

CURRICULUM VITAE
NIGEL GRAHAM SHRIVE

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PERSONAL DATA

Married, 3 children

Education

B.A. 1st Class Honours Degree, Engineering Science, St. Edmund Hall, University of Oxford	1971
M.A.	1976
Doctor of Philosophy, Engineering Science	1974

Current Position

Professor Emeritus, Departments of Civil and Biomedical Engineering, University of Calgary

Positions Held

Lecturer in Civil Engineering, Hertford College, Oxford	1973-1974
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At the University of Calgary

Department of Civil Engineering, P.D.F.	1974-1975
Part-time Assistant Professor	1975-1976
Assistant Professor	1976-1979
Associate Professor	1979-1983
Full Profesor	1983-2021
Assistant to the Vice-President (Services)	1977-1980
Associate Dean (Student Affairs), Faculty of Engineering	1985-1989
Professor and Head, Dept. of Civil Engineering, University of Calgary	1989-1998
(Founding) Director, Biomedical Engineering Graduate Program	1996-2006
Killam Memorial Professor of the University of Calgary	1999-2011
Chair, Joint Injury and Arthritis Research Group	2002-2004
Acting Director, McCaig Institute for Bone and Joint Health	2008-2009
Director, McCaig Institute for Bone and Joint Health	2009-2014
Adjunct Professor of Surgery	1981-2021
Adjunct Professor of Kinesiology	1999-2021
Adjunct Professor, Dept. of Biomedical Engineering, University of Alberta	2003-2021

Visiting Professor

Dept. of Civil Engineering, King's College, University of London, London, U.K.	1981-1982
Cardiff University, UK	2006
University of Newcastle, Australia	2007

Scholarships & Awards

Kitchener Scholar	1968-1971
Scholar of St. Edmund Hall, Oxford	1968-1971
Honorary Scholar of St. Edmund Hall, Oxford	1971-1974
University of Calgary, National Research Council Scholar	1974-1976
Travelling Scholar to University of Petroleum and Minerals	1978
'Superior Teacher', Engineering, University of Calgary	1980
Renee Redfern Hunt Memorial Prize, The Institution of Civil Engineers	1984
Excellence in Research Award, American Orthopaedic Society for Sports Medicine (with others)	1987
Association of Professional Engineers, Geologists & Geophysicists of Alberta	
Voluntary Service Award	1987
Fellow, Institution of Civil Engineers	1992

First-Year “Best Teacher Award”	1997, 1998, 1999
Faculty of Engineering Research Award	1998, 2001, 2006
Department of Civil Engineering Research Award	1998, 2001, 2006
2000 John B. Scalzi Award, The Masonry Society	2000
Summit Award – APEGGA, Alberta Ingenuity Research Excellence – Bone and Joint, with others	2005
Summit Award – APEGGA, Best Project – Shawnessy LRT Station, with others	2005
Award of Excellence, Alberta Chapter American Concrete Institute – Shawnessy LRT Station, w o	2005
Best Custom Solutions, Precast/Prestressed Concrete Institute, Shawnessy LRT Station, with others	2005
Harry H. Edwards Industry Award –	
Precast/Prestressed Concrete Institute - Shawnessy LRT Station, with others	2005
CERF Charles Pankow Award for Innovation – Shawnessy LRT Station, with others	2006
International Federation for Structural Concrete: Award for Outstanding Structures -	
Shawnessy LRT Station, with others	2006
Faculty of Graduate Studies Excellence in Supervision Award	2006
Association of Professional Engineers, Geologists & Geophysicists of Alberta	
Voluntary Service Award	2008
Elected Fellow of the Canadian Academy of Engineering	2009
Elected Fellow of Engineers Canada	2009
Faculty of Graduate Studies Excellence in Supervision Award	2010
Killam Interdisciplinary Research Prize (with CB Frank) (University of Calgary, first time offered)	2010
Frank Spragins Technical Award, Association of Professional Engineers, Geologists	
& Geophysicists of Alberta	2011
Killam Interdisciplinary Research Prize (with JV Tyberg) (Univ of Calgary, second time offered)	2011
Canadian Masonry Contractors Association Outstanding Achievement Award	2013
Excellence in Supervision Award, Graduate Students’ Association (also nominated for this award	
in 2008 and 2012, and for the teaching excellence award 2007)	2016
Teaching Excellence Award, Schulich School of Engineering Engineering	2016 ,2018, 2019, 2020
Elected Fellow of the Royal Society of Canada	2016
Research Excellence Award, Schulich School of Engineering	2017, 2020
Professor of the Year, Civil Engineering	2018, 2019
HWH West Memorial Award, The International Masonry Society	2018
Centennial Leadership Award, Association of Professional Engineers and Geoscientists of Alberta	2019
Graduate Educator Award for Civil Engineering, Schulich School of Engineering	2020
Teaching Excellence Award, Honorary Mention, Students Union, University of Calgary	2021
Appointed Officer of the Order of Canada	2023

Professional Affiliations

Professional Engineer:	Registered member of the Association of Professional Engineers and Geoscientists of Alberta (APEGA)
Chartered Engineer:	Registered in the Institution of Civil Engineers, UK
Fellow:	Royal Society of Canada
	Canadian Academy of Engineering
	Engineers Canada
	The Institution of Civil Engineers, UK
	Canadian Society of Civil Engineers
	The Masonry Society
Member:	The International Masonry Society

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TEACHING

1. Courses Lectured
 - Engineering 203 - Statics
 - Engineering 211 - Design, Technical Communication and Professional Ethics
 - Engineering 249 - Dynamics
 - Engineering 307 - Engineering Mechanics III
 - Engineering 317 - Mechanics of Materials I
 - Civil Engineering 413 - Civil Engineering Materials I
 - Civil Engineering 543 - Introduction to Structural Masonry
 - Civil Engineering 547 - Theory of Structures II
 - Civil Engineering 551 - Structures II
 - Civil Engineering 570 - Final year capstone design project
 - Civil Engineering 597 - Individual Project
 - Civil Engineering 617 - Fracture of Civil Engineering Materials
 - Civil Engineering 619.25 - Special Problems - Fatigue and Creep
 - Civil Engineering 643 - Structural Masonry
 - Civil Engineering 649 - Conservation of Historic Structures 1
 - Civil Engineering 651- Conservation of Historic Structures 2 (2020 onwards)
 - Civil Engineering 651 - Finite Element Modelling (prior to 2016)
 - Medical Science 751.31 - Analysis of Biological-Biomechanical Interface of Connective Tissues
 - Medical Science 755.95 - Instrumentation for Biomechanics
 - Medical Science 755.17 - Mechanics for Physiologists
 - Coordinator, Engineering 521 - Engineering for the Environment
 - Have given lectures in ENGG 215, Engineering Practice, Design and Communication, MDSC 751.31, Joint BioMechanics
2. Other Teaching
 - (1) 2018 and 2019 Shad valley program for gifted students – lecture and lab tour
 - (2) 2014 Federal University of Sao Carlos, Brazil – Finite element modeling graduate course.
 - (3) 2012 Federal University of Sao Carlos, Brazil – Finite element modeling grad course – all lectures videoed, copies of notes, assignments and tutorials provided so that they can teach course again as part of their new structures PhD program.
 - (4) 2000, 2001 & 2008 Calgary Science Network – Seminar Workshops on Teaching ‘Structures’ to Jr. High School Teachers
 - (5) 2000 Lecture and Lab regarding Biomedical Engineering to Shad Valley Program
 - (6) 1999-2001 Class presentations on Structures to City Schools, Grades 3, 7 and 9.
 - (7) 1999, 1993 Canadian Professors’ Masonry Workshop, Canada Masonry Centre, McMaster University
 - (8) 1986-1987 Lectures on Biomechanics to 1st year Medical students in their Biophysics course
 - (9) 1985 Shad Valley Program for Gifted Students
 - (10) 1983 “Finite Elements” an introductory seminar, 2-day course, Calgary
 - (11) 1981-1982 Year long course, “Mechanics of Materials” Department of Civil Engineering, King’s College, London; whilst on sabbatical leave
 - (12) 1981 Lectures in Continuing Education course, “Masonry for the Structural Engineer”, held at the University of Calgary
 - (13) 1976-1977 Series of 11 lectures on the application of mechanics to orthopaedics given to Medical Faculty. Level of attendees: Intern to Consultant Surgeon

- (14) 1973-1974 Lecturer in Civil Engineering at Hertford College, Oxford: responsible for teaching students at the college all the mechanics and structural analysis required for the undergraduate degree at Oxford

3. Graduate Supervision

(i) Supervisor of:

N. Khan	to PhD	current
S. Farjad	to MSc	current
B. Haleem	to PhD	current
H. Rathnayake	to PhD	current
J. Zhu	to PhD	current
A. Ahmed	to PhD	current
G. Iskander	to PhD	2023
M. Bogoslavov	to MSc (best student project, Int. Mas. Soc., 2022)	2022
S. Rizaee	to PhD	2021
M. Iskander	to PhD	2021
M. Kurukulasuriya	to MSc (best student project, Int. Mas. Soc., 2020)	2020
P. Vakil	to PhD	2019
A. Rouhi	to PhD	2018
H. Pan	to MSc	2018
M. Shekarforoush	to PhD	2018
P. Kaheh	to PhD	2018
S. Seyedain	to MSc	2017
M. Hudecek	to PhD	2017
J. Sevic	to MSc	2017
L. Burrowes	to PhD	2016
M. El Rayes	to PhD	2016
A. Isfeld	to PhD (best student project, Int. Mas. Soc., 2017)	2015
B. Heard	to PhD	2015
J. Rosvold	to PhD	2013
M. Atarod	to PhD	2013
B. McIsaac	to MSc	2013
A. Hamedzadeh	to MSc	2013
A. Oan	to PhD	2013
B. Heard	to MSc	2010
M. Sorour	to PhD	2010
A. El Mahdy	to PhD	2010
J. Tapper	to PhD	2009
S. Darcy	to PhD	2009
X. Xiao	to PhD	2008
S. Abdelatif	to PhD	2006
M. Zec	to PhD	2006
R. Howard	to MSc	2004
S. Adeeb	to PhD	2004
A. Ali	to PhD	2004
J. Armitage	to MEng	2004
E. Shaheen	to PhD	2004
R. Bakay	to MSc	2003
B. Scholefield	to MSc	2003

S. Khan	to MEng	2002
C. (Jingyao) Zou	to MSc	2002
J. Yi	to PhD	2002
S. Lissel	to PhD	2001
M. Reda Taha	to PhD	2000
G. Thornton	to PhD	2000
A. Riad	to MSc	1998
S. Grassman	to MSc	1998
C. Petrow	to MEng	1997
D. Tremaine	to MSc	1997
L. Malmqvist	to MSc	1996
E. Sayed-Ahmed	to PhD	1994
E. Wang	to PhD	1994
R. McPherson	to MSc	1994
D. Chimich	to MSc	1993
K.W. Simbeya	to PhD	1992
F. Van der Voet	to PhD	1992
R. Bray	to MSc	1989
W. Eng	to MSc	1989
M. El-Rahman	to PhD	1988
T.C. Lam	to PhD	1986
J. Wall	to MSc	1986
R. Taneja	to MSc	1984
A. Sise	to MSc	1983
M. El-Rahman	to MSc	1983
M.R. Khalil	to PhD	1983
P. Ameney	to PhD	1982

(ii) Co-Supervisor or on Supervisory Committee of:

O. Elharouney	to PhD (Civ Engg)	
Y. Alhoubi	to PhD (Civ Engg)	
N. Salameh	to PhD (Civ Engg)	
A. Teymouri	to PhD (Civ Engg)	
R. Palhares	to PhD (Civ Engg, joint program with UFSCar, Brazil)	
O. Kenny	to MSc (BME)	
A. Hossein	to PhD (Civ Engg)	
S. Ghazizadeh	to PhD (BME)	
S. Ghasemalizadeh	to PhD (Civ Engg)	
A. Al Ekkawi	to PhD (Civ Engg)	
M. Ibrahim	to PhD (Civ Engg)	
B. Forrest	to PhD (Civ Engg)	2023
E. Selman	to MSc (Civ Engg)	2023
M. Zarrinkoub	to MSc (Civ Engg)	2023
K.A.S.Medeiros	to PhD (Civ Engg, joint program with UFSCar, Brazil)	2023
M.Urroz Lopez	to MSc (BME)	2020
S. Howell	to MSc (BME)	2019
R. Schroeder	to PhD (BME)	2019
B. Ritchie	to MSc (BME)	2017
J. Bhatla	to MSc (BME)	2017
H. Rojob	to PhD (Civ Engg)	2016

K. Abdelrahman	to Ph.D. (Civ. Engg.)	2016
M. Altamimi	to MSc (BME)	2016
R.T. Harris	to PhD (Civ.Engg.)	2016
K.Barton	to PhD (Med. Sc.)	2016
M. Hamedani	to PhD (Civ Engg)	2015
S. Dorosz	to MSc (Kines)	2015
M. Conlan	to PhD (Civ Engg)	2015
F. Oudah	to Ph.D. (Civ Engg.)	2014
D. Chen	to Ph.D. (Civ. Engg.)	2014
S. Mohsen	to Ph.D. (Biomed. Engg.)	2014
O.Yadollahi	to Ph.D. (Civ. Engg.)	2013
G. Buckley-Herd	to M.Sc. (Biomed Engg.)	2013
N.Solbak	to M.Sc (Med Sc.)	2013
K.Huebner	to Ph.D. (Med .Sc.)	2013
S.Burgoyne	to M.Sc (Biomed Engg)	2013
N. Hoque	to M.Sc. (Civ. Engg.)	2013
R. Popal	to M.Sc (Civ.Engg.)	2013
S.Andrews	to Ph.D. (Biomed. Engg.)	2012
K. Barton	to M.Sc (Kines)	2012
C. Bouwmeester	to Ph.D. (Med. Sc.)	2012
J. Beveridge	to Ph.D. (Med. Sc.)	2012
D. Tripathi	to Ph.D. (Civ. Engg.)	2012
A. Gutmann	to Ph.D. (Med. Sc.)	2011
M. El-Seify	to Ph.D. (Civ. Engg.)	2010
J. Thaler	to M.Sc. (Med. Sc.)	2010
B. Yang	to Ph.D. (Biomed Engg)	2009
M. Szarko	to Ph.D. (Med. Sc.)	2009
J. Moroz	to M.Sc. (Civ. Engg.)	2009
D. Gauthier	to Ph.D. (Civ. Engg.)	2008
M. Guzman	to M.Sc. (Civ. Engg.)	2008
A. Elmenshawi	to Ph.D. (Civ. Engg.)	2008
M. Hagel	to Ph.D. (Civ. Engg.)	2007
K.Myers	to Ph.D. (Med. Sc.)	2007
J. Flewitt	to M.Sc. (Med. Sc.)	2006
P. Thompson	to Ph.D. (Civ. Engg.)	2005
A. van Herwigen	to Ph.D. (Civ. Engg.)	2005
L. Dong	to M.Sc. (Geomatics Engg.)	2003
M. Haddad	to Ph.D. (Civil Engg.)	2003
C. Barnsdale	to M.Sc. (Med. Sc.)	2003
Z. Liu	to Ph.D. (Civ. Engg.)	2003
J. Jaremko	to Ph.D. (Med.Sc.)	2002
S. Boyd	to Ph.D. (Mech Eng)	2000
G. Kawchuk	to Ph.D. (Mech. Eng)	2000
G. Nelson	to Ph.D. (Med.Sc.)	1999
M. Maitland	to Ph.D. (Med.Sc.)	1996
N. Wang	to Ph.D. (Civ.Engg.)	1993
S. Sirosh	to Ph.D. (Civ.Engg.)	1992
G.J.W. King	to M.Sc. (Med.Sc.)	1991
T. Weir	to M.Sc. (Med.Sc.)	1991
X.Y. Qui	to Ph.D. (Mech.Engg.)	1991
M. Anton	to Ph.D. (Mech.Engg.)	1991

P. Edwards	to M.Sc. (Med.Sc.)	1990
J. Matyas	to Ph.D. (Med.Sc.)	1990
L. Read	to M.Sc. (Med.Sc.)	1989
S. Vermeulen	to Ph.D. (Mech.Engg.)	1989
S. Walsh	to M.Sc. (Med.Sc.)	1988
F. Schlaepfer	to Ph.D. (Mech.Engg.)	1987
E. O'Brien	to Ph.D. (Civ.Engg.)	1985
K. Simbeya	to M.Sc. (Civ.Engg.)	1985
M. Khalil	to M.Sc. (Civ.Engg.)	1979
P. Ameny	to M.Sc. (Civ.Engg.)	1979

(iii) PhD Candidacy Exams (of students other than above)

A. Haji Hossein	M. Swic
M. Gholamirad	C. Guss
S. Ahmed	K. Pedwell
R. Alfred	T. Aryiawardena
J. Cormier	A. Sherif
R. Brown	S. Megally
B. Xu	J. Croft
C. Good	A. Samieh
G. Birkle	Z. Lin
L. Chen	X. Pan
J. Wilson	N. McLaughlin
Z. Liu	G. Ghoneim
K. Forrester	W. El-Degwy
J. Miller	K.M. Suri
G. Skulmoski	A. Elgabry
S. Rodrigues	D. Butterwick

(iv) Examination of Theses (other than (i) and (ii) above) University of Calgary

J. Hernandez-Borbon	MSc (Civil Engg)	2022
A. Devolin	MSc (Biomed Engg)	2022
A. Irwin	MSc (Mech Engg)	2022
L. Rios	MSc (Chem Engg)	2021
N. Morris	MSc (Kines)	2020
K. Varughese	MSc (Civil Engg)	2019
M. Birkland	MSc (Civil Engg)	2019
M. Eghbalian	PhD (Civil Engg)	2019
Q. Chen	PhD (Civil Engg)	2018
P. Joulani	MSc (Civil Engg)	2016
N. Salameh	MSc (Civil Engg)	2015
P. Sun	MSc (Elec Engg)	2015
M. Harandi	MSc (Civil Engg)	2015
S. Rizaee	MSc (Civil Engg)	2015
R. Ford	MSc (Civil Engg)	2014
M. Hadiseraji	MSc (Civil Engg)	2013
M. Aghahassani	MSc (Civil Engg)	2013
K. Barton	MSc (Biomed Engg)	2012
R. Maalek	MSc (Civil Engg)	Nov 2012
J. Scherpenisse	MSc (Civil Engg)	Jan 2012

A. Melnikov	MSc (Mech Engg)	Dec 2011
P. Zanganeh	MSc (Civil Engg)	2011
M. Mashrik	MSc (Civil Engg)	2011
K Lincoln	MSc (Civil Engg)	2010
D. Chen	MSc (Civil Engg)	2010
C.Ross	MSc (Civil Engg)	2010
C.K. Fu	MSc (Biomed Engg)	2009
D.Talinga	PhD (Geoscience)	2009
H. Sadek	MSc (Civil Engg)	2009
H. Zeki	MSc (Civil Engg)	2009
S. Joon	PhD (Chem. and Pet Engg)	2009
S. Bailey	MSc (Biomed Engg)	2009
H. Sadek	MSc (Civil Engg)	2008
B.A. Baghbaderani	PhD (Chem and Pet Engg)	2008
M. Hons	MSc (Geo Sci)	2008
J. Floyer	PhD (Geo Sci)	2008
R. Brown	PhD (Biomed Engg)	2008
C.Yuen	MSc (Civil Engg)	2007
M. Emam	MSc (Civil Engg)	2007
Y. Zheng	PhD (Geology/Geophys)	2006
A. Gayevoy	MSc (Civil Engg)	2006
D. Tiwari	MSc (Civil Engg)	2005
J. Baumeister	MSc (Geology)	2005
C. Scovil	PhD (Mech Engg)	2004
H. Yadete	MSc (Civil Engg)	2004
K. Han	MSc (Mech.Engg)	2003
Z. Liu	PhD (Biomed Engg)	2003
G. Wohl	PhD (Mech Engg)	2003
C. Sun	MSc (Mech.Engg)	2002
C. Dussault	MSc (Civil/BME Engg)	2002
S. Couillard	MSc (Mech/BME Engg)	2002
B. Kralovic	MSc (Mech.Engg)	2000
B.C. Johnson	MSc (Civil Engg)	2000
Sergio Rodrigues	PhD (Psych)	1999
Dominic Young	MSc (Mech/BME Engg)	1998
M. Forcintito	PhD (Mech. Engg)	1997
S. Baker	M.Sc. (MDCV)	1996
A. Illincuta	M.Sc. (Civil Engg)	1996
X. Zhong	M.Sc. (Civil Engg)	1994
J. Springer	M.Sc. (Mech.Engg)	1994
S. McFadden	M.Sc. (Med.Sc)	1994
A. Coffin	M.Sc. (Civil Engg.)	1992
H. Licorish	Ph.D. (Geol.Geophys)	1992
G. Scrimgeour	Ph.D. (Bio Sc)	1992
E. Wackerle	M.Sc. (Civil Engg)	1991
C.M. Pollock	M.Sc. (Bio Sc.)	1991
A.A. Elgabry	Ph.D. (Civil Engg)	1990
A.K-H. Wu	Ph.D. (Civil Engg)	1990
T. Allinger	M.Sc. (Mech.Engg)	1990
M. McDonough	Ph.D. (Geol/Geophs)	1989
A.S. Ayoub	M.Sc. (Civil Engg)	1989

J. Chieslar	Ph.D. (Civil Engg)	1985
C. Woo	M.Sc. (Mech.Engg)	1985
R.J. Gray	Ph.D. (Civil Engg)	1982
A. Daniel	M.Sc. (Civil.Engg)	1978
P.M. Gifford	M.Sc. (Civil Engg)	1977

(v) MEng Comprehensive Examinations

B. Fanjeh	(Civil Engineering)	Apr 2011
P. Phillips	(Civil Engineering)	Apr 2011
S. Li	(Civil Engineering)	
E. Elfazari	(Civil Engineering)	
G.Jia	(Civil Engineering)	
H. Otoufi	(Civil Engineering)	
M. Freeman	(Civil Engineering)	
K. Jaska	(Civil Engineering)	
L. Garrett	(Civil Engineering)	
D. Au	(Mech Engineering)	

(vi) Examination of Theses External to the University of Calgary

N. Aly	PhD (CE)	Concordia University, Canada
M. Tohidul Islam	PhD (CE)	University of Alberta, Canada
A. Siam	PhD (CE)	MacMaster University, Canada
X. Chen	PhD (CE)	Dalhousie University, Canada
MAG Abdelmaksoud	PhD (CE)	Ain Shams University, Egypt
H. Seif ElDin	PhD (CE)	Concordia University, Canada
J. Centeno	PhD (CE)	University of British Columbia, Canada
T. Janaraj	PhD (CE)	Queensland University of Technology, Australia
D.Dizhur	PhD (CE)	University of Auckland, New Zealand
Li-Tze Brendon Soh	PhD (CE)	University of Queensland, Australia
I. Aldous	PhD (BME)	Dalhousie University, Canada
Lihai Zhang	PhD (BME)	University of Melbourne, Australia
Kin Hong Ip	PhD (CE)	University of Technology, Sydney, Australia
Y. Han	PhD (CE)	University of Newcastle, Australia
P.A. Sing-Sang	PhD (CE)	University of Newcastle, Australia
H.Liu	PhD (BME)	Cardiff University, Wales, UK
D. Viens	PhD (BME)	University of Waterloo, Canada
Z. Taylor	PhD (BME)	The University of Western Australia, Australia
W. Haider	PhD (CE)	Central Queensland University, Australia
D.J. Sutcliffe	PhD (CE)	University of Newcastle, Australia
S. Olsen	PhD (BME)	Queensland University of Technology, Australia
H. Sugo	PhD (CE)	University of Newcastle, Australia
Craig Simmons	PhD (M&IE)	University of Toronto, Canada
Mark Masia	PhD (CE)	University of Newcastle, Australia
Deborah Young	MSc (BME)	McGill University, Canada
A.R.M. Muniruzzaman	PhD (CE)	University of Newcastle, Australia
R. van der Pluijm	PhD (CE)	Tech. University of Eindhoven, Netherlands
R. Wang	PhD (CE)	University of Alberta, Canada
P. Hubsch	PhD (CE)	University of Swansea, Wales, UK
K. Sakr	PhD (CE)	University of Saskatchewan, Canada

SCHOLARSHIP

I Refereed Journal Papers.

1. Medeiros, K.A.S., Palhares, R.A., Parsekian, G.A., Shrive, N.G. “Simplified frame models to simulate the in-plane load-displacement response of multi-story, perforated, partially grouted masonry walls” *Structures*, 55, 2086-2104, 2023.
2. Palhares, R.A., Medeiros, K.A.S., Parsekian, G.A., Shrive, N.G., Marques, R. “A Macro-Modelling Approach for Non-Linear Analysis of Multi-Story Perforated Masonry Walls with Grout and Reinforcement Concentrated at their Pier Ends” *Journal of Building Engineering*, 73, 106785, 2023.
3. Bogoslavov, M., Shrive, N.G. “On the Effective Stiffness of Slender Concrete Masonry Walls in the Canadian Masonry Standard” *Masonry International*, (winner, best student project, International Masonry Society, 2022), 35 (2), 30-37, 2023.
4. Rizaee, S., Shrive, N.G. “Shear bond strength of adhered thin masonry veneer with traditional and polymer modified mortars” *Construction and Building Materials*, Vol 379, 131277, May 2023.
5. Zhu, J., Shrive, N.G., “Partially Grouted Concrete Masonry Shear Walls Subject to In-Plane Shear Load: A Critical Review” *IBRACON Materials and Structures Journal*, invited, 16, 3, e16301, 2023.
6. Kurukulasuriya, M., Shrive N.G., “Innovative Masonry Arch Design for Low-rise Retaining Walls” Invited, translated and published in Portuguese, *Revista Estrutura* (Brazilian structures association magazine), 12, 6, 28-34, March 2023.
7. Medeiros, K.A.S., Palhares, R.A., Parsekian, G.A., Shrive N.G., Fonseca, F.S., “In-plane behavior and seismic performance of differently detailed, multi-story, perforated, partially grouted masonry walls” *Engineering Structures*, 271, 114941 2022.
8. Hart, D.A., Zernicke, R.F., Shrive, N.G. “Homo Sapiens May Incorporate Daily Acute Cycles of “Conditioning-Deconditioning” to Maintain Musculoskeletal Integrity: Need to Integrate with Biological Clocks and Circadian Rhythm Mediators” *Int. J. Molecular Sciences*, 23, 9949, 2022.
9. Medeiros, K.A.S., Parsekian, G.A., Shrive N.G., Fonseca, F.S., “Shear load capacity prediction of unperforated and perforated partially grouted masonry walls” *Engineering Structures*, 256, 113927, 2022.
10. Veronese, R.B.A., Medeiros, W.A., Parsekian, G.A., Shrive N.G.” Numerical Analysis of Eco-friendly Ductile Cementitious Composite Influence on Structural Masonry Reinforcement” *Engineering Structures*, 252, 113686, 2022.
11. Heard, B.J., Barton, K.I., Abubacker, S., Chung, M., Martin, C.R., Schmidt, T.A., Shrive, N.G., Hart, D.A. "Synovial and Cartilage Responsiveness to Peri-Operative Hyaluronic Acid +/-

- Dexamethasone Administration Following a Limited Injury to the Rabbit Stifle Joint" *Journal of Orthopaedic Research*, 40 (4), 838-845, 2022.
12. Hart, D. A., Nakamura, N., Shrive, N.G. "Perspective: Challenges Presented for Regeneration of Heterogeneous Musculoskeletal Tissues that Normally Develop in Unique Biomechanical Environments" *Frontiers in Bioengineering and Biotechnology*, 9, 760273, 2021.
 13. Hart, D.A., Martin, C.R., Scott, M., Shrive N.G., "The Instrumented Sheep Knee to Elucidate Insights into Osteoarthritis Development and Progression: A Sensitive and Reproducible Platform for Integrated Research Efforts" *Clinical Biomechanics*, 87, 105404, 2021.
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II Camera Ready Papers In Refereed Conference Proceedings

1. Burzic, E., Iskander, G., Duncan, N., Shrive, N.G. "Structural Analysis of Historic Absorption Building in Turner Valley, Alberta" 13th International Conference on the Structural Analysis of Historical Constructions, Japan, 2023.
2. Ahmed, A., Iskander, G., Haleem, B., Shrive, N.G. "Void distribution parameters and CT scanning of typical North American concrete masonry units" *Proceedings 14th North American Masonry Conference*, 2023.
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8. Burzic, E., Iskander, G., Duncan, N., Shrive, N.G. “Determining Material Properties of a Historical Industrial Steel Frame Structure” Proceedings of the Canadian Society for Civil Engineering, 13 pp, 2023.
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10. Iskander, G., Ahmed, A., Zhu, J., Shrive, N.G. “Using Digital Image Correlation (DIC) to Monitor the Behaviour of Masonry Walls” Proceedings of the Canadian Society for Civil Engineering, 11 pp, 2023.
11. Burzic, E., Iskander, G., Duncan, N., Shrive, N.G. “Geometric survey through laser scanning of a historical building in Alberta” Proceedings, Transforming Construction with Reality Capture Technologies: The Digital Reality of Tomorrow. University of New Brunswick, 9 pp Aug 2022.
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15. Rouhi, A. Shrive N.G., “Structural Evaluation and Maintenance of Brooks Aqueduct Historic Site” 12th International Conference on the Structural Analysis of Historical Constructions, Barcelona, Spain, 168-179, 2021.
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17. Ahmed, A., Iskander, G., Bogoslavov, M., Isfeld, A.I., Shrive, N.G. “Examining the Mode of Failure of Slender Concrete Block Walls” Proceedings, 14th Canadian Masonry Symposium, 11 pp, 2021.
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VI Invited, Non-Reviewed Papers

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VII Abstracts/Poster Presentations

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2. Vakiel, P., Shekarforoush, M.M., Martin, C.R., Scott, M., Dennison, C.R., Hart, D.A., Shrive, N.G. "Addressing the Challenge of Understanding the Development and Progression of Osteoarthritis - The Need to Integrate Biomechanics, Biology and Imaging" OARSI Connect-Virtual meeting, 2021
3. Huducek, M., Shrive, N.G., Skabar, K., "Design Guidelines for Spatial Arch Bridges with an inferior deck considering thermal loads and variability in arch and deck geometry" International Bridge Conference, Engineer's Society of Western Pennsylvania" 2020
4. Shekarforoush, M.M., Barton, K.I., Beveridge, J.E., Heard, B.J., Martin, C.R., Hart, D.A., Shrive, N.G. "Kinematic translational instability is more significantly correlated to the osteoarthritis-like damage than are rotational instabilities in two in vivo sheep ACL injury models" Poster presentation, 8th World Congress of Biomechanics, Dublin, Ireland, July 2018
5. Pasquantonio, R., Parsekian, G. A., Fonseca, F. S., Shrive, N. G. "Parameters of Characterization of Masonry of Concrete Blocks of Small Scale" Proceedings 60th Brazilian Concrete Congress, Iguassu Falls, Parana, 2018.

6. Vakil, P., Dennison, C.R., Shrive, N.G., “A Novel Approach to Measuring Stresses on the Knee cartilage Using Fiber-optic Technology” Computer Methods in Biomechanics and Biomedical Engineering, Lisbon, 2018.
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8. Sevic, J., Abusara, Z., Agbojo, O., Andrews, S.H.J., Shrive, N.G. “The Fibre-Level Load Response and Composition of the Rabbit Medial Collateral Ligament Femoral Entesis” Annual meeting of the Orthopaedic Research Society, San Diego, 2017.
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11. Vakil, P., Shekarforoush, M., Muench, G., Scott, M., Achari, Y., Dennison, C.R., Shrive, N.G. “Application of Fiber-optical Sensors to Quantify Mechanical Stress in the Knee”, Annual Alberta BME meeting, Banff, 2017.
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63. Barton, K., Frank, C., Shrive, N., Hart, D., “Preventing the Development of Osteoarthritis Following Reconstruction of the Anterior Cruciate Ligament” Canadian Conference on Tissue Engineering, 2013
64. Atarod, M., Frank, C.B., Shrive, N.G., “Ligament and Meniscal Loads following ACL rupture in vivo: a longitudinal study in the ovine model” Bodies of Knowledge 2013 Graduate Student Conference, Toronto, 2013
65. Solbak, N.M., Karame, A., Frank, C.B., Shrive, N.G., “Normal synovium from both adolescent and adult sheep is homogeneous throughout the joint”, Annual meeting of the Orthopaedic Research Society, 2013

66. Rosvold, J.M., Atarod, M., Frank, C.B., Shrive, N.G., "In vivo ligament and meniscus loading during normal gait: A huge inter-subject variability", Annual meeting of the Orthopaedic Research Society, 2013
67. Beveridge, J.E., Shrive, N.G., Frank, C.B., "A New Measure of Tibiofemoral Surface Interactions that Correlates with Early Cartilage Damage in Injured Sheep", Annual meeting of the Orthopaedic Research Society, 2013
68. Barton, K.I., Ludwig, T.E., Achari, Y., Shrive, N.G., Frank, C.B., Schmidt, T.A. Characterization of Lubricant Composition in a Post-Knee Injury Model. Poster Presentation. 13th Alberta Biomedical Engineering Conference, Banff, Alberta, Canada, October 21-23, 2012.
69. Gudena, R., Atarod Pilambaraei, M., Werle, J. Shrive, N., "The Effect of Tibial Component Overhang on Medial Collateral Ligament Loads: An In-vitro Robotic Study", EFORT-12 (European Federation of Associations of Orthopaedics and Traumatology) Conference 2012.
70. Gudena, R., Atarod Pilambaraei, M., Werle, J., Frank, C.B., Shrive, N.G., "The Effect of Tibial Component Overhang on Medial Collateral Ligament Loads: An In Vitro Robotic Study" Podium Acceptance at COA/CORS Annual Meeting 2012.
71. Frank, C.B. and Shrive N.G., "Biology of healing and biomechanics after ACL reconstruction" Keynote lecture at International Symposium on Ligament and Tendon. San Francisco, California. February 2012.
72. Barton, K, Ludwig, T., Achari, Y., Shrive, N.G., Frank, C.B., Schmidt, T., "Characterization of Lubricant Composition in a Post-Knee Injury Model" Orthopaedic Research Society Annual Meeting in San Francisco, California, February, 2012.
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74. Atarod Pilambaraei, M., Gudena, R., Werle, J., Shrive, N.G., Frank, C.B., "Tibial component overhang greater than 2 mm should be avoided in unicompartmental knee replacements: An in vitro robotic study" Orthopaedic Research Society Annual Meeting in San Francisco, California, February, 2012.
75. O'Brien, E. J. O., Beveridge, J.E., Huebner, K.D., Heard, B.J., Tapper, J.E., Shrive, N.G., Frank, C.B., "ACL Reconstruction with Immediate Anatomic Re-attachment of the Native ACL in an Ovine Model Results in Minimal Kinematic Differences and Greater Evidence of Early OA Compared with Sham Controls" Orthopaedic Research Society Annual Meeting in San Francisco, California, February, 2012.
76. Buckley-Herd, G., Krawetz, R., Shrive, N., Hart, D., "Mechanical loading for the enhancement of synovial mesenchymal stem cell scaffold-free tissue-engineered constructs for cartilage repair" Canadian Arthritis Network Annual Scientific Conference, Quebec City, Canada, Nov 2011.
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81. Fernando, M., Shrive, N.G., Frank, C.B., "Analyzing the Strain in the Ovine Anterior Cruciate Ligament During Normal Joint Flexion and Extension" 5th Annual Biomedical Engineering & NSERC CREATE Summer Research Symposium, University of Calgary, August 2011.
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84. Atarod Pilambaraei, M., Laverty, S.M., Shrive, N.G., Frank, C.B. "Evaluation of the Stiffness of Ovine Stifle Joint Using a Parallel Robot" Alberta BME Conference, 2010.
85. Huebner, K.D., Shrive, N.G., and Frank, C.B., "Characterization of a novel osteoarthritis animal model and early prevention of inflammation post-surgery" Osteoarthritis Research Society International Meeting, Brussels, Belgium, September 2010.
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Research Society, New Orleans, LA, USA. March 5-9, 2010.

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 123. Zec, M.L., Shrive, N.G., and Frank, C.B., “A Potential Mechanism for Damage to Secondary Restraints in the ACL Deficient Knee”, 5th Annual Meeting of the Alberta Provincial CIHR Training Program in Bone and Joint Health, Banff, Alberta, October 19, 2007.
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VIII Editorial Committee/Conference Chairman

Organizer, 13th International Conference on Computer Methods in Biomechanics and Biomedical Engineering, Montreal	2015
Associate Editor, Journal of Engineering in Medicine	2013 - present
Member, Editorial Board, Journal of Engineering in Medicine	2008-2013
Conference Co-organizer, 8th International Conference on Computer Methods in Biomechanics and Biomedical Engineering, Porto, Portugal	2008
Member, Editorial Board (as past Co-Editor), Computer Methods in Biomechanics and Biomedical Engineering, Taylor and Francis Publishers	2006-2019
Conference Co-organizer, 7th International Conference on Computer Methods in Biomechanics and Biomedical Engineering, Juan les Pins, France	2006
Tenth Canadian Masonry Symposium Conference Chair	2005
Conference Co-organizer, 6th International Conference on Computer Methods in Biomechanics and Biomedical Engineering, Madrid, Spain	2004
IV ACMBS, Chair Scientific and Programme Committees, Calgary, Canada	2004
ICPCM Conference Co-Chair, Cairo	2003
Conference Co-organizer, 5th International Conference on Computer Methods in Biomechanics and Biomedical Engineering, Rome, Italy	2001
Editorial Board, Construction & Building Materials	2001-present
Associate Editor (Structures), Canadian Journal of Civil Engineering	2001-2008
Alberta BME Symposia Conference, Co-Chair	2000-2012
Editorial Consultant, Journal of Biomechanics	2000-2009
Conference Co-Organizer, 4th International Conference on Computer Methods in Biomechanics and Biomedical Engineering, Lisbon, Portugal	1999
Member, Editorial Board, Masonry International	1999-2008
Founding Co-Editor (with one other), Computer Methods in Biomechanics and Biomedical Engineering, Taylor and Francis Publishers	1996-2006
10 th International Brick and Block Masonry Conference Chair	1994
Member, Editorial Board, The Masonry Society Journal	1985-present

IX Request To Review Papers For Journals/Grant Applications

Have reviewed papers for:

American Concrete Institute, Materials Journal
 American Concrete Institute, Structures Journal
 American Journal of Sports Medicine
 American Society for Testing and Materials,

Annals of Biomedical Engineering
 Biorheology, International Society of Biorheology
 Canadian Journal of Civil Engineering
 Cement and Concrete Composites
 Clinical Orthopaedics and Related Research Journal
 Computers & Structures
 Construction and Building Materials
 Engineering Journal, University of Qatar
 Engineering Structures: an International Journal,
 International Journal of Solids and Structures
 International Journal of Sports Biomechanics
 Journals of the American Society Civil Engineering (Materials, Structures, and Composites in
 Construction)
 Journal of Biomaterials
 Journal of Biomechanics
 Journal of Biomechanical Engineering (ASME)
 Journal of Biorheology
 Journal of the Indian Concrete Institute
 Journal of Materials in Civil Engineering
 Journal of Orthopaedic Research
 Masonry International
 The Masonry Society Journal

Have reviewed grant applications for:

Australian Research Council
 Natural Sciences and Engineering Research Council (Canada)
 Medical Research Council (Canada)
 The Arthritis Society (Canada)
 Social Sciences and Humanities Research Council (Canada)
 Swiss National Science Foundation
 NATO
 The Arthritis Society (UK)
 The Whitaker Foundation (USA)
 Health and Fitness, Canada
 Nova Scotia Health
 South African Research Foundation
 Leverhulme Trust (UK)

X Research and Other Funds (N.G. Shrive either individual, main or co-applicant)

- (a) NSERC Individual Operating Grant: originally funds were for research on composite materials. The later applications (1982 onwards) were for masonry research only. Amounts shown are annual amounts
- | | |
|-----------|-----------|
| 2018-2023 | 43,000 pa |
| 2013-2018 | 35,000 pa |
| 2012-2013 | 28,000 |
| 2007-2012 | 35,000 pa |
| 2002-2007 | 30,000 pa |
| 1997-2001 | 23,000 pa |

	1994-1997	20,700	pa
	1991-1994	30,700	pa
	1988-1991	27,000	pa
	1986-1988	24,000	pa
	1985-1986	25,000	
	1984-1985	17,000	
	1983-1984	16,000	
	1982-1983	15,000	
	1981-1982	12,000	
	1980-1981	11,000	
	1979-1980	10,000	
	1978-1979	5,000	
	1977-1978	5,000	
(b)	Collaborative Research and Development Grant:		
	Develop high strength ecofriendly concrete block and design therewith 2020-2025 \$1,000,000		
	To develop new design of load bearing concrete block. 1985-1986 \$26,000		
	Equipment Grants		
	(i) J.E. Gillott (PI) for scanning (electronic microscope)		
	other grants from University, total 180,000		
	(ii) N.G. Shrive (PI) For INSTRON testing machine total grants 43,000		
	(iii) W. Dilger (PI) equipment for structure labs 362,000		
	(iv) N.G. Shrive from AHFMR 50,000		
(c)	Co-operative Grant		
	J.B. Hyne (PI)	1982-1983	60,000
		1981-1982	55,000
		1980-1981	50,000
(d)	Negotiated Development Grant for Sulphur Research		
	I was not an applicant for this grant but coordinated		
	the Civil Engineering Group. Administered funds for		
	Group which varied from \$50,000-70,000 per annum.1974-1981		
			varied 50,000
(e)	Network of Centres of Excellence (ISIS)	2006-2009	150,000
		2005-2006	95,000
		2002-2004	90,000
		2001	97,000
		2000	86,000
		1999	90,000
		1997-1998	50,000
		1996-1997	44,000
(f)		1998	30,000
		1997-1998	5,000
		1996-1997	8,000
(g)	plus IRAP funding industry collaborative work	1997-1998	30,000
(h)	CH2M Stor & Gorrie	1997-1998	2,500
	Industry in-kind contribution		
(i)	Network Centre of Excellence (GEOIDE)	2003-2004	27,500
(j)	Canadian Masonry Council		
	Individual series of grants, total	1974-1994	29,000

(k)	Canadian Masonry Research Institute	2000	6,000
	Support from the Canadian Concrete Masonry Producers Association, 2012- 2018 and the Alberta Masonry Council, totaling		400,000
(l)	Lafarge Canada Inc.	2001-2003	30,000
(m)	Sulphur Development Institute of Canada	1979-1981	105,000
(n)	Biomedical Research Grants		
	Canada Foundation for Innovation (one of ten main applicants, SKBoyd lead, \$12.89 million, 2012)		
	Canada Foundation for Innovation (one of ten main applicants, DAHart lead, \$12.593 million – I administered and renewed this grant for five years, started in 2001)		
	NSERC CREATE (co-PI, Herzog lead)	2009-2014	300,000pa
	CIHR (with I.K.Y. Lo, Medicine)	2005-2007	117,522pa
	CIHR (with J. Tyberg, Medicine)	2007-2010	78,685pa
		2005-2007	82,861pa
		2002-2005	98,429pa
		2001-2004	106,660pa
	CIHR (with K. Hildebrand/D.A. Hart)	2003-2006	117,917pa
		2002-2005	73,821pa
		2001-2004	80,000pa
	CIHR (with D.A. Hart)	2003-2007	60,000pa
	Canadian Space Agency (with D.A. Hart)	2002-2006	60,000pa
(o)	Biomedical Research Grants with C.B. Frank (Surgery)		
	(i) CIHR (one grant)	2014-2018	133,000pa
	(two grants)	2012-2014	249,000pa
	(two grants)	2011-2012	235,751pa
	(two grants)	2008-2011	257,617pa
		2006-2008	232,506pa
		2003-2006	168,000pa
	(ii) MRC	1999-2003	146,464pa
		1997-1999	74,500pa
		1996-1999	120,000pa
		1994-1997	77,400pa
	(iii) Equipment grant (part of operating)		33,107
		1992-1995	130,000pa
		1991-1994	74,000pa
		1989-1992	135,000pa
		1987-1989	87,000pa
	(iv) Arthritis Society	2012-2015	120,000pa
		2003-2006	86,455pa
		2000-2003	85,400pa
	(2nd grant)	1997-2000	60,000pa
		1997-2000	60,000pa
		1994-1997	44,400pa
		1991-1994	58,500pa
		1989-1991	55,136pa

	(v) Canadian Arthritis Network	2002-2004	73,290pa
		2001-2002	59,328pa
		2001-2002	59,840pa
		2000-2001	50,000pa
		2000-2001	55,000pa
		1999-2000	46,000pa
		1999-2000	46,000pa
		1987-1988	47,500pa
	(vi) Alberta Innovates – Health Solutions (one of 8 co-PIs with Frank and Herzog as co-leads)	2008-2013	1,000,000pa
(p)	London Life (with CB Frank and DA Hart)	1997-2000	100,000pa
(q)	Alberta Children’s Hospital	1992-1994	47,000pa
		1987-1991	47,000pa
(r)	Medtronic of Canada Hospital	1987-1988	140,000pa
(s)	MRC (with J Matyas) Equipment Grant	1996-1999	59,000pa 25,000
(t)	Whitaker Foundation Co-applicant with R. Zernicke (UofC), P. Allen (UofA) Special Opportunity Award to develop Alberta Provincial Biomedical Engineering Programme	1997-2000	US\$ 333,000pa
(u)	AHFMR Phase II Commercial development grant	1993-1994	75,000
(v)	Newcastle Area Health Authority, UK R. Hornby, main applicant plus one other	1979	17,000
(w)	University Research Grants Committee	1976	4,000
(x)	Research Contracts, City of Calgary		
	(i) to determine the cause of failure LRT System and test new devices, with BR Gamble)	1983	80,000
	(ii) Rail Corrugation and Wheel Wear, with BR Gamble	1984-1985	100,000
	(iii) Properties of Mastic Materials: LRT	1988	29,000
		1987	45,000
		1987	26,000
	(iv) Stanchion for Memorial Drive Bridge	2001	5,000
	(v) Shawnessy LRT Station	2003	55,000
(y)	Skytrain, BC Transit	1989	25,000
(z)	Arctic Offshore Engineering (with two others)	1986	5,500

- (aa) I have also received funds Alberta STEP and Federal SEED programs for summer students, as well as NSERC, CIHR and AIHS summer studentships.

INDUSTRIAL CONTACT

- (1) City of Calgary: Light Rail Transit
Reports co-authored with B.R. Gamble
- (a) Testing of Fixations for North East Leg of LRT: July 1983
 - (b) Fatigue Failure of Landis/Pandrol Model 5301 Direct Fixation Rail Fastener, Confidential preliminary report of a test program August 1983
 - (c) Fatigue Failures of South Line Direct Fixation Rail Fasteners: Conclusions from Field and Laboratory Test January 1984
 - (d) Direct Fixation Rail Fastening Methods for use on the Calgary Light Rail Transit System: Summary Report of Testing & Development, Reports submitted by others under supervision of N.G. Shrive March 1984
 - (e) Rail Wear and Corrugation on 7th Avenue South (B.R. Gamble) P. Ameny, J. Stein, 141 pp. July 1985
 - (f) State-of-the-Art Report on Corrugations and Recommendations for 7th Avenue South, P. Ameny, J. Stein, 89 pp. September 1985
 - (g) State-of-the-Art Report on Wheel Wear and Recommendations for Calgary LRT, J.R. Stein, P. Ameny, 128 pp. February 1986
- Reports co-authored with P. Ameny
- (h) Tests of Resilient Track Support Materials for City of Calgary Light Rail Transit, 64 pp. August 1987
 - (i) Static and Fatigue Tests of Lechler and other Direct Fixations for the City of Calgary Light Rail Transit, 84 pp. May 1988
- (2) Companies Consulted
- CCI Industries
 - Sulphur Development Institute of Canada
 - Revenue Canada
 - Tetrattech Systems International
 - Hanson Materials
 - Fenco Ltd.
 - Yellowline Industries
 - Geotech Engineering
 - Scitech
 - Morrison Herschfield
 - Sintra Engineering
 - JSS Barristers
 - Amec-Foster-Wheeler
 - RJC Engineers
 - City of Calgary

SERVICE

- A. UNIVERSITY
- (i) Committees (among many on which have served)
Department

Materials Group
 Structures Group
 Mechanics Group
 Graduate Student Affairs
 Laboratory Committee
 Building Management Committee
 Decoration Committee
 Department rep to the Faculty Association
 Department Development Committee
 Curriculum Committee
 Merit Increment Committee
 Project Management Advisory Committee
 Irrigation Engineering Industrial Advisory Committee

Faculty

Ad hoc Committee on Curriculum Review
 Promotions and Awards
 Ad hoc Committee on Student Behaviour
 Common Curriculum
 Faculty Salaries
 Engineering Faculty Council
 IDC Solid Mechanics
 Committee to select Associate Dean Academic
 Academic Review Committee
 Dean's Advisory Council
 Faculty Executive Committee (current, ex-officio)
 Task Force on Teaching Statistics
 Biomedical Engineering Research Group (current, chair)
 Environmental Engineering Group
 Public Relations
 Engineering Representative to Medical Faculty Council
 Faculty Promotions Committee
 Sabbatical Fellowship Committee

University

Research Ethics Appeals Board 2003-06
 Provincial Coordinated Graduate Programme, Calgary, Co-chair 1997-present
 Graduate Coordinator, Biomedical Engineering 1996-2006
 Joint Injury and Arthritis Research Group, Faculty of Medicine, Chair 2002-2005
 Research Development and Policy Committee, Chair 2002-04
 Research Development and Policy Committee, Member 2001-02
 University Consultation Committee on Intellectual Property 2001
 United Way Campaign, Co-chair 1997
 Conjoint Faculties Research Ethics Committee (member, 1992-96, 98-03)
 (Chair, 1996-98)
 General Faculty Council, Ethics of Human Studies (member, 1996-98)
 Faculty of Graduate Studies Council
 Faculty of Social Sciences Council
 Space Allocation Committee
 Parking and Traffic Control
 Instructional Methodology

Space Review Committee
 Research Policy Committee
 Committee on Admissions and Transferability
 President's Task Force Subcommittee on Physical Facilities
 Chancellor's Committee on Convocation
 President's Search Committee for Associate V.P. (Planning)
 General Faculties Council

Head, Department of Civil Engineering: (1989-12/1998)

Responsible for:

- academic programmes (graduate and accredited undergraduate)
- academic staffing
- support staff staffing
- all financial aspects of department
- academic curriculum development
- equipment and laboratory development
- graduate student admissions and performance assessment
- undergraduate student activity.

Associate Dean (Student Affairs) Faculty of Engineering: (1985-89)

Responsible within the faculty for:

- admitting students to the faculty
- keeping student records
- reviewing student progress
- administering the faculty's regulations
- carrying out other tasks from time to time as delegated by the Dean

Assistant to the Vice-President (Services): (1977-80)

Responsible for Space Allocation and Planning for the University

Joint Injury and Arthritis Research Group	
Member, Project Motion Building Committee	1990-91
Chair, Space Planning Committee	1990-91
Chair, Space Management Committee	1990-96
Chair, Equipment Committee	1991-02
Chair, JIARG Research Group	2002-2006

B. EXTERNAL ADMINISTRATION/MANAGEMENT

(a) Professional

- | | | |
|-------|--|------------------|
| (i) | Executive Secretary,
Canadian Masonry Research Council | 1980-81, 1982-84 |
| (ii) | Chairman, Joint Liaison Committee of the Association of Professional Engineers,
Geologists and Geophysicists of Alberta (APEGGA)
and the Engineering Student Society at the University | 1980-81 |
| | Honorary President, Engineering Students Society, | 1980-81 |
| (iii) | Member, Calgary Members Liaison Committee of APEGGA | 1982-87 |
| (iv) | Member, APEGGA- Engineering Students Liaison Group | 1986-88 |
| (v) | Member, Alberta Panel,
The Institution of Mechanical Engineers | 1982-88 |

- (vi) Member, Executive,
Canadian Prairies Group of Chartered Engineers 1989-2016
Chair 2000-01, 2008-2014
- (vii) Member, Informal Study Group—the Influence of creep in structural
behaviour—the Institution of Structural Engineers 1981–86
- (viii) Director, The Masonry Society 1986-92
1998-00
- (ix) Member, Canadian Standards Association Committee S304,
on Masonry Design 1985-present
- (x) Chairman, Canadian Standards Association Committee A179 on Masonry
Mortars 1989-present
- (xi) Member, Canadian Standards Association Committee A371 on Masonry
Construction 2002-present
- (xii) Member, Masonry Standards Steering Committee,
Canadian Standards Association 1989-present
- (xiii) Member, External Advisory Committee,
Calgary Sport Medicine Centre 1991-present
- (xiv) Member, Superintendent's Commission on Literacy,
Calgary Board of Education 1989-91
- (xv) Member, Canadian Engineering Accreditation Board Visitation Teams:
McMaster University 1991
University of Western Ontario 1994
Saskatchewan 1996
McGill 1998
Royal Military College 2000
University of British Columbia 2005
Dalhousie University 2013
- (xvi) Member - one year, Chair - three years, Biomedical Engineering Grant
Selection Committee, Medical Research Council 1991-1995
- (xvii) Member, NSERC Selection Committee for
University Faculty Awards 1998-2001
- (xviii) Member, Research Projects Panel, The Arthritis Society 1992-2004
- (xix) Member, Board of Examiners, APEGGA 1993-present
- (xx) Member, AHFMR Conference
Grant Advisory Committee 2003-2006
- (xxi) Member, Committee 530, Masonry Standards Joint Committee
(ACI, TMS and ASCE Struc. Engg Inst.) 2002-present
- (xxii) Member, NSERC Civil Engineering
Grant Selection Committee 2003-2006
- (xxiii) Member, Canadian Arthritis Network 2002-present
- (xxiv) Member, Canadian Standards Association Committee S806 on FRPs 2008-present
- (xxv) Member, CIHR BME cttee 2010, 2014
- (xxvi) Member, NSERC Cttee to select Chairs for
Women in Science and Engineering, Atlantic, Ontario and Prairies 2011
Quebec 2012-13
- (xxvii) Member, NSERC Steacie award selection committee 2011, 2012
- (xxviii) Director, International Masonry Society 2013
- (xxix) Member NSERC Vanier Selection Cttee 2017-2019

(b) Non-professional

(i)	Treasurer, Local Advisory Committee, Colonel Sanders School	1982-83
(ii)	Member, Construction Committee, Calgary Zoological Society	1983-84
(iii)	Chairman, Local Advisory Committee, Colonel Sanders School	1984-85
(iv)	District Coordinator, Thorncliffe-Greenview Blockwatch	1984-85
(v)	Key Communicator, Colonel Sanders School	1985-86
(vi)	Director, W.G. (Bill) Howard Memorial Foundation	1985-88
(vii)	Treasurer, 72nd Group, Cubs and Scouts	1989-92
(viii)	Chairman, 72nd Group, Cubs and Scouts	1992-93
(ix)	Director, G.P. Vanier Junior High School Band	
	Parent's Association	1988-92
	Vice President	1991-92
(x)	Director and Secretary, Calgary North Stars	
	Community Show Band	1991-95
(xi)	Member, School Council, Manachaban School	1995-97
(xii)	Member, School Council, Cochrane High School	1998-2001
(xiii)	Chair, School Council, Cochrane High School	2000-2001