. Armani has a Bachelor of Science in Applied Mathematics with a minor in Chemistry and a Master of Education in Curriculum and Instruction from George Mason University. For the past six years of teaching, Mrs. Armani has served as an integral member of the Science Teacher Workshop (STW) team promoting nuclear science education. She and the other members of the STW team received a "Top Industry Practice" Award from the Nuclear Energy Institute in 2005. Last year the Health Physics Society named Mrs. Armani their Outstanding Science Teacher for 2005.



Dr. Sama Bilbao y León

3-Day STW Registration Lead - Assistant Program Lead - Instructor

Sama is a nuclear engineer also working for Dominion in the Nuclear Analysis and Fuel Department. Sama received a bachelor's degree in Mechanical Engineering and a master's degree in Energy Technologies from the Polytechnic University of Madrid. She continued her studies at the University of Wisconsin - Madison, where she completed another master's degree in 1995 and a Ph.D. in 1999, both in the fields of Nuclear Engineering and Engineering Physics. She completed an MBA at Averett University in 2004. Sama is one of the founders of the North American Young Generation in Nuclear (NA-YGN), and has served as Public Information Chair since its creation until May 2005. In addition, she designed and maintained the NA-YGN website until January 2006. Sama is also an active member of the American Nuclear Society (ANS) since 1995, both nationally and locally. Her dedication to spreading the good news about nuclear earned her the ANS 2002 Public Communications Award.



Dr. Andy Cook

Guest Speaker

Dr. Andrew G. Cook is the Senior Vice President of Sales and Marketing for the AREVA North American Nuclear Power group. Their scope of supply includes new nuclear steam supply systems, BWR and PWR nuclear fuel, PWR and BWR nuclear services including steam generator support, refueling services, ISI, NDE, nuclear and plant engineering, plant life extension, BWR and PWR plant upratings, I&C, replacement components (steam generators, reactor vessel heads etc), and primary and secondary system piping and pressure vessel repairs.

Dr. Cook has a breadth of experience in the nuclear field. He has a Ph.D. from MIT in nuclear transient analysis. He served as the advanced nuclear fuel and methods development manager for Westinghouse. He was the total quality manager for the Westinghouse Nuclear fuel division leading to the winning of Malcolm Baldrige national quality award. He was the southeast regional nuclear fuel sales manager for Westinghouse. Dr. Cook also served as the Westinghouse nuclear services project manager for the western half of the US and also was the Westinghouse Nuclear Service Division Total quality manager. At ABB Dr. Cook served as the VP of Fossil sales in the northeast. He also served as Director of ABB nuclear fuel projects and marketing, Director of nuclear service sales to competitor plants, and Director of the ABB nuclear engineering and transient analysis department.

Dr. Cook has an MBA from the University of Pittsburgh, an MS and Nuclear engineer's degree from MIT and a BS from Cornell. He has twice been a finalist for the Whitehouse fellowship.

The Cook's and their three children are active outdoors people with numerous successful assaults on major peaks, rock climbing expeditions, sustained canoe trips and extensive international travel. Dr Cook, a native of Canada, is an immigrant to the US and proud to be an American citizen! He, his father, mother and two sisters are probably Canada's first nuclear refugees - ask why!



Dr. Mark Crosthwaite

Instructor

Dr. Mark Crosthwaite is the Program Director of the Nuclear Medicine Technology Program at the Department of Radiation Sciences of the Virginia Commonwealth University. He has a Master's in Education with an emphasis in Occupational Administration (May 1989, University of Louisville). Completed graduate work in school of business administration at Wheeling College. Certificate in Nuclear Medicine Technology, St. Joseph's School of Nuclear Medicine, Paterson, NJ with the clinical rotation based at The Albert Einstein College Hospital, Bronx, New York. Bachelor of Arts in biological sciences at Drake University, Des Moines, Iowa. Scuba Diving Instructor Certification through Scuba Schools International.



Mr. Mike Duffey

Instructor

Mike Duffey began his professional career with the United States Army in 1978. He filled postings, both foreign and domestic, as a member of the Army's Military Police Corps. Upon completion of his military service, he joined the Security Department at Newport News Shipbuilding and Drydock Company.

In 1986, Mike began his career with Dominion. He was a member of the Security Department at Dominion's Surry Power Station until 1990 when he transferred to the Nuclear Public Affairs Department. In August of 2000, he accepted the position of Coordinator - Nuclear Information Center at North Anna Power Station. Since joining the Nuclear Public Affairs Team, he has presented information on energy related topics to various organizations including the United States Department of Energy, the United States Army Prime Power School, the Royal Naval Academy, Congressional Student Leadership conferences, civic organizations, educators and school groups.

In 2005, Mike was a recipient of the Nuclear Energy Institute's "Top Industry Practice" Award. Dominion's Nuclear Public Affairs team earned this award in recognition of their "Leadership and Vision" in promoting energy education.

Today, Mike divides his professional time between preparing new programs, coordinating public outreach activities and designing exhibits for the North Anna Nuclear Information Center. In addition, he continues to conduct energy presentations for groups of all ages.

A native Virginian, Mike currently resides in a rural home near the town of Montpelier in Hanover County. He is a member of the Virginia Section - American Nuclear Society, the North American Young Generation in Nuclear, the National Rifle Association, the Company of Military Historians and the Patrick Henry Society. Mike's hobbies include studying military history and reenacting events from the American Civil War.



Mr. Todd Flowers
Instructor

Todd Flowers is originally from Hampton, Virginia. Upon graduating from Longwood College in 1997 with a Bachelor's degree in Physics, Todd enrolled in the Nuclear Engineering Department at the University of Virginia where he earned a Master's degree in 1998. Following graduation, Todd joined Dominion's Nuclear Analysis and Fuel (NAF) organization as a Nuclear Safety Analysis Engineer. He recently joined the Nuclear Fuel Project Engineering Group. This past May, Todd earned an MBA from Virginia Commonwealth University.



Ms. Sophie Gutner
3-Day STW Staff Lead

Sophie is a nuclear engineer, working for Dominion in the Nuclear Analysis and Fuel Department. She has a Bachelor's Degree in Power Engineering from France, a Master's Degree in Nuclear Engineering from Texas A&M University in 1996, and an MBA in Global Management from the University of Phoenix in 2004. She has 9 years of experience working for electric utility companies, in Texas and Virginia, with 8 years at a nuclear power station. In 2006, she will become a Six Sigma Black Belt for Dominion. She is a member of ANS (since 1996) and NA-YGN (since 1999).



Ms. Beth Hilt
Instructor

Beth graduated from Virginia Tech in 1984 with a B.S. in Biology and has been employed by Dominion Generation ever since. At Dominion's Surry Power Station, Beth has worked in and/or supervised a variety of radiological protection duty areas, including training, radiological analysis, effluent monitoring, environmental monitoring, exposure control, bioassay, radiological protection instrumentation, radiological respiratory protection, radioactive material control, and radwaste disposal. Beth's current position is Supervisor Radioactive Material Control where she is involved in the storage, control and shipment of radioactive materials and radioactive waste.

Beth is certified as a Health Physicist by the American Board of Health Physics (ABHP) and maintains active registration with the National Registry of Radiation Protection Technologists (NRRPT). Since 2000, Beth has been a member of the ABHP Part 1 Panel of Examiners. She is also active in several professional radiological protection organizations, including the Health Physics Society (National and Virginia Chapter) and the American Nuclear Society (Virginia Section).



Dr. Reed Johnson
3-Day STW Program Lead - Instructor

Reed Johnson graduated from the Virginia Military Institute with a B.S. in Physics in 1953, completed a year-long course in nuclear engineering at the Oak Ridge School of Reactor Technology, and in 1962 was awarded the Doctor of Science degree in Engineering Physics from the University of Virginia. From 1954 until 1957 Reed worked in the nuclear submarine program, and on the design and operation of the Army Package Power Reactor. He was Project Engineer for the UVA Research Reactor and from 1962 until 1964 he served in Manila as director of an US AID-sponsored program of support for the Philippine Research Reactor. Reed was associated with the UVA Nuclear Engineering Program from its beginning in 1957 until the program was ended in 1998. He developed and taught graduate offerings in radiation shielding, nuclear power plant safety and non-destructive testing. From 1974 until 1991, Reed was a member of the Atomic Safety and Licensing Appeal Panel. In this capacity he participated in the resolution of technical and legal issues, which arose in the licensing of many of the nations nuclear power plants. Reed is a member of the ANS and in 1980 was elected a Fellow of the Society.



Ms. Rebecca Kepler

3-Day STW Logistics Lead

Rebecca Kepler graduated from Longwood University with a BS in Physics in 1997. She went on to attend the University of Virginia School of Engineering where she received her ME in Nuclear Engineering in 1999. That same year she began working for Dominion Resources where she presently works as a Nuclear Core Design Methods Developer. Rebecca has been active in ANS since she was at UVA, holding a position in the student section, and has continued to participate, attending local and national ANS meetings. She has also been an active member of her local NA-YGN chapter since its inception.



Dr. Kathryn McCarthy

Guest Speaker

Dr. Kathryn McCarthy came to the Idaho National Laboratory in 1991 with a doctorate in nuclear engineering from the University of California, Los Angeles. She has worked in the INL Fusion Safety Program focusing on examining the behavior of materials in the plasma-facing components of proposed fusion reactors. She also led a number of important experimental projects that have contributed to an understanding of the consequences of fusion reactor accidents. In 1994, she received the Fusion Power Associates Board of Directors' Excellence in Fusion Engineering Award for her 'very important contributions to fusion safety engineering and in recognition of impressive leadership qualities.' In 1996, she received the International Thermonuclear Experimental Reactor Program Certificate of Merit for outstanding technical excellence and leadership in ITER Safety Research and Development. Dr. McCarthy also holds the position of National Technical Director for Generation IV Systems Integration. She is on the Board of Directors for the American Nuclear Society.

**Dr. Kevin McCoy**

Instructor

Dr. Kevin McCoy is an advisory engineer with AREVA in Lynchburg, VA. His areas of specialization are nuclear fuel materials and radioactive waste management. Kevin's recent work has focused on the behavior of used fuel from nuclear reactors during storage in dry casks, licensing of a fuel assembly design that can be used to destroy surplus plutonium from nuclear weapons, and improving the thermal conductivity of nuclear fuel pellets. He is also active in waste management issues related to operation of a next-generation reactor. From 1993 to 2001, Kevin worked full time on the Yucca Mountain Project in Las Vegas, NV. His areas of work there included selection of materials for waste containers, performance of container materials, and behavior of radioactive waste in the event of a container breach. From 1981 to 1992, Kevin was with Battelle Memorial Institute in Columbus, OH, where he worked on a variety of government and industrial research projects. These included radioactive waste disposal, atomistic simulation of hydrogen embrittlement, fusion welding of polyethylene pipe for natural gas distribution, heat transfer during casting, ceramic processing, and application of nonlinear dynamics to models of corrosion and cracking. Kevin has graduate and undergraduate degrees in materials engineering from Purdue University. He is a member of the American Nuclear Society, ASTM (American Society for Testing and Materials) International, and the American Society of Mechanical Engineers. He is author or co-author of 40 technical articles and papers.



Mr. Joe Montague

Instructor

Joe Montague holds a Bachelor's degree in Nuclear Engineering and a Master's degree in Resource Economics from the University of Florida. Currently a project engineer on Dominion's Nuclear Analysis and Fuel staff, for the past 24 years he has been involved in the planning and purchase of Dominion's nuclear fuel requirements Mr. Montague is directly responsible for administration and vendor liaison for the fabrication of the nuclear fuel components and related services used in all seven of Dominion's nuclear reactors.



Mr. Paul Riley

Instructor

1995 BS grad of MCV/VCU's nuclear medicine technology program. Certified nuclear medicine technologist with a specialty certification in nuclear cardiology. Member of the Society of Nuclear Medicine and American Society of Nuclear Cardiology. Ten years clinical experience. Joined the faculty at VCU Radiation Sciences last March as Clinical Coordinator for Nuclear Medicine Technology Program.



Mr. Marvin Smith

Instructor

Marvin L. Smith is the Director for Dominion's COL project to obtain a combined construction and operating license for a General Electric designed ESBWR at North Anna. Mr. Smith has lead

Dominion's new nuclear plant activities since 2001 - including nuclear plant site selection studies, evaluation of new reactor designs and the Early Site permit project for possible new reactors at North Anna.

Mr. Smith's staff is responsible for administration of a Cooperative Agreement with the DOE that is providing funding for 50% of the COL project cost. This COL project includes design certification of the ESBWR by GE, obtaining the COL license for the ESBWR at North Anna, developing the ESBWR generic and site specific design to the detail required to support plant construction, evaluating the economics of the ESBWR and plant deployment planning.

Mr. Smith is a Virginia native and received a BS degree in Physics in 1972 and an MS in Nuclear Engineering in 1973 from Virginia Tech. In 1999, he completed the requirements to practice as a Professional Engineer in the Commonwealth of Virginia.

His over 33-year career with Dominion has included a wide variety of leadership positions in Dominion's engineering and project organizations - including development of reactor core, thermal hydraulic and safety analysis methods, licensing the first US dry spent fuel storage facility at Surry Power Station and consulting with the DOE on the Yucca Mountain spent fuel repository.

Mr. Smith, and his wife, Linda live in Mechanicsville, VA.



Mr. Keith Welch
Instructor

Keith Welch is a Radiological Engineer at Thomas Jefferson National Accelerator Facility in Newport News, Virginia. Keith has been involved in radiation protection work for nearly 25 years, working in the Naval nuclear program, the commercial nuclear power industry, and currently in the Department of Energy's nuclear physics research program. Keith's duties have included working as a technologist, a training instructor, supervisor, and engineer. Keith is registered by the National Registry of Radiation Protection Technologists, and is a member of the Health Physics Society. He received a bachelor's degree in Technical Management with a physics concentration from Athens State University in Athens, Alabama.

For information

Contact [Sophie Gutner](#)
(804) 273 2467

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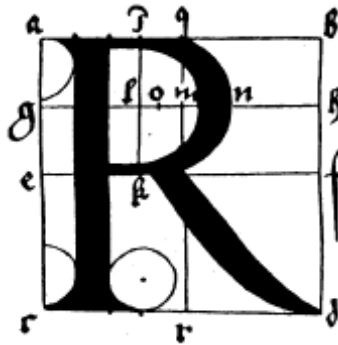


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