

*R.A.L. Drew*

*Curriculum Vitae*

**CURRICULUM VITAE**

**of**

**Robin A. L. Drew**

**July 2013**

## CURRICULUM VITAE

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### PERSONAL

**Name:** Robin A. L. Drew, PhD, PEng (ON), FCAE, FEIC

**Current Employment:** Faculty of Engineering and Computer Science,  
Concordia University, Montreal, QC, Canada

**Contact:** Phone number: 514 463-2060  
Email: drew.robins27@gmail.com

**Languages:** English (mother tongue), Spanish (fluent) and French (intermediate).

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### ADMINISTRATIVE, RESEARCH AND ENGINEERING PROFILE

As Dean of Engineering and Computer Science at Concordia University, I led a Faculty consisting of 5 Departments, a service teaching unit, 3,300 undergraduates and 2,250 graduate students, over 170 faculty members, and 125 technical and support staff with a budget of close to \$60 million.

The Faculty implemented a Strategic Action Plan (2009-14), which my team and I developed in 2009. It was aimed at bolstering research and teaching in identified *Signature Areas*, which are energy, environment, aerospace, nanotechnology, telecommunications as well as cyber security and forensics. During my tenure, the Ministry approved two new PhD programs: one in information systems engineering and the other in industrial engineering. At the undergraduate level under my leadership, and all seven undergraduate programs received full CEAB accreditation in June 2012 for six years with no conditions, which is unprecedented at Concordia. Furthermore, all 5 Departments offer masters (course and thesis) and PhD programs.

Upon my arrival at Concordia, there were no NSERC Industrial Research Chairs in the Faculty. Now under my leadership, four have been awarded. Two institutes were established to build on existing Faculty strengths, one in water, energy and sustainable systems (CIWESS) and the other a fully-fledged teaching and research institute in aerospace (CIADI). I also secured three new Canada Research Chairs (two CRC Tier 1 and one CRC Tier 2) and renewed a number of existing CRCs. All the above will drive the Faculty of Engineering's strategic research and teaching

directions for the next 5-10 years. The research budget has increased by ~30% over the past 5 years with a similar increase in graduate student enrolment, particularly at the PhD level.

The Faculty has a large international student body, which has motivated missions to India, China, Latin America and the Middle East. I was involved in the latter three, representing Concordia in the Canadian Provincial Premiers' 2008 mission to China. I also take a special interest in advancement and development and was successful at raising more than \$1 million/year to date in philanthropy for such things as scholarships, laboratories and a Capstone Design Centre from both individual alumni and corporations such as Bombardier, CISCO, Pratt and Whitney Canada and Hydro-Quebec.

Previously, at McGill as Chair of the Department of Mining and Materials Engineering, I provided leadership and stewardship for eight years. During my tenure, the department made a transformation away from traditional metallurgy, mining and processing to become a modern department of Materials Engineering. As a result of my initiatives, the department developed new research activities in aerospace, light materials, biomaterials and nano-materials through the judicious hiring of new academic staff in both materials and mining (including a CRC 1 and 2) and by obtaining significant infrastructure grants (CFIs) to re-equip laboratories.

My research expertise is in advanced materials, primarily specializing in ceramics, metal-ceramic interactions, composites, joining and I have recently developed an interest in metal foams as well as biomaterials. My publication record is extensive, having published 120 journal articles and 80 conference articles. I have a steady and successful granting history having graduated many masters and PhD students who have gone onto successful careers themselves in either academia or industry across the globe. Throughout my academic life, I have maintained strong contacts with national and international companies as well as collaborating with several research groups both nationally and internationally, notably Mexico and most recently in the U.K as an Overseas Fellow of Churchill College at Cambridge University.

Over the past 25 years, I developed extensive experience in Materials Selection and Failure Analysis as a consultant to both local and national firms. I have been author of more than 90 reports related to Failure Analysis and Materials Selection problems. I was an Associate of SA<sup>3</sup>, an aircraft accident consultancy. I have also acted as an expert for several Canadian law firms, including McCarthy Tétrault and Davies Ward Phillips & Vineberg and have worked as an expert witness in court on numerous occasions.

I act as referee for various high-impact Technical Journals, including: *Acta Materialia*; *Scripta Materialia*; *Materials Science & Engineering*; *American Ceramic Society*; *Metals and Materials Transactions*; *Materials Research Society (MRS)*; *Journal of Materials Science*; *Composites* and *Canadian Metallurgical Quarterly*. I have often reviewed grant applications for

NSERC as well as CSA, AIF and NSF.

Throughout the years, I have been involved with professional associations and been a scientific advisor and organizer of several international conferences. I am a Fellow of the Canadian Academy of Engineering and Engineering Institute of Canada as well as member of the Professional Engineers Ontario (PEO).

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### **EDUCATION**

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| 1980-83   | POST-DOCTORAL FELLOW<br>Department of Mining and Metallurgical<br>Engineering, McGill University, Canada                             |
| 1977-1980 | University of Newcastle-upon-Tyne, U.K.<br>Dept. of Metallurgy and Engineering Materials:<br>Ph.D. Thesis, "Nitrogen Glasses", 1980. |
| 1972-1976 | University of Bradford, U.K.<br>School of Materials Science and Technology:<br>B. Tech. (HONS) (Co-op)                               |
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### **SCHOLARSHIPS AND AWARDS**

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| 2013 | Fellow of the Engineering Institute of Canada (FEIC)  |
| 2011 | Fellow of the Canadian Academy of Engineering (FCAE)  |
| 2008 | Fellow of the Institute of Mining, Minerals and Materials<br>(FIMMM, U.K.)  |
| 2007 | Overseas Fellow of Churchill College, Cambridge, U.K. (lifetime)  |
| 2006 | Academician of the World Academy of Ceramics (lifetime)   |
| 2006 | Fellowship of Canadian Institute of Mining, Metallurgy and<br>Petroleum (FCIM) "For outstanding contributions to materials<br>science and engineering education, research and professional<br>development of individuals" |
| 2002 | Fellowship of the Canadian Ceramic Society  |
| 1998 | CIM-Dofasco Award "For Significant Contributions to the Field of  |

Materials Engineering”

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**ACADEMIC, RESEARCH & INDUSTRIAL EXPERIENCE**

Aug 2008-present	FULL PROFESSOR, Department of Mechanical and Industrial Engineering, Concordia University, Montreal, QC
Aug 2008-Jul 2013	DEAN OF ENGINEERING & COMPUTER SCIENCE, Concordia University, Montreal, QC
Jan-May 2008	OVERSEAS FELLOW, Churchill College, Cambridge University, U.K. (lifetime appointment)
Sept-Dec 2007	VISITING RESEARCHER, IMI-National Research Council, Boucherville, QC
Jun 1999-2007	CHAIRMAN, Dept. of Mining and Materials Engineering, McGill University.
Jun-Dec 1997	VISITING PROFESSOR, Universidad Michoacana, Morelia, Mexico.
Jun 1994-2008	FULL PROFESSOR, Dept. of Mining, Metals and Materials Engineering, McGill University
Jun- Aug 1992	VISITING PROFESSOR, Ecole des Mines, St.Etienne, France.
Jun 1989-May 1994	ASSOCIATE PROFESSOR, Dept. of Mining and Metallurgical Engineering, McGill University
Oct 1985-May 1989	ASSISTANT PROFESSOR, Dept. of Mining and Metallurgical Engineering, McGill University
Sept 1984-Oct 1985	LECTURER, Dept. of Mining and Metallurgical Engineering, McGill University
Jan-Aug 1984	RESEARCH ASSOCIATE, Department of Mining and Metallurgical Engineering, McGill University
1979	PhD Industrial work term for 3 months at Thermal Syndicate, Wallsend (U.K.)
1973 & 1975	Undergraduate industrial co-op work terms (6 months each) at Naval Dockyards (Portsmouth, U.K.) and British Steel, Swinden Labs

(Rotherham, U.K.)

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**ACADEMIC SERVICE AT MCGILL UNIVERSITY**

As Department Chair, I provided leadership and stewardship of my unit that consisted of 20 academics, 14 non-academic support staff. I was responsible for an operating budget of >\$2M and management of two co-op undergraduate programs-one in materials engineering and the other in mining engineering. The Department offers both PhD and masters programs with, prior to my departure, over 100 graduate students and a research budget of >\$4M (2008).

In addition, I served on several committees for both the university and professional community.

2005-2008	University Research Policy Committee
1999-2001	Co-chair, Science and Engineering joint-committee to establish the "McGill Institute for Advanced Materials (MIAM)
1998-2003	University Tenure Committee, Faculty of Science
1998-2001	Member of Senate Steering Committee
1998-2001	Faculty Representative on University Senate (elected)
1998-1999	Department Post-graduate Scholarships Committee
1995-1998	Senate sub-Committee on Cont. Education
1994-1997	Member of Faculty of Engineering Academic Committee
1992-1997	Chair, Department Academic Committee.
1994-1996	McGill Association of University Teachers: Council member
1990-92, 1996	Faculty Nominating Committee
1991-92	Department Curriculum Review Committee.
1988-91	Scholarship Committee, Faculty of Graduate Studies & Research
1986	Faculty Ad hoc Committee on Materials Engineering

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**MEMBERSHIP, COMMUNITY ACTIVITIES AND INVOLVEMENT IN  
PROFESSIONAL ASSOCIATIONS**

**Membership**

- Canadian Academy of Engineering (CAE)
- Professional Engineers Ontario (PEO) License #100195422
- Canadian Society of Mechanical Engineers (CSME)
- American Ceramic Society (ACerS)
- ASM International and Montreal Chapter (ASM)
- Institute of Mining, Minerals and Materials (FIMMM, U.K.)

**Community Activities**

- 2004-07 Board of Governors, John Abbott College (CEGEP)
- 2005-07 Secretary of Pointe-Claire Yacht Club

**Association Activities**

- 2008-13 National Committee of Deans of Engineering and Applied Science, Chair of Deans' Liaison Committee with CEAB (2010-13)
- 2006-07 International Organizing Committee "MetFoam 2007"
- 2006 CIMTEC International Scientific Advisory Committee, Italy
- 2006 3rd International Brazing & Soldering Conference (ISBC) Scientific Advisory Board, San Antonio, Texas, U.S.A.
- 2003-05 Co-organizer of the Metal-Ceramic Interactions Symposium for the Cocoa Beach Meeting of the American Ceramic Society.
- 2002-07 Chair of the Canadian Council of Heads of Materials Science and Engineering Departments
- 2003-04 Member of the International Advisory Committee for International Symposium on Nitrides III, Mons, Belgium
- 2002-03 Materials Education Symposium Co-organizer for Conference of Metallurgists (CIM/MetSoc), Vancouver
- 2001-02 "Metal-Ceramic Interactions" Symposium Editor/Co-organizer for Conference of Metallurgists in Montreal (CIM/MetSoc), August 2002
- 1999-2000 President, Canadian Ceramic Society
- 1997-98 Member of the International Advisory Committee for International Symposium on Nitrides II, Ireland
- 1994-96 Technical Program Co-Chair for the 1996 Annual Conference of Metallurgists (MetSoc/CIM) in Montreal, Canada.
- 1996 & 97 Co-chair of Symposium on Ceramic and Composite Materials, International

- 1993 Materials Research Congress, Cancun, Mexico.
  - 1993 Member of the International Advisory Committee for "Silicon Nitride 93", Stuttgart, Germany.
  - 1993 Co-Editor of "Inter. Sympos. on New Ceramics and Metal Alloys" Metsoc/CIM, Quebec City
  - 1993-95 Chair of Materials Engineering Section of MetSoc/CIM
  - 1991-93 Treasurer of Materials Engineering Section of MetSoc/CIM.
  - 1991-95 ASM Montreal Chapter Executive.
  - 1990 Chairman of Canadian Materials Science Conference (Kingston).
  - 1988/89 Chairman of Electronic and Basic Science Division of the Canadian Ceramic Society (CCS).
  - 1988 Co-organizer of Advanced Structural Materials and Fine Particles Symposia for the Conference of Metallurgists (CIM).
  - 1987/88 Director of Student Affairs for CCS.
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### **RESEARCH INTERESTS AND TOPICS**

My research is in the area of materials science and engineering with an emphasis on composites, ceramics, light metals and fabrication. I have held many grants over the years including NSERC: Discovery (continuously), IRC program, CRD and Strategic Projects and FQRNT, mostly as PI but also as a team member. The following provides a list of topics that I have worked on over my research career spanning nearly 35 years:

- biomaterials
- aluminum and ceramic foams
- ceramic and metal matrix composites
- aluminum and titanium
- powder metallurgy
- non-oxide/metal ceramic joining
- joining and brazing
- fundamentals of metal-ceramic interactions
- melt extraction of oxide fiber ceramics
- metal and ceramic coatings
- processing and properties of nitride ceramics and oxynitride glasses

### **Recent Collaborators:**

- I-H Jung and K. Waters, McGill University: aluminum foams
- K. Knowles, Cambridge University: ceramic joining
- J. Fernie, AWE, U.K.: ceramic joining



- L-P Lefebvre, IMI-National Research Council: metal and ceramic foams
- R. Panneton, University of Sherbrooke: aluminum foams
- A.R. Kennedy, University of Nottingham, U.K.: aluminum foams and MMCs.
- R. Gauvin and J-L Meunier, McGill University: aluminium MMCs produced with carbon nanotubes, co-supervision.
- M. Jahazi and J-P Immarigeon, AMTC/NRC: joining and aerospace materials, co-supervision.
- M.D. Pugh, Concordia University: metal-ceramic joining, composites.
- W.F. Caley, Dalhousie University: advanced refractories.
- W.T. Thompson, RMC, Queens: thermodynamics and phase equilibria.
- J.E. Gruzleski, McGill: oxidation of molten Al and microporosity in Al foundry alloys.
- C. Leon and E. Bedolla, Instituto de Investigaciones Metallurgicas, Universidad Michoacana, Mexico: melt infiltrated composites.

## **TEACHING AND GRADUATE STUDENT SUPERVISION**

### **1. Undergraduate Instruction**

		<b>Typical Student Registration</b>	<b>Years</b>
MIME 261	Structures of Materials	20-30	2002-2007
MIME 260	Materials Science & Engineering	70-90	1982-87, 1998-2001
MIME 465	Ceramic Engineering	20-30	1985-2007
306-362A	Engineering Materials	15-25	1987-96
306-410A	Coordinator of Research Project course	15-25	1994-96
306-314A	Technical Report Coordinator	15-25	1996

### **2. Graduate Instruction**

#### **Materials Design and Selection**

A senior undergraduate elective course also open to graduate students. Topics are in materials selection, engineering design and failure of components. Economics and fabrication considerations in materials selection are covered. The course develops skills in team-based learning and engineering report writing. Discussion and laboratory sessions are held with students.

#### **Advanced Ceramic and Composite Materials**

A graduate course on advanced topics in technical ceramics, both non-oxide and oxide based materials. Reinforcements and issues in reinforcement-matrix interfaces are discussed. Composites

with metal matrices, ceramic-matrix composites and polymer-matrix composites are covered. Fracture behaviour and toughening mechanisms. Fatigue and environmental effects are discussed as well as coating processes.

### **GRADUATE STUDENT TRAINING**

Number of degrees conferred (1985 - present)

26 M.Eng.

28 Ph.D.

Number of Post-Doctoral Fellows (1985 - present)

18

#### **Current Graduate Students**

<b>Name</b>	<b>University</b>	<b>Degree</b>	<b>Topic</b>
R. Vintila (co-supervised)	McGill	PhD	Nano-powdered aluminium with Cu coating
L. Aguilar-Perales (co-supervised)	McGill	PhD	Foaming of Al-Sn and Al-Sn-X foams
Ali Alem (co-supervised)	Concordia	PhD	Sintering of Silicon Nitride with Chromia
Ehsan Rezabeigi (co-supervised)	Concordia	PhD	Composite Bioglass Foams
A. Karimi	Concordia	PhD	GICs for Prosthesis Fixation

#### **Recent Past Students (1998-present)**

	<b>Degree/Year</b>	<b>Position/ Employment after Departure</b>
M. Lafrance	PhD 2012	Abbott Canada, Ottawa, ON
Y. Aguilar	PhD 2012	Centro de Ingenieria y Desarrollo Industrial (CIDESI) Apodaca, NL, México
P. Proa	PhD 2010	Medtronics, Guaymas, Sonora, México
A. Klintner	PhD 2009	Proceq, Zurich, Switzerland
N. Aqueeli	PhD 2007	Professor, King Fahd University of Petroleum & Minerals, Saudi Arabia
L.L. Mariani	M.Eng., 2006	Teaching in Poland
O. Ozdemir	PhD, 2006	Ford Motor Company, Turkey
F. Jalilian	PhD, 2006	TWI, U.K.
F. Edelmann	M.Eng., 2005	Engineer with Pratt & Whitney Canada
R. Vintila	M.Eng., 2005	PhD McGill University
M. Brochu	PhD/2003	Associate Professor, McGill
C. Rodriguez	PhD 2003	Delphi Technical Center, Mexico
H. Chen	MEng, 2003	Stackpole, ON
M. Medraj	PhD, 2001	Professor, Concordia University

C. Cloutier	MEng, 2001	Superior Technical Ceramics, VT
P.K. Yuen	MEng, 2001	GM R&D Center, Detroit
C. Leon	PhD, 2001	Professor, Universidad Michoacana, Mexico
E. Aguilar	PhD, 2000	Professor, Universidad Michoacana, Mexico
J. Anson	PhD, 2000	Hatch Associates
M. Sivasunduram	MEng, 2000	PhD in USA
J. Lemus	PhD, 1999	Professor, Universidad Michoacana, Mexico
P. Wanjara	PhD, 1999	AMTC-NRC, Montreal
L. Ederer	MEng, 1999	Materials Engineer/Pratt & Whitney, QC
K. Dennis	MEng 1998	Engineer/Stelco, ON

### **Recent Post-doctoral Fellows**

	<b>Period</b>	<b>Position/Employer after Departure</b>
P. Proa	2010-2011	Post-doctoral fellow, Concordia
F. Jalilian	2006-2008	Post-doctoral fellow, McGill
G. Mendoza-Suarez (Research Associate)	2003-2007	Research Director, Revision Eyewear, Montreal
M. Medraj	2001-2002	Professor, Concordia University, Montreal
C. Leon	1999-2001	Professor, Universidad Michoacana, México

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**GRANTING HISTORY (past 5 years)**

<b>Description</b>	<b>Agency</b>	<b>Period</b>	<b>Program</b>	<b>Total Amount \$</b>	<b>Amount/year Received \$</b>
Metal-Ceramic Interaction Studies	NSERC	2010-2015	Discovery	150,000	30,000
Development of Aluminum Foam	FQRNT	2005-2010	Actions Concertees	180,000	36,000
Metal-Ceramic Interaction Studies	NSERC	2005-2010	Discovery	220,000	44,000
Innovative Fabrication of Aluminum Foam	NSERC/GM Canada	2005-2008	CRD	285,000	95,000
REGAL Centre	McGill	2005-2010	VP-Research	275,000	55,000
Carbon nanotube composites (R. Gauvin PI)	FQRNT	2006-2009	Actions Concertees	180,000	20,000
Aerospace Coating Infrastructure (S. Yue PI)	CFI	2006-2011		7,844,260	
Metal-Interaction Studies	NSERC	2001-2005	Discovery	\$156,000	39,000
Generation of hydrogen fuel and carbon nanocomposites	NSERC	2002-2005	GHG	234,000	33,000
Brazing of 400 series stainless steel for gas turbine applications	CRIAQ	2003-2004		40,000	20,000
Facility for manufacturing of advanced structural and electronic ceramics, V. Krstic (PI at Queens)	CFI	2003-2005		9,200,000	1,100,000
IOF Facility for manufacturing of advanced structural and electronic ceramics, V. Krstic (PI)	CFI	2003-2008	IOF	1,104,000	12,000
Aluminum-carbon nanotube composites, R. Gauvin (PI)	Nanoquebec	2002-2004		100,000	20,000
Simulation, Measurement and Control of Metallurgical Processes, R. Guthrie (PI)	FQRNT	2000-2003	Team Grant	255,000	7,000

## **SCOLARLY PUBLICATIONS**

### **PUBLICATION SUMMARY**

**REFEREED JOURNAL PAPERS: 120**

**REFEREED CONFERENCE PAPERS: 80**

**BOOKS; 4**

**PATENTS: 5**

### **REFEREED JOURNAL PAPERS**

1. L.Y. Aguilar-Perales, I.H. Jung and R.A.L. Drew, "Foaming Behaviour of Metallurgical Al<sub>2</sub>O<sub>3</sub>/Sn Foams, Acta Mater. **60**(2), pp 759-769, 2012
2. P. M. Proa-Flores, G.Mendoza-Suarez and R. A. L. Drew, "Effect of TiH<sub>2</sub> surface area in aluminum foaming using the powder metallurgy method". J Mater. Sci., **47**(1), pp 455-464, 2012
3. L.Y. Aguilar-Perales, I.H. Jung and R.A.L. Drew, "Effect of Dehydrogenation Process of TiH<sub>2</sub> in Al Foams", Metall. Mater. Trans. **43A** (1), pp 1-5, 2012
4. E. Khoonsari, F. Jalilian, F. Paray and D. Emadi, "Cast Joining of Cast Iron to Aluminum Casting Matrix", Mater. Sci. Tech. **27**(11), pp 1707-1717, 2011
5. M. Lafrance, M. Isac, F. Jalilian, K.E. Waters, R.A.L. Drew, "The reactive stabilization of Al-Zn foams using a powder metallurgy approach", Mater. Sci Eng. **A528**(2)1 pp 6497-6503, 2011
6. R. Vintila, A. Charest, R.A.L. Drew and M. Brochu," Synthesis and consolidation via spark plasma sintering of nanostructured Al-5356/B(4)C composite" Mater. Sci and Eng **A528** (13-14), pp 4395-4407, 2011
7. D. Poirier, R.A.L. Drew, M.L. Trudeau and R. Gauvin, "Fabrication and properties of mechanically milled alumina/aluminum nanocomposites", Mater. Sci and Eng. **A527** (29-30) , pp 7605-7614, 2010
8. E. Khoonsari, F. Jalilian, F. Paray and D. Emadi, "Interaction of 308 stainless steel insert with A319 aluminium casting alloy," Mater. Sci. and Tech., **26**(7), pp833-41, 2010
9. A.J. Klintner, C.A. Leon and R.A.L. Drew, "The Optimum Contact Angle Range for Metal Foam Stabilization: an Experimental Comparison with the Theory" J. Mater. Sci. **45**(8) (Special Issue), pp 2174-2180, 2010.

10. A.J. Klintner, C.A. Leon and R.A.L. Drew, "Wetting Phenomena of Al-Cu alloys on Sapphire", *Acta Materialia* 58, pp. 1350-1360, 2010.
11. J. A. Fernie, R. A. L. Drew and K. M. Knowles' "Joining of Engineering Ceramics" *Inter. Mater. Rev.*, 54(5), pp 283-331, 2009.
12. O. Ozdemir, J.E. Gruzleski and R.A.L. Drew, "Effect of Low-levels of Strontium on the Oxidation Behavior of Selected Molten Aluminum-Magnesium Alloys", *Oxid. Met.* 72, pp 241-257, 2009.
13. R Vintila, J Milligan, R A.L. Drew, M Brochu,"Formation of Nanostructures and Solid Solubility Extension in Cryomilled Al-Cu and Al-Si Powders",*Canadian Metallurgical Quarterly* 48(1), pp 33-44, 2009
14. P. M. Proa-Flores, R. A. L. Drew, "Production of Aluminum Foams with Ni-coated TiH<sub>2</sub> Powder". *Advanced Engineering Materials*, 10(9) pp 830-834 , 2008
15. A.J. Klintner, G. Mendoza-Suarez, R. A.L. Drew: Wetting of pure aluminum and selected alloys on polycrystalline alumina and sapphire, *Materials Science and Engineering: A495* (1-2) Special Issue, pp 147-152, 2008
16. N. Al-Aqeeli, G. Mendoza-Suarez, R.A.L. Drew, "XRD and TEM Characterization of Al-Mg-Based Nanocomposite Alloys", *Rev.Adv.Mater.Sci.* 18, 231-235, 2008.
17. N. Al-Aqueeli, G. Mendoza-Suarez, C. Suryanarayana, and R.A.L. Drew, "Development of new Al-based nanocomposites by mechanical alloying", *Mater. Sci. & Eng.*, A480 pp 392-396, 2008
18. C.A. Gonzalez, W.F. Caley, R.A.L. Drew, "Copper matte penetration resistance of basic refractories", *Met and Mater Trans B* 38 (2) pp 167-174, 2007
19. C. Probst, R. Gauvin and R.A.L. Drew,"Imaging of carbon nanotubes with tin-palladium particles using STEM detector in a FE-SEM", *Micron* 38 (4) pp 402-408, 2007
20. C.A. Leon and R.A.L. Drew, "Role of Interlayers in the Infiltration of Metal-Ceramic Composites", *Current Opinions in Solid-State and Materials Science*, 9, pp 211-218, (invited paper) 2006.
21. M. Medraj, R. Hammond, M.A. Parvez, and W.T. Thompson, "High temperature neutron diffraction study of the Al<sub>2</sub>O<sub>3</sub>-Y<sub>2</sub>O<sub>3</sub> system," *J. Europ. Ceram. Soc.* 26 (16): 3515-3524 2006.
22. Jalilian F, Jahazi M, Drew RAL, "Microstructural evolution during transient liquid phase bonding of Inconel 617 using Ni-Si-B filler metal," *Mater. Sci. & Eng A423* (1-2): pp 269-281, 2006
23. M. Brochu, F. Edelmann, R. Valin and R.A.L. Drew, "Transient Liquid Phase Bonding of Ceramics and Metal Matrix Composites", *Adv. Sci. and Tech.*, 45, pp 1588-93, 2006.
24. C.A. Leon, G. Mendoza and R.A.L. Drew, "Wettability and Spreading Kinetics of Molten Aluminum on Copper-coated Ceramics", *J. Mater. Sci.* 41, pp 5081-87, 2006.

25. P. Wanjara, R.A.L. Drew, S. Yue and J Root, "Hot Working of TiC Reinforced Titanium Alloy Composite," *Can. Met. Quart.*, 45(3), pp311-328, 2006.
26. J. Lemus-Ruiz, C. Leon-Patino and R.A.L. Drew, "Self-joining of Si<sub>3</sub>N<sub>4</sub> using metal interlayers", *Met. & Mater. Trans* 37A, pp 67-75, 2006.
27. P. Wanjara, R.A.L. Drew and S. Yue, "Application of Small Specimen Testing Technique for Mechanical Property Assessment of Discontinuously Reinforced Composites" *Mater. Sci. & Tech.*, 22(1), pp 61-71, 2006.
28. Leon CA, Arroyo Y, Bedolla E, Aguilar EA, Drew RAL, "Properties of AlN-based magnesium-matrix composites produced by pressureless infiltration", *Mater. Sci.Forum*, 509, pp 105-110, 2006
29. N. Al-Aqeeli, G. Mendoza and R.A.L. Drew, "Phase evolution of Mg-Al-Zr nanophase alloys prepared by mechanical alloying", *J. Alloys and Compounds*, 400(1-2), pp 96-99, 2005.
30. M. Brochu and R.A.L. Drew, "Combining thermodynamics and DSC to characterize the melting and wetting behavior of a composite powder used for joining ceramics," *J. Mater. Sci.* 40(9/10), pp 2243-2247, 2005.
31. C. Rodriguez, W.F. Caley and R.A.L. Drew, "Penetration and Dissolution of Magnetite Coatings by Copper Converter Melts", *Can. Mat. Quart.* 44(3), 313-322, 2005
32. M. Brochu, H. Demers, R. Gauvin, M.D. Pugh and R.A.L. Drew, Determination of E<sub>2</sub> for Nitride Ceramics using FE-SEM and the Duane-Hunt Limit Procedure," *Microscopy and Microanalysis* 11, pp 1-10, 2005.
33. M. Brochu, M.D. Pugh and R.A.L. Drew, Fabrication of a Composite Powder and Utilization as Active Brazing Alloy, *J. Mater. Sci.*, 40, pp 1485-93, 2005
34. M. Medraj , Y. Baik, W.T. Thompson and R.A.L. Drew, "Understanding AlN sintering through computational thermodynamics combined with experimental investigation", *J. Mater. Process. Tech.*, 161 (3), pp415-422, 2005
35. M. Brochu, M.D. Pugh and R.A.L. Drew, Brazing of Si<sub>3</sub>N<sub>4</sub> Ceramic to an Iron Aluminide Alloy using Cu Interlayer, *Ceram. Inter.*, 30, pp 901-10, 2004.
36. M. Brochu, M.D. Pugh and R.A.L. Drew, Joining Silicon Nitride Ceramic using a Composite Powder as Active Brazing Alloy, *Mat. Sci. & Eng. A*, A394 (1-2), pp 34-42, 2004.
37. M. Brochu, M. D. Pugh and R. A. L. Drew, "PTLPB of Si<sub>3</sub>N<sub>4</sub> to FA-129 using nickel as a core interlayer" *Int. Journal of Refractory Metals and Hard Materials*, 22(2-3), pp 95-103, 2004.
38. M. Brochu, M.D. Pugh, S.F. Corbin and R.A.L. Drew, Assessment of Melting Behavior of Coated Powders, *Mat. Sci. & Eng.*, A369, pp 56-65, (2004)
39. Medraj M, and Drew R.A.L, The role of phase equilibria in AlN sintering Silicates

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**NAMES AND ADDRESSES OF REFEREES**

*Upon Request*

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