

**PERSONAL RESUME: Jim Love, D. Arch., P. Eng., MRAIC, LC, LEED AP**  
**Professor and Chair in Sustainable Building Technologies, Faculty of Environmental Design**

Summary

Jim Love has been involved in education, research, and consulting related to sustainable building design for more than 25 years. He was the environmental coordinator and energy engineer for the Banff Community High School modernization, the first school in Canada to be certified under the "Leadership in Energy and Environmental Design" program. This project won the "Best Modernization of the Year Award" from the Council of Educational Facility Planners International, Alberta Chapter. He was the energy engineer for the University of Calgary's 12,000 m<sup>2</sup> Child Development Centre (CDC) (opened Oct. 2007), the first new cold climate building to achieve a LEED platinum rating. Prof. Love led the energy systems engineering team, which was awarded the 2008 Summit Award for Environment and Sustainability by the Association of Professional Engineers, Geologists and Geophysicists of Alberta for this work. It also won the 2007 Photovoltaic Project of the Year from the Canadian Solar Industries Association. He currently provides instruction on environmental control systems to both architecture and mechanical engineering students at the University of Calgary, where he holds the rank of professor in the Faculty of Environmental Design and adjunct professor in Mechanical Engineering. He is a member of a team of about 25 Canadian researchers was awarded a \$4.5 million NSERC grant in 2005 to fund a national Solar Buildings Research Network ([www.solarbuildings.ca](http://www.solarbuildings.ca)).

Education

1988-90      Doctor of Architecture, the University of Michigan, Ann Arbor  
1975-78      Master of Environmental Design (Architecture), University of Calgary  
1971-74      B. A. Sc. (Electrical Engineering), Queen's University

Administrative Appointments – University of Calgary

2005-2006    Director, Interdisciplinary Graduate Program, Faculty of Graduate Studies  
2000-2006    Coordinator, PhD Program, Faculty of Environmental Design  
2000-2005    Associate Dean (Research and Outreach), Faculty of Environmental Design  
1997-2000    co-Director, Master of Architecture Program, Faculty of Environmental Design,  
1990-1997    Director, Computer Applications Laboratory, Faculty of Environmental Design

Academic Appointments

2007-      Chair, Sustainable Building Technology  
1996-      Professor, Faculty of Environmental Design, University of Calgary  
1997-      Adjunct Professor, Mechanical Engineering, University of Calgary  
1994-97    Adjunct Associate Professor, Mechanical Engineering, University of Calgary  
1987-96    Associate Professor, Environmental Design, University of Calgary  
1982-87    Assistant Professor, Environmental Design, University of Calgary  
1979-82    Assistant Professor, Faculty of Architecture, Technical University of Nova Scotia  
(now part of Dalhousie University)

### Professional Affiliations

Past-President, Canadian National Committee, Commission Internationale de l'Éclairage, (president 04-08 (appointed by the Director of NRC's Institute for National Measurement Standards)  
Member, Association of Professional Engineers, Geologists and Geophysicists of Alberta  
Member, Illuminating Eng. Society of North America; Chair, Daylighting Com. 1993-1995  
Member, Royal Architectural Institute of Canada  
Member, American Society of Heating Refrigerating and Air-conditioning Engineers  
Certified Lighting Practitioner, US National Council on Qualifications for the Lighting Professions  
Accredited Professional, Leadership in Energy and Environmental Design (LEED), US Green Building Council

### Awards

- 2008 Summit Award for Environment and Sustainability, Energy Systems Engineering Team, Association of Professional Engineers, Geologists, and Geophysicists of Alberta for University of Calgary Child Development Centre.
- 2008 Sustainability Innovator Award (to University of Calgary), J. Love was co-chair, Curriculum and Research, Sustainability Stewardship Working Group – prepared business plan for that area, etc.
- 2007 Photovoltaic Project of the Year award, Canadian Solar Industries Association for University of Calgary Child Development Centre.
- 2006 Best Paper with Student as Lead Author, Simbuild 2006 (US national building systems simulation conference), Massachusetts Institute of Technology – Z. Tian (Student) and J. Love (supervisor). See conference papers below - Tian and Love 2006a,b
- 2005 Award of Merit, Illuminating Engineering Society of North America International Illumination Design Award, Lighting Upgrades, Calgary International Air Terminal, with D. Prusky and A. Styler of Beaubien Glover Maskell Engineering. Daylighting by J. Love.
- 2005 Best Modernization Award, Council of Educational Facility Planners International Alberta Chapter, Banff Community High School. GEC Architects. First LEED-certified (US Green Building Council - Leadership in Energy and Environmental Design) School in Canada). J. Love – LEED Coordination and Energy Consultant.
- 2000 Electric Power Research Institute Award for Energy-Efficient Lighting Design, Central Auto Parts warehouse, Calgary, Illuminating Engineering Society of North America, Chinook Section Award
- 1988 Best Paper of the Year, Solar Energy Society of Canada

### Scholarships

- 1989 University Fellowship, Watts Architecture Award, University of Michigan
- 1988 C.W. Seabury Research Fellowship, University of Michigan
- 1977 Canada Mortgage and Housing Corporation Architectural Scholarship
- 1976-78 Canada Mortgage and Housing Corporation Graduate Fellowship

Specialized Contract Work (selected)

- 1999, 2000      Technical advisor, Commercial and Institutional Buildings Jury,  
2002              Canadian Energy Efficiency Awards, NRCan
- 1994-99          Technical advisor, Natural Resources Canada  
- Energy Efficiency Regulations pertaining to light sources  
- program design, Commercial Building Incentive Program
- 1993-96          Expert consultant (lighting and environmental control system  
simulation) for Natural Resources Canada's (formerly Energy Mines and Resources) C2000  
advanced commercial building technology demonstration program.

Specialized Service (selected)

- Member, Buildings Table, National Climate Change Process, 1999-2000.  
"National Expert," representing Canada for International Energy Agency Task 21 "Daylight in Buildings," 1994-1998.  
"National Expert," representing Canada for International Energy Agency Task 17 "Measuring and Modeling Spectral Radiation Affecting Solar Systems and Buildings," 1990-1994.

Advisory Work on Building Design (selected)

Pine Creek Operations Maintenance and Administration Building at Calgary's Pine Creek Wastewater Treatment Plant (PCWWTP) was certified by the CaGBC as having a 54% LEED energy cost reduction and achieved a LEED gold rating. I served as energy engineer for the project,

Southern Alberta Institute of Technology Residence (open to residents Sept., 2008). Application of single domestic and heating hot water system combined with radiant wall heating. Believed to be the first large building (22 stories) to use radiant wall heating.

University of Calgary Child Development Centre (official opening Oct., 2007). Ultra low energy building with 43 kWp photovoltaic array. LEED Platinum. 1st new cold climate LEED platinum building.

Holy Trinity Academy, Okotoks AB (high school, opened 2006). Energy consultant. Canada's first LEED gold school.

Prairieview School, Vulcan AB (opened 2005). LEED Coordinator and energy consultant. Highest rated performance of any LEED-certified school in Canada. Appears to be the first school in North America with combined radiant slab-displacement ventilation system; developed from FAIMS building (see below).

2004 - Consultant, Keen Engineering (purchased by Stantec in 2005). Computational fluid dynamics assessment of displacement ventilation for Calmar School and Victoria High School (Edmonton).

Banff Community High School, Banff AB (completion 2003 07 – certified 2005 02). Environmental coordinator (including energy consultant). The first school in Canada to be certified under the US Green Building Council's "Leadership in Energy and Environmental Design" program). Leading edge construction waste management, use of regional materials, selection of materials for good indoor air quality, energy-efficiency and other attributes.

Foothills Advocacy in Motion Society (FAIMS) Building, Calgary AB (vocational training centre, completion 2003 01). computer modelling of energy systems and energy consultation – Natural Resources Canada's Commercial Building Incentive Program (CBIP). Achieved 64% improvement in energy performance relative to Model National Energy Code requirements (one of the greatest reductions achieved to date) at zero capital cost premium.

Crossing Park School, Calgary AB (elementary school, completion 2002 09). computer modelling of energy systems and energy consultation – Natural Resources Canada's Commercial Building Incentive Program (CBIP). First school in Alberta to meet CBIP requirements.

Grande Prairie People's Full Gospel Assembly, Grande Prairie AB (church, completion 2002 06). computer modelling of energy systems – Natural Resources Canada's Commercial Building Incentive Program (CBIP). First church in Canada to meet CBIP requirements.

The Parke at Fish Creek, Calgary AB (office building, completion 2000 06). computer modelling of energy systems and energy consultation – CBIP. First office building centre in Alberta to meet CBIP requirements

Central Auto Parts, Calgary AB (distribution centre, completed 1999 12). computer modelling of energy systems and energy consultation – CBIP. First distribution centre in Canada to meet CBIP requirements

Publications: Book Chapters and Monographs

Love, J. A. (with contributions from members of IESNA's Daylighting Committee) 1999. *Recommended Practice of Daylighting*. New York: Illuminating Engineering Society of North America. 40 pages.

Atif, M. R., J. A. Love and P. Littlefair 1997. Daylighting monitoring protocols and procedures for buildings. International Energy Agency document T21/D2/1/97-01. Ottawa: National Research Council of Canada (Publications Office, Institute for Research in Construction).

Love, J. A. 1995. *Lamp replacement guide*. Ottawa: Natural Resources Canada, 15 pages.

Love, J. A., J. McLean and R. Grant 1993. *Housing for the disabled - a generic model*, Edmonton: Alberta Municipal Affairs, 67 pages.

Love, J.A. 1993. "Daylighting," Chapter 8, *IES lighting handbook* (8th Edition), New York: Illuminating Engineering Society of North America: 359-381.

Livesey, G., J. A. Love and G. Simmins 1992. *Architectural models: instruments and artifacts*, exhibition catalogue, Calgary: Nickle Arts Museum, The University of Calgary, 30 pp.

Love, J. A. and T.G. Lee (eds.), 1991. *New directions in architectural research*, Proc. 1990 Canadian symposium on architectural research, Edmonton: Alberta Municipal Affairs, 140 pp.

Love, J.A. 1990. *The vertical-to-horizontal illuminance ratio: a new indicator of daylighting performance*, dissertation, Ann Arbor: The University of Michigan.

Love, J. A., 1989. "Airtightness survey of row houses in Calgary, Alberta", in Sherman, M. H. (ed.), *Air change rate and air tightness in buildings*, STP 1067, Philadelphia: American Society for Testing and Materials, pp. 194-210.

Love, J. A. and Passmore, R. S., 1986. *Air leakage in existing town houses*, Edmonton: Alberta Municipal Affairs, 61 pp.

Love, J. A., ed., 1986. *Proceedings of a symposium on indoor air quality*, Edmonton: Alberta Municipal Affairs, 170 pp.

Love, J. A., 1986. *Airtightness testing methods for multi-unit housing*, Ottawa: Canada Mortgage and Housing Corporation, 22 pp.

Legislation

Love, James Andrew, Valerie Whelan, and Adrian Volkeroth. Energy Efficiency Act: Energy Efficiency Regulations, amendment. Canada Gazette Part II Vol. 129, No. 24 (November 29, 1995): 3073-3081.

Patent

Love, J. and V. Ermoli 2001 Invention – window blind. US patent 6 318 441 B1; the patent is for a blind with improved capability for filtering sunlight.

Publications: Articles in Refereed Journals

Cubi Montanya, E., J. A. Love, and D. Keith 2009. Integrated design and UFAD. ASHRAE Journal, American Society of Heating, Refrigerating and Airconditioning Engineers, July, 30-40.

Tian, Z. and J. A. Love 2009. Applying Quality Control in Building Energy Modeling: Comparative Simulation of a High Performance Building. *Journal of Building Performance Simulation*. 2(3) 163-168.

Tian, Z. and J. A. Love 2009. Energy performance optimization of radiant slab cooling using building simulation and field measurements. *Energy and Buildings* 41 (3) 320-330.

Tian, Z. and J. A. Love 2008. A field study of occupant thermal comfort and thermal environments with radiant slab cooling. *Building and Environment* 43 (10) 1658-1670.

Love, J.A. 1998. "Manual switching patterns in private offices." *International Journal of Lighting Research and Technology*, 30 (1) 45-50.

Navvab, M., M. Siminovitch, and J.A. Love 1997. "The variability of daylight in luminous environments." *Journal of the Illuminating Engineering Society*, 26 (2) 101-114.

Navvab, M., C. Prayoonhong, and J. A. Love 1995. "Application of the new standards for the evaluation of daylight and solar availability measurements." *JIES* 24 (2) 113-130.

Love, J. A. and Navvab, M. 1994. "The vertical-to-horizontal illuminance ratio: a new indicator of daylighting performance." *JIES* 23 (2) 50-61.

Love, J. A. 1993 "Daylighting estimation under real skies: further comparative studies of full-scale and model photometry." *JIES* 22 (2) 61-68.

Love, J. A. 1993. "Determination of the daylight factor under real overcast skies." *JIES* 22 (2) 176-182.

Love, J. A. and M. Navvab 1991. "Daylighting estimation under real skies: a comparison of full-scale photometry, model photometry and computer simulation as techniques for daylighting prediction under real sky conditions." *JIES* 20 (1): 140-156.

Love, J. A. and R. S. Passmore 1987. "Airtightness testing methods for row housing", *ASHRAE Transactions*, Atlanta: American Society of Heating Refrigerating and Air-conditioning Engineers, Part I (Winter): 1359-1370.

#### Publications: World Wide Web

Love, J. Case Study: Central Auto Parts Distribution Centre, Natural Resources Canada, [cbip.nrcan.gc.ca/buildings/casestudies/autovalue.html](http://cbip.nrcan.gc.ca/buildings/casestudies/autovalue.html). One of eight case studies of demonstration projects posted at NRCan's web site for the Commercial Building Incentive Program web site, created 2000.

#### Publications: Articles in Conference Proceedings

R=refereed; RA=Refereed abstract; I= invited

R) Tian, Z. And J. Love 2008. "Comparative Simulation of a High Performance Building with EE4-DOE2.1e and Energyplus." Proc. 2008 Simbuild 2006. Berkeley CA. Aug. 2-4.

R) Tian, Z. And J. Love 2006a. "A case study of radiant slab cooling: energy performance." Proc. Simbuild 2006. Cambridge MA. Aug. 2-4.

R) Tian, Z. And J. Love 2006b. "Radiant slab cooling: a field study of occupant thermal comfort." Proc. Simbuild 2006. Cambridge MA. Aug. 2-4.

R) Tian, Z. And J. Love 2005. "Design of energy-efficient buildings with radiant cooling systems.." Proc. 2005 World Sustainable Building Conference. Tokyo. Sept. pp. 340-347.

R) Tian, Z. And J. Love 2005. "An integrated study of radiant slab cooling systems through experiment and building simulation." Proc. 2005 International Building Simulation Association Conference. Montreal. Aug. 15-18.

R) Kassab, M. and J. Love 2005. "The potential of daylighting design on improving the energy efficiency of commercial buildings." Proc. 2005 International Building Simulation Association Conference. Montreal. Aug. 15-18.

I) Love, J.A. 2003 Daylighting Challenges and Opportunities in 2003. Keynote address. Solar Energy Society of Canada Annual Conference, Kingston, Canada.

RA) Mohamad, A. and J.A. Love 2003. Analysis of earth temperature for space conditioning. Proc. Solar Energy Society of Canada Annual Conference, CD.

R) Cowan, D.J., D. Andrus and J. A. Love 2003. Knowledge transfer and adoption of innovation. Proc. 24<sup>th</sup> McMaster World Congress on the Management of Intellectual Capital and Innovation, Jan. 15-17, Hamilton, Canada.

R) Andrus, D. L., R. Rangel Ruiz and J.A. Love 2002. Diffusion of energy efficient innovations: an inter-organizational perspective. Proc. 31st European Marketing Academy. Portugal.

R) Rangel Ruiz, R. and J. A. Love 1999. Daylighting and thermal comfort in a hot climate classroom, *Proc. 1999 Conf. of the Australia and New Zealand Solar Energy Soc.*, Geelong, Australia: Deakin University. Dec. 1-4. 10 pages (CD).

R) Shakya, B. and J. A. Love 1999. Performance of a building-integrated active solar heating system in Calgary, Canada, *Proc. 1999 Conference of the Australia and New Zealand Solar Energy Soc.*, Geelong, Australia: Deakin University. Dec. 1-4. 10 pages (CD).

R) Love, J. and Bajracharya, S. 1999. Simulation of thermal stratification in two atriums: comparison with measured data, *Proc. 1999 Conf. of the Australia and New Zealand Solar Energy Soc.*, Geelong, Australia: Deakin University. Dec. 1-4. 10 pages (CD).

R) Love, J. A. 1998. "Daylighting control systems: directions for the future based on lessons from the past" *Proc. 1998 international daylighting conference* Ottawa: Natural Resources Canada. May. 299-306.

R) Love, J. A. 1998. "Daylighting case studies: installations in the Calgary area" *Proc. 1998 international daylighting conference* Ottawa: Natural Resources Canada. May. 147-154.

Navvab, Mojtaba, Thomas Vanatta, and James Andrew Love 1995. "Evaluation of daylight and solar availability data." Proc. 23rd Session of the Commission Internationale de l'Eclairage. Vienna: CIE. 212-215.

R) Galasiu, A. M., J. A. Love, and M. Navvab 1995. "Design and performance of a daylighted high school." *Proc. 1995 Illuminating Engineering Society of North America annual conference*. New York: IESNA. 617-634.

R) Nemeskeri, R. L., J. A. Love, M. Navvab, and R. W. Wardell 1995. User assessment of lighting in offices with and without windows. *Proc. 1995 Illuminating Engineering Society of North America annual conf.*. New York: IESNA. 703-725.

R) Love, J. A. 1995. "Field Performance of Daylighting Systems with Photoelectric Controls," *Proc. 3rd European conf. on energy efficient lighting - vol. 1 - presented papers*. Newcastle upon Tyne, UK: Northern Electric. 75-82.

R) Love, J. A. 1995. "Regulation of residential daylighting in response to new window technology," *Proc. 3rd European conf. on energy efficient lighting - vol. 1 - presented papers*. Newcastle upon Tyne, UK: Northern Electric. 329-335.

I) Love, J. A. 1993. "Field performance of compact fluorescent systems," *1993 conference record of the industry applications section of the Institute of Electronics and Electrical Engineers*, October. 2254-2259.

I) Love, J. A. 1992. "The evolution of performance indicators for the evaluation of daylighting systems," *Conference record of the 1993 annual meeting of the Industry Applications Society of the Institute of Electric and Electronic Engineers*, Piscataway, N.J.: IEEE, October, 1992. 1830-1836.

Navvab, M., J. A. Love, and E. Ne'eman 1989. "Daylight and solar availability data for Ann Arbor, Michigan, USA" in Kaase, H. and Geutler, E. (eds.) *Proc. 1989 meeting of the Commission Internationale de l'Éclairage-World Meteorological Organization on the Measurement of Solar Radiation*, Berlin, Oct. 9-13. Vienna: Commission Internationale de l'Éclairage, 1990.

R) Love, J. A. and M. Navvab 1989. "A comparison of photometric modelling and computer simulation as techniques for daylighting prediction under real sky conditions" in *Thermal performance of the exterior envelopes of buildings IV*, Atlanta: American Society of Heating Refrigerating and Air-conditioning Engineers. 97-107.

\*Love, J. A., D. Edmunds, and M. Navvab 1988. "A preliminary evaluation of daylighting at Calgary's Olympic Oval", *Energy solutions for today*, Ottawa: Solar Energy Society of Canada. 42-47. \*awarded best paper of the year, Solar Energy Society of Canada

Love, J. A. 1986. "Improving the airtightness of the existing housing stock", *Proc. renewable energy conference '86*, Ottawa: Solar Energy Society of Canada. 76-81.

R) Love, J. A. 1985. "Computer-aided architectural design: the interactive effect in technical education", *Proc. 1985 workshop of the Association for Computer-Aided Design in Architecture (ACADIA)*, Tempe, Arizona: School of Architecture, Arizona State University. 1-12.

R) Love, J. A. and D. A. MacLeod 1985. "Post-Occupancy Evaluation of a Group Home for the Multi-Handicapped," *Proceedings: EDRA 16* (abstract only), New York: City University of New York.

#### Publications: Technical Reports

Love, J. A. 2006. "SAIT residence – radiant wall heating assessment final report ", prepared for Southern Alberta Institute of Technology, Calgary. May 22. 14 pages.

Love, J. A. 2005. "Displacement ventilation analysis for Victoria High School: report on mock-up testing ", prepared for Alberta Infrastructure and Transportation, Edmonton. Mar. 28. 15 pages.

Love, J. A. 2005. "Displacement ventilation analysis for Calmar School", prepared for Alberta Infrastructure and Transportation, Edmonton. Mar. 28. 15 pages.

Love, J. A. 2002. "Comparison of CAN/CSA-C860-01 Performance of Internally Lighted Exit Signs with Energy Star Program Requirements for Compact Fluorescent Lamps," Jan. 10, prepared for Natural Resources Canada, Ottawa, 15 pages.

Love, J. A. 2001. "Comparison of CAN/CSA-C861-95 Performance of Compact Fluorescent Lamps and Ballasted Adapters with Energy Star Program Requirements for Compact Fluorescent Lamps," Nov. 16, prepared for Natural Resources Canada, Ottawa, 14 pages.

Love, J. A. 1999. "Proposed Changes to Energy Efficiency Regulations Pertaining to Lamps," Mar. 17, 1999 prepared for Natural Resources Canada, Ottawa, 7 pages.

Love, J. A. 1998. Reflector Lamp Market Trends and Implications for Regulation of Energy Efficiency, prepared for Natural Resources Canada, March 31, 25 pages.

Love, J. A. 1995. *Photometric comparison of mirror light pipes*. Prepared for CF Management, Calgary, 33 pages.

Love, J. A. 1995. *Field assessment of daylighting systems*. Prepared for Public Works Canada (Architectural and Engineering Services) and Natural Resources Canada (Energy Efficiency Group - Canadian Centre for Mineral and Energy Technology), Ottawa, Canada, 52 pages.

Perez, R., H. G. Beyer, A. Bittar, G. Czeplak, L. Dahlgren, J.-J. Delaunay, D. Dumortier, M. Fontoynt, P. Ineichen, J. Love, B. McArthur, J. A. Olseth, M. Rommel, and A. Skartveit 1994. *Broad-band visible radiation data acquisition and analysis*. Report No. IEA-SHCP-17E-1. Albany, NY: Atmospheric Sciences Research Centre, State University of New York at Albany for the International Energy Agency.

Love, J. A. 1995. *Spectral transmittance of glazing used in Canadian housing*. Prepared for Research Division, Canada Mortgage and Housing Corporation, Ottawa, Canada, 22 pages.

Love, J. A., 1994. *Literature review: regulations and standards for daylighting of housing in northern countries*, prepared for Canada Mortgage and Housing Corporation, Ottawa, Canada, 21 pp.

Love, J. A., J. McLean, and R. Grant, 1993. *Housing for the disabled: a generic model*, Edmonton: Alberta Municipal Affairs, 67 pp.

Love, J. A., 1987. *Demonstration of minifluorescent lighting: phase II report*, prepared for Alberta Energy, Edmonton, Canada, 66 pp.

Love, J. A., 1986. *Demonstration of minifluorescent lighting: phase I report*, prepared for Alberta Energy, Edmonton, Canada, 61 pp.

Love, J. A., 1985. *Townhouse retrofit demonstration project 1983-85: final report*, prepared for Alberta Energy, Edmonton, Canada, 61 pages.

Love, J. A., 1985. *Clearview Lighting Ltd.: light source evaluation*, prepared for Clearview Lighting Ltd. and the National Research Council of Canada (Industrial Research Assistance Program), 28 pp.

DHC Consultants and Love, J. A., 1983. *Energy consumption survey: municipal building sector*, prepared for Energy Mines and Resources Canada, 46 pp.

Holtz, S., Love, J. A. and Procos, D., 1981. *Municipal energy management in Nova Scotia*, prepared for the Nova Scotia Department of Mines and Energy, Halifax, Canada, 216 pp.

Love, J. A., Ross, G. A. and Ross, W. A., 1979. *An energy management programme for Grande Prairie Public School District*, prepared for Alberta Education, Edmonton, Canada, 114 pp.

Love, J. A., Ross, G. A. and Ross, W. A., 1978. *A study of energy efficiency of commercial buildings in Canada*, prepared for Energy Mines and Resources Canada, 109 pp.

#### Graduate Student Supervision - Completed Student Programs

##### *PhD (Environmental Design - Architecture)- supervisor*

Zhen Tian 2007. *Design of energy efficient buildings with radiant slab cooling*.

David Jan Cowan 2006. *Bridging building technology research and design practice: effective knowledge diffusion*.

Rocio Rangel Ruiz 2003. *Sustainable building design for cold climates: schools as a case study*.

##### *PhD (Civil Engineering) – Examiner, Université de Savoie*

Vincent Berutto 1996. *Luminance mapping system*.

##### *Master of Environmental Design (Architecture)*

Mona Sandoval 2001. *A Latino-heritage city centre: an urban intervention addressing biculturalism in architecture*.

Monica Becher 1999. *Hospice: a place for the dying*.

Patrick J. Adams 1991. *The Earl Grey Centre: a developmental school*.

Douglas M. Wournell 1991. *A design for a daylit energy-efficient building*.

Victor H. Allison 1986. *The development of a computer-aided bio-climatic analysis model and its application to the region of Fresno, California*.

Robert S. Passmore 1986. *Air leakage in townhouses*.

##### *Master of Environmental Design (Industrial Design)*

Victor Ermoli 1997. *Design of an innovative window covering*.

*Master of Environmental Design*

Bharat Harwani 2005. *Design optimization with daylighting*

Maria Carmona Vinas 2002. *Power bars: a virtual tool for learning energy-efficient design.*

*M. Sc. (Committee on Resources and the Environment)*

Robert L. Nemeskeri 1994. *Illumination ergonomics in VDT offices.*

*M. Sc. (Mechanical Engineering)*

Eduard Cubi Montanya 2009 (defended successfully Performance of Underfloor Air Distribution Systems.  
Temperature Stratification and Ventilation Effectiveness in the Child Development Centre.

Yixiang Feng 2004. *Energy performance of the Foothills Advocacy in Motion Society Building.*

Susan Bajracharya 1997. *Energy efficiency in atrium buildings.*

Bhakta Shaya 1997. *Monitoring and modeling of a church with an active solar heating system.*

Anca M. Galasiu 1996. *Performance of a daylit high school.*