

PROFILES IN RADIATION PROTECTION: **Dade Moeller**



Photo courtesy of Casper Sun

Dade W. Moeller received a BS in civil engineering and MS in environmental engineering from the Georgia Institute of Technology. He later received a Ph.D. in nuclear engineering from North Carolina State University. He retired in June, 1993, as Professor Emeritus of Environmental Health at the Harvard School of Public Health, after serving 15 years as chair of the Department of Environmental Health

Sciences, followed by 12 years as Associate Dean for Continuing Education. Prior to that, he served for 18 years as a commissioned officer in the U.S. Public Health Service. His duty stations included the Oak Ridge and Los Alamos National Laboratories; the headquarters offices of the Public Health Service in Washington, DC; the Robert A. Taft Sanitary Engineering Center in Cincinnati, OH, where he served as Director of

Radiological Health Training; and the Northeastern Radiological Health Laboratory in Winchester, MA, where he served as Officer in Charge.

From 1973 to 1988, Dr. Moeller was a member of the Advisory Committee on Reactor Safeguards, and from 1988 through 1993, he chaired the Advisory Committee on Nuclear Waste. Both of these committees reported to the Commissioners of the U.S. Nuclear Regulatory Commission. Dr. Moeller was a member of the Subcommittee on Environmental Effects, Committee on the Biological Effects of Ionizing Radiation (the BEIR-I Committee) of the National Academy of Sciences/National Research Council (NAS/NRC). He also served as a member of the BEIR-III Committee. From 2002 to 2005, he chaired the Science & Technology Review Panel, Office of Civilian Radioactive Waste Management, U.S. Department of Energy.

For eight years Dr. Moeller represented the U.S. on Committee 4 of the International Commission on Radiological Protection. He has also served as a consultant to the World Health Organization. In 1997, he was elected an honorary member of the National Council on Radiation Protection and Measurements. He is past President of the National Health Physics Society, and a fellow in the American Nuclear Society, the American Public Health Association, and the Health Physics Society. He is a registered professional engineer, is certified by the American Board of Health Physics, and is a Diplomate in the American Academy of Environmental Engineers. In recognition of his accomplishments, he has been received the Distinguished Achievement Award from the Health Physics Society, and the Meritorious Achievement Award by the U.S. Nuclear Regulatory Commission. He was elected to the National Academy of Engineering in 1978; and the Georgia Tech Engineering Hall of Fame in 1999. He received the Distinguished Engineering Alumnus Award from N.C. State University in 2001; the Robley D. Evans Commemorative Medal from the Health Physics Society in 2003, and the William McAdams Outstanding Service Award from the American Academy of Health Physics in 2005

How did you get started? What got you interested in the field?

As many other people have experienced, I had a professor in college who took me under his wing and treated me like a son. When he brought to my attention that “this new field – radiation,” looked extremely promising, I jumped at the opportunity. Through his help, and that of others, I was able to make my interests known, and one thing led to another.

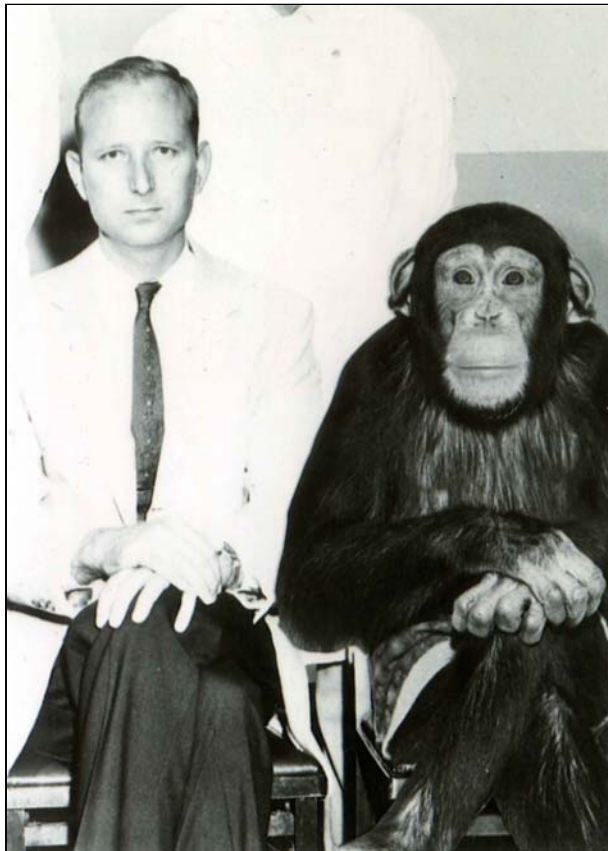
Tell us about your career.

I was born and reared on a farm on the east coast of Florida, near Cape Canaveral. I rode a bus (~ 8 miles) to school and graduated in 1944. With World II underway, I enlisted in the Navy, took the examinations for officer candidate school, and was sent to college. Although I had heard about college, I had given little thought to it because my family could never have been able to have paid my tuition. The Navy, however, gave me the start I needed. I was discharged in 1946, after the War ended, and was able to continue in college under the GI Bill – which covered college tuition plus provided a monthly stipend of \$50.

After completing a B.S. in Civil Engineering in 1947, I was given an opportunity to earn an M.S. in Sanitary Engineering (now called Environmental Engineering) and completed that program in 1948. Looking back, I now realize that I went to college continuously (summer and winter) from July, 1944, through June, 1948. As I neared graduation, the college professor – who treated like a son – encouraged me to continue my military career by accepting a commission in the U.S. Public Health Service. This led to assignments with the Centers for Disease Control and Prevention in Atlanta and Columbus, GA. This was followed by a transfer to Johns Hopkins University (where I participated in a research program on the biological uptake of radionuclides in aquatic environments), and later to the Los Alamos and Oak Ridge National Laboratories. During my assignment in Los Alamos, I participated in the atmospheric weapons tests at the Nevada Test Site.

We have heard that you have attended a multitude of universities. Tell us about that.

Initially, the Navy sent me to the University of South Carolina. After completing one semester, I was transferred to Howard College in Birmingham, AL, and then to Georgia Tech, where ultimately I completed the B.S. and M.S. degrees. Early in my career with the USPHS, I was transferred, as noted above, to Johns Hopkins University, later to Washington, DC, where I attended night school at George Washington University, and finally to N.C. State University, where I obtained a Ph.D. in nuclear engineering. I include Harvard University in the list since that is where I completed my second career as a member of the faculty at Harvard University.



*Our cover photo:
Dr. Moeller with his radiobiologist in 1958.*

You say that you were a commissioned officer in the U.S. Public Health Service. Was that similar to military service

Yes. In fact, at the time the USPHS was a branch of the armed forces. My first assignment, as noted above, was in Atlanta, GA. I was then transferred to work with the Muscogee County Health Department in Columbus, GA; then to the assignment at Johns Hopkins in Baltimore, MD; then to work in the Robert A. Taft Sanitary Engineering Center in Cincinnati, OH; then to Los Alamos; then to Washington, DC (where I served in the Radiological Health Branch of the USPHS), then to Raleigh, NC, to attend N.C. State University; then to Oak Ridge; then to Cincinnati, OH (where I directed the USPHS continuing education program in Radiological Health); and finally to Winchester, MA (where I served as Officer in Charge of the Northeastern Radiological Health Laboratory (which was responsible for the federal program of monitoring atmospheric weapons testing fallout in 14 of the northeastern states).

What did you do after leaving the USPHS?

Having completed 18 years of service with the USPHS in 1966 (which, combined with my 2 years in the Navy, represented 20 years of military service), I retired and was appointed to the faculty of the School of Public Health, Harvard University, where I remained until 1993. During the first 12 years I chaired the Department of Environmental Health Sciences, where I assisted Dr. Jacob Shapiro in directing the graduate radiological health program. During the following 15 years, I served as Associate Dean for continuing education. Concurrent with my academic duties, I served as 15 years as a member of the Advisory Committee on Reactor Safeguards, followed by 5 years as chair of the Advisory Committee on Nuclear Waste, U.S. Nuclear Regulatory Commission. During this time, I also had assignments with the radiological health program of the World Health Organization in Geneva.

What are you doing now?

Upon retiring from Harvard, my wife and I moved to New Bern, NC, where our two oldest sons practice – one a rheumatologist; the second a specialist in internal medicine. Shortly thereafter, our fourth son, Matthew, established Dade Moeller & Associates, a consulting organization. Matt serves as President and CEO, and I serve as Chairman of the Board. The success of the company has exceeded my wildest expectations – now with over 125 employees, and offices in 7 different cities.

What about your family?

I have always enjoyed a close family life, with worship and church activities playing a major role in our lives. Today, for example, I serve as an elder in the First Presbyterian Church in New Bern, NC. I was extremely fortunate to have a wife who supported me in my professional work, including grading the term papers and examinations of my students at Harvard, maintaining all the reference documents for my multitude of consulting activities, and being an outstanding mother to our 5 children.

Our children reflect her in every respect. They also reflect the active nature of our lives. Our four boys were born in Los Alamos (we named him “Rad”); Washington, DC; Raleigh, NC; and Cincinnati, OH. Our 5th child, a daughter, was scheduled to be born in Massachusetts but our transfer was delayed, and she ended up being born in Cincinnati. Today, we are the proud grandparents of 16 grandchildren – 8 boys and 8 girls.

Honors/distinctions to mention:

I have received far more than I deserve. I was elected to the National Academy of Engineering in 1978; received the Distinguished Achievement Award from the Health Physics Society in 1982, and the Meritorious Achievement Award by the U.S. Nuclear Regulatory Commission in 1988, appointed an honorary member of the NCRP in 1997; elected to the Georgia Tech Engineering Hall of Fame in 1999, and received the

Distinguished Engineering Alumnus Award from N.C. State University in 2001; the Robley D. Evans Commemorative Medal from the HPS in 2003, and the William McAdams Outstanding Service Award from the American Academy of Health Physics in 2005.

What is your particular area of expertise/interest?

My primary area of interest is in “environmental health physics.” This includes environmental monitoring, and assessments of the associated impacts of the disposal of high-level radioactive wastes. In the latter regard, in addition to my work with the Advisory Committee on Nuclear Waste, USNRC, I recently served as Chair of the Science & Technology Review Panel for the DOE Office of Civilian Radioactive Waste Management.

Do you have any recommendations for RSOs(Radiation Safety Officers) today?

Yes, I have four recommendations. The first is to join the Health Physics Society (if you are not already a member), be active in the activities of your local chapter, and take advantage of the wealth of information in the Health Physics Journal and, most importantly, the quarterly issues of Operational Radiation Safety. One of the best ways to keep up-to-date is through interacting with other health physicists in your local area. The second is to seize every opportunity to attend continuing education courses that will help you become more knowledgeable in the practice of health physics, and particularly the duties, responsibilities, and activities of an RSO. The third is to become certified through the program of the American Board of Health Physics. ABHP certification is becoming increasingly recognized by federal, state, and local agencies as the best method for documenting that you are not only a specialist in your field but that you have “passed the test” after undergoing a thorough evaluation of your competencies by your peers. The fourth is to review what you have been doing and to share what you have learned through writing and publishing papers in, for example, Operational

Radiation Safety. Far too many of us solve a long-standing problem and stop there. Take that extra step and share with others what you have learned.

What is the most important skill that an RSO can have?

The ability to communicate. This means responding to requests for information, presenting yourself as a “partner” with the people whom you serve, and working with them in a manner such that they immediately think of , and call upon, you for help when they need it. Rather than telling them they cannot do something, work with them to find a way to solve the problem.

Any Personal Tidbits you care to share?

Never neglect an opportunity to broaden your horizons and skills. Activities that stand out for me include taking part in the atmospheric nuclear weapons tests; inspecting and evaluating the performance of commercial nuclear power plants as a member of the ACRS and, more recently, serving as a member of the Advisory Council, Institute of Nuclear Power Operations. In a similar manner, seek to attend a wide range of technical sessions at the annual meetings of the Health Physics Society – ones that will, once again, broaden your skills and thinking. Multiple times I have been impressed by the fact that radiation protection is radiation protection, regardless of the area in which it is being practiced. You can improve your RSO skills by learning from the experiences of others – including those working in fields entirely different than yours. In this same regard, don’t turn down an opportunity to move to a new job – even if it means relocating your family. This can prove to be rewarding not only for you but also for your spouse and children. In addition, it provides you a stimulus to purchase or rent a home more suitable to the needs of your family. Lastly – enjoy your work! If your career becomes your “hobby,” you will find it a joy to go to work each morning!