

OBITUARY OF PHILIP RANDAL TROSKO'S UNIVERSITY OF WISCONSIN

JOURNEY OF LIFE

1966-2018



1994

Philip Randal Trosko, having spent one year in Madison as a 6 year old boy, while his father was a Visiting Scholar with the late Dr. Van R. Potter (McArdle Laboratory of Cancer) was imprinted with this Madison area. That led him to apply to the University of Wisconsin where he eventually received his Bachelor of Science in computer science (1988). During that period of time, he spent one year at Argonne National Laboratory (ANL- Mathematics and Computer Science Division) doing parallel database projects, designed by Dr. Ric L. Stevens and Mr. Gene Rachow, and two summers at Los Alamos National Laboratory in New Mexico working on the Human Genome Project, where he worked with Dr. Christian Burks and the T-10 Scientists on the BIOSCIENCE Project. It was there he co-authored research papers [P.R. Trosko & Christian Burks, Manipulation and local evaluation of multiple sequence alignments. L.A. -UR- 1991; M.J. Cinkosky, P.R. Trosko & C. Burks, Bioserve: A multiple file electronic mail server. L.A. -UR- 1991; P.R. Trosko, R. K. Moyzis & C. Burks, Thing 1 and Thing 2: Tools for manipulation and local evaluation of multiple sequence alignment outputs. Internal document]. Under the supervision of Dr. Debbie Joseph, he worked on the investigation of string algorithms and the start up positioning of the Human Genome project. He also worked with Dr. Chuck Dyer on a survey paper in Artificial Intelligence.

String Searches on DNA Sequences

Philip R. Trosko

University of Wisconsin-Madison

August 30, 1988

Professor Deborah Joseph

Computer Science 699

Abstract

This paper addresses issues concerning string matches on DNA that will be produced by the *Human Genome Project*. First a brief review of the current state of sequencing, along with political, technological and ethical problems of the Human Genome Project are reviewed. An explanation of tests and some string definitions for DNA are given next. The Brute Force, Knuth-Morris-Pratt, and Boyer-Moore exact string matching algorithms are compared on DNA. Regular expressions are demonstrated to be useful and flexible with queries against DNA. The Lipman-Pearson and the Landau-Vishkin similarity searching algorithms then are analyzed, and parallel implementations are demonstrated as an effective way of reducing the run time taken for these algorithms. A different kind of problem, the location of inverted and complemented repeats, is explained along with an algorithm that locates these structures. Many of these methods are then employed in an explanation of how it is possible to look for genes in prokaryotic DNA, and all are then summarized.

Phil enjoyed the life of a Badger while at Madison,

After finishing up his work, he received his B.S. degree at the University of Wisconsin (see below)



Philip Trosko receiving his B.S. degree in 1988 in Madison.



Phil with parents, Kay and Jim



Kay's Graduation Cake for Philip Trosko



Philip and friends on his porch in Madison



Phil's traditional bike jump into Lake Mendota

and moved on to Michigan State University, Computer Science Department in 1988. There, he started work under the late Dr. Carl Page as a graduate assist. While there he intended to complete a Ph.D., but, tragically, he suffered a psychotic episode, in large part due to sleep deprivation and stress and was diagnosed with Bipolar Disease. He was not able to complete his Ph.D., however, he was allowed to continue his work on a provisional basis and was awarded a Master's Degree in Computer Science by passing his courses in 1992.

He was so proud to know that he experienced three institutions



(Argonne National Laboratory, Los Alamos National Laboratory and the Radiation Effects Research Foundation [RERF] in Hiroshima and Nagasaki Japan, where his father served as Chief of Research, as well as having visited the War Memorial in Honolulu, The Atomic Bomb Memorial Parks in both Hiroshima and Nagasaki, Japan) and was born in Oak Ridge, Tennessee, home of the Oak Ridge National Laboratory.

Philip at the entrance to the Radiation Effects Research Foundation in Hiroshima, Japan.



Detroit Free Press, February 20, 2000, Phil Trosko tests circuit boards at TelGen Corp.



Lastly, he was a life-long contributor to the University of Wisconsin ...he was a true “Badger”, but with a bit of “Spartan” in his blood as seen below



Philip Randal Trosko as a “hybrid” of Badger & Spartan.

Friends can get information of his obituary at the Gorline-Runciman Funeral home for date & time of memorial service [www.grlansing@com]. In addition, we can be reached by e-mail: james.trosko@hc.msu.edu