

DAVID S. WILKINSON
Distinguished University Professor
McMaster University

Summary

David S. Wilkinson holds the title of Distinguished University Professor at McMaster University. He received his undergraduate degree in Engineering Science from the University of Toronto (1972) and his Ph.D. in Engineering Materials from the University of Cambridge (1978). Following a post-doctoral fellowship at the University of Pennsylvania, Dr. Wilkinson joined the Department of Materials Science and Engineering at McMaster as an assistant professor in 1979. He was promoted to full professor in 1988 and served as department chair from 1987-91. He was Dean of the Faculty of Engineering from 2008-2012, then Provost and Vice-President Academic of the university from 2012-2017. He is registered as a professional engineer in the province of Ontario.

Professor Wilkinson's academic career has been recognized through numerous prestigious awards. He was awarded the title of Distinguished University Professor at McMaster University in 2008, a title that was then available to only 8 active faculty members at a time. In 2009 he was elected as a Fellow of the Royal Society of Canada and in 2010 as a Fellow of the Canadian Academy of Engineering.

Prof. Wilkinson has taught widely and undertaken extensive course development work. He was instrumental in the development of a new introductory Materials course involving a highly interactive learning environment. This course was taught each year to about 900 first year students for over a decade. Prof. Wilkinson has also written an undergraduate textbook on mass transport, published by Cambridge University Press in 2000.

Prof. Wilkinson is the author of over 280 scientific publications, specializing in the mechanical behaviour of both metals and ceramics. His research interests include the effect of thermomechanical processing on the properties of alloys (high strength steel, aluminum, and magnesium) with a current focus on the formability of automotive sheet and the incorporation of damage into models of deformation and ductile fracture. His research has been widely cited (Web of Science H index of 40) and strongly supported by industrial partners from the automotive and aerospace industries.

Prof. Wilkinson was the founding Director of the McMaster Centre for Automotive Materials and Principal Investigator for the Initiative for Automotive Manufacturing Innovation (iAMi) – a \$46M research collaboration. He was also the Director of the McMaster Manufacturing Research Institute.

He has held visiting professorships at the Max Planck Institut für Metallforschung (as a von Humboldt fellow), the University of California Santa Barbara, the Institut National des Sciences Appliquées de Lyon, the Institut National Polytechnique de Grenoble (as CNRS fellow) and the University of Tokyo (sponsored by the Japan Society for the Promotion of Science). He is a Fellow of the Canadian Institute of Mining and Metallurgy (CIM) and a Fellow of the American Ceramic Society. He is a recipient of the Canadian Materials Physics Medal (2004) as well as the Dofasco Award (2004), the Alcan Award (2012), and the Silver Medal (2016) of the Metallurgical Society of CIM. He is also a recipient of two awards for contributions to the scientific literature, most notably the Ross Coffin Purdy Award of the American Ceramic Society (2000) for the best paper published globally on ceramics in a given year. Professor Wilkinson was appointed as a CIM Distinguished Lecturer for 2003/2004. Finally, he was selected to

present the DKC MacDonald Memorial Lecture at the Canadian Materials Science Conference in 2015.

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McMaster University
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wilkinso@mcmaster.ca

EDUCATION:

B.A.Sc. (Bachelor of Applied Science), 1972
University of Toronto, Canada
Engineering Science Program; Metallurgy Option

M.A.Sc. (Master of Applied Science), 1974
University of Toronto, Canada
Dept. of Metallurgy and Materials Science
Thesis Title: Diffusional Stress Relaxation in Solid Fibres
Supervisor: G.C. Weatherly

Ph.D. University of Cambridge, England, 1978
Department of Engineering
Thesis Title: The Mechanisms of Pressure Sintering
Supervisor: M.F. Ashby, FRS

EMPLOYMENT HISTORY:

1979-present McMaster University, Hamilton, Canada
Assistant Professor - 1979
Awarded tenure - 1983
Promoted to Associate Professor - 1983
Promotion to Full Professor - 1988
Distinguished University Professor (lifetime appointment) – 2008

Department Chair July 1987 - July 1991
Acting Chair July 1997 – July 1998
Acting Chair July 2000 – July 2001
Dean, Faculty of Engineering, April 2008 – June 2012
Provost and Vice-President (Academic), July 2012 – November 2017

2004-2005 Institut Nationale des Sciences Appliqués de Lyon and Institut Nationale
Polytechnique de Grenoble, France
CNRS Visiting Fellow

1997 Institut Nationale des Sciences Appliqués de Lyon, France
Professeur invité

1992-1993 University of California, Santa Barbara, CA, USA,
Visiting Professor

1985-1986 Max Planck Institut fur Metallforschung, Stuttgart, Germany
Visiting scientist

1978-1979 University of Pennsylvania, Philadelphia, U.S.A.

Post-doctoral Fellow
Supervisors: V. Vitek, D.P. Pope

AWARDS and FELLOWSIPS:

2018 CAUBO Quality and Productivity (Q&P) Award (2nd position) for the McMaster IT Services Review (co-chaired with R. Couldrey, VP Administration)

2017 OSPE Hamilton-Halton Region Engineer of the Year

2016 McMaster Faculty of Engineering Research Award

2016 Silver Medal Award of the Metallurgy and Materials Society of CIM

2015 Honorary Symposium, International Conference on Plasticity

2015 DKC MacDonald Lectureship, Canadian Materials Science Conference

2015 Honorary Symposium, Metallurgical Society of Canada Annual Conference

2014 TMS Light Metals Division Magnesium Technology Best Student Paper – Supporting Author Award (with M. Nemcko, PhD student)

2013 Hall of Distinction Award, Faculty of Engineering, University of Toronto

2012 Rio Tinto Alcan Award of the Metallurgical Society of CIM

2010 Fellowship of the Canadian Academy of Engineering

2009 Fellowship of the Royal Society of Canada

2008 Distinguished University Professor, McMaster University

2005 Visiting Fellowship, INPG France

2004 Canadian Materials Physics Medal

2004 Dofasco Award of the Metallurgical Society of CIM

2004 CNRS (France) Visiting Fellowship

2003 CIM Distinguished Lecturer Award

2000 Fellowship of the American Ceramic Society

2000 Ross Coffin Purdy Award of the American Ceramic Society - for the best paper published in the ceramic literature (world-wide) in 1998

2000 Invited Visiting Fellowship, Japan Society for the Promotion of Science, held at University of Tokyo

2001 Fellowship of the Canadian Institute of Mining, Metallurgy and Petroleum

1996 Elected Chair, Gordon Research Conference on Solid State Studies in Ceramics

1996 Best Materials Paper, Canadian Metallurgical Quarterly

1985-1986 Alexander von Humboldt Foundation Fellowship for research in Germany, held at the Max Planck Institute for Materials Science, Stuttgart.

COURSES TAUGHT:

Undergraduate

Eng. 1D03	Engineering Computation
Eng. 1C04	1st Year Departmental Design Project
Mater. 1M03	Structure and Properties of Materials
Sci 1S03	1 st Year Inquiry Course, Faculty of Science
Eng. 2O03	Properties of Engineering Materials
EngSoc 2Y03	Case Studies in the History of Technology
Mater. 3E04	Mass Transfer
Mater. 3E06	Transport Processes: Heat Transfer and Solid-State Mass Transport
Eng. 3P03	Mechanical Properties of Materials
Mater. 3M03	Mechanical Properties of Materials
Eng. 3Q03	Electronic Properties of Materials
Mater. 4A02	Plant visits and Seminars
Mater. 4L04	Metallurgy Laboratory: Fracture Toughness Experiment
Met. 4/6M03	Dislocation Theory, jointly with J.D. Embury
Mater. 4K04	Undergraduate Thesis
Mater. 4R03	Ceramic Science
Mater. 4T03	Properties and Processing of Composites
EngSoc 4X03	Final Inquiry, Engineering and Society program
Mater. 4Z04	Capstone Industrial design Project

Graduate

MSE 716*	Fundamentals of Deformation and Fracture
MSE 717*	Mechanisms and Mechanics of Fracture, jointly with J.D. Embury
MSE 720*	Deformation and Fracture at Elevated Temperatures (also taught at University of California - Santa Barbara, 1992)
MSE 754#	Fracture Mechanics
MSE 753#	Fracture Mechanisms
MSE 755#	Deformation of Crystalline Solids

Note: * indicates half-year while # indicates quarter-year graduate courses

CONTRIBUTIONS TO TEACHING:

Mater. 1M03	Development of a new introductory materials course offered for the first time to all students in Level I in January 2004. Taught to about 1000 students each year Led the course development team consisting of three faculty and about 15 summer students and TAs over two years Course development using WebCT, web-based homework, active learning strategies in the classroom, interactive tutorials (2002)
Mater. 3E06/3E04	Development of an undergraduate textbook, Mass Transport in Solids and Fluids, published in the Solid-State Science series by Cambridge University Press (2000)
Mater. 4L02	Development of a 12-week laboratory sequence on processing and

properties of ceramic materials (1999)

Mater. 4L04 Development of new 5-afternoon laboratory on fracture mechanics (1983)

Eng. 1D03 Engineering Computation – This was the first course on computation to be developed by the Engineering faculty at McMaster University
Original course development, along with Profs. A. Smith, J. Siddall and C. Crowe (1981)
Booklet: The Sharp PC-1211 Pocket Computer: An Introduction for Students in Engineering 1D3 (1981)
Book: BASIC Language Programming for Engineers by D.S. Wilkinson (1983).
Course co-ordinator (1984, 1985, 1987)

KEY ADMINISTRATIVE APPOINTMENTS AND ROLES

Dean, Faculty of Engineering (2008-2012)

University Provost and Vice President (Academic) (2012 - 2017)

As Provost, chair of: University Planning Committee; Provost's Council; numerous selection committees for positions which report to the Provost

As Provost, member of: University Senate; University Board of Governors; Finance Committee of the Board; Planning and Building Committee of the Board; several President's advisory bodies

Ontario Universities Council on Quality Assurance (2013 - 2015)

ADDITIONAL UNIVERSITY COMMITTEES AND APPOINTMENTS:

Department - Department Chair (1987-1991), Acting Chair (1997-98, 2000-01)
Consulting Review Committee (1980-1985, 1987-1991)
Chair Selection Committee (1981, 1984, 1987, 2002)
Graduate Advisor / Chair, Grad Admissions (1993-96, 2004)
Faculty appointment committees (numerous)

Faculty of Engin. - Faculty Advisor, Hatch Centre for Engineering Experiential Learning (2018-
Director, McMaster Manufacturing Research Institute (2005-2008)
Selection Committee, Director of Engineering and Society Program (2003)
Director of the McMaster Centre for Automotive Research (2002-2011)
Ad Hoc Committee on Restructuring Level I (2001/2)
Engineering and Society Curriculum Committee (1999-2000)
Selection Committee, Chair of Mechanical Engineering (1996)
Engineering and Society Operating Committee (1993-2000)
Graduate Admissions and Study Committee (1993-1996)
Selection Committee, Dean of Engineering (1993)
Undergraduate Admission and Recruiting Committee (1991-1992)
Awards Committee (1991-1992)
Ad Hoc Committee on Faculty Goals and Objectives (1989)
Dean's Council (1987-1991, 1997-1998, 2000-2001, 2008-2012)
Committee to Appoint Associate Dean (1984, 2002)
Instruction Co-ordinating Committee (1983-1985)
Level I Operating Committee (1983-1987, 2002-)

Graduate Curriculum and Policy Committee (1983-1985)
Dean's Advisory Committee on Computing (1979-1986, 1998-99)

Faculty of Science - Selection Committee, Dean of Science (1989)
Faculty Council (1987-1991, 1997-1998, 2000-2001)
Library User's Committee (1983-1985)
Committee to Appoint Assistant Dean of Studies (1982, 1983)
Dean's Advisory Committee on Computing (1979-1985)

University - Acting Director, Brockhouse Institute for Materials Research (2019 -)
Committee on Academic Structures for Student Success, chair (2016-17)
President's Advisory Committee on Fossil Fuel Divestment, chair (2016-17)
Selection Committee, Dean of Business (2011-12)
President's Advisory Committee on the DeGroote School of Business (2010-12)
University Senate (2008 - 2017)
University Planning Committee (2010/11; 2012 - 2017)
Task Force to Develop New Operating Budget Model (2007- 2009)
Engineering Representative on Faculty of Science (2003 - 2008)
Selection Committee, Associate Dean of Graduate Studies (2001)
Tenure Appeal Tribunal (1999)
Engineering Representative on the Faculty of Humanities (1995-2001)
Board-Senate Research Misconduct Hearings Panel (1997-2006)
Selection Committee, Vice-President, Research (1989, 1994, 2016)
Selection Committee - Director, Institute for Materials Research (1991, 2001)
Executive of Graduate Council (1984/85, 1995/96)
Graduate Council (1982-1985; 1994-1996)

Provincial - Technical Working Group on the Tuition Framework (2016)
Technical Working Group on the Funding Formula (2016)
Ministerial Advisory Group on the Future of Engineering Education (2014-15)
Ontario Universities Council on Quality Assurance (2013-15)
Ontario Centres of Excellence, voting member (2013 - present)
Ontario Council of Academic Vice-Presidents (2012 - 2017)
Council of Ontario Deans of Engineering (2008-12)
Federal - U15 Academic Advisory Committee (Provost's Forum) (2012 - 2017)
Vice Chair (2012 - 2014); Chair (2014 - 2016)
National Council of Deans of Engineering and Applied Science (2008-12)

External University Advisory Council, LUMS University
(Lahore University of Management Sciences)

PROFESSIONAL ORGANIZATIONS:

Professional Engineers of Ontario
(registered as a Professional Engineer in the Province of Ontario)
Ontario Society of Professional Engineers

Metallurgical Society of CIM
ASM International
Metallurgical Society (TMS) of AIME
American Ceramic Society

SCHOLARLY AND PROFESSIONAL ACTIVITIES:

Journal Referee for many journals including: Acta Materialia, Metallurgical Transactions, Scripta Materialia, Materials Science and Engineering, Transactions of TMS-AIME, Canadian Metallurgical Quarterly, Journal of the American Ceramic Society, Journal of the Canadian Ceramic Society, Journal of the American Society of Mechanical Engineers, International Journal of Plasticity

International Conference on the Strength of Materials and Alloys (ICSMA) – Scientific Advisory Committee (2018 – present)

Review of the University of the West Indies, Mona (Jamaica), March 2019

Conference Chair, World Congress on Mechanical, Metallurgy and Materials Science, Milan, Italy, March 2019

Member of Conference Organizing Committees:

Member of International Advisory Committee for 7th International Symposium on Ceramics (Bologna, 1988).

Engineering Foundation Conference on Plastic Deformation of Ceramics, Snowbird, UT, August 1994

International Conference on Composite Materials - 10, Whistler, BC, August 1994
7th International Conference on Intergranular and Interphase Boundaries in Materials, Lisbon, Portugal, June 1995

Sintering '95, Penn State University, September 1995

Ceramic Processing '97, Santa Barbara, September 1997

Composites at Lake Louise (CALL) '97, October 1997

Composites at Lake Louise (CALL) '99, October 1999

Conference on Structural Ceramics and Ceramic Composites for High Temperature Applications, Spain, 2001

Composites at Lake Louise (CALL) '05, October 2005

Symposium on Materials for Lightweight Vehicles, MetSoc, 2008

McMaster Institute for Automotive Research and Technology – MacAUTO, Director (2007 – 2011)

McMaster Manufacturing Research Institute, Director (2005 – 2008)

Academic User Access Facility, MTL-CANMET

Principal investigator NSERC MFA grant funding this facility

Chair, Management Committee, 2003 – 2007

Ex officio member, MTL Advisory committee (MATTAC), 2004 – 2007

Co-chair, Symposium in honour of David Embury, McMaster 2004

McMaster Centre for Automotive Materials, Founding Director (2000 – 2007)

NSERC Strategic Project Grants Selection Panel for Materials Technologies

Member (1995-97)

Panel Chair (1997)

Canadian Ceramic Society
Board of Directors (1995-97)
Chair of Basic Science Section (1996/97)

Gordon Research Conference on Solid State Studies in Ceramics
Elected as Conference Chair, 1996

McMaster Powder Processing Facility, Director (1992 – 2008)

Journal of the American Ceramic Society, Associate Editor (1990 - 2001)

4th Canadian Materials Science Conference, Co-chair, Royal Military College, Kingston, June 1992

Z. S. Basinski International Symposium on Crystal Plasticity, Chair, Royal Military College, Kingston (1992)

International Working Group for Superplasticity, member (1985-1994):
organizing committee for international conferences in Grenoble (1985) Blaine, WA. (1988), Osaka (1991); Moscow (1994).

Metallurgical Society of CIM - Member of Materials Engineering Section Committee, (1983-1992, 1992 - 1998 as Associate Member):
Section Chairman (1988/89)
Member of Board of Governors of Metallurgical Society (1988/89)
Organization of two sessions for Annual Meeting, 1985
Member of Met. Soc. Continuing Education Committee (1986/87)
Chair, International Symposium on Advanced Materials, Conference of Metallurgists (Montreal, 1988), editor of proceedings (Pergamon Press).
Chair, Symposium on Advances in Industrial Materials, Conference of Metallurgists (Calgary, 1998), editor of proceedings (CIM).
Chair, Symposium on Materials for Lightweight Vehicles, Conference of Metallurgists (Hamilton, 2004)
Chair, Symposium on Materials for Lightweight Vehicles, Conference of Metallurgists (Winnipeg, 2008)

American Society of Metals - Member of Council, Ontario Chapter (1980-82):
Chairman of Membership Committee, 1980-81
Chairman of Education Committee, 1981-82
Organized one-day seminars:
i) Metallurgy of Zirconium and Titanium Alloys, McMaster University 1981.
ii) Workshop on Fracture Mechanics, University of Toronto, 1981.

PROFESSIONAL TEACHING:

Certificate in the Metallurgy of Iron and Steel, Program chair, 1998 – 2002
Level II coordinator, 2003 – 2007

Metallurgy II, Year 2 of the Certificate in the Metallurgy of Iron and Steel; McMaster University, Fall 1981.

SUPERVISORSHIPS:

Students completed

<u>Master's</u>	Graduated in	
Linfeng Zhou	2018, graduated with MASc	
Diyar Salehiyan	2018, graduated with MASc	
Zhuofei (Felix) Yang	2015, graduated with MASc	
Jing Li	2013, graduated with MASc	
Michael Nemcko	2011, transferred to Ph.D.	
Felicia Anor	2010, transferred to Ph.D.	
Maggie Zhan	2009, graduated with MASc	
Guozhen Zhu	2009, graduated with MASc	
Somaradi Khiev	2009, graduated with MASc	
Kendal Dunnett	2009, graduated with MASc	
Daniel Bielby	2008, graduated with MASc	
Diane Zdravecky	2007, graduated with MASc	(joint with M. Jain)
Xiaofei Yan	2007, graduated with MASc	(joint with D. Malakhov)
Halim Herdawandi	2006, graduated with MASc	(joint with M. Niewczas)
Victoria Oswell	2005, graduated with MASc	(joint with J. D. Embury)
Taj Singh	2005, graduated with MASc	
Elizabeth McNally	2003, transferred to Ph.D.	(joint with I. Zhitomirsky)
Stephane Girard	2002, graduated with MASc	
Andi Limarga	2002, transferred to Ph.D.	(joint with G. C. Weatherly)
D. Xu	2001, graduated with M. Eng.	(joint with G. C. Weatherly)
Jeff Gimple	2001, graduated with M. Eng.	(joint with J. D. Embury)
John Nychka	1999, graduated with M. Eng.	
Peter Poruks	1998, graduated with M. Eng.	(joint with J. D. Embury)
James Clarke	1997, graduated with M. Eng.	
Qiang Jin	1995, graduated with M. Eng.	(joint with G. C. Weatherly)
D. Manomaisupat	1995, graduated with M. Eng.	(joint with A. Petric)
Derrick Sarafinchan	1995, graduated with M. Eng.	
David Bloyce	1993, graduated with M. Eng.	
Kelly Conlon	1993, transferred to Ph.D.	
Doris Sabljic (Clayton)	1993, transferred to Ph.D.	
Wei Chen	1991, graduated with M. Eng.	
Rosaura Ham-Su	1991, transferred to Ph.D.	
Irene Arita-Watanabe	1990, graduated with M.Sc.	(joint with G. R. Purdy)
Margaret Chadwick	1987, transferred to Ph.D.	
David Pelemo	1985, graduated with MSc.	
A. Gordon Robertson	1984, transferred to Ph.D.	
Gene Burger	1981, transferred to Ph.D.	

Ph.D.

Michael Nemcko	2015	
Juan Kong	2012 (joint with N. Provatas)	
Akihide Hosokawa	2010	
Mohamed Abou-Katwa	2009 (joint with D. Malakhov)	
Arnaud Weck	2007	
Andi Limarga	2006	
Tony Quan	2004	
Justin Gammage	2002 (joint with J. D. Embury)	
Kelly Conlon	1998	
Qiang Jin	1998 (joint with G. C. Weatherly)	
Rosaura Ham-Su	1997	
Irene Arita-Watanabe	1994 (joint with V. Castano, Natl. Univ. of Mexico)	

Stephen F. Corbin	1992
Margaret Chadwick	1990
A.Gordon Robertson	1989
Gene Burger	1986 (joint with J.D. Embury)

Current students

Master's Began

Connie Pelligra 2017

PhD.

Sudhir Panse 2019
Nizia Mendes 2019

Post-doctoral fellows / research associates

Trevor Sabiston	July 2018 -	(joint with J. Kang)
Bosco Yu	March 2018 -	(joint with H. Zurob)
Bin Li	November 2017 – February 2019	
Javad Samei	April 2016 – December 2018	
Dulal Saha	November 2016 – June 2017	
Srinivasan Nagarajan	Sep 2015 – Sep 2016	(joint with M. Jain)
Michael Nemcko	July – Dec 2015	
Atish Ray	Nov 2013 – Sep 2015	
Yaping Lu	Nov 2011 – March 2014	(joint with J. McDermid)
Erica Bellhouse	May 2011 – June 2011	(joint with J. McDermid)
Jidong Kang	Sep 2008 – April 2011	
Zorheh Keshavarz	May 2009 – Oct 2010	
Xiaohua Hu	Jan 2006 – Aug 2010	(joint with M. Jain)
Alex Davidkov	April 2008 – March 2009	(joint with M. Jain)
Gordana Cingara	June 2006 – Dec 2008	(joint with M. Jain)
German Fox-Rabinovich	Oct 2005 – June 2008	(joint with S. Veldhuis)
Jidong Kang	April 2002 – July 2007	(joint with J. D. Embury, M. Jain)
H. Muto	Feb 2005 – Feb 2006	
Yuriy Ososkov	Aug 2003 – March 2006	
Xinjuan Duan	March 2003 – Dec 2005	(joint with M. Jain, D. Metzger)
Y. Liu	Aug 2002 – Nov 2004	
Leonid Gutkin	April 2003 – April 2004	(joint with J. D. Embury, M. Jain)
German Fox-Rabinovich	Feb 2000 – April 2004	(joint with G. C. Weatherly)
Hamid Azari	Oct 2000 – Aug 2004	(joint with J. D. Embury)
Valery Chani	Oct 2001 – Dec 2003	(joint with G. C. Weatherly)
	(joint with M. Jain, J. D. Embury)	
Jide Olurin	Jan 2002 – Feb 2003	(joint with G. C. Weatherly)
J. Li	April 2002 – Dec 2002	(joint with J. D. Embury, M. Jain)
Khalid Hussain	Aug 2000 – March 2002	(joint with G. C. Weatherly)
Alex Zaitsev	July 2000 – May 2002	(joint with G. C. Weatherly)
Faranak Shojai	April 2001 – Aug 2001	(joint with G. C. Weatherly)
Muriel Braccini	Nov 2000 – Aug 2001	
J. Sarkar	June 1999 – Aug 2001	(joint with J. D. Embury)
Eric Maire	Sep 1995 - Oct 1996	(joint with J. D. Embury)
H. Huang	May 1998 – July 2000	(joint with G. C. Weatherly)
Viktor Yarashenko	June 1996 – Dec 1997	(joint with T. Coyle, Toronto)
Stephane Tuffe	Dec 1991 - June 1994	(joint with T. Coyle, Toronto)
C. Tian	June 1995 - Jan 1997	(joint with G. Irons and S. Zhu)
Irene Arita	Aug 1994 - Nov 1996	

G. Ning	Sep 1994 - Aug 1996	(joint with G. C. Weatherly)
X. X. Zhang	Feb 1995 - May 1996	(joint with T. Coyle, Toronto)
Herbert Grazzini	Oct 1990 - July 1992	
Kevin Plucknett	Dec 1989 - Dec 1992	
Harald Zeizinger	Oct 1986 - Sep 1987	
Robert Jupp	July 1985 - Aug 1987	
S. Bulent Biner	Dec 1981 - Nov 1983	
Carlos H. Caceres	Jan 1981 - Aug 1983	

Visiting Scholars

Vladimir Subbotin	Jan – Feb 2000
Stefan Lampfenscherf	Sep – Dec 1997
Peter Vomacka	July - Dec 1995
Qingwu Cai	Sep 1993 - Oct 1994
Li Shujie	March 1986 - April 1988
Wu Xin	August 1984 - Nov 1986

Research Technicians/Engineers

	Connie Barry	1988 – 2012
Rob Lemmon	2003 – 2010	
Dan Culley	2000 –2003	
David Bloyce	1993	
Teresa Castillo	1981 - 1992 (joint with J.D. Embury)	
Ed McCaffery	1984 - 1989	

Visiting Scientists

Marek Pindera	Sep 2004 – May 2005 (Univ. of Virginia)
Suk-Bong Kong	June – Aug 2004 (Inst. of Machinery and Materials, Korea)
Edgar Rauch	Sep 2001 – Aug 2002 (INPG, France) (with J. D. Embury)
G. Kutty	May 1998 – June 1999 (joint with J. D. Embury)
Carlos H. Caceres	Jan 1989 - Oct 1991 (U. of Cordoba, Argentina)

RESEARCH FUNDING:

* indicates current funding

all grant levels are annual award levels, except where noted.

indicates funding applied for but not yet awarded

#NSERC Collaborative Research and Development Grant, 2019 (4 years)

\$75,000

Title: Optimizing the Bendability of Advanced High Strength Steels for Automotive Applications

*NSERC Discovery Grant, 2019 (5 years)

\$38,000

Title: Optimizing the strength and ductility of materials

*NSERC CRD Grant, 2018 (3 years)

(P.I. J. McDermid and 4 others)

\$808,819

Title: Advanced Zn-Coated Steel Development and Manufacturing Technology for Automotive Weight Reduction and Safety Enhancement

NSERC Discovery Grant, 2012 (5 years)

\$41,000

Title: Mechanical Behaviour of Materials with Complex Microstructure

NSERC CRD Grant, 2011 (4 years)

(PI: Mukesh Jain)

~\$72,500; \$55,704; \$55,176; \$60,000

Title: Formability Enhancements of Automotive CC and DC Magnesium Sheet Materials Using Prestrain Annealing Technology

McMaster University Research Support for Senior Administrative Appointments, 2008 – 2018

\$30,000 (2008 – 2012); \$60,000 (2012 – 2018)

NSERC Strategic Network Grant, 2008 (5 years)

(PI: W. Poole, UBC)

~\$1,000,000 per year

Title: Developing Magnesium Materials for the Transportation Sector

NSERC Discovery Grant, 2007 (5 years)

\$58,000

Title: Mechanical Behaviour of Materials with Complex Microstructure

AUTO21 NCE, 2007 (2 years)

(with M. Jain and J. D. Embury)

\$43,000

Title: Hydroforming of Advanced High Strength Steels

AUTO21 NCE, 2007 (2 years)

(with D. Malakhov)

\$67,000

Title: Chemically Enhanced Formability of Automotive Aluminum Alloys

NSERC Strategic, 2005 (3 years)

(with S. Veldhuis)

\$101,200; \$94,200; \$99,200

Title: Oxidation and protection of Ti and TiAl- based alloys for aerospace applications

NSERC CRD / GM Canada, 2005 (3 years)

(with M. Jain, M. Niewczas)

\$228,500; \$228,500; \$147,000

Title: Optimization of sheet formability derived from microstructurally based models

AUTO21 NCE, 2005 (2 years)

(with M. Jain and J. D. Embury)

\$43,000

Title: Hydroforming of Advanced High Strength Steels

AUTO21 NCE, 2005 (2 years)

(with D. Malakhov)

\$100,000

Title: Chemically Enhanced Formability of Automotive Aluminum Alloys

NSERC Strategic Grant, 2004 (3 years)
(with I. Zhitormirsky)
\$90,000; \$96,500; \$89,000
Title: Materials and Processes for Electrochemical Supercapacitors

INCO / MMO, 2003 (1 year)
(with G. C. Weatherly)
\$60,000
Title: Processing and Properties of Filamentary Nickel Powders

NSERC CRD / GM Canada, 2002 (3 years)
(with M. Jain, M. Niewczas, D. Metzger and J. D. Embury)
\$111,900; \$130,400; \$116,900
Title: Microstructurally Based Modeling of Formability Related to Automotive Sheet

NSERC Discovery Grant 2002 (5 years)
\$73,700
Title: Mechanical Behaviour of Materials with Complex Microstructure

INCO / MMO, 2001 (2 years)
(with G. C. Weatherly)
\$60,000
Title: Optimizing the Properties of Nickel Foams

AUTO21 NCE, 2001 (3 years)
(with M. Jain and J. D. Embury)
\$54,295
Title: Metallurgical Aspects of Tube Hydroforming

INCO / MMO, 2000 (2 years)
(with G. C. Weatherly)
\$200,000
Title: Processing and Properties of Filamentary Nickel Powders

NSERC Strategic Project, 1999 (3 years)
Partner: Pratt & Whitney Canada
(with G. C. Weatherly)
\$175,816
Title: Creep and Scale Formation in Titanium Aluminides

NSERC Research Grant 1998 (4 years)
\$52,091
Title: Mechanical Behaviour of Materials with Complex Microstructure

Pratt & Whitney Canada Ltd., 1998 (3 years)
(with G. Weatherly, D. Embury, P. Nicholson and M. Elbestawi)
\$513,884
Title: The Influence of Machining-Induced Residual Stresses on the Fatigue of Waspaloy

Caterpillar, Inc., 1998
\$52,000
Title: Processing Optimization Related to Near Net Shaping of Ceramics

MMO, 1998 (3 years)
Partner: Alcan

\$73,250
Title: Ductility of Automotive Al Alloys

Caterpillar, Inc., 1997 (18 mos.),
\$74,000
Title: Processing Optimization Related to Near Net Shaping of Ceramics

NSERC Strategic Project, 1997 (3 years)
Partner: Alcan
\$117,575
Title: Failure Prediction in Commercial Al Alloys for Automotive Applications

Canadian Space Agency Contract 1994 (1 year), subcontract via Cametoid Advanced Technologies Inc.
\$20,009
Title: Novel Functionally Gradient Composite Materials for Critical High Performance Applications - A Feasibility Study

Caterpillar, Inc., 1994 (3 years),
\$69,000 (year 1), \$39,000 (years 2 and 3)
Title: Processing Technology Related to Near Net Shaping of Ceramics

NSERC Research Grant 1994 (4 years)
\$42,271
Title: Processing and Properties of Structural Materials

NSERC University/Industry Grant, 1994 (3 years), part of multi-university program on MMC's
Partners: Alcan, INCO, Ontario Hydro
\$19,000
Title: Functionally Graded Metal Matrix Composites

OCMR, 1993 (1 year)
\$198,000
Title: Functionally Graded Ceramic Materials

NSERC Operating Grant, 1991 (3 years)
\$46,500
Title: Processing and Properties of Structural Materials

NSERC University/Industry Grant, 1990 (3 years), part of multi-university program
Partners: Alcan, INCO, Ontario Hydro
\$25,000
Title: Mechanical Behaviour of Metal Matrix Composites

Department of Energy, Mines and Resources and NSERC, 1990 (2 years)
\$13,500
Title: Mechanical Behaviour of Metal Matrix Composites

OCMR, 1990 (2 years)
\$60,000
Title: Hot Isostatic Processing

Ontario Joint research with Rhone-Alpes, France, Premier's Council, 1990 (2 years)
\$154,000
Title: Superplastic Alumina/Zirconia Laminates

NSERC Operating Grant, 1988 (3 years)
\$38,600
Title: Damage Processes in Ceramics and Metals at High Temperatures

NSERC Strategic Grant, 1988 (3 years) with 5 others; P.I.: J.D. Embury
Partner: Alcan
\$89,160; \$78,160; \$71,160
Title: Electron Microscopy of Interface and Composites

Imperial Oil, 1988 (3 years)
\$10,000
Title: Strength and Toughness of Metal/Ceramic Interfaces

URIF 1987 (3 years)
\$40,000
Matching award for Alcan grant

NSERC Special Operating Grant (1987), with 4 others; P.I.: J.P. Carbotte
\$79,900
Title: Research on High T_c Superconductors

NSERC Strategic Grant, 1987 (3 years), with 5 others; P.I.: J.P. Carbotte
\$145,938; \$145,138; \$138,038
Title: Study of Superconductivity in the High T_c Oxides

Department of Energy, Mines and Resources, 1987 (3 years), with J.D. Embury
\$10,000
Title: Mechanical Behaviour of Metal Matrix Composites

NSERC Operating Grant, 1987 (1 year)
\$28,877
Title: Damage Processes in Ceramics and Metals at High Temperatures

CFFTP, 1987 (2 years)
\$30,000
Title: Effect of Helium Bubble Formation on High Temperature Fatigue

Alcan, Intl., 1987 (3 years)
\$40,000
Title: Microstructure Evolution in Nitride Ceramics at Elevated Temperatures

CFFTP, 1986 (1 year)
\$30,000
Title: Effect of Helium Bubble Formation on High Temperature Fatigue

NSERC Operating Grant, 1984 (3 years)
\$30,980
Title: Mechanical Properties of Materials at Elevated Temperatures

NSERC Strategic Grant, 1984 (3 years)
\$53,811; \$57,731; \$60,081
Title: Ceramic Materials for Heat Engine Applications

NSERC Operating Grant, 1983 (1 year)

\$15,688

Title: Mechanical Properties of Materials at Elevated Temperatures

Imperial Oil, 1983 (2 years)

\$8,000

Title: Influence of Microstructure on Creep Crack Growth

Department of Energy, Mines and Resources, 1982 (2 years)

\$7,000; \$10,000

Title: The Role of Impurities on Creep Fracture of Low Alloy Steel

DSS Contract, 1981 (2 years)

\$79,020 (for 2 years)

Title: Materials and Design for Resistance to Crack Growth by Creep, Phase II

NSERC Operating Grant, 1980 (3 years)

\$8,500; \$9,350; \$10,799

Title: Mechanical Properties of Materials at Elevated Temperatures

Department of Energy, Mines and Resources, 1980 (2 years)

\$2,000; \$5,500

Title: Effect of Impurities on Creep Ductility of 2% Cr-1 Mo Steel

Imperial Oil, 1980 (3 years)

\$6,000; \$7,000; \$8,000

Title: Grain Boundary Crack Growth at Elevated Temperatures

DSS Contract, 1980 (1 year)

\$10,000

Title: Materials and Design for Resistance to Crack Growth by Creep, Phase I

EQUIPMENT GRANTS:

NSERC, 2005 (with several others)

\$150,000

Microanalysis tools for scanning electron microscopy

NSERC, 2005 (PI: M. Niewczas)

\$58,781

Heat capacity upgrade

NSERC, 2001 (with G. C. Weatherly)

\$91,435

Digital dark field STEM detector

Canadian Foundation for Innovation, 2000

\$450,000

Mechanical test facility upgrade, new furnaces
(part of larger funding award)

NSERC, 1999 (with J. Lott)

\$25,166

Data Acquisition System for In Situ Tensile Stage on ESEM

NSERC, 1998 (with J. D. Embury, P. S. Nicholson and T. W. Coyle)
\$151,609
Vacuum Hot Press – Upgrade and Overhaul

NSERC, 1996
\$75,387
Creep testing of ceramic materials under tensile loads

NSERC, 1988 (with 5 others); P.I.: D.S. Wilkinson
\$99,500
Title: Quantitative Image Analysis System

OCMR, 1988-90 (with P. S. Nicholson)
\$500,000 (approximate)
Ceramic processing facility

NSERC, 1983 (with 3 others); P.I.: J.D. Embury
\$93,379
Title: Servo-Hydraulic Testing Machine

BILD, 1983 (with 3 others); P.I.: J.D. Embury
\$65,800
Title: Servo-Hydraulic Testing Machine

NSERC, 1983
\$37,525
Title: Ceramic Creep Testing Facility

FACILITY AWARDS

Canadian Foundation for Innovation, 2009
\$6,826,277 (McMaster portion)
PI: M. Worswick (U Waterloo), J. McDermid (McMaster PI)
Lightweight automotive structures

NSERC Major Research Support Grant, 2008 (3 years)
\$265,000
(P.I. H. Henein with 8 others)
Academic User Access Facility at MTL-CANMET Laboratory

Ontario Research Fund – Research Excellence Award, 2006 - 2014
\$46.5 million
(P.I.: D. Wilkinson)
Title: Initiative for Automotive Manufacturing Innovation
Note: this is a large interdisciplinary project involving 30 professors from McMaster University and University of Waterloo and 35 industrial partners

NSERC Major Research Support Grant, 2007 (1 year)
\$265,000
(P.I. H. Henein with 8 others)
Academic User Access Facility at MTL-CANMET Laboratory

NSERC Major Facilities Access Grant, 2003 (3 years + 1 year extension)

\$265,000

(PI: D.S. Wilkinson with 8 others)

Academic User Access Facility at MTL-CANMET Laboratory

Ontario Research and Development Challenge Fund, 2002 (5 years)

Sponsor: Alcan, INCO, others

(\$8,935,735 over 5 years)

(with G. Weatherly, D. Embury, G. R. Purdy, M. Niewczas and D. Metzger)

Title: McMaster Centre for Automotive Materials

INVITED/KEYNOTE LECTURES AND PANELS:

1. The role of grain refinement, TRIP and mechanical heterogeneity in extending the ductility of advanced high strength steels, International Conference on Plasticity, Damage and Fracture, Cancun, January 2020
2. In situ mechanical testing and its application to materials with complex microstructures, plenary lecture, Embury Symposium, Canadian Materials Science Conference, Vancouver, June 2019
3. In situ mechanical testing and its application to materials with complex microstructures, plenary lecture, World Congress on Mechanical Metallurgy and Materials Science, Milan, Italy, March 2019
4. Damage processes in advanced high strength steels, International Conference on Plasticity, Damage and Fracture, Panama City, January 2019
5. Application of micro-DIC and X-ray tomography to the study of damage in advanced high strength steels, European Structural Mechanics Conference, Bologna, Italy, July 2018
6. In-situ analysis of microstructural damage in advanced ultra-high strength automotive steel, 16th European Mechanics of Materials Conference, Nantes, France, March 2018
7. Application of X-ray Tomography to the Study of Ductile Fracture, University of Pennsylvania invited seminar, January 2018
8. Digitalization of Higher Education, IOT Big Data Education Summit, Toronto, October 2017
9. Ductile Fracture in Cu and Mg, 16th Intl. Conf. on Computational Plasticity, COMPLAS, Barcelona, September 2017
10. Application of x-ray tomography to the study of void growth and coalescence during ductile fracture, Frontiers in Materials Processing Applications, Research and Technology, Bordeaux, France, July 2017
11. Future Trends in Research-Based Education, Connecting Higher Education: International perspectives on research-based education, London, June 2017
12. From Sintering to Fracture: A Short History of Holes, David Taplin Honorary Symposium, International Conference of Fracture, ICF14, Rhodes, June 2017
13. Damage and Fracture in Magnesium, Symposium in honour of Dr. R. Mishra, part of Plasticity 2017, Mexico, January 2017
14. Damage and Fracture in Metals, Symposium on Physics and Mechanics of Ductile Failure: Modeling and Experiments, American Society of Mechanical Engineering (ASME) International Mechanical Engineering Congress & Exposition (IMECE), Phoenix, November 2016
15. Microstructural Investigation of Damage and Fracture in Pure Magnesium, Symposium on Ductile Damage and Fracture, 15th European Mechanics of Materials Conference (EMMC15), Brussels, September 2016
16. From Sintering to Fracture: A Short History of Holes, Brockhouse Institute seminar, McMaster, December 2015
17. Void Controlled Fracture in Pure Metals, D.S. Wilkinson Honorary Symposium, Conference of Metallurgists, Toronto, August 2015
18. From Sintering to Fracture: A Short History of Holes, D.K.C. MacDonald Lecture, plenary address, Canadian Materials Science Conference, Halifax, June 2015
19. Void Coalescence in FCC and HCP Metals, IUTAM Symposium on Ductile Fracture, Paris, March 2015
20. From Sintering to Fracture: A Short History of Holes, keynote address associated with Honorary Wilkinson Symposium, part of Plasticity 2015, Montego Bay, January 2015
21. Falling Walls Circle 2014, Invitation-only panel on current issues in science and society, Berlin, November 2014
22. Damage in FCC and HCP Alloys, Symposium to honour André Pineau, Materials Research Society Conference, Boston, December 2013

23. Falling Walls Circle 2013, Invitation-only panel on current issues in science and society, Berlin, November 2013
24. Future of Materials Research, workshop in honour of the 100th anniversary of metallurgy and materials science at the University of Toronto, October 2013
25. Void Linkage in Magnesium using X-ray Computed Tomography, International Conference on Fracture ICF13, Beijing, June 2013
26. The enhancement of sustainability concepts in an engineering curriculum and its role in the training of a global engineer, Global Engineering Conference, Ottawa, January 2012
27. The Impact of Microstructurally Based Materials Modeling on the Design and Manufacturing of Structural Automotive Components, Opening keynote lecture, Symposium on Characterization and Modeling the Performance of Advanced Alloys for the Transportation Industry, MS&T Conference, Columbus, OH, October 2011
28. Application of X-ray tomography to the study of void growth and coalescence during ductile fracture, International Conference on Advanced Technology in Experimental Mechanics, Kobe, Japan, September 2011
29. Void Growth and Coalescence Investigated by X-ray Computed Tomography, Conference on Experimental and Applied Mechanics, Uncasville, CT, June 2011
30. The Use of X-ray Tomography in the Study of Damage and Ductile Fracture, International Conference on Plasticity, Mexico, January 2011
31. Microstructurally based Models for Shear Localization and Fracture in Automotive Al Alloys, International Conference on Aluminum Alloys (ICAA12), keynote lecture, Yokohama, Japan, September 2010.
32. The Impact of Materials Technologies on the Development of Fuel Efficient Vehicles, Annual Meeting of the Royal Society of Canada, Ottawa, June 2010.
33. Effect of Creep on the Growth of Thermal Scales, International Conference on Plasticity, St. Kitts, January 2010
34. Workshop on Advanced Instrumentation in Materials Science, Kingston, June 2009
35. Role of Texture in Sheet Forming Models, Intl. Conf. on Plasticity, St. Thomas, USA, January, 2009.
36. Microstructurally based models for sheet forming, Conference of Metallurgists, Winnipeg, August 2008
37. Formability of Al Alloys, Intl. Conf. on Plasticity, Hawaii, January 2008
38. Formability of Al Alloys for Automotive Sheet Applications, Light Metals Technology Conference, Saint-Sauveur, Quebec, September 2007
39. Towards a Microstructurally Based Model for Formability of Automotive Sheet, Canadian Materials Science Conference, Hamilton, June 2007
40. Light Weight Materials for Vehicle Structures, Workshop on Automotive Materials, Hamilton, June 2007
41. Materials Science Applications of Computed X-ray Tomography, Chemical Society of Canada Annual Conference, Winnipeg, May 2007
42. Effect of Microstructure on the Formability of Al Alloy Sheet, NRC Aluminum Technology Centre, Chicoutimi, September 2006
43. Microstructurally Based Models of Sheet Formability in Automotive Al Alloys, David Lloyd session, Intl Conf on Aluminum Alloys (ICAA10), Vancouver, July 2006
44. The Role of Shear Localization on the Ductility and Formability of Strip-cast AA5754, James Morris Symposium, 2006 TMS Annual Meeting, San Antonio, March 2006
45. Materials and Manufacturing Research at McMaster, Bombardier Inc., Toronto, December 2005
46. Analysis of Damage in Metal via Synchrotron-based X-ray Tomography, Annual User's Meeting, Canadian Light Source, Saskatoon, SK, November 2005
47. Damage Coalescence and Ductile Fracture, General Motors Corporate R&D Center, Warren, MI, November 2005

48. The Effect of Stress on Nitride and Oxide Scale Formation in γ -TiAl, Composites at Lake Louise, November 2005
49. Multiscale Modeling of Shear Localization During Tensile Deformation of Aluminum Alloys, ECI Conference on Micromechanics and Microstructure Evolution: Modeling, simulation and Experiments, Madrid, September 2005
50. The Application of X-ray Tomography to the Study of Damage In Two-Phase Alloys, Euromat2005, Prague, September, 2005
51. Damage and Fracture in Two Phase Alloys and Metal Matrix Composites, Escuela T. S. de Ingenieros de Caminos, Polytechnic University of Madrid, Madrid, England, May 2005.
52. The Role of Strain Ageing and Shear Instability on Ductility and Formability in Aluminum Alloy Sheet, Ecole des Mines de St. Etienne, France, May 2005.
53. The Role of Strain Ageing and Shear Instability on Ductility and Formability in Aluminum Alloy Sheet, Norwegian University of Science and Technology (NTNU), April 2005.
54. Damage and Fracture in Two Phase Alloys and Metal Matrix Composites, Norwegian University of Science and Technology (NTNU), April 2005.
55. Damage and Fracture in Two Phase Alloys and Metal Matrix Composites, Cambridge University, England, April 2005.
56. The Role of Strain Ageing and Shear Instability on Ductility and Formability in Aluminum Alloy Sheet, Alcan Research Centre, Voreppe, France, March 2005.
57. Damage and Fracture in Two Phase Alloys and Metal Matrix Composites, Insitut Polytechnique de Grenoble, France, February 2005.
58. The effect of damage coalescence on the ductility of two-phase alloys, Plasticity 2005, Kauai, January 2005
59. Ductility and Formability of Automotive Aluminum Alloys, University of Queensland, Australia, December 2004
60. The Role of Strain Ageing and Shear Instability on Ductility and Formability in Aluminum Alloy Sheet, 3rd International Conference on Advanced Materials and Processes, Australia, November 2004
61. Development of Nanoporous NiO and CoO Ceramics for Supercapacitor Applications, 2nd International Workshop on Advanced Ceramics, Nagahama Japan, November 2004
62. Creep Behaviour of SiC-whisker Reinforced Ceramics, 3rd Intl Symposium on the Science and Engineering of Ceramics, Osaka Japan, October 2004
63. The development of thin strip cast aluminum alloys for lightweight automotive structures, Inaugural Conference of the French Federation of Materials, Limoges, October 2004
64. Modeling Damage Evolution and Fracture in Metal Matrix Composites, Canada-Japan Workshop on Composite Materials, Yamagata, Japan, September 2004
65. Modeling Damage Evolution and Ductility in Heterogeneous Alloys, Canadian Materials Science Conference, Ottawa, June 2004
66. Processing and properties of nickel foams for battery applications, Symp. On Advanced Materials for Energy Conversion, TMS Annual Meeting, Charlotte NC, March 2004
67. The impact of materials technology on the automobile of the 21st century, CIM Distinguished Lecture, presented to various chapters of CIM (Rouyn-Noranda, Ottawa, Red Lake, Flin Flon, Thompson, Yellowknife, Calgary, Fort McMurray), Feb – May 2004
68. The role of reinforcement morphology on the creep response of ceramic materials, Composites at Lake Louise (CALL 2003), October 2003
69. Thermomechanical processing of strip cast aluminum alloys for automotive application, Brazil MRS conference, Rio de Janeiro, October 2003
70. Processing and Properties of Porous Nickel Structures for Battery Applications, Brazil MRS conference, Rio de Janeiro, October 2003
71. The Role of a Grain Boundary Amorphous Phase on the Creep Response of Silicon Nitride Ceramics, American Ceramic Society Annual Conference, St. Louis, May 2002
72. Modeling of Damage during Deformation of Multi-phase Aluminum Alloys, International

- Workshop on Crashworthiness of Vehicles, MIT, May 2002
73. Porous Nickel for Battery Electrodes, International Workshop on Ecomaterials, Tokyo, February 2002
 74. Development of Automotive Sheet for Automotive Applications, International Workshop on Ecomaterials, Tokyo, February 2002
 75. Effect of Shear Banding on the Deformation and Damage of Automotive Al Alloys, International Conference on Plasticity, Aruba, January 2002
 76. International Conference on Deformation of Ceramics, Seville, Spain, October 2001
 77. International Workshop on the Effect of Interfaces on the Properties of Ceramics, Nagoya, Japan, March 2000
 78. Symposium on Innovative Processing and Synthesis of Ceramics, St. Louis, May 2000
 79. 8th International Conference on the Mechanical Behaviour of Materials (ICM8), Victoria, BC, May 1999
 80. The Role of Grain Boundaries on the Creep Behaviour of Silicon Nitride, Advanced Study Group, Max Planck Institut fur Metallforschung, June 1999
 81. Damage and Fracture Behaviour of Metal Matrix Composites and Two-Phase Alloys, Materialsprufunganlage, University of Stuttgart, June 1999
 82. International Workshop on Mechanical Behaviour of Heterogeneous Materials, Autrans, France, December 1999
 83. Wiederhorn Symposium, American Ceramic Society Conference, Cincinnati, OH, May 1998
 84. Mullite / Zirconia Composites: Processing and Microstructure, Annual Meeting of Canadian Ceramic Society, Toronto, February 1998
 85. NATO Advanced Research Workshop on Layered and Composite Materials, Kiev, Ukraine, May 1997
 86. Symposium on Micro and Nano Analysis of Ceramics, European Ceramic Society Conference, Versailles, France, July 1997
 87. Elected chair of the Gordon Conference on Solid State Studies in Ceramics, 1996
 88. Plastic Deformation of Structural Materials at High Temperatures, Schloss Ringberg, Germany, July 1996
 89. IUTAM Symposium on Deformation and Fracture in Multi-phase Materials, Sevres, France, 1995
 90. CAM '94, Mechanical Behaviour of Metal Matrix Composites, Cancun, Mexico, 1994.
 91. Engineering Foundation Conference on Plastic Deformation of Ceramics, Snowbird UT, 1994
 92. Engineering Foundation Conference on the Development of High Temperature Structural Materials, Hawaii, 1993.
 93. 95th Annual Meeting of the American Ceramic Society, Symposium on Fracture, Deformation and Reliability of Ceramics, Cincinnati, 1993.
 94. Gordon Conference on Solid State Studies in Ceramics (Chair: Rowland Cannon), New Hampshire, 1993.
 95. Intl. Workshop on Tailoring of High Temperature Properties of Silicon Nitride Ceramics, Schloss Ringberg, Germany, 1993.
 96. Pacific Rim Ceramics Conference, Symposium on the Mechanics of Layered Composites, Hawaii, 1993.
 97. Symposium on Creep, Superplasticity, Creep Fracture and Deformation Processes, Pacific Coast Regional Meeting of Amer. Ceram. Soc., 1992
 98. Inaugural Conference, Materials Research Society of Mexico, Mexico City, 1991.
 99. International Conference on Fracture Mechanics of Ceramics, Nagoya, Japan, 1991.
 100. NATO Advanced Research Workshop on Toughening Mechanisms in Quasi-Brittle Materials, Chicago, 1990.
 101. Engineering Foundation Conference on Structural Ceramics-Science and Technology, Palm Coast, FL, 1989.

102. Canadian Fracture Conference (CFC-19), Constitutive Laws of Plastic Deformation and Fracture, Ottawa, 1989.
103. International Conference on Superplasticity, Blaine, WA, 1988.
104. Ashby Symposium, part of ASM World Materials Congress, Chicago, 1988
105. Topical Conference on High Temperature Materials, Northeast Regional Meeting of the American Ceramic Society, Cape Cod, MA, 1988.
106. Gordon Research Conference on Physical Metallurgy, 1985.
107. International Conference on Superplasticity, Grenoble, France, 1985.
108. International Conference on Sintering, Dubrovnik, Yugoslavia, 1978
109. International Conference on Sintering, Notre Dame, USA, 1975

RESEARCH PUBLICATIONS:

Refereed Journal Publications

Papers Accepted or Published

1. H. Choe, S. Lee, U. Erb, H.J. Cho, B. Yu, W. Li, J. Samei, D.S. Wilkinson, J. Tam, Multi-Scale Morphological Characterization of Ni foams with Directional Pores, *Mater. Character.* accepted (09/2019)
2. Sadeghi, A., Morteza pour, H., Samei, J., Pekguleryuz, M. and Wilkinson, D.S., Microstructure, texture and mechanical properties of AZ31+XSr rolled sheets, *J. Magnesium and Alloys*, (accepted 04/2019); <https://doi.org/10.1016/j.jma.2019.04.005>
3. Samei, J., Salib, Y., Amirmaleki, M. and Wilkinson, D.S., The role of microstructure on edge cracking in dual phase and quench and partitioning steels subject to severe cold rolling, *Scripta Mater.*, **173**, 86-90 (2019)
4. Samei, J., Zhou, L., Kang, J. and Wilkinson, D.S., Microstructural analysis of ductility and fracture in fine-grained and ultrafine-grained vanadium-added DP1300 steels, *Inter. J. Plast.*, **117**, 58-70 (2019)
5. Nagarajan, S., Jain, M. and Wilkinson, D.S., Effective approaches towards microstructural strain mapping of AZ31B Mg sheet material using digital image correlation, *Optics and Lasers in Engineering*, **102**, 17-25 (2018)
6. Perzynski, K., Ososkov, Y., Jain, M., Wilkinson, D.S., Jiangting, W. and Madej, L., Validation of the dual phase steel failure model at the micro scale, *Inter. J. Multiscale Comp. Engin.*, **15**, 443-458 (2017)
7. Nemcko, M.J. and Wilkinson, D.S., On the damage and fracture of commercially pure magnesium using X-ray microtomography, *Mater. Sci. Eng. A* **676**, 146–155 (2016)
8. Nemcko, M.J., Li, J. and Wilkinson, D.S., Effects of void band orientation and crystallographic anisotropy on void growth and coalescence, *J. Mech. Phys. Sol.*, **95**, 270-83 (2016)
9. Nemcko, M.J., Qiao, H., Wu, P. and Wilkinson, D.S., Effects of void fraction on void growth and linkage in commercially pure magnesium, *Acta Mater.*, **113**, 68-80 (2016)
10. Yang, Z., Kang, J. and Wilkinson, D.S., The effect of porosity on fatigue of die cast AM60, *Metall. Mater. Trans. A*, **47**, 3464-72 (2016)
11. Yang, Z., Maurey, A., Kang, J. and Wilkinson, D.S., 2D and 3D characterization of pore defects in die cast AM60, *Mater. Character.*, **114**, 254-62 (2016)
12. Nemcko, M.J. and Wilkinson, D.S., Impact of microstructure on void growth and linkage in pure magnesium, *Inter. J. Fract*, **200**, 31-47 (2016), <https://rdcu.be/5zp9>
13. Ray, A.K. and Wilkinson, D.S., The effect of microstructure on damage and fracture in AZ31B and ZEK100 magnesium alloys, *Mater. Sci. Engin. A*, **658**, 33–41 (2016)
14. Kang, J., Chen, Y., Sigler, D., Carlson, B. and Wilkinson, D.S., Effect of Adhesive on Fatigue Property of Aural2 to AA5754 Dissimilar Aluminum Alloy Resistance Spot Welds, *Engin. Failure Anal.*, **69**, 57-65 (2016), doi:10.1016/j.engfailanal.2016.01.009
15. Yang, Z., Kang, J. and Wilkinson, D.S., Characterization of Pore Defects and Fatigue Cracks in Die Cast AM60 Using Computed X-ray Tomography, *Metall. Mater. Trans. B*, **46**, 1576-85 (2015)
16. Hu, X.H., Wilkinson, D.S., Jain, M., Wu, P.D. Mishra, R.K., Fuel cap stamping simulation of AA5754 sheets using a microstructure based multi-scale approach, *Comp. Mater. Sci.*, **98**, 354-65 (2015)
17. Hosokawa, A., Wilkinson, D.S., Kang, J. and Maire, E., Onset of void coalescence studied by continuous X-ray computed tomography, *Acta Mater.*, **61**, 1021-36 (2013)
18. Hosokawa, A., Wilkinson, D. S., Kang, J. and Maire, E., Influence of the restored work-hardening rate on ductility studied by X-ray computed tomography, *Phil. Mag. Lett.*, **93**, 379-86 (2013)

19. Hosokawa, A., Wilkinson, D. S., Kang, J. D., Kobayashi, M and Toda, H., Void growth and coalescence in model materials investigated by high-resolution X-ray microtomography, *Inter. J.Fract.*, **181**, 51-66 (2013)
20. Kang, J., Wilkinson, D.S., Mishra, R.K., Yuan, W and Mishra, R.S., Effect of inhomogeneous deformation on anisotropy of AZ31 magnesium sheet, *Mater. Sci. Engin.*, **A567**, 101-109 (2013)
21. Kang, J., Wilkinson, D.S., Mishra, R.K, Embury J.D., Essadiqi E., Javid A., Microstructural aspects of damage and fracture in AZ31 sheet materials, *J. Mater. Engin. Perf.*, **22**, 1386-95 (2013)
22. Cuthbert, R., Pan, F., Nieminen, K., Friedrich, K., Wilkinson, D. and Cotton, J.S., A Solar PV-Thermal Energy Design Optimization Study of a Building Footprint Limited Net-Zero Energy Facility, *ASHRAE Trans.* **119**, 188-202 (2013)
23. Payen, G. R., Klocker, H., Lens, A., Wilkinson, D.S. and Embury, J.D., Design of an in situ mechanical test for spot-welded joints, *Engin. Fract. Mech.*, **96**, 528-38 (2012)
24. Davidkov, A., Jain, M.K., Petrov, R.H., Wilkinson, D.S. and Mishra, R.S., Strain localization and damage development in bending of Al-Mg alloy sheets, *Mater. Sci. Engin.*, **A550**, 395-407 (2012)
25. Kang, J., Mishra, R.K., Wilkinson, D.S., Hopperstand, O.S., Effect of Mg content on Portevin – le Chatelier band strain in Al-Mg sheet alloys, *Phil. Mag. Lett.*, **92**, 647-55 (2012)
26. Caldwell, T., Friedrich, K., Gregus, B., Vershuere, R., Anderson, J., Murenbeeld, A., Arfaei, K., Boroumand, M. Wilkinson, D. and Cotton, J.S., Targeting a Net Zero Energy Student Centre; Part 2 – Systems to Meet Building Loads, *ASHRE Trans.*, **118**, 269-76 (2012)
27. Friedrich, K., Caldwell, T., Gregus, B., Vershuere, R., Anderson, J., Murenbeeld, A., Arfaei, K., Boroumand, M. Wilkinson, D. and Cotton, J.S., Targeting a Net Zero Energy Student Centre; Part 1 – Thermal and Electrical Load Minimization, *ASHRE Trans.*, **118**, 276-83 (2012)
28. Hosokawa, A., Wilkinson, D.S., Kang, J. and Maire, E., Effect of triaxiality on void growth and coalescence in model materials investigated X-ray tomography, *Acta Mater.*, **60**, 2829-39 (2012)
29. Zhu, G.Z., Hu, X.H., Kang, J.D., Mishra R.K. and Wilkinson D.S., Deformation inhomogeneity in AA5754 sheets, *Mater. Sci. Engin.* **A528**, 4187-98 (2011)
30. Hu, X.H., Wilkinson, D.S., Jain, M., Wu, P.D., Mishra, R.K., The impact of particle distributions and grain-level inhomogeneities on post-necking deformation and fracture in AA5754 aluminum sheet alloys, *Mater. Sci. Engin. A*, **A528**, 2002-11(2011)
31. Hu, X., Wilkinson, D. S., Jain, M., and Mishra, R. K., A parametric finite element study and an analytical mode of particle distributions on post-necking deformation and failure mode in AA5754 aluminum alloy sheets, *Intl. J. Fract.*, **162**, 167-83 (2010)
32. Hu, X.H., Cingara, G.A., Wilkinson, D.S., Jain, M., Wu, P. and Mishra R., Studies of Texture Gradients in the Localized Necking Band of AA5754 by EBSD and FEM, *CMC – Computers, Materials and Continua*, **14**, 99-123 (2010)
33. Hu, X.H., Wilkinson, D.S., Jain, M., Wu, P.D. Mishra, R.K., A macro-micro multi-level modeling scheme to study the effect of particle distribution on wrap-bendability of AA5754 sheet alloys, *J. Mater. Proc. Techn.*, **210**, 1232-42 (2010).
34. Kong, J., Wilkinson, D.S. and Provatas, N., Anelastic Behaviour Modeling of SiC Whisker Reinforced Al₂O₃, *J. Am. Ceram. Soc.*, **93**, 857-64 (2010)
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