

Life in Science

Hans-W. Ackermann

Email: ackermann@ulaval.ca



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I was born in 1936 in Berlin, Germany. I attended the Collège Français Berlin, a historical school where all the classes are taught in French. Although living in East Berlin, I studied medicine at the Free University of Berlin, located in West Berlin, from which I graduated in 1961. In 1959, I started working on my doctoral thesis, which I defended in 1962, at the Institute of Hygiene of the University of Berlin. Two days after the Berlin Wall was built, in August 1961, I crossed to West Berlin using a borrowed passport. I completed my internship at the Rudolf Virchow Hospital in Berlin and spent a year at the Pasteur Institute in Paris. I then returned to the Institute of Hygiene and left again to the Pasteur Institute, where I attended the Grand Course of Microbiology. To pursue better career opportunities, I emigrated to Canada in 1967 and joined the Department of Microbiology

at the Laval University Medical School in Quebec. Most of my teaching was on medical virology and mycology. I also taught medical virology in Haiti. I have been very happy working at the Laval University as it has an excellent work environment and many facilities. I officially retired in 2001, and was made Professor Emeritus. I am still actively working at Laval University, where I maintain my electron microscope and photolab. I have published approximately 230 articles (numbers are still growing) and five books. The first one (CRC Press, 1987) is on bacteriophages and their classification, while three others (CRC Press), mostly aimed at teachers, are atlases of virus diagrams with descriptions of virus morphology, physiology and pathogenicity. My last book, definitely not about virology, is entitled "The Spirits of Haitian Vodou" (EducaVision, 2010).

Most of my publications are on the morphology and classification of bacteriophages and on electron microscopy. They include numerous review articles on the taxonomy of bacteriophages, but also a review on Haitian zombies. Since 1971, I have been a member of the International Committee on Virus Taxonomy (ICTV). I was the ICTV vice-president for 4 years and the chairman of the ICTV Bacterial Virus Subcommittee for over 15 years. I am now an ICTV life member. I have assembled the largest bacteriophage collection in existence (now available through The Félix d'Hérelle Reference Center for Bacterial Viruses at Laval University) and I recently published, on the Internet, a phage bibliography of 31,000 references (www.phage.ulaval.ca). For about 10 years, I have been providing electron microscopical expertise to other laboratories and institutions to help fund my laboratory. I am also on the editorial board of two journals.

Research

My doctoral thesis was on Vi phages of *Salmonella typhi* (1962). Subsequently, I worked on enterobacteria and airborne microscopical fungi. My work on bacteriophage morphology, which initially alternated with studies of hepatitis B virus,

baculoviruses of insects and serum lipids, started in 1967. Over the years, I have examined bacteriophages of over 50 bacterial genera and have described, among others, numerous phages of enterobacteria, *Acinetobacter*, *Aeromonas*, *Bacillus*, *Bruceella*, *Clostridium*, *Listeria*, *Pseudomonas*, *Rhizobium*, *Staphylococcus* and *Vibrio*. Overall, I have examined more than 1,700–1,800 bacteriophages and intend to be the individual who has seen the most bacteriophages in an electron microscope.

I am still deeply interested in virus taxonomy and I remain passionate about virology. I created the order *Caudovirales*, one of the six orders in virology, and either created or redefined nine bacteriophage families. This taxonomic activity continues in collaboration with specialists in genomics and bioinformatics. Together, we have defined approximately 30 subfamilies or genera in the *Myoviridae* and *Podoviridae* families of tailed bacteriophages, and intend to revise the classification of the *Siphoviridae* family. Since my retirement 11 years ago, I have published approximately 80 articles and became increasingly interested in genomics and the fundamentals and history of electron microscopy.

Personal life

I have always enjoyed traveling and have visited about 30 countries. My trips included over 30 visits to Paris, 20 to Haiti, and many others to Mexico and Cuba. I like to collect stamps, phages and airport stops. I speak German, French, English and Spanish, but also dabbled in Japanese. I have always been a good swimmer and a long-distance runner, having crossed Lake Balaton in Hungary and run 17 marathons. I believe that physical fitness is conditional to an active research life after retirement. I am also much interested in history and archeology, especially that of Creta and Mesoamerica. Being a liberal, agnostic and perfectionist, I am not fond of fundamentalism and poor electron microscopy. I love ethnic cuisine and a good laugh. At the ripe age of 70, I married a lady from Haiti and I am happy this way.