

# Roland H. van Oostveen

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## Education

- Ph.D.** (pending) 2004  
O.I.S.E./University of Toronto (Toronto, ON)  
Programme: Curriculum  
Concentrations: Science Education, Action Research  
Dissertation: *A Study of Action Research as Large Scale Professional Development* (in preparation)  
Advisor: Dr. Derek Hodson
- Master of Education** 1997  
O.I.S.E./University of Toronto (Toronto, ON)  
Programme: Curriculum  
Concentrations: Science Education, Project Work in Science and Technology Education  
Advisor: Dr. Derek Hodson
- Programme: **Honours Specialist, Biology** 1992  
**Teaching Certificate: Part 1, Intermediate Math** 1991  
University of Toronto (Faculty of Education, Toronto, ON)
- Physical Geography Course** 1989  
University of Waterloo (Waterloo, ON)
- Learning Cycle in Chemistry Teaching** 1986  
University of Calgary (Calgary, AB)
- Post-Degree Professional Program in Teaching** 1983  
University of Victoria (Victoria, BC)
- Honours Bachelor of Science** 1981  
University of Guelph (Guelph, ON)  
Major: Marine Biology

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## Employment History

University of Ontario Institute of Technology, Oshawa, ON <b>Assistant Professor, Faculty of Education</b>	2003-present
Narnian MicroComputer Services, Blackstock, ON <b>Independent Educational and Computing Consultant</b>	1996-present
OISE/UT Imperial Oil Centre for Studies in Science, Mathematics and Technology, Toronto, ON <b>Teacher in Residence</b>	1999-2002
Toronto District School Board, Toronto, ON <b>Science and Technology Project Manager</b>	2001-2002
Toronto District School Board, Toronto, ON <b>Curriculum Coordinator: Science</b>	1998-2001
Toronto District School Board, Toronto, ON <b>Science Department Head (Biology)</b> (R.H. King Academy)	1998
York University, Field Development Office, Toronto, ON <b>Instructional Leader: Intermediate/Senior Mathematics/Science</b>	1997-1998
Scarborough Board of Education, Scarborough, ON <b>Science Teacher</b> (R.H. King Academy and Albert Campbell C.I.)	1990-1998
Chatham & District Christian Secondary School, Chatham, ON <b>Science Teacher/Department Head</b>	1987-1990
Calgary Christian Schools, Calgary, AB <b>Science Teacher/Department Head</b>	1983-1987
L.G.L. Ltd., Sydney, B.C. <b>Biological Consultant</b>	1981-1982

## Contributions to Teaching

Created 'Authentic' Science and Technology Curriculum (Grades 9-11) for educators in local school environment.  
Contributed to Curriculum Management Team (professional development administration and presentation) at the local school level.

Co-lead the grade specific science curriculum development team at local school level.

Supported Information Technology functions (through the IT Committee) at the local school level.

Organized and administered the Scarborough Science Heads Association.

Participated in the GTA and TDSB Secondary Science Associations.

Participated in TDSB Science and Technology Leadership Team.

Administered TDSB Science and Technology Resource Centre (Scarborough).

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Contributed to the development of Assessment of Science and Technology Achievement Project (ASAP, York University) at the steering committee level.

Executive member of the Science Coordinator's and Consultants' Association of Ontario (SCCAO), 1998-present  
Delivered seminars to Science Teacher's Association of Ontario (STAO) annual conference on a yearly basis.

### **Courses Taught**

University Courses (University of Ontario Institute of Technology)

- Curriculum Methods: Biology and Curriculum Methods: General Science

Night School (Chatham District Christian Secondary School)

- Introduction to DOS and Wordprocessing

High School Courses (Grades 9 - OAC, Alberta and Ontario)

- Science for Grades 8, 9 and 10 at multiple levels in separate and combined classes (Calgary Christian Schools, Chatham & District Christian Secondary School, Board of Education for the City of Scarborough, Toronto District School Board)
- Introduction to Computers for Grade 10 (Calgary Christian Schools, Toronto District School Board)
- Senior Biology for Grades 11, 12 and OAC (Calgary Christian Schools, Chatham & District Christian Secondary School, Board of Education for the City of Scarborough, Toronto District School Board)
- Senior Chemistry for Grade 11 (Calgary Christian Schools, Chatham & District Christian Secondary School)
- Senior Physics for Grade 11 (Chatham & District Christian Secondary School)
- Intermediate and Senior Mathematics for Grades 8, 9, 10 and 11 at multiple levels in separate and combined classes (Calgary Christian Schools, Chatham & District Christian Secondary School, Board of Education for the City of Scarborough)
- Introduction to Accounting for Grade 10 (Calgary Christian Schools)
- Intermediate and Senior Vocal Music for Grades 6-OAC (Calgary Christian Schools, Chatham & District Christian Secondary School)

Other Instructional Experience

- Royal Life Saving Society/Red Cross Swimming Instructor at the local YMCA for children and adults at a variety of skill levels.
- Swimming Instructor for summer camp for two summers (Camp Shalom, Cambridge, ON)
- Assistant Summer Camp Director for one summer (Camp Shalom, Cambridge, ON) responsible for program and temporary summer camp staff

## **Academic Concentrations and Research Interests**

### **Curriculum Development**

Particular areas of interest include science and (broad based) technology integration in the class room, inquiry and design processes, project work, problem based learning, situated cognition, knowledge building, social constructivism, communities of practice, scientific and technological literacy, as well as the nature of science/technology.

### **Computers and Computer Science**

Primary areas of interest are in the application of information technology to enhance communication between and among people using synchronous and asynchronous applications, databases, graphics, HTML/World Wide Web, multimedia development and distribution. Expert knowledge of DOS, Windows 95/98/Me/XP/2000 operating systems, networking, hardware (microcomputer based). Working knowledge of Linux and Apple systems. Applications include all Internet applications (including Java), graphics packages, multimedia authoring, multimedia editing, desktop publishing, word processing, spreadsheets, databases, presentation graphics, and communications.

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### **Professional Development**

Areas of interest and experience include the facilitation of action research groups, growth in personal, professional and political areas of teaching and learning, and using multi-media case studies to expose pre-service and in-service teachers to situations and solutions that are unfamiliar.

### **Research**

Particular areas of interest include the use of information technology, broad-band technologies, multi-media case studies to support teachers in an online environment designed to create communities of practice using modified action research techniques to enhance and facilitate professional development. Research mechanisms include interview protocol development, implementation and analysis, repertory grid implementation and analysis, video/audio recording of classroom environments, statistical analysis, survey and evaluation research techniques, as well as following (and analysing) the conceptual development of teachers as they progress through the courseware. More details are shown in the attached outline of proposed research.

### **Publications**

#### *Writing for Academic Publications*

#### **Manuscripts for Refereed Journals**

Bencze, L., Hewitt, J., Pedretti, E., Yoon, S., Van Oostveen, R. & Perris, K. (2003). Science-specialist student-teachers consider promoting technological design projects: Contributions of multi-media case methods. *Research in Science Education* 33(2): p. 163-187.

Yoon, S., Pedretti, E., Bencze, L., Hewitt, J., Perris, K. & R. van Oostveen (in press). Improving elementary preservice science teachers' self-efficacy beliefs through the use of cases and case-methods. *Journal of Science Teacher Education*.

Yoon, S., Pedretti, E., Bencze, L., Hewitt, J., Van Oostveen, R. & Perris, K. (2003). Pedagogical implications of the use of case methods with pre-service elementary science teachers: Creating communities of practice. *Research in Science Education*, 33(2) 163-187.

#### **Contributions to Edited Books**

van Oostveen, R., Corry, A., Bencze, J.L., Ayyavoo, G. (2000) Teaching a Combined Science-Technology Curriculum. In D. Hodson (Ed.), *OISE Papers in STSE Education*, 1 (p. 145-160). Toronto: University of Toronto Press.

van Oostveen, R., Corry, A., Bencze, J.L., Ayyavoo, G. (2002) Correlational studies in school science: beyond experimentation. In D. Hodson (Ed.), *OISE Papers in STSE Education*, 3 (p. 221-230). Toronto: University of Toronto Press.

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## **Conference Papers**

### *Published Conference Proceedings*

Hewitt, J., Pedretti, E., Bencze, L., Jiwani, A. & van Oostveen, R. (2004). Contextualizing and promoting Science, Technology, Society and Environment (STSE) perspectives through multi-media case methods in science teacher education. In D. B. Zandyliet (Ed.), *Proceedings of the annual conference of the National Association for Research in Science Teaching*, Vancouver, BC, April 1-4, 2004, CD ROM.

### *Refereed Conferences*

#### American Educational Research Association (AERA)

Bencze, J.L., Bowen, G.M., Elshof, L., van Oostveen, R. (2000) Internet-mediated Pan Canadian Science Projects: Students Independently Construct Knowledge While Getting to Know More About Canada and Canadians. A presentation at the annual meeting of the *Canadian Society for Studies in Education*, Edmonton, AB, May 26, 2000.

Bencze, L., Hewitt, J., Pedretti, E., Yoon, S., Van Oostveen, R. & Perris, K. (2002). Technoscience education in practice: A case-method window into contextual teaching and learning for pre-service science-specialist teachers. A presentation at the annual conference of the *American Educational Research Association*, April 1-5, 2002, New Orleans, LA.

Pedretti, E., Bencze, L., Hewitt, J., Jiwani, A. & van Oostveen, R. (2004). Teaching and learning about Science, Technology, Society and Environment (STSE) perspectives through case methods in teacher education. A paper presented at the annual conference of the *American Educational Research Association*, April 12-16, 2004, San Diego, CA.

Yoon, S., Pedretti, E., Bencze, L., Hewitt, J., Van Oostveen, R. & Perris, K. (2002). Using case methods in pre-service teacher development: Influences on agency, practice and community-building. A presentation at the annual conference of the *American Educational Research Association*, April 1-5, 2002, New Orleans, LA

#### Canadian Society for the Study of Education (CSSE)

Bencze, L., Hewitt, J., Pedretti, E., Yoon, S., Van Oostveen, R. & Perris, K. (2001). Technology-informed pedagogical perspectives in science-specialist student teachers: Influences from a multi-media case method. A proposal for a paper within a multiple paper set at the annual conference of the *Canadian Society for the Study of Education*, May 25-28, 2002, OISE/UT, University of Toronto, Toronto.

#### National Association for Research in Science Teaching (NARST)

Pedretti, E., Bencze, L., Hewitt, J., Jiwani, A. & van Oostveen, R. (2004). Contextualizing and promoting Science, Technology, Society and Environment (STSE) perspectives through multi-media case methods in science teacher education. A paper presented at the annual conference of the *National Association for Research in Science Teaching*, Vancouver, BC, April 1-4, 2004.

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*Non-Refereed Conferences*

van Oostveen, R. (2001) Constructivist Learning Theory: Changing Educational Practice with Research. Presentation at the annual conference of the *Science Coordinators' and Consultants' Association of Ontario (SCCAO)*, Barrie, Ontario, June 5, 2001.

van Oostveen, R. (2001) Action Research as P.D. Presentation at the annual conference of the *Science Teachers' Association of Ontario (STAO)*, Toronto, Nov. 1-3, 2001.

**Technical Papers**

Chandra, N., van Oostveen, R. (2001) OISE-UT/CSA Satellite Education Project: Proposal for Feasibility Study. A Technical Paper for the Imperial Oil Centre for Studies in Science, Mathematics and Technology Education at OISE/UT. Toronto: OISE/UT

*Writing for Non-Academic Publications***Curriculum Resources**

van Oostveen, R. (Ed.) (2000) *TDSB Science and Technology Resource Packs (22 Units)*. Toronto: Toronto District School Board.

**Textbook Sections**

Ritter, B., Hirsch, A.J., Plumb, D., Worrall, E., and T. Gibb (1995) *Science 9*. Toronto: Nelson Canada.

Wolfe, E., Clancy, C., Jasper, G., Lindenberg, D., Lynn, D., Mustoe, F., and R. Smythe (1999) *SCIENCEPOWER9*. Toronto: McGraw-Hill Ryerson Ltd.

Skills Development Handbook (2000) in *SCIENCEPOWER9 Teacher's Resource Binder*. Toronto: McGraw-Hill Ryerson Ltd.

Assessment and Evaluation Handbook (2000) in *SCIENCEPOWER9 Teacher's Resource Binder*. Toronto: McGraw-Hill Ryerson Ltd.

**Professional Activities and Qualifications**

*Web Master for the following Web Sites including development and design:*

Arctic Science Teacher Resources (under development)

<http://www.oise.utoronto.ca/~arcticsci>

EyeOnScience Student Journal

<http://www.eyescience.org>

Facilities Matrix Group

<http://www.facilitiesmatrix.com/>

HopeFellowship CRC Church (under development)

<http://hopefellowship.ca>

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Let's Do Projects! (under development)

<http://www.ldp.ca/> (temporary files may be viewed at <http://www.oise.utoronto.ca/~LDS/>)

Narnian MicroComputer Services

<http://www.narniancomputer.com>

Science Coordinators' and Consultants' Association of Ontario (SCCAO)

<http://www.sccao.org>

TDSB Science and Technology Action Research Project (under development)

<http://sccao.oise.utoronto.ca/actionresearch/>

TDSB Science and Technology Resource Packs

[http://www.sccao.org/tdsb/tdsb\\_units.html](http://www.sccao.org/tdsb/tdsb_units.html)

TDSB Science and Technology Web Resource Project

<http://sccao.oise.utoronto.ca/tdsb/>

The Learning Partnership - I<sup>3</sup> Investigate! Invent! Innovate!

<http://www.thelearningpartnership.ca/I3/>

*Teacher in Residence* (OISE/UT, Toronto, ON)

Participated as principal researcher, graduate assistant or researcher in the following projects:

Developed a proposal to the Canadian Space Agency for a feasibility study which would research the use of real-time satellite data streams in science classrooms. (Primary Researcher)

Designed, collected, edited and presented video/audio recordings for multimedia case studies used with pre-service teachers. (Researcher and Graduate Assistant)

Designed 'thinking tag' curricular programs to enhance STSE classroom lessons. (Researcher)

Conducted 'life history' interviews with individuals with varying levels of engagement with science/technology. (Researcher, project derives out of York University)

Coordinated and assisted in the development of an online web site designed to assist students in science and technology project work. (Researcher and Graduate Assistant)

*Memberships in Professional Societies*

- American Educational Research Association
- Canadian Society for the Study of Education
- Corel OEM Partner
- Microsoft OEM System Builder
- Science Coordinators' and Consultants' Association of Ontario
- Science Teachers' Association of Ontario

## **Civic and Community Activities**

Current Activities

- Countryside Camp and Conference Centre Association, Cambridge, ON

- Program Committee Member
- Director
- Hope Fellowship Christian Reformed Church, Oshawa, ON
  - Chair, Worship Committee
  - Chair, Electronic Arts Committee (Webmaster)
  - Member, Praise Team
- Member, Church Hockey League

Past Activities

- Member, Toronto Mendelssohn Choir
- Member, Calgary Philharmonic Orchestra Chorus
- Member, SpiritWind (Contemporary Christian Music Group)
- Hope Fellowship Christian Reformed Church, Oshawa, ON
  - Chair, Visioning Task Force
  - Director, King's Men Male Vocal Choir