

*Curriculum Vitae***John (Jay) R.C. Doering,** Ph.D., P.Eng., FCSCE, FEC

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**Profession:** Licensed Professional Engineer / EGM, PEO, APENS (relinquished)  
 Professor of Civil Engineering (Water Resources Engineering)

**Key Qualifications**

- 4 years as Vice-Provost (Graduate Education), University of Manitoba
- 11 years as Dean (Faculty of Graduate Studies), University of Manitoba
- 4 years as Head of Civil Engineering, University of Manitoba
- 25 years experience as a university faculty member responsible for undergraduate and graduate teaching, research, and graduate student supervision in the area of Water Resources Engineering.
- 30 years experience as a practicing professional engineer in the area of Water Resources Engineering; expertise includes (but is not limited to):
  - coastal, river, and ice engineering
  - hydraulic and hydrologic engineering
  - stormwater and urban runoff modeling
- 28 years experience with physical model studies and modern hydraulics laboratory equipment
- author of refereed journal papers, conference papers, and technical reports; editor of conference proceedings (IAHR, CRIPE)

**Education**

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|------|---|
| 1988 | Ph.D. in Physical Oceanography (Coastal Hydraulics)<br>Dalhousie University, Halifax, Nova Scotia |
| 1984 | B.Sc. (first class honors) / Civil Engineering<br>Queen's University, Kingston, Ontario           |

**Awards and Distinctions**

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|------|---|
| 2012 | Queen Elizabeth II Diamond Jubilee Medal for Public Service                       |
| 2011 | University of Manitoba Outreach Award   |
| 2010 | Elected a Fellow of Engineers Canada (FEC)  |
| 2005 | University of Manitoba Faculty Association<br>Merit Award for Teaching Excellence |
| 2005 | Elected a Fellow of the Canadian Society for Civil Engineering (CSCE)             |

2004	Canadian Society for Civil Engineering (CSCE) Thomas C. Keefer Medal (Honourable Mention)
1999	University of Manitoba, Faculty of Engineering Superior Performance Award
1999	University of Manitoba, University Teaching Services Certificate of Teaching Excellence
1999	Association of Professional Engineers & Geoscientists of Manitoba (APEGM) Early Achievement Award
1999	University of Manitoba NSERC Steacie Fellow Nominee (1 of 2)
1998	Rh Institute Award (Applied Sciences) Outstanding Contributions to Scholarship and Research
1997	University of Manitoba, University Teaching Services Certificate of Teaching Excellence
1993	McMaster University Student Union Teaching Award
1988 – 1990	NSERC Visiting Fellowship (Canadian Government Laboratory) Hydraulics Laboratory, National Water Research Institute, Burlington
1984 – 1988	1967 (Centennial) Natural Sciences and Engineering Research Council of Canada Postgraduate scholarship
1981 – 1984	Dean's Scholar, Queen's University at Kingston

### **Work Experience**

2016 –	Associate Vice-President (Partnerships) & Professor
2012 – 2016	Vice-Provost (Graduate Education), Dean (Graduate Studies), & Professor
2005 – 2012	Dean, Faculty of Graduate Studies, & Professor
2003 – 2005	Head and Professor
2001 – 2003	Head and Associate Professor
1997 – 2001	Associate Head and Associate Professor
1997	Tenured
1996	Associate Professor
1993 – 1996	Assistant Professor (tenure-track) Civil and Geological Engineering, University of Manitoba
1991 – 1993	Assistant Professor (contractually limited) Civil Engineering and Engineering Mechanics, McMaster University
1990 – 2006	President, Doering Engineering Inc.
1988 – 1990	NSERC Visiting Fellow, Hydraulics Laboratory, Canada Centre for Inland Waters, Burlington, ON

## ADMINISTRATIVE EXPERIENCE

### **Overall**

- excellent organizational, time management, communication, and interpersonal skills
- a demonstrated record of developing a credible rapport with (undergraduate and graduate) students, support staff, faculty, central administration, Provincial government, local industry, and national professional organizations
- working knowledge and experience with the University's hierarchy, Policies and Procedures, and collective agreements (especially ASES, UMFA and CUPE locals 1482 and 3909)

### **Responsibilities as Associate Vice-President (Partnerships):**

- International Office
- Technology Transfer Office
- Chair, Partners for Health and Development in Africa
- High Performance Computing
- SSHRC and NSERC Partnership grants
- MITACS
- co-chair of the University's Strategic Enrolment Management (SEM) Planning committee

### **Responsibilities as Vice-Provost (Graduate Education) & Dean (Faculty of Graduate Studies):**

- provide leadership in graduate education, establish policies and best practices in graduate studies
- co-chair of the University's Strategic Enrolment Management (SEM) Planning committee
- 3 Associate Deans
- administration of 134 graduate programs (85 Master's / 49 Ph.D.), including program reviews
- administration of approximately 3750 graduate students
- oversight of approximately 1600 full- and part-time faculty members teaching and supervising graduate students
- 20 FT support staff in the Dean's Office
- 12.3M\$ budget

### **Responsibilities as Head of Civil Engineering:**

- oversight of 21 faculty members / 15 support staff
- administration of a 2.6M\$ budget & 2.5M\$ in externally funded research support (excluding ISIS NCE funds)
- signing authority on all departmental accounts
- use and planning of departmental space
- mentoring of new faculty; tenure and promotion recommendations
- supervision of support staff (approval of step increases and time sheets); incl. disciplinary action
- assigning duties to departmental faculty and staff
- preparation of "Request for Replacement" for the Vice-President (Academic) & Provost
- responsible for setting directions in program curriculum development
- ex-officio of all department committees

### Responsibilities as Associate Head of Civil Engineering:

- responsible for all undergraduate affairs, including:
  - approval of transfer credits
  - waiving of pre/co-requisites
  - approval of course conflicts
- acting head for periods of up to 1 month
- development of promotional material for the department
- assist Administrative Assistant with timetabling of courses
- chair Board of Examiners meetings
- responsible for cooperative education program
  - assist cooperative coordinator with long term goals and program planning
  - selection of students for the program

### Administrative Courses

<u>Date</u>	<u>Course</u>
2008	▪ Development for Deans (Phoenix) Council for Advancement and Support of Education (CASE)
2006	▪ Senior University Administrators Course (Banff) Centre for Higher Education Research and Development (CHERD)
2004	▪ University Management Course (Banff) Centre for Higher Education Research and Development (CHERD)

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## SUMMARY OF TEACHING

### **Undergraduate Courses Taught**

- fluid mechanics
- design of hydraulic structures
- numerical methods in engineering analysis
- river engineering
- design of water resources systems
- computer applications in civil engineering
- engineering hydrology

### **Graduate Courses Taught**

- ice engineering
- coastal hydraulics
- river engineering
- stormwater hydraulics
- design of water resource systems
- statistical methods in hydrology

### **Undergraduate Theses Supervised**

<u>Name</u>	<u>Year</u>	<u>Title</u>
Malenchak, J.	2004	Modeling wind-induced effects on Manitoba lakes
Brandt, J.	2003	A mathematical model for turbine calibration
Clark, S.	2002	Hydraulic impacts of the proposed Matheson Island causeway
Morris, M.	1999	A digital image processing system to characterize anchor ice
Kirouac, A.	1999	Streamflow trends in the prairie-northern region
Kudlak, J.	1999	An analysis of wave height versus runup at Grand Rapids generating station
Fraser, B.	1999	Developing a RDS testing methodology for low-head hydroelectric plants
Manson, C.	1999	1D modeling of wind induced setup over flooded land
Clayton, B.	1997	A comparison of methods for computing Manning's n in open channels
Ransom, B.	1997	A comparison of codes for computing discharge through a turbine
Baryla, A.	1996	On the mechanical generation of realistic waves
Fuchs, D.	1996	Sloped, rockfilled, fish passage studies
Gonzalez, N.	1996	Mitigating Flood Damage in South Transcona
Lee, J.	1996	Using DAMBRK for Emergency Preparedness Planning (E.P.P.)
Lovelace, D.	1996	BMPs for Winnipeg
Hans, P.	1995	Lake Winnipeg Shoreline Erosion Study
McTavish, G.	1994	Longshore & On-offshore Sediment Transport at Chalet Beach
Mickelson, E.	1994	Design of Shore Protection: Chalet Beach, Lake Winnipeg

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## SUMMARY OF RESEARCH ACTIVITIES

### Graduate Student Supervision

<u>Name</u>	<u>Degree</u>	<u>Year</u>	<u>Title</u>
*Malenchak, J.	Ph.D.	2012	Numerical Modeling of River Ice Processes on the Lower Nelson River
Halket, I. (co-advisor)	Ph.D.	2010	The Effect of the Pool and Riffle on Transport in Rivers
*Chanel, P.	M.Sc.	2008	An Evaluation of Computational Fluid Dynamics for Spillway Modeling
†Unduche, F.	Ph.D.	2008	A Theoretical and Experimental Study of the Evolution of Surface Ice
Magura, C.	M.Sc.	2007	Hydraulics of Partially Buried Culverts
*Clark, S.	Ph.D.	2006	An Experimental Study on the Formation and Evolution of Frazil Ice
Wang, S.	Ph.D.	2006	Mathematical Modeling of Frazil Ice Formation and Evolution
†Qu, Y.	Ph.D.	2006	A Theoretical and Experimental Study of Anchor Ice
†Murillo-Muñoz, R.	Ph.D.	2006	Hydraulics of Stepped Spillways
Brown, D.	M.Eng.	2005	Investigation of the Optimum Construction Sequence for the Expansion of the Red River Floodway
Kirouac, A.	M.Eng.	2005	A Two-Dimensional Model for Flood Simulation and Wind Setup along the West Dyke
Danielson, D.	M.Sc.	2003	A Bispectral Analysis of Near Bed Velocity Measurements
*Morris, M.	M.Sc.	2003	A Digital Image Proc. System to Characterize Frazil Ice
†Ye, S.	Ph.D.	2002	A Laboratory Study of Frazil Ice Processes
Fuchs, D.	M.Sc.	1999	2D Modeling of Wind Waves on Inland Lakes
Gonzalez, N.	M.Sc.	1999	2D Finite Element Modeling of Red River Floods
Baryla, A.	M.Sc.	1998	Laboratory Measurements of Wave-Induced Near-Bed Velocity Over A Sloping Natural Sand Beach
Hans, P.	M.Sc.	1997	Discharge Estimation Techniques for Hydraulic Efficiency Testing
*Gawne, K.	M.Sc.	1997	Developing an Acoustic Discharge Measurement Technique for Hydroelectric Performance Testing
Giesbrecht, B.	M.Sc.	1996	Efficient Algorithms for the Mech. Generation of Waves
McNeil, D.	M.Eng.	1996	Hydraulics of a Stormwater Retention Basin
Culp, D.	M.Eng.	1993	Urban Stormwater Treatment Pond Volume Optimization
Al Bedawi, M.	Ph.D.	1993	Dynamic Behavior of Head Loss in a Deep Bed Granular Filter Based on Deposition Morphology

\* NSERC PGS funded graduate student

† University of Manitoba Graduate Fellowship (UMGF) funded graduate student

## Research Assistants

<u>Name</u>	<u>Year</u>	<u>Description</u>
Kehler, N.	2006	NSERC USRA - performing skim ice experiments and numerical modeling of frazil ice processes
Chanel, P.	2005	NSERC USRA - development of digital image process techniques to classify frazil ice particles
Chanel, P.	2004	NSERC USRA - hydraulic model studies of the Red River Floodway inlet gates and outlet spillway - hydraulic model study of adverse current end sill energy dissipation
Malenchak, J.	2003	NSERC USRA - developed finite element models of Lake Manitoba, Dauphin Lake, and Lake Winnipeg to predict setup and wave height for the Province of Manitoba - conducted frazil and anchor ice experiments
Malenchak, J.	2002	NSERC USRA - conducted series of frazil and anchor ice experiments - developed finite element model of Lake Manitoba
Clark, S.	2001	NSERC USRA - developed software for frazil and anchor ice experiments - developed finite element model of Lake Winnipeg
Bekeris, L.	1999	NSERC USRA - conducted frazil and anchor ice experiments - analyzed data and prepared draft paper for publication
Dow, K.	1998	Co-op Student - calibrated instrumentation, performed ice experiments - setup digital image processing system
Lock, T.	1995	Research Engineer - setup and calibrated a continuous simulation model of the entire Seine River watershed
Hans, P. Franklin, K.	1994	Research Assistants - undertook a complete survey of the shoreline of the south basin of Lake Winnipeg in collaboration with Manitoba Hydro

## Research Associate(s)

<u>Name</u>	<u>Year</u>	<u>Description</u>
Ye, S.	2003 -04	- Adverse Current End Sill Study

## Visiting Scholar(s)

<u>Name</u>	<u>Year</u>	<u>Description</u>
Yang, X.	1998-99	- collaborated on the development of a characterize anchor ice growth digital image processing system to

## Postdoctoral Fellows

<u>Name</u>	<u>Year</u>	<u>Description</u>
Zare, Hesham	2008-12	- Forced hydraulic jump stilling basins
Ashiq, M.	2002-03	- Development of a new approach to predict and examine sediment transport and deposition in irrigation canals

## Examining Committees (does not include students I supervised)

<u>Year</u>	<u>Student</u>	<u>Degree</u>	<u>Role</u>
2015	Stammers, C	M.Sc.	examiner
2014	Gupta, M	Ph.D.	examiner
2013	Sun, J.	Ph.D.	examiner
2012	Kim, S.J.	Ph.D.	examiner
2009	Pucko, M.	Ph.D.	examiner
2009	Joon, S.	Ph.D.	examiner
2008	Ehn, J.	Ph.D.	examiner
2006	Paul, S.S.	Ph.D.	examiner
2006	Al-Sood, M.M.A.	Ph.D.	examiner
2004	Shah, M.	M.Sc.	examiner
2003	Xu, R.	Ph.D.	examiner
	Romanek, D.	M.Sc.	examiner
2000	Núñez, M.D.C.	M.Sc.	examiner
1999	Li, H.	Ph.D.	examiner
	Wang, Y.Q.	Ph.D.	examiner
1998	Duncan, J.	M.Eng.	examiner
	Tang, H.	M.Sc.	examiner
1997	Maier, M.	M.Sc.	examiner
	Desai, N.	M.Sc.	examiner
1996	Weibe, B.J.	M.Sc.	examiner
	Graham, R.	M.Sc.	examiner
1995	Mwaka, M.	M.Sc.	examiner
	Sitar, J.V.	M.Sc.	examiner
	Radford, D.D.	M.Sc.	examiner
1993	Danielson, B.	M.Eng.	reader
	Li, W.	M.Sc.	examiner
	Al Beldawi, M.	Ph.D. oral	co-advisor / examiner
1992	Huang, G.	Ph.D. cand.	examiner
1991	Khajehogahi, K.	Ph.D.	supervisor (until 1993)
	Patterson, S.	Ph.D.	examiner



## Summary of Research Grants

<u>Grantee(s)</u>	<u>Title (Funding Agency)</u>	<u>Amount</u>	<u>Year(s)</u>
Doering	An Investigation of Frazil Ice Processes (NSERC Discovery)	\$115,000.	2008-13
Doering	An Evaluation of Computational Fluid Dynamics for Spillway Modeling (Manitoba Hydro)	\$54,702	2006-08
Doering	Development of a Practical Application and Further Enhancement of CRISSP2D (Manitoba Hydro)	\$63,326.	2006-08
Doering	Assessment of CRISPP Model (Manitoba Hydro)	\$10,000.	2005
Doering	A Digital Image Analysis of Frazil Ice (Manitoba Hydro)	\$51,344.	2004-06
<u>Blatz</u> , Doering	Evaluating Design Methods for Rockfilled Dams (NSERC CRD)	\$8,200. \$33,200.	2004 2005
<u>Blatz</u> , Doering	Evaluating Design Methods for Rockfilled Dams (Manitoba Hydro)	\$41,500.	2004
<u>Doering</u> , Shalaby, Snelgrove, Alfaro, Svecova	Climate Change Damage Tolerant Transportation Infrastructure in Manitoba (Environ. CDN)	\$10,000.	2004
<u>Doering</u> , Shalaby, Snelgrove, Alfaro, Svecova	Climate Change Damage Tolerant Transportation Infrastructure in Manitoba (WED)	\$20,000.	2004
<u>Doering</u> , Shalaby, Snelgrove, Alfaro, Svecova	Climate Change Damage Tolerant Transportation Infrastructure in Manitoba (PARC)	\$25,000	2004
<u>Doering</u> , Shalaby, Snelgrove, Alfaro, Svecova	Climate Change Damage Tolerant Transportation Infrastructure in Manitoba (NRCAN)	\$100,000	2004
Doering	Adverse Current End Sill Study (Manitoba Hydro)	\$85,733.	2003-2005
<u>Tachie</u> , Doering	A Facility for the Study of Turbulent Flows (Manitoba Hydro)	\$50,000.	2003

Doering	A Laboratory Investigation of Frazil and Anchor Ice Processes (Manitoba Hydro)	\$89,558.	2004-2005
Doering	A Hydraulic Characterization of Partially Buried Culverts (Manitoba Transportation & Gov't Services)	\$24,897.	2003-2004
Doering	A Hydraulic Characterization of Partially Buried Culverts (Manitoba Hydro)	\$29,400.	2003-2004
<u>Tachie</u> , Doering	Facility for the Study of Turbulent Flows and Flow in Porous Media (CFI / Manitoba Innovation Fund)	\$282,771.	2003
Doering	An Investigation of Frazil Ice Processes (NSERC Discovery)	\$126,700.	2003-2008
<u>Blatz</u> , Alfaro, Graham, Doering	Assessing the Reliability of Temporary Flood Protection Works (City of Winnipeg)	\$70,000.	2003-2004
<u>Penner</u> , Miles, Drouin, Doering	Frazil Ice Prediction System: Phase 1 – Monitoring System (Manitoba Hydro)	\$30,000.	2002
<u>Snelgrove</u> , Doering	Multi-Processor Computing Support for Water Resources Modeling and GIS (NSERC Equipment)	\$24,952.	2002
Doering	A Digital Image Analysis of Frazil Ice (Manitoba Hydro)	\$37,198.	2002-2003
Doering	Hydraulics of Stepped Spillways (Manitoba Hydro)	\$29,250. \$17,000.	2001-2002 2002-2003
Doering	A Laboratory Study of Frazil and Anchor Ice Processes (NSERC CRD)	\$22,638. \$66,900. \$34,900.	2000-2001 2001-2002 2002-2003
<u>Naterer</u> , Popplewell, Shah, Soliman, Doering	Prediction and Alleviation of Icing of Structures (CFI / Manitoba Innovation Fund / Manitoba Hydro)	\$598,520.	2000-2003
Doering	Laboratory Studies of Frazil and Anchor Ice Growth (Manitoba Hydro)	\$122,438.	1999-2002

Doering	An investigation of the near-bed flow field (NSERC Research Grant)	\$107,100.	1999-2003
Doering	Rh Institute Award	\$3,500.	1999
Doering, Girling	Developing Instrumentation for Laboratory and Field Studies of Frazil and Anchor Ice (Manitoba Hydro)	\$46,200.	1998-99
Doering	Modeling Wind-Waves on Lake Winnipeg (NSERC IOR)	\$17,000.	1997-98
<u>Girling</u> , Doering, Carson, Cotel	Laboratory Study of Limestone Tailrace Anchor Ice Problem (Manitoba Hydro)	\$90,000.	1997-98
Doering	Ott Meter Testing Techniques (NSERC IOR)	\$33,160.	1996-97
<u>Hay</u> , Bowen, Doering	Canadian Coastal Sediment Dynamics Research Partnerships: a special opportunity and a new initiative (NSERC CSP)	\$196,000. \$235,000. \$135,000.	1996-97 1997-98 1998-99
Doering	Lake Winnipeg Shore Processes Program (Manitoba Hydro)	\$20,000.	1996-97
<u>Thorleifson</u> , Doering, Forbes, Nielsen,	Lake Winnipeg Shore Processes Program (Manitoba Hydro)	\$10,000.	1996-97
Doering	Ott Meter Testing Techniques (Manitoba Hydro)	\$33,160.	1996-97
Doering	Developing an Acoustic Method of Turbine Calibration (NSERC IOR)	\$38,130.	1995-96
Doering	Sloped Rockfill Fish Passage Studies (Manitoba Hydro)	\$8,000.	1995-96
Doering	Developing an Acoustic Method of Turbine Calibration (Manitoba Hydro)	\$38,130.	1995-96
Doering	Sediment Dynamics in Wave-Current Boundary Layers (NSERC Research Grant)	\$53,300.	1995-99
Doering	Developing a Hydraulics Research Facility (NSERC SEF)	\$128,000.	1994-95
<u>Doering</u> , Booy, Burn, Lence, Simonovic	Developing a Hydraulics Research Facility (Manitoba Hydro)	\$120,000.	1994-95

Doering	Modeling Shoreline Erosion on Lake Winnipeg (Manitoba Hydro)	\$36,500.	1994-95
Doering	Sediment Dynamics in Wave-Current Boundary Layers (Civil & Geol. Eng.; matching GRG funds)	\$10,000.	1994-95
Doering	Sediment Dynamics in Wave-Current Boundary Layers (GRG funds)	\$8,000.	1994-95
Doering	Developing a Hydraulics Research Facility (Dean's Supply Funds)	\$4,500.	1994-95
Doering	Developing a Hydraulic Dredge Head (TetrES Consultants)	\$6,500.	1993-94
Doering	Developing Detailed Predictive Models of Sediment Transport / U of M URGP	\$3,208.	1993-94
Doering	Startup funds (University of Manitoba)	\$10,000.	1993-94
Doering	Wave Kinematics and Nearshore Processes (NSERC Operating)	\$51,000.	1992-95
Doering	Optimization of Stormwater Pond Volume (Environment Canada)	\$5,000.	1992-93
Doering	Startup funds (McMaster University)	\$15,000.	1991-92

## Summary of University-Industry Research Partnerships

<u>Title</u>	<u>Year(s)</u>
• physical hydraulic model (2/3 scale) of inlet restrictors for stormwater catch basins; done in collaboration with Wardrop Engineering Inc. for the City of Winnipeg: Phase II	2005
• physical hydraulic modeling of the Red River Floodway outlet structure in collaboration with Acres Manitoba, KGS Group, and UMA	2004
• physical hydraulic modeling of the Red River Floodway inlet gates in collaboration with SNC Lavalin Inc. and Wardrop Engineering Inc	2004
• physical hydraulic modeling of partially buried culverts for the Province of Manitoba Transportation and Government Services	2004
• physical hydraulic modeling of inlet restrictors for stormwater catch basins; done in collaboration with Wardrop Engineering Inc. for the City of Winnipeg	2003
• physical modeling of the Limestone anchor ice problem at Sundance Rapids using the counter-rotating ice flume to investigate excavation strategies	1999
• collection and processing of wind, wave, and runup data in Grand Rapids Generating Station forebay for dam safety engineering (in collaboration with Acres International)	1998-99 1997-98
• physical hydraulic modeling to design a complementary intake for a hydroelectric plant in Peru (in collaboration with Acres International)	1997
• hydrologic and hydraulic modeling of the Seine River Watershed for the City of Winnipeg	1994
• designed a hydraulic dredge head to remove organic sediment from the City of Winnipeg's water supply reservoir (in collaboration with TetrES consultants)	1993

## PUBLICATIONS

### Refereed Journal Papers

- [1] Halket, I.H., P.F. Rasmussen, and J.C. Doering, 2013. The effect of the pool and riffle on dissolved non-conservative mass transport in rivers. *Water Qual. Res. J. of CDN*, 48.3, 232-242.
- [2] Zare, H.K. and J.C. Doering, 2012. Effect of rounding edges of stepped spillways on the flow characteristics. *Can. J. Civil Eng.*, 39, 140-153.
- [3] Zare, H.K. and J.C. Doering, 2012. Energy dissipation and flow characteristics of baffles and sills on stepped spillways. *J. Hydraulic Res.*, 50(2), 192-199.
- [4] Zare, H.K. and J.C. Doering, 2011. Forced hydraulic jumps below abrupt expansions. *ASCE J. Hydraulic Eng.*, 137(8), 825-835.
- [5] Clark, S. and J. Doering, 2009. Frazil flocculation and secondary nucleation in a counter-rotating flume. *Cold Regions Sci & Tech.*, 55(2), 221-229.
- [6] Clark, S. and J. Doering, 2008. An experimental investigation of the effects of turbulence intensity on frazil ice characteristics. *Can. J. Civil Eng.*, 35(1), 67-79.
- [7] Wang, S. and J.C. Doering, 2007. Development of a mathematical model of frazil ice evolution based on laboratory tests using a counter-rotating flume. *Can. J. Civil Eng.*, 34(2), 210-218.
- [8] Qu, Y. and J. Doering, 2007. Laboratory study of anchor ice evolution around rocks and on gravel beds. *Can. J. Civil Eng.*, 34(1), 46-55.
- [9] Ashiq, M., J. Doering, and T. Hosoda, 2006. Bed-load transport model based on fractional size distribution. *Can. J. Civil Eng.*, 33(1), 69-80.
- [10] Clark, S. and J. Doering, 2006. Laboratory experiments on frazil-size characteristics in a counter-rotating flume. *ASCE J. Hydraulic Eng.*, 132(1), 94-101.
- [11] Wang, S. and J. Doering, 2005. Numerical simulation of supercooling process and frazil ice evolution. *ASCE J. Hydraulic Eng.*, 131(10) 889-897.
- [12] Brandt, J. and J. Doering, 2005. An improved model for predicting the efficiency of hydraulic turbines. *Can. J. Civil Eng.*, 32(5), 789-795.
- [13] Ye, S., J.C. Doering, and H.T. Shen, 2004. A laboratory study of frazil evolution in a counter-rotating flume. *Can. J. Civil Eng.*, 31, 819-914.
- [14] Ye, S., and J.C. Doering, 2004. Simulation of supercooling process and frazil evolution in turbulent flows. *Can. J. Civil Eng.*, 31, 915-926.
- [15] Doering, J.C. and M.P. Morris, 2003. A digital image processing system to characterize frazil ice. *Can. J. Civil Eng.*, 30(1), 1-10.
- [16] Doering, J.C. and A.J. Baryla, 2002. An investigation of the velocity field under regular and irregular waves over a natural sand beach. *Coastal Eng.*, 44(4), 275-300.
- [17] Doering, J.C. and P.D. Hans, 2001. Turbine discharge by the velocity-area method. *ASCE J. of Hydraulic Eng.*, 127(9), 747-752.
- [18] Doering, J.C., L.E. Bekeris, M.P. Morris, K.E. Dow, and W.C. Girling, 2001. Laboratory study of anchor ice growth. *ASCE J. of Cold Regions Eng.*, 15(1) 60-66.
- [19] Doering, J.C. and K.D. Gawne, 2000. Acoustic discharge measurements for the performance testing of low-head hydroelectric turbines under disturbed flow conditions. *Can. J. Civil Eng.*, 27(1), 160-165.
- [20] Doering, J.C. and K.D. Gawne, 1999. Gauss-Legendre measurements of flow through a low-head hydroelectric intake. *Can. J. Civil Eng.*, 26(4), 489-496.

- [21] Doering, J.C., and P.D. Hans, 1998. A comparison of methods for computing discharge through hydroelectric turbines. *Can. J. Civil Eng.*, 25(5), 886-897.
- [22] Doering, J.C. and K.D. Gawne, 1998. Developing an Acoustic Discharge Measurement Technique for Hydroelectric Performance Testing. *Can. J. Civil Eng.*, 25(4), 777-788.
- [23] Doering, J.C., 1998. Laboratory and field observations of the joint distribution of shoaling wave heights and periods. *J. Coastal Res.*, 14(3), 1099-1108.
- [24] Doering, J.C., and M.A. Donelan, 1997. Linear predictions of the velocity field beneath shoaling and breaking waves. *Coastal Eng.*, 32, 321-330.
- [25] Doering, J.C., 1997. Predicting shoaling wave heights. *J. Coastal Res.*, 13(4), 1213-1220.
- [26] Doering, J.C., G. Mohr, and E. Blais, 1997. Development of a hydraulic dredge head. *Envir. Tech.*, v. 18, 285-292.
- [27] Wilms, E.V., J.C. Doering, and H. Cohen, 1997. One, two, and three degrees of freedom systems with linear damping. *Mech. Res. Comm.*, 24, 27-31.
- [28] Doering, J.C. and A.J. Bowen, 1995. Parameterization of orbital velocity asymmetries of shoaling and breaking waves using bispectral analysis. *Coastal Eng.*, 26, 15-33.
- [29] Doering, J.C., and M.A. Donelan, 1993. The joint distribution of heights and periods of shoaling waves. *J. Geophys. Res.*, 98, 12,543-12,555.
- [30] Doering, J.C., 1993. On the prediction of wave-induced forces. *J. Offshore Mech. and Arctic Eng.*, ASME, 65-72.
- [31] Donelan, M.A., F. Anctil, and J.C. Doering, 1992. A simple method for calculating the velocity field beneath irregular waves. *Coastal Eng.*, 16, 399-424.
- [32] Doering, J.C. and A.J. Bowen, 1987. Skewness in the nearshore zone: A comparison of estimates from Marsh-McBirney current meters and colocated pressure sensors. *J. Geophys. Res.*, 92, 13,173-13,184.

### **Submitted Papers**

none

### **Invited Papers**

- [1] Gonzalez, N. and J.C. Doering, 1999. 2D Modeling of Floodway Flows. *Proc. CWRA Conf. on Red River Flooding – Decreasing Our Risks*, Paper VIII, 1 – 20.
- [2] Doering, J.C. and K.D. Gawne, 1997. Going acoustic with the flow - TADM. Feature R&D paper, *Int. Water Power and Dam Const.*, 49(10).
- [3] Doering, J.C. and R.J. Bowering, 1997. The Flood of the Century: An Indelible Impression. *Can Water Res. Ass.*, 16(3).
- [4] Burn, D.H. and J.C. Doering, 1997. The Red River Flood of 1997. *Canadian Civil Engineer*, Nov.

### **Full (Refereed) Conference Papers**

- [1] Zare, H.K., and J.C. Doering, 2009. Length of forced free hydraulic jump below symmetric and asymmetric expansions. *Proc. Economics and Managements of Water in Arab World and Africa (EMWAWA)*, November 18-19, Assiut, Egypt.
- [2] Malenchak, J., Morris, M., Shen, H., Doering, J., 2008. Numerical simulation of ice conditions on the Nelson river. *Proc. 19<sup>th</sup> IAHR Ice Symposium*, Vancouver.

- [3] Chanel, P.G. and J. Doering, 2007. An evaluation of computational fluid dynamics for spillway modeling. Proc. 16<sup>th</sup> Australasian Fluid Mech. Conf., Gold Coast, Australia,
- [4] Unduche, F., and J.C. Doering, 2007. Experimental study of the formation of different types of surface ice runs. Proc. 14th Workshop on River Ice, Quebec City, QC.
- [5] Unduche, F., and J.C. Doering, 2007. Laboratory observations of skim ice particles. Proc. 14th Workshop on River Ice, Quebec City, QC.
- [6] Clark, S., and J.C. Doering, 2007. Effect of turbulence intensity on frazil flocculation and secondary nucleation. Proc. 14th Workshop on River Ice, Quebec City, QC.
- [7] Clark, S., and J.C. Doering, 2006. Effect of turbulence intensity on frazil ice formation, Proc. IAHR 2006 Ice Symposium.
- [8] Malenchak, J. Morris, M., Shen, H.T., and J. Doering, 2006. Modeling anchor ice growth at Sundance rapids, Proc. IAHR 2006 Ice Symposium.
- [9] Ashiq, M., Doering, J.C., and M. Younus, 2004. Sediment transport experimentation by using a physical model: experiences learned. Proceedings of the 9<sup>th</sup> Int. Symp. on River Sedimentation (ISRS), Yichang, China, 18 -21 October, F206.
- [10] Brandt, J., and J.C. Doering, 2004. Towards an improved model for predicting hydraulic turbine efficiency, Proc. IGHEM, Lucerne, Switzerland, Paper 3, 14 pp.
- [11] Clark, S., and J.C. Doering, 2004. A laboratory study of frazil ice size distributions, Proc. IAHR 2004 Ice Symposium, St. Petersburg, Russia, 291-297.
- [12] Ettema, R., Chen, Z., and J.C. Doering, 2003. Making frazil ice in a large ice tank. Proc. 12th Workshop on River Ice, Edmonton, AB, 15-27.
- [13] Ye, S., and J.C. Doering, 2003. A model for the vertical distribution of frazil ice. Proc. 12th Workshop on River Ice, Edmonton, AB, 28-38.
- [14] Doering, J.C. and S. Ye, 2003. River ice research at the University of Manitoba. Proc. International Yellow River Forum on River Basin Management, Zhengzhou, China, vII, 30-36.
- [15] Elfrink, B., Doering, J.C., Hanes, D., G. Ruessink, 2002. Near bed orbital velocities under irregular waves. Proc. 28th Int. Conf. Coastal Eng., ASCE, accepted.
- [16] Doering, J.C. and S. Clark, 2002. Laboratory observations of frazil ice. Proc. IAHR 2002 Ice Symposium, Dunedin, New Zealand, 167-173.
- [17] Murillo, R. and J.C. Doering, 2002. Uses of stepped chutes and cascades. Proc. 55th Ann. Canadian Water Resources Conf., Winnipeg, Manitoba, paper a7b.
- [18] Ye, S., and J.C. Doering, 2001. Estimation of suspended frazil ice carrying capacity in turbulent flows. Proc. 3rd Int. Symp. on Environmental Hydraulics (ISEH), Arizona State University, Tempe Arizona, on CD-ROM, published by Mira Digital Publishing.
- [19] Ye, S., and J.C. Doering, 2001. Frazil ice capacity: a new approach. Proc. XXIX IAHR Congress, Beijing, China, Theme D, 442-447.
- [20] Ye, S., and J.C. Doering, 2001. Flow turbulence and frazil size. Proc. 11th Workshop on River Ice, Ottawa, ON, 364-374.
- [21] Morris, M., and J.C. Doering, 2001. Laboratory Characterization of frazil ice using a digital image processing system. Proc. 11th Workshop on River Ice, Ottawa, ON, 217-222.
- [22] Doering, J.C., B. Elfrink, D.M. Hanes, and G. Ruessink, 2000. Parameterization of velocity skewness under waves and its effect on cross-shore sediment transport. Proc. 27th Int. Conf. Coastal Eng., ASCE, Australia, 1383-1396.
- [23] Doering, J.C., Morris, M., Girling, W.C., and K. Dow, 1999. Laboratory studies of anchor ice growth using a digital image processing system. Proc. 10th Workshop on River Ice, Winnipeg, MB, 377-387.



- [24] Fuchs, D. and J.C. Doering, 1999. 2D Finite depth modeling of wind-waves on Lake Winnipeg. Proc. Canadian Coastal Conf., Victoria, BC, 689-703.
- [25] Gawne, K.D. and J.C. Doering, 1998. Improving operating efficiency: developing an acoustic flow measurement technique for performance testing. Proc. 1st Ann. Canadian Dam Ass. Conf., Halifax, 234-250.
- [26] Gawne, K.D. and J.C. Doering, 1996. Developing an acoustic method of turbine calibration. Proc. IGHEM, Montreal, Paper 13.
- [27] Hans, P.D. and J.C. Doering, 1996. A comparison of discharge calculation methods. Proc. IGHEM, Montreal, Paper 15.
- [28] Nielsen, E., McLeod, K.D., Pip, E., and J.C. Doering, 1996. Late Holocene Environmental Changes in Southern Manitoba. Proc. Geol. Assoc. Canada, Field Trip Guidebook A2, Winnipeg, 32 p.
- [29] Giesbrecht, B.W. and J.C. Doering, 1995. Laboratory wave generation in a MATLAB environment. Proc. Canadian Coastal Conf., Halifax, 349-362.
- [30] Penner, W.V. and J.C. Doering, 1995. Numerical beach evolution modeling on Lake Winnipeg. Proc. Canadian Coastal Conf., Halifax, 709-722.
- [31] Doering, J.C., 1995. Lake Winnipeg: The need for shoreline management. Proc. Canadian Coastal Conf., Halifax, 259-270.
- [32] Culp, D. and J.C. Doering, 1995. Optimization of urban stormwater treatment pond volume using historic rainfall records. Proc. 31st Conf. on Advances in Model Use and Development in Water Resources, AWRA, Houston, 235-240.
- [33] Culp, D. and J.C. Doering, 1995. Urban stormwater treatment pond volume optimization for a horizontal orifice outflow device. Water Res. Eng., ASCE, San Antonio, 1263-1267.
- [34] Doering, J.C., 1994. The joint distribution of heights and periods of shoaling waves: a comparison of laboratory and field data. Proc. Canadian Coastal Zone '94, Halifax, 1918-1930.
- [35] Doering, J.C., 1993. Modeling near-surface currents in coastal waters. Proc. Canadian Coastal Conf., Vancouver, 124-135.
- [36] Doering, J.C. and M.A. Donelan, 1992. The evolution of the joint probability density function of wave height and period during shoaling. Proc. 2nd Caribbean Conf. on Fluid Dynamics, Trinidad, 232-239.
- [37] Doering, J.C., 1991. The shoaling process: some physical insight. Proc. Workshop on wave groups, NRCC, Ottawa.
- [38] Anctil, F., J.C. Doering, and M.A. Donelan, 1991. A theoretically consistent method for computing the velocity field beneath wave groups. Proc. Workshop on Wave Groups, NRCC, Ottawa.
- [39] Doering, J.C. and C.T. Bishop, 1990. Wave height prediction using TMA. Proc. Canadian Coastal Conf., Kingston, 241-255.
- [40] Desrosiers, R.J., J. Valdmanis, I.K. Tsanis, M.A. Donelan, J.C. Doering, K.K. Kahma, H.A. Savile, and F.E. Roy, 1989. Waves research instrumentation in Lake Ontario. Proc. Workshop on instrumentation for hydraulics laboratories, IAHR, Burlington, 293-308.
- [41] Doering, J.C. and A.J. Bowen, 1988. On the interaction between suspended sediment and wave-induced flow in the nearshore. Proc. 21st Int. Conf. Coastal Eng., ASCE, Malaga, 1452-1463.
- [42] Doering, J.C. and A.J. Bowen, 1987. Vertical variation of wave-induced flows? Proc. Canadian Coastal Conf., Quebec City, 227-238.
- [43] Doering, J.C. and A.J. Bowen, 1987. Fundamental interactions in the nearshore? Proc. Coastal Sediments '87, ASCE, New Orleans, 710-722.

- [44] Doering, J.C. and A.J. Bowen, 1986. Shoaling surface gravity waves: A bispectral analysis. Proc. 20th Int. Conf. Coastal Eng., ASCE, Taipei, 150-162.
- [45] Doering, J.C. and A.J. Bowen, 1985. Skewness et al., the spatial distribution of some moments of the nearshore velocity field. Proc. Canadian Coastal Conf., St John's, Newfoundland, 5-16.
- [46] Bowen, A.J. and J.C. Doering, 1984. Nearshore sediment transport: Estimates from detailed measurements of the nearshore velocity field. Proc 19th Int. Conf. Coastal Eng., ASCE, Houston, 1703-1714.

### **Poster Presentations**

- [1] Forbes, D.L., C.F.M. Lewis, J.C. Doering, D. Frobel, D.E. Heffler, E. Nielsen, and L.H. Thorleifson, 2001. Shoreline erosion processes in Lake Winnipeg. 44th Annual Int. Assoc. of Great Lakes Res., Green Bay Wisconsin, USA.
- [2] Elfrink, B., J.C. Doering, and D.M. Hanes, 2000. The parameterization of nearbed velocity skewness and its influence upon cross-shore sediment transport. AGU, San Francisco, USA.

### **Theses Supervised**

- [1] Malenchak, Jarrod, 2012. Numerical modeling of river ice processes on the Lower Nelson River, Ph.D. Thesis, University of Manitoba, 289 pp.
- [2] Halket, Ian, 2010. The Effect of the Pool and Riffle on Transport in Rivers, Ph.D. Thesis, University of Manitoba, 156 pp. (co-supervised with P. Rasmussen)
- [3] Chanel, Paul, 2008. An Evaluation of Computational Fluid Dynamics for Spillway Modeling, M.Sc. Thesis, University of Manitoba, 84 pp.
- [4] Unduche, Fisaha, 2008. A theoretical and experimental study of the evolution of surface ice. Ph.D. Thesis, University of Manitoba, 156 pp.
- [5] Magura, Christopher, 2007. Hydraulic characteristics of embedded circular culverts. M.Sc. Thesis, University of Manitoba, 264 pp.
- [6] Clark, Shawn, 2006. An experimental study of the formation and evolution of frazil ice. Ph.D. Thesis, University of Manitoba, 235 p.
- [7] Wang, Shuang Ming, 2006. Mathematical modeling of frazil ice formation and evolution. Ph.D. Thesis, University of Manitoba, 144 p.
- [8] Qu, Yuexia, 2006. A theoretical and experimental study of anchor ice. Ph.D. Thesis, University of Manitoba, 198 p.
- [9] Murillo-Munoz, R., 2006. Experimental study of the development flow region on stepped chutes. Ph.D. Thesis, University of Manitoba, 240 p.
- [10] Brown, D., 2005. Investigation of the optimum construction sequence for the expansion of the Red River Floodway. M.Eng. Thesis, University of Manitoba.
- [11] Kirouac, A., 2005. A Two-Dimensional model for flood simulation and wind setup along the west dyke. M.Eng. Thesis, University of Manitoba.
- [12] Danielson, D., 2003. A bispectral analysis of nearshore flow meter data. M.Sc. Thesis, University of Manitoba, 95 p.
- [13] Morris, M.P., 2003. A digital image processing system for the characterization of frazil ice. M.Sc. Thesis, University of Manitoba, 86p.
- [14] Ye, S., 2002. Physical and mathematical study of the supercooling process and frazil evolution. Ph.D. Thesis, University of Manitoba, 225 p.

- [15] Fuchs, D.M.R., 1999. 2D spectral modeling of wind-waves on inland lakes. M.Sc. Thesis, University of Manitoba, 152 p.
- [16] Gonzalez, N., 1999. 2D modeling of the Red River Floodway. M.Sc. Thesis, University of Manitoba, 111 p.
- [17] Baryla, A.J., 1998. Laboratory measurements of wave-induced near-bed velocity over a sloping natural sand beach. M.Sc. Thesis, University of Manitoba, 156 p.
- [18] Hans, P.D., 1997. Discharge estimation techniques for hydraulic efficiency testing. M.Sc. Thesis, University of Manitoba, 153 p.
- [19] Gawne, K.D., 1997. Developing an acoustic discharge measurement technique for hydroelectric performance testing. M.Sc. Thesis, University of Manitoba, 167 p.
- [20] Giesbrecht, B.W., 1996. The efficient generation of laboratory waves correct to second-order. M.Sc. Thesis, University of Manitoba, 93 p.
- [21] McNeil, D.D., 1996. Waverley heights land drainage study using the stormwater management model (SWMM). M.Eng. Thesis, University of Manitoba, 70 p.
- [22] Al Beldawi, M.F., 1993. Dynamic behaviour of head loss in a deep bed granular filter based on deposition morphology. Ph.D. Thesis, McMaster University, 253 p.
- [23] Culp, D.E., 1993. Urban stormwater treatment pond volume optimization. M.Eng. Thesis, McMaster University, 71 p.

### **Government Papers**

- [1] Doering, J.C. and D.R. Fuchs, 2000. Modeling wind-waves on Lake Winnipeg: An Overview of the 1996 Research Program, Geol. Survey Can. Open File 3470.
- [2] Fuchs, D.M.R. and J.C. Doering, 1998. Lake Winnipeg shoreline processes program. Littoral, March 1998.
- [3] Doering, J.C., and M.A. Donelan, 1992. The joint distribution of heights and periods of shoaling waves. NWRI contribution 92-16, National Water Research Institute, Burlington, Ont.
- [4] Doering, J.C. and M.A. Donelan, 1992. The evolution of the joint probability density function of wave height and period during shoaling. NWRI contribution 91-126, National Water Research Institute, Burlington, Ont.
- [5] Doering, J.C., 1991. The shoaling waves laboratory experiments 1989-90. NWRI contribution 91-09, National Water Research Institute, Burlington, Ont.
- [6] Doering, J.C., 1991. The shoaling process: some physical insight. NWRI contribution 91-103, National Water Research Institute, Burlington, Ont.
- [7] Donelan, M.A., F. Anctil, and J.C. Doering, 1991. A simple method for calculating the velocity field beneath irregular waves. NWRI contribution 91-111, National Water Research Institute, Burlington, Ont.

### **Other**

- Doering, J.C., 1998. Sophisticated sensors watch the river flow. Interview for article that appeared in Design Engineering, March 1998, by M. Love.

### **Engineering Reports**

- [1] Doering, J.C., 2005. Review of Proposed Automatic Sampler Locations. Prepared for City of Winnipeg, Water and Waste Department, Laboratory Services Division.

- [2] Doering, J.C., 2002. Matheson Island Causeway: Hydraulic Impact Assessment. Prepared for Manitoba Aboriginal and Northern Affairs.
- [3] Doering, J.C., 2002. Engineering assessment of a slip and fall. Prepared for Brotman & Cramer.
- [4] Doering, J.C., 2001. Erosion assessment at Patricia Beach. Prepared for the RM of Victoria Beach.
- [5] Farlinger, D. and J.C. Doering, 2001. Long term loading of ice for the filming of “K19: The Widowmaker” on Lake Winnipeg. Prepared for K19 Production Limited Partnership, Toronto.
- [6] Doering, J.C., 2000. Engineering assessment of a slip and fall. Prepared for Deeley Fabbri Sellen.
- [7] Doering, J.C., 2000. Shoreline and Marina Protection Study for Winnipeg Beach and Hecla/Grindstone Provincial Parks. Prepared for Manitoba Conservation.
- [8] Doering, J.C., 1999. Engineering assessment of erosion in the RM of Saskatchewan. Prepared for Paterson Ross.
- [9] Doering, J.C., 1999. Fluid mechanics of a slip and fall. Prepared for Deeley Fabbri Sellen.
- [10] Doering, J.C., 1998. The preparation of a plan of operation for carrying out a study on flood emergency preparedness and mitigation programme. Prepared for the United Nations (Geneva).
- [11] Doering, J.C., 1998. An Investigation of Backwater Effects Caused by the Salt Point Road Crossing. Prepared for the Lake Winnipegosis Flood Committee (submitted to the Honorable D. Newman, Minister of Northern Affairs).
- [12] Doering, J.C., 1997. Managing erosion along the St. Ambroise provincial park beach shoreline. Prepared for Manitoba Natural Resources.
- [13] Lock, T. and J.C. Doering, 1996. Hydrologic and Hydraulic Modeling of the Seine River. Report to the Seine River Task Force, University of Manitoba, Hydraulics Research & Testing Facility, pp. 103.

### **Editor of Proceedings**

- Doering, J.C., 1999. Proc. 10th Workshop on River Ice. Committee on River Ice Processes and the Environment (CRIPE), Winnipeg, 409 pp.
- Doering, J.C., 1989. Proc. of the workshop on instrumentation for hydraulics laboratories, IAHR, Burlington, Ont. 434 p.

### **Red River Flooding Mitigation Lectures**

- Association of Professional Engineers and Geoscientists of Manitoba Student Dinner (2002)
- International Coalition for Land/Water Stewardship in the Red River Basin (2001)
- Canadian Public Works Association (Manitoba Chapter) (2001)
- Canadian Geotechnical Society (Manitoba Chapter) (2001)
- PC Caucus of Manitoba (twice in 2001)
- Canadian Institute of Geomatics (Manitoba Chapter) (2001)
- Government Employees of Manitoba (2001)
- Deputy Ministers of the Province of Manitoba (2001)
- On The Edge Lecture Series, University of Manitoba (2000)

## UNIVERSITY & PROFESSIONAL SERVICE

### University Service

<u>Year</u>	<u>Committees</u>
2016-17	<ul style="list-style-type: none"> <li>• President’s Executive Council</li> <li>• President’s CFI Advisory Committee</li> <li>• University IT Advisory Council</li> <li>• Vice-President (Research &amp; International) Office Executive</li> <li>• Associate Deans Research</li> <li>• Distinguished Lectureship</li> <li>• Provost’s Council</li> <li>• Strategic Enrolment Management Planning Committee (co-chair)</li> <li>• Strategic Enrolment Management Graduate Studies and Research sub-cmte (chair)</li> <li>• University’s Program Sustainability Committee</li> <li>• Strategic Planning Outcomes Working Group</li> </ul>
2015-16	<ul style="list-style-type: none"> <li>• University’s Food Service Committee</li> <li>• Senate Committee on Academic Computing</li> <li>• Senate Committee on University Research</li> <li>• Senate Committee on Rules and Procedures (Chair)</li> <li>• Senate</li> <li>• Staff Benefits Committee (Board Appointed)</li> <li>• Survey Review Committee</li> <li>• University’s Food Service Committee</li> </ul>
2014-15	<ul style="list-style-type: none"> <li>• University’s Food Service Committee</li> <li>• Senate Committee on Awards</li> <li>• Senate Committee on Academic Computing</li> <li>• Senate Committee on Nominations</li> <li>• Senate Committee on the Calendar</li> <li>• Senate Committee on Academic Review</li> <li>• Senate Committee on University Research</li> <li>• Senate Committee on Rules and Procedures (Chair)</li> <li>• Senate Executive</li> <li>• Senate</li> <li>• President’s Advisory Committee on the reappointment of the Dean of Arts</li> <li>• Staff Benefits Committee (Board Appointed)</li> <li>• Survey Review Committee</li> <li>• University’s Food Service Committee</li> </ul>
2016-17	<ul style="list-style-type: none"> <li>• Student Experience Committee</li> <li>• Senate Committee on Awards</li> <li>• Senate Committee on Academic Computing</li> <li>• Senate Committee on Nominations</li> <li>• Senate Committee on the Calendar</li> <li>• Senate Committee on Academic Review</li> <li>• Senate Committee on University Research</li> <li>• Senate Committee on Rules and Procedures (Chair)</li> <li>• Senate Executive</li> <li>• Senate</li> <li>• Staff Benefits Committee (Board Appointed)</li> <li>• Survey Review Committee</li> </ul>

2013-14	<ul style="list-style-type: none"> <li>• President's CFI Advisory Committee</li> <li>• President's Advisory Council on Information Technology and innovation</li> <li>• President's Executive Council</li> <li>• Vice-President (Academic) Office Executive</li> <li>• Associate Deans Research</li> <li>• Distinguished Lectureship</li> <li>• PhD Studies for Aboriginal Scholars (Chair)</li> <li>• Provost's Council</li> <li>• Strategic Enrolment Management Planning Cmte (co-chair)</li> <li>• Strategic Enrolment Management Graduate Studies and Research sub-cmte (chair)</li> </ul>	<ul style="list-style-type: none"> <li>• Student Experience Committee</li> <li>• Senate Committee on Awards</li> <li>• Senate Committee on Academic Computing</li> <li>• Senate Committee on Nominations</li> <li>• Senate Committee on the Calendar</li> <li>• Senate Committee on Academic Review</li> <li>• Senate Committee on University Research</li> <li>• Senate Committee on Rules and Procedures (Chair)</li> <li>• Senate</li> <li>• Staff Benefits Committee (Board Appointed)</li> <li>• Survey Review Committee</li> </ul>
2012-13	<ul style="list-style-type: none"> <li>• President's CFI Advisory Committee</li> <li>• President's Advisory Council on Information Technology and innovation</li> <li>• President's Executive Council</li> <li>• Vice-President (Academic) Office Executive</li> <li>• Associate Deans Research</li> <li>• Distinguished Lectureship</li> <li>• PhD Studies for Aboriginal Scholars (Chair)</li> <li>• Provost's Council</li> <li>• Strategic Enrolment Management Planning Cmte</li> <li>• Strategic Enrolment Management Graduate Studies and Research sub-cmte (co-chair)</li> </ul>	<ul style="list-style-type: none"> <li>• Student Experience Committee</li> <li>• Senate Committee on Awards</li> <li>• Senate Committee on Academic Computing</li> <li>• Senate Committee on Nominations</li> <li>• Senate Committee on the Calendar</li> <li>• Senate Committee on Academic Review</li> <li>• Senate Committee on University Research</li> <li>• Senate Committee on Rules and Procedures (Chair)</li> <li>• Senate</li> <li>• Staff Benefits Committee (Board Appointed)</li> <li>• Int'l Academic Pgm Development Fund</li> </ul>
2011-12	<ul style="list-style-type: none"> <li>• President's CFI Advisory Committee</li> <li>• President's Advisory Council on Information Technology and innovation</li> <li>• Associate Deans Research</li> <li>• Distinguished Lectureship</li> <li>• PhD Studies for Aboriginal Scholars (Chair)</li> <li>• Provost's Council</li> <li>• Strategic Enrolment Management Planning Cmte</li> <li>• Strategic Enrolment Management Graduate Studies and Research sub-cmte (co-chair)</li> </ul>	<ul style="list-style-type: none"> <li>• Student Experience Committee</li> <li>• Senate Committee on Awards</li> <li>• Senate Committee on Nominations</li> <li>• Senate Committee on the Calendar</li> <li>• Senate Committee on Academic Review</li> <li>• Senate Committee on University Research</li> <li>• Senate Committee on Rules and Procedures (Chair)</li> <li>• Senate</li> <li>• Staff Benefits Committee (Board Appointed)</li> <li>• Int'l Academic Pgm Development Fund</li> </ul>
2010-11	<ul style="list-style-type: none"> <li>• President's CFI Advisory Committee</li> <li>• Associate Deans Research</li> <li>• Distinguished Lectureship</li> <li>• PhD Studies for Aboriginal Scholars (Chair)</li> <li>• Provost's Council</li> <li>• Strategic Enrolment Management Planning Cmte</li> <li>• Strategic Enrolment Management Graduate Studies and Research sub-cmte (co-chair)</li> <li>• Resource Optimization and Service Enhancement (ROSE) - Finance Cmte</li> <li>• Senate Committee on Awards</li> </ul>	<ul style="list-style-type: none"> <li>• Senate Committee on Nominations</li> <li>• Senate Committee on the Calendar</li> <li>• Senate Committee on Computing</li> <li>• Senate Committee on Academic Review</li> <li>• Senate Committee on University Research</li> <li>• Senate Committee on Rules and Procedures (Chair)</li> <li>• Senate</li> <li>• Staff Benefits Committee (Board Appointed)</li> <li>• Int'l Academic Pgm Development Fund</li> <li>• President's Appointment to the Dean of Arts Search Committee</li> </ul>

2009-10	<ul style="list-style-type: none"> <li>• President's CFI Advisory Committee</li> <li>• Associate Deans Research</li> <li>• Distinguished Lectureship</li> <li>• Task Force on Time-to-Completion (Chair)</li> <li>• PhD Studies for Aboriginal Scholars (Chair)</li> <li>• Provost's Council</li> <li>• Optimization of Academic Resources (OARS) Strategic Enrolment Management (SEM)</li> <li>• Optimization of Academic Resources (OARS) Academic Synergies and Efficiencies (ASE)</li> <li>• Resource Optimization and Service Enhancement (ROSE) - Operations Cmte</li> </ul>	<ul style="list-style-type: none"> <li>▲ Ex-officio, Faculty of Engineering Promotion and Tenure committees</li> <li>• Senate Committee on Awards</li> <li>• Senate Committee on Nominations</li> <li>• Senate Committee on the Calendar</li> <li>• Senate Committee on Computing</li> <li>• Senate Committee on Academic Review</li> <li>• Senate Committee on University Research</li> <li>• Senate Committee on Rules and Procedures (Chair)</li> <li>• Senate Executive</li> <li>• Senate</li> <li>• Staff Benefits Committee (Board Appointed)</li> </ul>
2008-09	<ul style="list-style-type: none"> <li>▲ Ex-officio, Faculty of Engineering Promotion and Tenure committees</li> <li>• Senate Committee on University Research</li> <li>• President's CFI Advisory Committee</li> <li>• Associate Deans Research</li> <li>• Distinguished Lectureship</li> <li>• Senate Committee on Rules and Procedures (Chair)</li> <li>• President's Appointment to the Provostial Search Committee</li> <li>• Task Force on Time-to-Completion (Chair)</li> </ul>	<ul style="list-style-type: none"> <li>• Provost's Council</li> <li>• Senate</li> <li>• Senate Executive</li> <li>• Senate Committee on Awards</li> <li>• Senate Committee on Nominations</li> <li>• Senate Committee on the Calendar</li> <li>• Senate Committee on Academic Review</li> <li>• PhD Studies for Aboriginal Scholars (Chair)</li> <li>• President's Advisory Committee on the reappointment of Dean Feltham (Business)</li> </ul>
2007-08	<ul style="list-style-type: none"> <li>▲ Ex-officio, Faculty of Engineering Promotion and Tenure committees</li> <li>• Senate Committee on University Research</li> <li>• President's CFI Advisory Committee</li> <li>• Associate Deans Research</li> <li>• New Media</li> <li>• Distinguished Lectureship</li> </ul>	<ul style="list-style-type: none"> <li>• Dean's and Director's Council</li> <li>• Senate</li> <li>• Senate Executive</li> <li>• Senate Committee on Awards</li> <li>• Classroom Space Utilization</li> <li>• International Student Recruitment</li> <li>• PhD Studies for Aboriginal Scholars (Chair)</li> </ul>
2006-07	<ul style="list-style-type: none"> <li>▲ Ex-officio, Faculty of Engineering Promotion and Tenure committees</li> <li>• Senate Committee on University Research</li> <li>• President's CFI Advisory Committee</li> <li>• Associate Deans Research</li> <li>• New Media</li> <li>• Distinguished Lectureship</li> <li>• Dean's and Director's Council</li> <li>• University Senate</li> </ul>	<ul style="list-style-type: none"> <li>• Senate Committee on Awards</li> <li>• Graduate Student Fees Working Group</li> <li>• Classroom Space Utilization</li> <li>• International Student Recruitment</li> <li>• Welcoming and Supportive Environment</li> <li>• President's Advisory Committee on the search for a Dean of Nursing</li> <li>• PhD Studies for Aboriginal Scholars (Chair)</li> </ul>
2005-06	<ul style="list-style-type: none"> <li>▲ Ex-officio, Faculty of Engineering Promotion and Tenure committees</li> <li>• Senate Committee on University Research</li> <li>• President's CFI Advisory Committee</li> <li>• Associate Deans Research</li> <li>• New Media</li> <li>• Distinguished Lectureship</li> <li>• Dean's and Director's Council</li> </ul>	<ul style="list-style-type: none"> <li>• University CFI Advisory Committee</li> <li>• Senate</li> <li>• Senate Committee on Awards</li> <li>• Graduate Student Fees Working Group</li> <li>• Classroom Space Utilization</li> <li>• International Student Recruitment</li> <li>• Welcoming and Supportive Environment</li> </ul>
2004-05	<ul style="list-style-type: none"> <li>▲ Academic Regulations &amp; Curriculum (Chair)</li> </ul>	<ul style="list-style-type: none"> <li>• President's Advisory Committee on the</li> </ul>

	<ul style="list-style-type: none"> <li>• President's CFI Advisory Committee</li> </ul>	reappointment of Dean Ruth (Engineering)
2003-04	<ul style="list-style-type: none"> <li>▲ Academic Regulations &amp; Curriculum (Chair)</li> <li>• President's CFI Advisory Committee</li> </ul>	▽ Civil Curriculum (Chair)
2002-03	<ul style="list-style-type: none"> <li>▲ Academic Regulations &amp; Curriculum (Chair)</li> <li>• President's CFI Advisory Committee</li> <li>▲ CRC Tier II Search (Sensors and Instrumentation Technology)</li> </ul>	<ul style="list-style-type: none"> <li>▽ Civil Curriculum (Chair)</li> <li>• Head Search City Planning</li> <li>▲ ECE Electromagnetics Search</li> </ul>
2001-02	<ul style="list-style-type: none"> <li>▲ Academic Regulations &amp; Curriculum (Chair)</li> </ul>	▽ Civil Curriculum (Chair)
2000-01	<ul style="list-style-type: none"> <li>▲ Academic Regulations &amp; Curriculum (Chair)</li> <li>▽ Water Resources &amp; Environmental Search</li> </ul>	<ul style="list-style-type: none"> <li>▽ Civil Curriculum (Chair)</li> <li>▽ Applied Mechanics Search (Chair)</li> </ul>
1999-00	<ul style="list-style-type: none"> <li>▲ Academic Regulations &amp; Curriculum (Chair)</li> <li>▽ Civil Co-op (Chair)</li> <li>▽ Civil Undergraduate (Chair)</li> </ul>	<ul style="list-style-type: none"> <li>▽ Civil Curriculum (Chair)</li> <li>• U of M Research Awards &amp; Fellowships</li> <li>▲ Standing and Appeals (alternate)</li> </ul>
1998-99	<ul style="list-style-type: none"> <li>▲ Academic Regulations &amp; Curriculum (Chair)</li> <li>▽ Civil Co-op (Chair)</li> <li>▽ Civil Undergraduate (Chair)</li> <li>• U of M Research Awards &amp; Fellowships</li> <li>▽ Civil Curriculum</li> </ul>	<ul style="list-style-type: none"> <li>▲ Standing and Appeals (alternate)</li> <li>• Dean Search (Faculty of Engineering)</li> <li>▽ Water Resources Search</li> <li>▲ UMES Faculty Advisor</li> <li>▲ Local Disciplinary Unit (Chair)</li> </ul>
1997-98	<ul style="list-style-type: none"> <li>▲ Academic Regulations &amp; Curriculum (Chair)</li> <li>▽ Civil Co-op (Chair)</li> <li>• U of M Research Awards &amp; Fellowships</li> <li>▲ Standing and Appeals (alternate)</li> </ul>	<ul style="list-style-type: none"> <li>▲ UMES Faculty Advisor</li> <li>▲ Professor Course Evaluations (Chair)</li> <li>▲ Head Search (Civil &amp; Geol. Eng.)</li> </ul>
1996-97	<ul style="list-style-type: none"> <li>▲ Academic Regulations &amp; Curriculum</li> <li>▽ Civil Co-op (Chair)</li> <li>▲ Standing and Appeals</li> </ul>	<ul style="list-style-type: none"> <li>▲ Faculty Display (Chair)</li> <li>▲ UMES Faculty Advisor</li> <li>▲ Professor Course Evaluations</li> </ul>
1995-96	<ul style="list-style-type: none"> <li>▲ First Year Advisor</li> <li>▲ Standing and Appeals</li> <li>▽ Civil Co-op</li> </ul>	<ul style="list-style-type: none"> <li>▲ Head Search (Civil &amp; Geol. Eng.)</li> <li>▲ Local Disciplinary</li> <li>▽ Computer</li> </ul>
1994-95	<ul style="list-style-type: none"> <li>▲ Standing and Appeals (spring &amp; summer)</li> <li>▽ Civil Co-op</li> </ul>	▽ Computer

**Legend:** • university committee ▲ faculty committee ▽ departmental committee



## Professional Service

2014 - 2016	Board Member, U.S. Council of Graduate Schools (CGS), Washington DC
2012 - 2014	Past-President, Canadian Association for Graduate Studies
2011 - 2013	Chief Warden, Camp 8, Engineering Iron Ring Ceremony
2011	Requested to be the Civil Program Visitor by Engineers Canada, Canadian Engineering Accreditation Board (declined)
2010 - 2012	President, Canadian Association for Graduate Studies
2010 - 2010	Vice-President and President Elect, Canadian Association for Graduate Studies
2010	Civil Program Visitor for the Canadian Council of Professional Engineers, Canadian Engineering Accreditation Board (CEAB)
2010 - 2012	President, Western Canadian Deans of Graduate Studies
2008 - 2014	Board Member, Canadian Association for Graduate Studies
2008 - 2010	Vice-President and President Elect, Western Canadian Deans of Graduate Studies
2006	Civil Program Visitor for the Canadian Council of Professional Engineers, Canadian Engineering Accreditation Board (CEAB)
2005 - present	Investigation Committee, Engineers Geoscientists Manitoba
2005	Requested to be the Civil Program Visitor for the Canadian Council of Professional Engineers, Canadian Engineering Accreditation Board (declined)
2004	Civil Program Visitor for the Canadian Council of Professional Engineers, Canadian Engineering Accreditation Board (CEAB)
2004 - 2009	Chair, Awards Judging Committee, Consulting Engineering of Manitoba
2003	Requested to be the Civil Program Visitor for the Canadian Council of Professional Engineers, Canadian Engineering Accreditation Board (declined)
2003 - 2004	Vice-Chair, Awards Judging Committee, Consulting Engineering of Manitoba
2003 - 2006	Canadian Highway Bridge Design Code: Section 1 – General Provisions Subcommittee / Hydraulics & Hydrology (member)
2002	Civil Program Visitor for the Canadian Council of Professional Engineers, Canadian Engineering Accreditation Board (CEAB)
2002 - 2004	Councilor (elected), Engineers Geoscientists Manitoba
2002 - 2006	Member, Committee on River Ice Processes and the Environment (CGU-HS)
2001	Requested to sit on GSC 06 (Civil Engineering) by NSERC (declined)
2000 - 2004	V.P. Prairie Region and Director, Canadian Society for Civil Engineering (CSCE).
2000 - 2002	Past President, Manitoba Branch, Canadian Water Resources Association (CWRA)
1999 - 2003	Awards Committee, Engineers Geoscientists Manitoba
1998 - present	Warden, Camp 8, Engineering Iron Ring Ceremony
1998 - 2000	President, Manitoba Branch, Canadian Water Resources Association
1997 - 2000	Director, Canadian Water Resources Association
1996 - 1998	Vice President, Manitoba Branch, Canadian Water Resources Association
1995 - 2003	Director, Canadian Coastal Science and Engineering Association (CCSea)

### **Membership in Learned/Professional Societies**

- Engineers Geoscientists Manitoba (APEGM)
  - Professional Engineers of Ontario (PEO)
  - International Association for Hydraulic Research (IAHR)
  - American Society for Civil Engineering (ASCE)
  - Canadian Water Resources Association (CWRA)
  - Canadian Society of Civil Engineering (CSCE)
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## PROFESSIONAL CONSULTING ACTIVITIES

- consultant to the City of Winnipeg, Waste and Water Department, regarding the Review of Proposed Automatic Sampler Locations
- appointed by Premier Doer to the Advisory Board of the Manitoba Floodway Expansion Authority (MFEA)
- appointed by Premier Doer to the Technical Advisory Committee (TAC) of the Manitoba Floodway Expansion Authority (MFEA)
- appointed by Provincial Cabinet to the Manitoba Erosion Technical Review Committee to develop policy/guidelines and provide technical advice on managing shoreline erosion in Manitoba
- consultant to Bird Construction regarding design specification problems for an aquatic centre
- appointed by Provincial Cabinet to the Red River Floodway Expansion Value Engineering study
- consultant to Manitoba Department of Aboriginal and Northern Affairs regarding the Hydraulic Impact Assessment of the Proposed Matheson Island Causeway
- expert opinion for Brotman and Cramer (Law Firm) regarding the fluid mechanics of a slip and fall lawsuit
- consultant to R.M. of Victoria Beach regarding beach stabilization and erosion mitigation
- consultant to K19 Productions Limited Partnership regarding the long-term loading of ice on Lake Winnipeg for the filming of “K19 – The Widowmaker” starring Harrison Ford
- expert review for KGS Group: “Seawall Rehabilitation Project, Heron Bay Subdivision”
- consultant to Manitoba Natural Resources regarding shoreline development at Winnipeg Beach and Hecla/Grindstone Provincial Parks
- expert opinion to Paterson Ross (Law Firm) regarding flood damage in the RM of Saskatchewan; including expert witness testimony
- provided a series of seminars to Twin Lakes Beach property owners (at the request of Water Resources) on how to mitigate shoreline erosion
- expert opinion and testimony for Deeley Fabbri Sellen (Law Firm) regarding the fluid mechanics of a slip and fall lawsuit
- appointed by Hon. D. Newman and Hon. G. Cummings (Ministers of Energy and Natural Resources, respectively) to the “Lake Winnipeg Shoreline Erosion Public Advisory Group” regarding shoreline processes on Lake Winnipeg and the reporting of Lake Winnipeg water levels
- undertook at the request of the United Nations (Geneva), a one month mission to Yemen regarding “The Preparation Of A Plan Of Operation For Carrying Out A Study On Flood Emergency Preparedness And Mitigation Programme”
- consultant to the Lake Winnipegosis Flood Committee regarding the backwater effects caused by the Salt Point road crossing on the West Waterhen River, MB. Report submitted to Hon. D. Newman (Minister of Northern Affairs).
- advisor to Manitoba Natural Resources regarding the development of a coastal management plan for Grand Beach
- consultant to Manitoba Natural Resources regarding erosion at St. Ambroise beach
- member of the Provincial Task Force advising the province on the management of the 1997 Red River flood
- expert review for TetrES Consultants: Avoiding Water Hammer in a Storm Relief Sewer
- advisor to Thompson Dorfman Sweatman (Law Firm) regarding shoreline erosion
- consultant to Aikens, MacAulay, & Thorvaldson (Law Firm) regarding flood damage

- consultant to Michaels and Potash (Law Firm) regarding flood damage
  - expert opinions regarding hydrologic and hydraulic modeling of stormwater runoff and combined sewer systems for the office of the Ombudsman (City of Winnipeg)
  - shoreline erosion modeling for a Lake Winnipeg land developer (undertaken at the request of the Manitoba Department of Natural Resources)
  - advisor to Manitoba Natural Resources on methods to repair dune erosion at Grand Beach
  - provided a series of seminars for the Manitoba Department of Natural Resources, entitled “How to Protect Your Shoreline”, to Lake Winnipeg property owners
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