

## In memory of James Lepock, PhD

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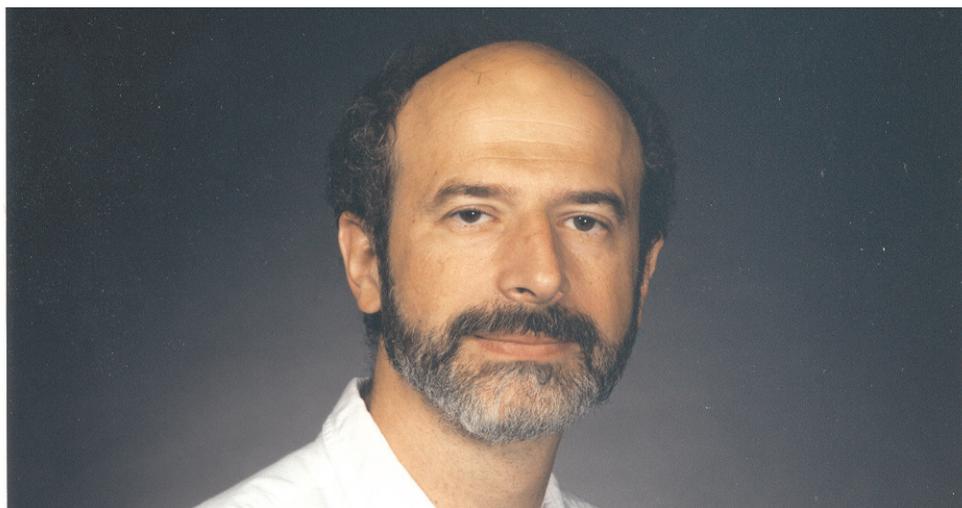


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## OBITUARY

### In memory of James Lepock, PhD

MICHAEL BORRELLI & MICHAEL FREEMAN



Jim Lepock, PhD, passed away suddenly on 23 August 2005 due to complications of a cerebral haemorrhage. Unknown to most of his friends and family, Jim had a congenital Arteriovenous Malformation (AVM) in his cerebrum that finally gave way after he completed a brisk run through the picturesque Toronto cemetery where he is now buried. Despite the risks posed by the AVM, Jim lived his life at a very vigorous pace throughout his 56 years, which benefited his family, friends, professional colleagues and the fields of hyperthermic biology and physics.

Jim was a pioneer in applying quantitative physics approaches to understanding how hyperthermia affected biological systems. He is arguably best known for utilizing differential scanning calorimetry to measure the transitions that proteins, nucleic acids and other cellular macro-molecules undergo during exposure to hyperthermic temperatures. It was Jim's desire to have this information utilized to plan clinical hyperthermia treatments and to better understand how hyperthermia facilitated radiotherapy, chemotherapy and other

cancer treatments. Jim also utilized many other techniques to quantify hyperthermia-induced transitions in lipids, lipid rafts and other membrane structures and functions. In the last few years, he was pioneering the use of confocal microscopy, fluorescence recovery after photobleaching (FRAP), fluorescence resonance energy transfer (FRET) and other sophisticated microscopy techniques to study how heat shock proteins responded to hyperthermia and how they interacted with each other and with denatured and aggregated proteins. This latter work led Jim to collaborative work with his colleagues at Princess Margaret Hospital that allowed them to obtain a very large, inter-disciplinary grant for biological, biomedical and clinical imaging.

At the time of his death, Jim was Chairman of Biomedical Physics at the University of Toronto and, prior to that, served many years as Chairman of the Physics Department at the University of Waterloo. He also served for many years as an Associate Editor of the *International Journal of Hyperthermia*. Besides being a productive and influential scientist and an effective administrator, Jim was also a wonderful and influential teacher. He enjoyed teaching students of all levels, but had a particular fondness for teaching graduate students, especially in small groups of five-to-ten students. Jim really excelled in one-to-one relationships with his students, which allowed him to produce a large number of successful masters and PhD candidates, many of whom came to his funeral.

The death of Jim Lepock will be felt very strongly by the Society for Thermal Medicine and by all of the colleagues and students who worked with him during his career. However, the greatest loss will be felt by those who knew him more intimately; his wife Natasha, his ex-wife BJ, his children and his many friends. Jim's successes as a scientist were only surpassed by those of his humanity, which cannot be measured by the number of papers published or grants won, but by the smiles and heartfelt warmth that the memory of him evokes.