



Washington Academy of Sciences

Awards Banquet

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Award for Distinguished Career in Science

Dr. Ronald Collé



Citation by Dr. Terrell A. Erickson, President of the Academy

The Washington Academy of Sciences on the Fourteen day of May in the Year 2015 presents its Award for Distinguished Career in Science to Dr. Ronald Collé in recognition of his lifetime work and major contributions in radionuclide metrology. Within the world of radioactivity measurements, it is almost impossible to hear the words “radon”, “uncertainty” or metrologist” without thinking of the name Dr. Collé.

Introduction by Dr. Lisa R. Karam, Director of the Radiation Physics Division of NIST

Ron was born in Milwaukee and received his bachelors in chemistry from Georgia Tech. He got his Ph.D. in physical, nuclear and radiochemistry in 1972 from Rensselaer Polytechnic Institute in New York, and set a record (still held) for completing it in thirty-three months. Following his post doc at Brookhaven, doing studies of nuclear reactions far from stability, he was in the DC area by 1974, first at the University of Maryland, where he continued doing basic research in nuclear physics, and then as a research associate at the National Bureau of Standards (to become NIST), where he set up a radiopharmaceutical standards program, that is still ongoing, and

which served as a model for many other proficiency testing and quality assurance programs worldwide. He became an employee in the Radioactivity Section of NBS/NIST in 1976.

From then until 2003, getting a Master of Science degree in the Administration of Science and Technology along the way from George Washington University, Ron has applied his extensive expertise and meticulous attention to detail to research in radiochemistry, nuclear chemistry and radionuclide metrology, developing measurement standards from applications in health care to environmental monitoring and nuclear power. In particular, his work in establishing the measurements and standards for radon, of significant interest to EPA and homeowners everywhere, established NIST as the premier radium and radon measurements laboratory in the world. He is credited with “knowing more about radium measurements than any living scientist”, and will probably be the last person to have maintained direct links to the 1913 Curie and 1934 Hönigschmid international radium standards. In addition, one should note that Ron is probably the world’s leading expert on polonium chemistry, a rare specialty, with extensive publications on the decay and standardization of polonium-209, conducted over a period of more than 25 years.

Early in his career, Ron was selected by the NBS Director to serve as the US Delegate to the first international commission on measurement uncertainties, and he served as the first chairman of the working group that led to our present international guidance. Throughout his scientific career, Ron has always reminded his colleagues of the fact that science is rarely as exact as some might think and that no measurement result is worth the ink (or electrons) it’s written with unless accompanied by a thorough assessment of associated uncertainties.

It is difficult to compile all of Ron’s “first in the world” achievements, but his seminal work on developing digestive assay procedures to standardize brachytherapy sources, pellets of radioactive material designed to be implanted in the body at site requiring direct radiation exposure, represents radionuclide metrology at its highest level.

In fact, in the world of radioactivity measurements it is impossible to hear the words “radon”, “uncertainty”, or “metrologist” without thinking of Ron Collé.

He took a too-early retirement in 2003 to help out the French (and some displaced Americans) as an adjunct professor in applied mathematics at the American University of Paris and the international Victor Hugo School, and as a tutor for math and English to the lucky students who had a chance to work with him.

He was able to return to us at NIST in 2006 to resume his crucial radionuclide measurements for standards in a variety of applications. We’re fortunate to have him working with us still, bringing up the next generation of metrologist in this challenging field.

Ron is still committed to educating our youth. He has an adjunct professorship at Montgomery College, and since 2007 he has privately tutored over 40 students in math and science, ranging from students in elementary school, specializing in diagnosing and remediating their academic deficiencies, to post-calculus level collegiates.

With over a hundred refereed articles (unfortunately, I would say, none with me) and the world-wide respect he has garnered for his work, Ron has been recognized through many awards, including from the American Chemical Society, the Sigma Xi scientific research society, the New York and Pennsylvania Academies of

Science, Phi Lambda Upsilon honor society, and the Department of Commerce. In 2011, Elsevier and the journal Applied Radiation and Isotopes awarded him the highly prestigious JARI Medal, only the 10th time in 31 years, for his outstanding contributions in the field of radiation physics. Of course, with such a significant and distinguished career, there's no time to properly mention all of his many achievements, influences, and impacts. Suffice it to say that those far-reaching accomplishments, his ability and drive, and his infectious enthusiasm for metrology make Ron exceptionally well-deserving of the 2015 Washington Academy of Sciences Award for Distinguished Career in Science in recognition of his lifetime work and major contributions in radionuclide metrology.

Congratulations, Ron!

Awardee's Acknowledgement by Dr. Ronald Collé

Thank you Lisa for that kind introduction, and for your support over the years. I am honored to accept this award from the Academy.

First, and foremost, I must thank NBS and NIST where I have worked for 38 years in one capacity or another. I have done a lot of experiments on many projects, but my proudest accomplishment at the lab was my role in helping to shape the many young, bright scientists that I have mentored and trained, and hopefully inspired.

I've been doing science for 50 years. I mark the start from receiving a medal for physics in my senior year in high school. I have worked in labs -- about nine of them in all -- ever since then, meaning that I haven't had honest, hard-laboring employment for most of my life. And believe it or not, I have loved going to work almost every day over these past 50 years. It was never a job that I felt I had to go to, but rather what I wanted to do in life. Thinking, designing, dreaming, living in the clouds, and tinkering in a lab cannot be considered labor, other than a labor of love.

Science is always a cooperative enterprise and I have had many collaborators and supporters who I must now silently thank, for the sake of time! Over these years, I've published about 120 papers, and though about a third are sole authored, I've had 71 co-authors having affiliations with 31 labs and institutions, throughout the world. Some may note that I'm also first author on half of those co-authored papers, perhaps indicating that I'm really not a very good follower, as might be attested to by many of my bosses. I hope I have adequately rewarded their support over the years.

Lastly, I must acknowledge the help and intellectual sustenance provided by my beloved wife, Dr. Kaltoum Maroufi-Collé, who is a classical artist and dedicated teacher; and my accomplished children, Arthur and Sophie, who are both likely to achieve more than I ever will. In our family we have always tried to meld the two cultures of C.P. Snow, for science and art are both creative enterprises that mark man's highest genius and they walk hand and hand.

Thank you.