

## Zinc Concentration in Fingernail Clippings - A Potential Biomarker of Zinc Status.

**Leonard Giblin, Anushil Balaji\*, Nancy Arellano, Brittany Escobar, Randal Ferguson, Cathleen M Frederickson, Christopher J Frederickson**  
Univ. Houston Clear Lake, NeuroBioTex, inc.

### Abstract:

Moderate zinc deficiency is prevalent in children around the world and can permanently stunt the growth of brain and body. To investigate this problem, zinc levels in fingernail clippings from elementary school students in a small suburban area in Texas were measured. Considerable evidence suggests that zinc levels in fingernail clippings are accurate (albeit time-lagged) indicators of zinc nutritional status. This method is fast, non-invasive, inexpensive, and could be extended to other nutrient elements as well.

### Biography

Christopher J Frederickson, received his a.b. degree from Harvard College in 1968 and his Ph.D. in [Behavioral Neuroscience](#) from the [University of Chicago](#) in 1972. As a professor at Carnegie Mellon University (1972-1975) he helped launch the Neuro-Engineering program before transferring to the University of Texas at Dallas in 1975, where he helped launch the Neuroscience program. Frederickson has over 150 publications and book chapters on the roles of the zinc ion in neurotransmission, memory and learning and on zinc in growth and immunity (~16,000 citations, 3 citation classics). The Chris Frederickson Prize for best research on zinc is also awarded by the ISZB at their bi-annual meetings. Christopher and his wife, Cathleen have operated NeuroBioTex, Inc., a brain research company specializing.