# Dr James S Porterfield, a virologist remembered

James is fondly remembered by his colleagues in science as a quintessential virologist, who made absolutely critical contributions to the methods for isolating and characterizing the viruses, particularly tropical viruses that are transmitted by insects. These landmark contributions not only made him the acknowledged world authority in this field, but laid the foundations for the current global organization through which we are protected from the ever-present threat of new pandemic infections. Recent history gives many examples, such as West Nile virus, SARS and avian influenza, in which this network of scientists, many trained or inspired by James himself, has been vital in the early detection and isolation of the outbreak.

Soon after completing his medical training, James was recruited by Sir Christopher Andrewes to the National Institute of Medical Research at Mill Hill, near London, where he remained a member of the scientific staff for almost 30 years. During this period, he was seconded to many research institutes around the world including the Common Cold unit in Salisbury, the West African Council for Medical Research in Lagos, Nigeria, and the Rockefeller Institute in New York. His goal was to advance the understanding of viruses, and particularly their “family relationships”, so that by tracing their evolution and their response to human immune systems, we would be in a better position to monitor their outbreaks and contain them.

Among his earliest contributions were his studies on Yellow Fever, a major scourge in the Tropics. He developed new and effective methods for identifying, cultivating and differentiating Yellow Fever virus, Tick-borne Encephalitis virus and their myriad relatives, which are still in use today. These methods provide the basis for the diagnosis of infection, and the development of new vaccines and antiviral therapies. The bewildering zoo of exotic viruses isolated by James in the late 1950s and 60s answer to a colourful roll-call of names, from Ukawa, Tahyna, Dugbe and O’nyong-nyong. In hunting down these viruses, James developed techniques that have proved useful to a much wider range of scientists than just virologists. The method he described in 1962 for the successful cryopreservation of tissue culture cells in DMSO, for example, is still standard today throughout the world.

Through the 1970s and 80s, James was the acknowledged world expert on the classification of the insect-transmitted viruses, and his name on the author list was the sign of an authoritative work on the subject. His contribution to virology was more than purely scientific, however, he was a universally liked colleague and a mentor to many. His concern for others’ wellbeing and the total absence of personal calculation on his part, meant that he was loved and trusted in equal measure. I shall always value the time and care he put in to the task of converting me from a simple bacteriologist to a virologist under his supervision at the Sir William Dunn School of Pathology. Many others will have anecdotes to tell, but I’d like to share one from Jane Cardosa, a Malaysian virologist who studied for her PhD under James and went on to be a very senior figure in the field, and a second from Charlie Calisher, an eminent US virologist, with whom James had many dealings.

Jane writes, “*When I first arrived at the Dunn School in 1980, James Porterfield sent me to spend time in the "kitchen” where he said I was to learn "prep work" - sterilizing bottles and pipettes, preparing media, etc. I was a bit surprised as this did not seem to be what other graduate students were learning. James told me "Trust me, when you go home, you'll appreciate it". I did. I still do. James made sure that I would be able to return to a place where there would be nowhere to turn for help, no one to ask "how do I do this", no ready media to reach for in the fridge... And I have been always grateful. Because by this simple insight into the kind of environment I would be going home to, he gave me the means to survive as a scientist returning to a developing country nearly 3 decades ago when many just opted to stay in the west*.”

Charlie writes , “*I had known James for many years because I was Director of the W.H.O.*

*Reference Centre for Arbovirus Reference and Research and he had attended many meetings of the American Society for Tropical Medicine and Hygiene, visited at Yale University when I was there, we had both attended meetings here and there, etc. When I visited Oxford he took me on a marvelous tour of the campus and hosted an unforgettable dinner for me in one of those glorious medieval halls. James visited me at when I was still at the Centers for Disease Control on the Colorado State University campus in Fort Collins and wanted to see a couple of hours' worth of this area, so I took him up the canyon of the Poudre River for a picnic. We sat by the river, ate, talked viruses, told stories, laughed and threw stones in the water for a while and then returned to town. For me, being on that river is always a delight but I have never enjoyed myself so much as during those few hours. That was decades ago but it seems like yesterday, probably because it was with James*.”

To commemorate James’ outstanding contribution as a virologist and as a mentor to other virologists, his colleagues are setting up a Fund to provide travel grants and prizes in his name, to inspire a new generation of young virologists.