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# Bruce Rout

## **Education 1998 – 2002 Simon Fraser University, Burnaby B.C.**

Canada Masters Degree in Mathematics

- Thesis: An Examination of Resourcing and Scheduling of the RCMP
- Specialization in Applied, Numerical, Financial, Discrete and Continuous Mathematics
- Previously earned a High School Teacher's Certificate in Mathematics and Science at Auckland Teachers' College in New Zealand
- Previous BSc degree in Astrophysics at University of Alberta, Edmonton, Canada

## **Experience**

Mathematics and Science

- Contracted as advisor and researcher with Canada's National Police Force (Royal Canadian Mounted Police) in Operations Research involving: resourcing, staffing, modeling and analysis of operations. 1998 – 2004. Security Clearance classification: Top Secret.
- Mathematically modeled the injection of steam into porous underground bitumen deposits for Alberta Research Council - Oil Sands Recovery Research, Canada. Research Analyst, 1980 - 1984
- Designed and developed prototype Operations Research software to provide solutions to the Crew Scheduling Problem for the National Research Council of Canada. Research Analyst & Contractor, 1997 - 1999
- Performed analysis and produced software for banking institutions in Wellington, New Zealand. Contractor, 1985-1986
- Analyzed, produced and managed the development of broker's software for the New Zealand Stock Exchange in Auckland, NZ. Corporate President, 1986 - 1988
- Selected and installed hardware network for major stock broker in Auckland, NZ. Contractor, 1986 - 1988
- Wrote and implemented cost and project accounting software for the Alberta Research Council, Canada.

Software Analyst, 1980 - 1984

- Published Mathematical and Computer Models of Quartz Distillation and Migration in a Porous Media for the Canadian Institute of Mining. Research Analyst, 1982 - 1984
- Provided mathematical models of steam injection into oil wells at Cold Lake, Alberta for Imperial Oil Ltd. through Pacific Institute of Mathematical Sciences, BC Canada. Consultant, 1998
- Mathematically modeled the resourcing of printer allocation units in a computer network for Pacific Institute of Mathematics, BC, Canada. Consultant, 1999
- Created original Mathematical modeling of tectonic and geophysical movements in Earthquake Prediction for Dept. of Geophysics, University of Alberta, Canada. Research Assistant, 1979
- Wrote unpublished paper and thesis on A First Order Singular Perturbation Solution to a Simple One-Phase Stefan Problem with Neumann Boundary Conditions. (April 24, 2002) for Department of Mathematics, Simon Fraser University, BC, Canada.

Researcher, Business

- CEO Computer Troubleshooters Ltd, Auckland, New Zealand. 1984-1988
- Self-employed computer contractor, Chemainus, BC, Canada. 1995-1998
- CEO Resource Allocation Solutions Limited, Vancouver, Canada. 2002 – 2004

Teaching

- Foothills School District – substitute teacher, October 2007 – present.
- Papatoetoe High School – teacher in Mathematics, 2006
- Taumarunui High School - teacher in Science and Physics, 1989 – 1991
- Lake Cowichan High School - teacher in Mathematics 1991-1992
- Chemainus Native College - Science teacher for Adult Students, 1992 - 1993
- Penelekut Tribes High School - General Subject teacher, 1993-1994
- Onewhero Area School – Senior Mathematics teacher,
- Taupo nui-a-tia College – Senior and Junior Mathematics teacher, 2005 – 2006

### **Skill Set**

Computers

- MS Dos
- Windows
- Unix
- Mac

- C, C++
- Fortran, Cobol, Basic, Assembler
- Data Modeling, ErWin
- Word, Excel, Powerpoint, Access, etc.
- DBMS, Dataflex
- ILOG CPLEX (Operations Research Engine)
- Some SPSS
- HTML, Web Page Design Software
- Publishing software (eg. In Design)

#### Mathematics

- Unique problem-solving capabilities
- Advanced mathematical modeling
- Enthusiasm and passion for the art of mathematics

#### Professional memberships

- Canadian Mathematical Society (CMS)
- American Mathematical Society (AMS)
- Pacific Institute of Mathematics Society (PIMS)
- NZ Institute of Mathematics and It's Applications (NZIMA)

#### **Volunteer experience**

Public Relations Supervisor for healing ceremony of Kuper Island Indian Reservation in 1997. Volunteer youth worker for Neighborhood House teen center in Chemainus, B.C. 1994 - 1998.