

**Dr. Steven Robert Biegalski, P.E.**

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**Education:** Ph.D., Nuclear Engineering, University of Illinois at Urbana-Champaign, 1996.  
M.E., Nuclear Engineering, University of Florida, 1992.  
B.S., Nuclear Engineering, University of Maryland, 1991

**Professional Certification:** Licensed as a Professional Engineer in the State of Virginia  
Licensed as a Professional Engineer in the State of Texas

**Professional Experience:**

**Senior Engineer** **May 2006 - Present**

K&S Nuclear

Austin, TX 78759

- Nuclear explosion monitoring research.
- Software algorithms for gamma-ray spectra analysis.

**Assistant Professor** **Sept. 2002 - Present**

The University of Texas at Austin

Austin, TX 78712

- Develop  $\beta\text{-}\gamma$  coincidence spectrum analysis algorithms
- Develop aerosol sampling system that optimizes detection limits for atmospheric radionuclides.
- Conduct nuclear forensic studies for nuclear non-proliferation.
- Develop and utilize neutron radiography and tomography
- Manage, develop, and utilize prompt gamma-activation analysis (PGAA), neutron depth profiling (NDP), and neutron radiography (NR) facilities.

**Senior Nuclear Scientist** **June 1997 – Aug. 2002**

Veridian (formerly Pacific Sierra Research)

Arlington, VA 22209

- Director of Radionuclide Operations at the Center for Monitoring Research (CMR) and prototype International Data Center (pIDC) [June 1997 – December 2000].
- Supervise the manufacturing, testing, and installation of Radionuclide Sampler/Analyzer (RSA) units at locations around the world.
- Develop and execute Independent Operations, Test and Evaluation (IOT&E) of Atmospheric Radioxenon Sampler/Analyzer (ARSA).
- Guide the development of radionuclide technologies to monitor the world for nuclear weapons tests in support of the Comprehensive Nuclear Test Ban Treaty.

**Postdoctoral Research Associate** **September 1996 – June 1997**

National Institute of Standards and Technology

Gaithersburg, Maryland

- Determine carbon particle concentrations in aerosol, snow, and ice core samples collected in Greenland.

### Select Publication (5 out of more than 75)

1. S. R. Biegalski, E. Alvarez, T. Green, "Confirmation of Germanium Interference with Hydrogen for Prompt Gamma-ray Activation Analysis," *Nuclear Instruments and Methods: B*, Vol 243(1), 253-255, 2006.
2. K.R. Jackman and S.R. Biegalski, "Monte Carlo Generated Spectra for QA/QC of Automated NAA Routine," *Journal of Radioanalytical and Nuclear Chemistry*, 271(2), 2007.
3. S. R. Biegalski, T. C. Green, G. A. Sayre, W. C. Charlton, D. J. Dorsey, S. Landsberger, "Flux Weighted Efficiency Calibration of The University of Texas at Austin PGAA Facility," *Journal of Radioanalytical and Nuclear Chemistry*, 265(2), pp. 303-308, 2005.
4. K. M. F. Biegalski, S. Biegalski, "Deconvolution of three-dimensional beta-gamma coincidence spectra from xenon sampling and measurement units," *Journal of Radioanalytical and Nuclear Chemistry*, 263(1), 259-265, 2005.
5. S. R. Biegalski, L. R. Mason, G. Shipman, M. Pickering, S. Altman, "Caribbean Radiation Early Warning System (CREWS)", *Journal of Radioanalytical and Nuclear Chemistry*, Vol. 248 (3), pp. 637-642, 2001.

### Current/Pending Support

- Los Alamos National Laboratory, "Numerical Simulation of Indoor Aerosol Transport for Emergency-Response Applications," \$63,500 (pending).
- DoE "Innovations in Nuclear Infrastructure and Education," with S. O'Kelly, \$483,000, (10/1/2006 – 8/31/2007)
- DoE, "Matching Grant," with S. Landsberger, \$19,000 (10/1/2006 – 9/30/2007)
- DoD Army, "Design of Aerosol Sampler to Remove Radon and Thoron Progeny Interference from Aerosol Samples for Nuclear Explosion Monitoring", with D.K. Ezekoye, \$452,784, (6/1/2005-5/30/2008)
- Dod Army, "Development of the Spectral Deconvolution Analysis Tool (SDAT) to Improve Counting Statistics and Detection Limits for Nuclear Explosion Radionuclide Measurements", with K. Biegalski, \$383,494, (6/1/2005-5/31/2008)
- Sandia National Laboratory, "Computational Support for Safe Operations of SNL'S Nuclear Reactors", \$190,070, (05/16/2003-6/31/2007)
- Brookhaven Natl Laboratory, "Simulation of Elemental Analysis In Soil Using 14 MeV Neutrons", \$105,269 (12/15/2004-5/30/2007)