

CURRICULUM VITAE

Prof. Rein Luus, Ph.D., P. Eng.

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Rein Luus was born in Tartu, Estonia in 1939. He obtained his elementary education in Germany. In 1950 he entered Canada and graduated from high school in Sault Ste. Marie, Ontario in 1957. He received his B.A.Sc. in engineering physics in 1961, and M.A.Sc. in chemical engineering in 1962 from University of Toronto. At Princeton University, in 1963 he received Master of Arts (A.M.) and in 1964 the Ph.D. degree in chemical engineering. His PhD thesis adviser was Professor Leon Lapidus and the thesis is entitled *The*

Stability of Autonomous and Nonautonomous Nonlinear Systems. The work involved the development of an averaging technique for nonlinear analysis.

At Princeton University, he was offered the Sloan postdoctoral fellowship, and from July, 1964 until September, 1965 he was doing postdoctoral research in the area of optimal control, during which time he wrote with Professor Leon Lapidus the book *Optimal Control of Engineering Processes* (Blaisdell, 1967).

In September, 1965 he returned to Canada to become Assistant Professor at University of Toronto in the Department of Chemical Engineering, Associate Professor in 1968, and Professor in 1973. Since 2005 he has been Professor Emeritus in the Department of Chemical Engineering at University of Toronto.

In 1976 he was awarded the Steacie Prize, an award presented once a year to a scientist or engineer 40 years of age or less for outstanding scientific research carried out in Canada. In 1980, he received the ERCO Award in Chemical Engineering. In 1990 Professor Luus was awarded by the undergraduate students the Best Professor Award in recognition of excellence in teaching. The following year he was presented the Outstanding Teaching Award.

He has served as a consultant for Canadian General Electric, Shell Canada, Milltronics, Imperial Oil, and Fiberglas. For research, he has had continuous financial support from Natural Sciences and Research Council of Canada for 42 years. During this time period he has guided about 20 Master's students and 10 Ph.D. students. He has published about 200 papers in scientific journals and refereed conference proceedings and five articles in the *Encyclopedia of Optimization* (Springer, 2009), as well as chapters in several books on optimization.

His scientific interests are in the fields of optimization, optimal process control, iterative dynamic programming, mathematical modeling, parameter estimation, model reduction, optimal control of oscillatory systems, stability and nonlinear analysis. He has been an active participant in numerous scientific conferences, being the Chairman for the Annual Canadian Society for Chemical Engineering Conference in 1992.

He has developed several efficient methods and algorithms for global optimization as the well-known Luus – Jaakola (LJ) and Wang – Luus (WL) methods. In AICHE Journal Vol. **50**, 2004, pp. 4-6, the original LJ optimization procedure paper (AIChE J, **19**, 760-766 (1973)) with 221 citations in the Citation Index, was listed in **The 100 Most Cited Articles in AIChE Journal History**.

Professor Luus developed iterative dynamic programming as presented in his book ***Iterative Dynamic Programming*** (Chapman & Hall/CRC, 2000) and several scientific papers with many applications in chemical and biotechnological engineering.

Professor Luus has been active in sailboat racing, playing violin, playing tennis and squash. He is still an active squash player. He is married and has a son and a daughter.

Prof. Stoyan Stoyanov, DSc