IAN BAKER

Thayer School of Engineering
Dartmouth College
Hanover, NH 03755, U.S.A.

Tel: 603/646-2184
Fax: 603/646-3856
E-mail: ian.baker@dartmouth.edu

PERSONAL

Date of Birth: January 30, 1957; Place of Birth: Burton-upon-Trent, Staffs, England

Citizenship: U.S.A. ; U.K. ; Children - Margeaux Alexandra Baker, Alan Henry Baker

EDUCATION

B.A. 1979 1st Class Honours (Metallurgy and Science of Materials), University of Oxford, England.
Thesis: Recrystallization in Two-Phase Alloys; Suppl. subject - Quantum Chemistry

D.Phil. 1982 Metallurgy and Science of Materials, University of Oxford, England
Thesis: Recrystallization in Two-Phase Alloys; Advisor Dr. J.W. Martin

PROFESSIONAL EXPERIENCE

Sept. 1982 - June 1987	Research Assistant Professor of Engineering, Thayer School of Engineering, Dartmouth College, Hanover, NH, USA.
June 1985 - August 1985	CASE - NASA Co-operative Aerospace R&D Fellow, NASA - Lewis Research Center, Cleveland, OH, USA
June 1986 - August 1986	CASE - NASA Co-operative Aerospace R&D Fellow, NASA - Lewis Research Center, Cleveland, OH, USA
July 1987 - June 1990	Assistant Professor of Engineering, Thayer School of Engineering, Dartmouth College, Hanover, NH, USA.
July 1990 - June 1996	Associate Professor of Engineering, Thayer School of Engineering, Dartmouth College, Hanover, NH, USA.
April 1991 - Nov. 1991	Principal Research Metallurgist, Sherritt-Gordon Ltd., Fort Saskatchewan, Alberta, Canada.
July 1996 - present	Professor of Engineering, Thayer School of Engineering, Dartmouth College, Hanover, NH, USA.
July 1996 - June 2000	Chair of Engineering Sciences, Thayer School of Engineering, Dartmouth College, Hanover, NH, USA.
July 2000 - Sept. 2005	Director, M.S./Ph.D. programs in Engineering, Thayer School of Engineering, Dartmouth College, Hanover, NH, USA.
July 2002 - Dec. 2005	(Founding) Director, Center for Nanomaterials Research at Dartmouth, Dartmouth College, Hanover, NH, USA.
Sept. 2005 - Dec. 2019	Senior Associate Dean for Academic Affairs, Thayer School of Engineering, Dartmouth College, Hanover, NH, USA.
Jan. 2007 – present	Investigator, Norris Cotton Cancer Center, Dartmouth Hitchcock Medical Center, Lebanon, NH, USA
March 2008 – July 2010	External Faculty member, Graduate Faculty, U. Maine-Orono, ME.
July 2008 - present	Sherman Fairchild Professor of Engineering, Thayer School of Engineering, Dartmouth College, Hanover, NH, USA.
Sept. 2010 – July 2016	Director, Dartmouth Center for Cancer Nanotechnology Excellence, Dartmouth College, Hanover, NH, USA.
June 2015 – present	Guest Professor, Harbin Engineering University, Harbin, PRC.

Jan 2020 – present	Senior Associate Dean for Research and Graduate Programs, Thayer School of Engineering, Dartmouth College, Hanover, NH, USA.

AWARDS AND HONORS

1979	Senior Scholarship, St. Catherine's College, Oxford University
1980	Andrew Carnegie Research Fund Award
1984	8th Annual Buehler Technical Paper Merit Award for Excellence*
1985-	Listed in Who's Who in Technology
1986	1st place, Transmission Electron Microscopy, The International Metallographic Exhibit†
1988-2002	Professional Member (M.I.M.) of The Institute of Materials (U.K.)
1993-	Chartered Engineer (C.Eng.) of The Engineering Council (U.K.)
2001	Women In Science Project 5-year student mentoring award
2001	2nd place, Scanning Electron Microscopy, The International Metallographic Exhibit‡
2001-	Fellow, ASM international
2002-	Fellow, The Institute of Materials, Minerals and Mining (U.K.)
2002-	Listed in ISI citation index of highly-cited Materials Scientists
2003-	Listed in Who's Who in Science and Engineering
2005	Top Ten Reviewer award Scripta Materialia
2006	1st place, Scanning Electron Microscopy, The International Metallographic Exhibit§
2006	1st place, Light Microscopy – All Other Engineering Materials, The Int. Metall. Exhibit[4]
2007-	Listed in Who's who in Engineering Higher Education
2009	Women In Science Project 10-year student mentoring award
2009	1st place, Scanning Electron Microscopy, The International Metallographic Exhibit**
2010	Best poster, symposium N: Intermetallic-Based alloys for structural and functional applications at 2010 Fall Materials Research Society meeting.
2011	Fellow, Materials Research Society
2012	Fellow, The Minerals, Metals and Materials Society
2014	Dartmouth Women In Science Project 15-year student mentoring award
2016	Fellow, American Association for the Advancement of Science
2016	2016 Distinguished Award, 9th International Workshop on Advanced Materials, Yangzhou, PRC.

PROFESSIONAL SOCIETIES AND ACTIVITIES

Current Editorial Positions

Editor-in-Chief - Materials Characterization (2009-)

Editorial Board - International Materials Reviews (2002-); NanoLIFE (2009-); Intermetallics (1998-); Metals (2010-); Heliyon (2018-2019)

Prior Editorial Positions

Senior Associate Editor (Materials Science) - Journal of Microscopy Research and Technique (2003-08)

Associate Editor – Materials Characterization (2004-2008)

Editorial Advisory Board - Materials Characterization (2002-2003), Journal of Microscopy Research and Technique (2009-2013)

* With F.S. Ishichita, V.A. Surprenant and E.M. Schulson

† With J.A. Horton and E.M. Schulson

‡ With D. Cullen

§ With R.W. Obbard

** With Si Chen

Invited Member - Ice Core Working Group (2008-2011)
Oak Ridge Associated Universities SHaRE program executive Committee (1987-89), (2007-2013)
Board of Advisors, Materials Science and Engineering Department University of Tennessee – Knoxville (2008-2011)
ASM Flow and Fracture Committee (1997-1998)
TMS Mechanical Metallurgy Committee (1997-1998)
Joint TMS/ASM Mechanical Behavior of Materials Committee (1998-2008)
International Centre for Diffraction Data (2001-2002)
NCI CCNE-Alliance Co-ordination and Governance Committee (2010-2015)
Proposal Review Panel of the Center for Functional Nanomaterials, Brookhaven National Laboratory (2012-2017)
Scientific Committee of the International Conference on the Physics and Chemistry of Ice (2010-)
MRS Awards Committee (2014-2017)
MRS Fellows Subcommittee (2013-2017); Chair (2014-2017)

Member - The Metals, Minerals and Materials Society of A.I.M.E. (FELLOW)
Microscopy Society of America
Materials Research Society (FELLOW)
The Institute of Materials, Minerals and Mining (U.K.) (FELLOW)
Sigma Xi
International Glaciological Society
American Society for Engineering Education
ASM International (FELLOW)
American Association for the Advancement of Science (FELLOW)

Reviewer - Air Force Office of Scientific Research, Applied Sciences, Australian Research Council, Austrian Research Fund, Canadian Foundation for Atmospheric Science, Canadian Foundation for Innovation (2009, review panel Chair 2012), Center for Advanced Interdisciplinary Research in Materials, Colloids and Surfaces B, Department of Energy, Ohio State University Institute for Materials Research, State of Connecticut Department of Higher Education, National Science Foundation, U.S. Civilian Research and Development Foundation , Academic Press, Inc, Acta Materialia, Advanced Materials and Manufacturing Processes, American Mineralogist, Annals of Glaciology, Blackwells (publishers), Chemical Engineering Communications, Cold Regions Science and Technology, Department of Defense, Earth and Planetary Science Letters, Entropy, French National Research Agency (ANR),Geology, Geophysical Research Letters, Hong Kong Graduate Research Council, IEEE Magnetics Letters, IEEE Transaction on Magnetics, Intermetallics, International Journal of Hyperthermia, International Journal of Materials Science, International Materials Reviews, Journal of Alloys and Compounds, The cryosphere, Journal of Applied Crystallography, Journal of Applied Physics, Journal of Geophysical Research, Journal of Geophysical Research – Planets, Journal of Glaciology, Journal of Hydrological Processes, Journal of Magnetism and Magnetic Materials, Journal of Materials Chemistry B, Journal of Materials and Design, Journal of Materials Research, Journal of Materials Science, Journal of Materials Science Research, Journal of Microscopy, Journal of Physical Chemistry, Materials Letters, Materials and Design, Materials Science and Engineering, Material Science and Technology, Medical Physics, Metallurgical and Materials Transactions, Metallurgical Research & Technology, Nano, Nanoscale, Nanostructured Materials, Nature, Nature Communications, National Institutes of Health, Oak Ridge Associated Universities, Philosophical Magazine, Physical Review & Research International, Scientific Reports, Scripta Materialia, Science, Swiss National Science Foundation, Transactions on Magnetics –

Conferences, Surface and Coatings Technology, Tribology International, Tribology Transactions, Wear.

THAYER SCHOOL COMMITTEES

Numerous Faculty search committees
Ph.D. Qualifying Examination Committee (1988-1991); Chair (1989-1990)
Graduate Program Committee (1989-1990), (2000-2005); Chair (2000-2005)
Undergraduate Program Committee (1988-90), (1992-95), (1996-2000); Chair (1996-2000)
Adjunct and Research Faculty Appointments Committee (1996-); Chair (2005-)
Thayer School Bulletin Committee (1996-97)
Undergraduate Recruitment/National Engineers Week Committee (1996-2000; 2005-)
Thayer Dean Search Committee, (1995-1996); Chair (2004-2005)
Career Services ad hoc Committee (2006-2008)
Ventilation Committee; Chair (2008-2010)
Editorial Board, Dartmouth Engineer, (2005-)
Thayer Institutional Review Board; Chair (2007-)
Cook Engineering Design Center Committee (2007-); Chair (2008-)
Committee on Standards and Conflicts of Interest; Chair (2008-)
Thayer School Space Committee; Chair (2005-)
Thayer School Basis of Design Steering Committee for New Building, Chair, (2014-2015)
Thayer School Schematic Design Steering Committee for New Building, Chair, (2015-2018)
Search Committee for Director of Thayer Advancement, Chair (2017)
Thayer School Design Development Committee for New Building (2018)

UNIVERSITY COMMITTEES

Council on Sponsored Activities (1995-1998)
Committee of Chairs (1996-2000)
Science Division Council (1996-2000)
Graduate Committee (2000-2005)
Electron Microscope Review Committee May, 2004.
Provost Review Committee, February, 2005.
Institute for Security Technology Studies Faculty Advisory Committee (2005-2007)
Vice President for Information Technology Search Committee (2005-2006)
Electron Microscope Committee (1988-1990), (1990-1992), (1995-present); Chair (1990-91)
Faculty Advisory Board of the Ethics Institute (2003-2018)
Institute of Arctic Studies member (2006-)
Exchange and Off-Campus Programs Committee (2008-2009)
Provost Search Committee (2010)
Technology Transfer and Entrepreneurship Review Committee (2009)
Reorganization of technology transfer and entrepreneurial support Committee (2010); Chair
Committee on Senior Fellowships (2010-2012)
Dartmouth Senior Executive Strategic Planning Advisory Committee (2011-2013)
Dartmouth Conflict of Interest Committee 2011
Dartmouth Executive Working Group for Information Technology (2012-2016)
Dartmouth Academic Planning Committee (2005-)
Faculty Advisory Committee on Athletics (2016-2019)
Dartmouth Diversity Council, alternate member (2016-2019)
Dartmouth College subcommittee of the Council on Sponsored Activities (2017-)
Dartmouth College Electron Microscope Director search Committee (2018)

COURSES TAUGHT

At Dartmouth College, the following lecture courses have been taught (asterisked courses were introduced by I. Baker): -

ENGS 21: Introduction to Engineering (undergraduate)
ENGS 33: Solid Mechanics (undergraduate)
ENGS 24: Science of Materials (undergraduate)
ENGS 130: Mechanical Behavior of Materials (graduate)
ENGS 131: Science of Solid State Materials (graduate)*
ENGS 133 Methods of Materials Characterization (graduate) *
ENGG 191 X-ray Diffraction Analysis of Materials (graduate)*
ENGG 192: Introduction to Electron Microscopy and Diffraction (graduate)*
ENGG 195 Seminar on Science - Technology and Society
ENGG 197 Ph.D. Professional Workshops
ENGG 198 Research-In-Progress Workshop
ENGG 200: Seminar on Science, Engineering and Public Policy (graduate)*
ENGS 339 Advanced Electron Microscopy

RESEARCH INTERESTS

Mechanical behavior, including wear and fracture of metals, compound semiconductors, intermetallic compounds and ice; processing and intermetallic compounds; recrystallization phenomena, particularly the effect of particles on recrystallization and processing by directional recrystallization; interdiffusion phenomena in metallic thin films and their influence on mechanical properties; applications of electron microscopy, X-ray diffraction and topography, particularly *in-situ* deformation experiments; the structure, chemistry and properties of snow, firn and ice cores; production and properties of nanocrystalline, particularly magnetic, materials; nanoparticles and structural materials for biomedical applications.

PATENTS

United States Patent 7815850 "High-Strength Nanostructured Alloys"; 10/19/2010; Ian Baker, Markus Wittmann and James Hanna.

United States Patent 7994786 "System and Method for use of nanoparticles in imaging and temperature measurement"; 8/9/2011; John Weaver, Ian Baker and Eric Hansen.

United States Patent 8,172,126, "Joining of parts via magnetic heating of metal aluminum powders", 5/8/2012, Ian Baker.

United States Patent 8,444,045, "Joining of parts via magnetic heating of metal aluminum powders", 5/21/2013, Ian Baker.

United States Patent 8,999,233 "Nanostructured Mn-Al permanent magnets and methods of producing same", 4/7/2015, Ian Baker.

United States Patent 1,0190,197 "Oxidation Resistant High-Entropy Alloys", 1/29/19, Ian Baker and Zhangwei Wang.

PATENTS PENDING

"Method and Apparatus Utilizing Magnetic Nanoparticles for Performing Hyperthermal Therapies", Fridon Shubitidze, Katsiaryna Kekalo, Ian Baker and B. Stuart Trembly, Filed 1/14/17

CONFERENCE ORGANIZED WITH PUBLISHED PROCEEDINGS

1. "High Temperature Ordered Intermetallic Alloys - V", Edited by I. Baker, R. Darolia, J.D. Whittenberger and M. H. Yoo, Proceeding of the Materials Research Society, vol. 288, 1993.
2. "High Temperature Ordered Intermetallic Alloys - VI", Edited by J.A. Horton, S. Hanada, I. Baker, R. D. Noebe and D. Shwartz, Proceeding of the Materials Research Society, vol. 364, 1995.
3. "Physics and Chemistry of Ice 1996", Ed-V.F. Petrenko, S. Colbeck, I. Baker, E.M. Schulson, G. Ashton, N. Kushnatdinov, special issue of the Journal of Physical Chemistry B, 1997, Vol. 101(32) pp. 6079-6312.
4. "Interstitial and Substitutional Solute Effects in Intermetallics", Edited by I. Baker, R.D. Noebe and E.P. George, TMS, Warrendale PA, 1998.
5. Second National Symposium on Engineering and Liberal Education Engineering and Liberal Arts: Educating the Stewards of a Sustainable Future, June 5-6th, 2009, Union College, Schenectady, NY.
6. "Intermetallics-Based Alloys: Science, Technology and Applications", Materials Research Society, I. Baker, M. Heilmaier, S. Kumar, K. Yoshimi, Nov. 26-30th 2012, Boston MA.
7. "Physics and Chemistry of Ice 2014", Ian Baker and R.W. Obbard, Dartmouth College, March, 2014, Journal of Physical Chemistry B, 2014, vol. 118(47) pp.13323-13776.
8. "Intermetallics-Based Alloys: Science, Technology and Applications", Materials Research Society, I. Baker, M. Heilmaier, K. Kishida, S. Miura and M. Mills, Nov. 30th – Dec. 5th, 2014, Boston MA.

CONFERENCES ORGANIZED WITHOUT PROCEEDINGS

1. "Workshop on the Microstructure and Properties of Firn", Dartmouth College, Hanover, NH 03755, March 10-11th, 2008.

GUEST EDITOR

1. "Special Issue: Advanced Techniques for the Characterization of Ice and Snow", I. Baker, Microscopy Research and Technique, **62** (2003) 1-91.
2. "Special Issue: Manganese-based Permanent Magnets", Metals, 12/31/2013, ISSN 2075-4701. http://www.mdpi.com/journal/metals/special_issues/magnetic_materials
3. "Special Issue: High Entropy Alloys", I. Baker and E. P. George, Materials Characterization, *in process*.
4. "The physics and chemistry of ice: scaffolding across scales, from the viability of life to the formation of planets", I. Baker, M. Montagnat, B-R. Thorsten and J.S. Wettlaufer, , Philosophical Transactions of the Royal Society of London. Series A, Mathematical and Physical Sciences, 377 (2019) Issue 2146. bit.ly/TransA-2146

BOOKS

"Fifty Materials That Make the World", Ian Baker, Springer International Publishing, 2018, ISBN: 978-3-319-78764-0; eBook ISBN: 978-3-319-78766-4, DOI: 10.1007/978-3-319-78766-4, pp271.

BOOK CHAPTERS

1. "Intermetallic Compounds: An Update", I. Baker and E.P. George, in Sheetmetal Industries Yearbook 1993, Chapter IV part 1, 124-128.
2. "Intermetallics: iron aluminides", E. P. George and I. Baker, in The Encyclopedia of Materials: Science and Technology, (Eds: K.H.J. Buschow, R.W. Cahn, M.C. Flemings, B. Ilschner, E.J. Kramer, S. Mahajan), Elsevier Press (Pergamon), 2001, 4201-4205.
3. "Intermetallics: nickel aluminides", I. Baker and E. P. George, in The Encyclopedia of Materials: Science and Technology, (Eds: K.H.J. Buschow, R.W. Cahn, M.C. Flemings, B. Ilschner, E.J. Kramer, S. Mahajan), Elsevier Press (Pergamon), 2001, 4225-4232.
4. “Firn”, Rachel W. Obbard, Ian Baker and Rachel W. Lomonaco, Encyclopedia of Snow, Ice and Glaciers, V. Singh, P. Singh, and U. K. Haritashya (eds.), Springer, ISBN: 978-90-481-2643-9, 2011.
5. "Magnetic Nanoparticle Synthesis" in Nanobiomaterials: Nanostructured Materials for Biomedical Applications, Edited by Roger Narayan, Woodhead Publishing, 2017, p 197-229.

INVITED JOURNAL ARTICLES

1. "On Slip Transmission Across Grain Boundaries and the Brittle to Ductile Transition in Ni_3Al and other $L1_2$ alloys", E. M. Schulson and I. Baker, Scripta Metallurgica et Materialia, **25** (1991)1253-1258. https://doi.org/10.1016/0956-716X(91)90396-I
2. "Extrusion Characteristics of Iron Aluminides", P. Nagpal and I. Baker, Materials and Manufacturing Processes, **6** (1991) 695-707. https://doi.org/10.1080/10426919108934798
3. "Synchrotron X-ray Topographic Studies of Grain Boundaries", F. Liu and I. Baker, Microscopy Society of America Bulletin, **24** (1994) 351-358.
4. "A Review of the Mechanical Properties of B2 Compounds", I. Baker, Materials Science and Engineering, **A192/193** (1995) 1-13. https://doi.org/10.1016/0921-5093(94)03200-9
5. "The Mechanical Properties of FeAl", I. Baker and P.R. Munroe, International Materials Reviews, **42** (1997) 181-205. https://doi.org/10.1179/imr.1997.42.5.181
6. "Mechanical Properties of Strongly-Ordered B2 Compounds", I. Baker, Transactions of Nonferrous Metals Society of China, **9** (1999) 146-156.
7. "Recovery, Recrystallization and Grain Growth in Ordered Alloys", I. Baker, Intermetallics, **8** (2000) 1183-1196. https://doi.org/10.1016/S0966-9795(00)00031-5
8. "Examination of Dislocations in Ice", I. Baker, Crystal Growth and Design, **2** (2002) 127-134. doi.org/10.1021/cg0100282
9. "Magnetic Nanoparticle Hyperthermia for Cancer Treatment", A.J. Giustini, A.A. Petryk, S.M. Cassim, J.A. Tate, I. Baker and P.J. Hoopes, NanoLife, **1** (2010) 17-32. doi.org/10.1142/S1793984410000067
10. "Exploring the Microstructure of Ice", I. Baker, Advanced Materials and Processes, January, **176** (2018) 27-30.
11. "Microstructural Characterization of Snow, Firn and Ice", I. Baker, Philosophical Transactions of the Royal Society of London. Series A, Mathematical and Physical Sciences, 377 (2019) 20180162. http://dx.doi.org/10.1098/rsta.2018.0162.

REFEREED JOURNAL ARTICLES

1. "The Effect of Particle Size and Spacing on the Retardation of Recrystallization in Two-Phase Copper Crystals", I. Baker and J.W. Martin, Journal of Materials Science, **15** (1980) 1533-1538. https://doi.org/10.1007/BF00752135
2. "Effect of Fine Second-Phase Particles on the Deformation Structure in Cold-Rolled Copper Single Crystals", I. Baker and J.W. Martin, Metal Science, **17** (1983) 459-467. https://doi.org/10.1179/030634583790420556
3. "Effect of Fine Second-Phase Particles on Stored Energy and Recrystallization Kinetics of Cold-Rolled Copper Single Crystals", I. Baker and J.W. Martin, Metal Science, **17** (1983) 469-474. https://doi.org/10.1179/030634583790420547
4. "Metallographic Observations of Dynamic Recrystallization in Ni_3Al", I. Baker, D.V. Viens and E.M. Schulson, Scripta Metallurgica, **18** 237-240 (1984). https://doi.org/10.1016/0036-9748(84)90514-3
5. "Annealing Studies of Cold-Rolled Ni_3Al", I. Baker, D.V. Viens and E.M. Schulson, Journal of Materials Science, **19** (1984) 1799-1804. https://doi.org/10.1007/BF00550250

6. "Rapidly Solidified and Annealed Powders of Ni_3Al", I. Baker, F.S. Ichishita, V.A. Surprenant and E.M. Schulson, Metallography, **17** (1984) 299-314. https://doi.org/10.1016/0026-0800(84)90064-8

7. "The Structure of Extruded NiAl", I. Baker and E.M. Schulson, Metallurgical Transactions, A, **15A** (1984) 1129-1136. https://doi.org/10.1007/BF02644707

8. "On Intrinsic Stacking Faults in Polycrystalline Ni_3Al", I. Baker and E.M. Schulson, Physica Status Solidi, (a) **85** (1984) 481-490. https://doi.org/10.1002/pssa.2210850221

9. "The Effect of Temperature on Dislocation Structures in Ni_3Al", I. Baker and E.M. Schulson, Physica Status Solidi, (a) **89** (1985) 163-172. https://doi.org/10.1002/pssa.2210890116

10. "The Effect of Grain Size on Yield Strength of Polycrystalline Ni_3Al", E.M. Schulson, T.P. Weihs, D.V. Viens and I. Baker, Acta Metallurgica, **33** (1985) 1587-1591. https://doi.org/10.1557/JMR.1988.0665

11. "Boron-Induced Grain Boundary Accommodation of Slip in Ni_3Al", E.M. Schulson, T.P. Weihs, I. Baker, H.J. Frost and J.A. Horton, Scripta Metallurgica, **19** (1985) 1497-1498. https://doi.org/10.1016/0001-6160(86)90027-1

12. "A Method for Determining Dislocation Burgers' Vectors in Ice", I. Baker, J. Electron Microscopy Technique, **3** (1986) 357-358. https://doi.org/10.1002/jemt.1060030308

13. "Transmission Electron Microscopy of Rapidly Solidified Powders of Ni_3Al", I. Baker, J.A. Horton and E.M. Schulson, Metallography, **19** (1986) 63-74. https://doi.org/10.1016/0026-0800(86)90007-8

14. "Grain Boundary Accommodation of Slip in Ni_3Al Containing Boron", E.M. Schulson, T.P. Weihs, I. Baker, H.J. Frost and J.A. Horton, Acta Metallurgica, **34** (1986) 1395-1399. https://doi.org/10.1016/0001-6160(86)90027-1

15. "The Structure of Consolidated Rapidly Solidified Powders of Ni_3Al", I. Baker, J.A. Horton and E.M. Schulson, Journal of Materials Science, **21** (1986) 3297-3301. https://doi.org/10.1007/BF00553373

16. "Displacement Fringes in FeAl", I. Baker and D.J. Gaydosh, Physica Status Solidi (a), **96** (1986) 185-190. https://doi.org/10.1002/pssa.2210960122

17. "Some Comments on Dislocation Bowing and Partial Separation During In-Situ Straining of γ′ Ni_3Al", I. Baker, J.A. Horton and E.M. Schulson, Philosophical Magazine Letters, **55** (1987) 3-6. https://doi.org/10.1080/09500838708210432

18. "In-Situ Straining of Ni_3Al in a Transmission Electron Microscope", I. Baker, E.M. Schulson and J.A. Horton, Acta Metallurgica, **35**, (1987) 1533-1541. https://doi.org/10.1016/0001-6160(87)90098-8

19. "Dynamic Recrystallization and Grain Boundary Migration in B2 FeAl", I. Baker and D.J. Gaydosh, Metallography, **20** (1987) 347-357. https://doi.org/10.1016/0026-0800(87)90044-9

20. "Flow and Fracture of Fe-Al", I. Baker and D.J. Gaydosh, Materials Science and Engineering, **96** (1987) 147-158. https://doi.org/10.1016/0025-5416(87)90549-0

21. "Discussion of "The Role of Boron in Ductilizing Ni_3Al", E.M. Schulson, I. Baker and H.J. Frost, Metallurgical Transactions, A **18A** (1987) 1995. DOI: 10.1007/BF02647030

22. "The Effect of Boron on the Lattice Properties of Ni_3Al", I. Baker, B. Huang and E.M. Schulson, Acta Metallurgica, **36** (1988) 493-499. https://doi.org/10.1016/0001-6160(88)90080-6

23. "The Effect of Boron on the Chemistry of Grain Boundaries in Stoichiometric Ni_3Al", I. Baker, E.M. Schulson and J.R. Michael, Philosophical Magazine Letters, **57** (1988) 379-385. https://doi.org/10.1080/13642818808208510

24. "The Strength of Ni_3Al Containing Boron and Titanium", S.R. Spear, G.W. Clothier, E.M. Schulson and I. Baker, Metallurgical Transactions A, **19A** (1988) 732-734. DOI: 10.1007/BF02649290

25. "The Microstructure of Ni_3Al Ingots Containing Boron", V. Zinoviev, E.M. Schulson and I. Baker, Metallography, **21** (1988) 207-215. https://doi.org/10.1016/0026-0800(88)90003-1

26. "Grain Boundary Chemistry of NiAl", P.P. Camus, I. Baker, J.A. Horton and M.K. Miller, Journal de Physique, **49** C6 (1988) 329-333. DOI: 10.1051/jphyscol:1988657

27. "The Microstructure of Extruded Ingots of Ni_3Al Containing Boron.", V. Zinoviev, E.M. Schulson and I. Baker, Metallography, **21** (1988) 391-399. https://doi.org/10.1016/0026-0800(88)90003-1

28. "On Grain Boundary Disorder and the Tensile Ductility of Polycrystalline Ordered Alloys: a Hypothesis", I. Baker and E.M. Schulson, Scripta Metallurgica, **23** (1989) 345-348. https://doi.org/10.1016/0036-9748(89)90379-7

29. "Fractography of Ice", E.M. Schulson, I. Baker, C.D. Robertson, R.B. Bolon and R.J. Harnimon, Journal of Materials Science Letters, **8** (1989) 1193-1194. https://doi.org/10.1007/BF01730067

30. "Observation of <111> Slip in NiAl", P.R. Munroe and I. Baker, Scripta Metallurgica, **23** (1989) 495-499. https://doi.org/10.1016/0036-9748(89)90439-0

31. "Room Temperature Tensile Ductility in Polycrystalline B2 Ni-30Al-20Fe", S. Guha, P.R. Munroe and I. Baker, Scripta Metallurgica, **23** (1989) 897-900. https://doi.org/10.1016/0036-9748(89)90267-6

32. "The Microstructure of Extruded Fe-Al", P.R. Munroe and I. Baker, Journal of Materials Science, **24** (1989) 4246-4252. https://doi.org/10.1007/BF00544494

33. "Auger Electron Spectroscopy Study of Ni_3Si", I. Baker, R.A. Padgett and E.M. Schulson, Scripta Metallurgica, **23** (1989) 1969-1974. https://doi.org/10.1016/0036-9748(89)90492-4

34. "On Grain Boundaries in Nickel-rich Ni_3Al", I. Baker and E. M. Schulson, Scripta Metallurgica, **23** (1989) 1883-1886. https://doi.org/10.1016/0036-9748(89)90476-6

35. "The Strength and Ductility of Ni_3Si", E.M. Schulson, L.J. Briggs and I. Baker, Acta Metallurgica et Materialia, **38** (1990) 207-213. https://doi.org/10.1016/0956-7151(90)90050-Q

36. "Intermetallic and Void Formation in Gold Wirebonds to Aluminum Films", L. Maiocco, D. Smyers, S. Kadiyala and I. Baker, Materials Characterization, **24** (1990) 293-309. https://doi.org/10.1016/1044-5803(90)90039-M

37. "The Effect of Oxygen on Auger Electron Spectroscopy of FeAl and NiAl", I. Baker, E.P. George and R.A. Padgett, Scripta Metallurgica et Materialia, **24** (1990) 2095-2099. https://doi.org/10.1016/0956-716X(90)90492-Y

38. "Correlation Between Electrical Resistance and Microstructure in Gold Wirebonds to Aluminum Films", L. Maiocco, D. Smyers, P.R. Munroe and I. Baker, Transactions of IEEE on Components, Hybrids and Manufacturing Technology, **13** (1990) 592-595. **DOI:** 10.1109/33.58865

39. "The Effect of Grain Size on the Room Temperature Ductility of NiAl", P. Nagpal and I. Baker, Scripta Metallurgica et Materialia, **24** (1990) 2381-2384. https://doi.org/10.1016/0956-716X(90)90097-Z

40. "Effect of Cooling Rate on Hardness of FeAl and NiAl", P. Nagpal and I. Baker, Metallurgical Transactions, **21A** (1990) 2281-2282. https://doi.org/10.1007/BF02647891

41. "Microstructure and Mechanical Properties of Fe-40Al + Cr Alloys", P.R. Munroe and I. Baker, Scripta Metallurgica et Materialia, **24** (1990) 2273-2278. https://doi.org/10.1016/0956-716X(90)90078-U

42. "The Effects of Both Deviation from Stoichiometry and of Boron on the Chemistry of Grain Boundaries in Ni_3Al", I. Baker, E.M. Schulson, J.R. Michael and S.J. Pennycook, Philosophical Magazine, **62** (1990) 659-676. https://doi.org/10.1080/13642819008215261

43. "Room Temperature Deformation Behavior of Multiphase Ni-20 at. % Al-30 at. % Fe and its Constituent Phases", S. Guha, P.R. Munroe and I. Baker, Materials Science and Engineering, **A131** (1991) 27-37. https://doi.org/10.1016/0921-5093(91)90341-J

44. "Slip-plane Disordering in Stoichiometric Ni_3Al", J.A. Horton, I. Baker and M.H. Yoo, Philosophical Magazine, **63** (1991) 319-336. https://doi.org/10.1080/01418619108204852

45. "Observation of <001> Dislocations and a Mechanism for Transgranular Fracture on {001} in FeAl", P.R. Munroe and I. Baker, Acta Metallurgica et Materialia, **39** (1991) 1011-1017. https://doi.org/10.1016/0956-7151(91)90302-H

46. "Ternary Atom Site Location in $L1_2$-Structured Intermetallic Compounds", P.R. Munroe and I. Baker, Journal of Materials Research, **6** (1991) 943-949. https://doi.org/10.1557/JMR.1991.0943

48. "Room-temperature deformation of PdIn", P.R. Munroe, I. Baker and P. Nagpal, Journal of Materials Science, **26** (1991) 4303-4306. https://doi.org/10.1007/BF00543642

49. "The Effect of Grain Size on the Yield Strength of FeAl and NiAl", I. Baker, P. Nagpal, F. Liu and P.R. Munroe, Acta Metallurgica et Materialia, **39** (1991) 1637-1644. https://doi.org/10.1016/0956-7151(91)90251-U

50. "Microstructure of As-Cast $Al_{69}Ti_{23}Ni_8$", P.R. Munroe and I. Baker, Materials Characterization, **27** (1991) 45-52. https://doi.org/10.1016/1044-5803(91)90078-I

51. "The Yield Strength of Off-stoichiometric Ni_3Al with and without Boron", E.M. Schulson, Y. Xu, P.R. Munroe, S. Guha and I. Baker, Acta Metallurgica et Materialia, **39** (1991) 2971-2975. https://doi.org/10.1016/0956-7151(91)90029-Z

52. "Room Temperature Fracture of FeAl and NiAl", P. Nagpal and I. Baker, Materials Characterization, **27** (1991) 167-173. https://doi.org/10.1016/1044-5803(91)90060-H

54. "The Effect of Strain Rate on The Room-Temperature Ductility of FeAl", P. Nagpal and I. Baker, Scripta Metallurgica et Materialia, **25** (1991) 2577-2580. https://doi.org/10.1016/0956-716X(91)90071-8

55. "Dislocations and Grain Boundaries in Polycrystalline Ice: A Preliminary Study by Synchrotron X-ray Topography", F. Liu, I. Baker, G. Yao and M. Dudley, Journal of Materials Science, **27** (1992) 2719-2725. https://doi.org/10.1007/BF00540695

56. "Dynamic Observations of Dislocation Sources at Grain Boundaries in Ice", F. Liu, I. Baker, G. Yao and M. Dudley, Philosophical Magazine Letters, **65** (1992) 279-281. https://doi.org/10.1080/09500839208207548

57. "Dislocation arrangements in polycrystalline NiAl after room temperature deformation", P. Nagpal and I. Baker, Journal of Materials Science Letters, **11** (1992) 1209-1210. https://doi.org/10.1007/BF00729769

58. "The Effect of Annealing on Ni-Al-Fe B2 Compounds", S. Guha, I. Baker, P.R. Munroe and J.R. Michael, Materials Science and Engineering, **A152** (1992) 258-263. https://doi.org/10.1016/B978-1-85166-822-9.50043-1

59. "Effect of Accelerating Voltage on Planar and Axial Channeling in Ordered Intermetallic Compounds", P.R. Munroe and I. Baker, Journal of Materials Research **7** (1992) 2119-2125. https://doi.org/10.1557/JMR.1992.2119

60. "Effect of Chromium on the Environmental Sensitivity of FeAl at Room Temperature", O. Klein and I. Baker, Scripta Metallurgica et Materialia, **27** (1992) 1823-1828. https://doi.org/10.1016/0956-716X(92)90027-C

61. "The Dependence of Recrystallization Temperature and Stored Energy on Rolling Strain in Polycrystalline Copper", L. Liu and I. Baker, Scripta Metallurgica et Materialia , **28** (1993)197-200. https://doi.org/10.1016/0956-716X(93)90562-7

62. "Hard Sphere Modelling of the Effect of Slip on Interstitial Sites in B2 Compounds", I. Baker, Journal of Materials Research, **8** (1993) 1203-1205. https://doi.org/10.1557/JMR.1993.1203

63. "Formation of $L1_2$-Structured Ni_3Si", I. Baker, J. Yuan and E.M. Schulson, Metallurgical Transactions, **24A** (1993) 283-292. https://doi.org/10.1007/BF02657315

64. "Transmission Electron Microscope *In situ* Straining of Multiphase Ni-20 at. % Al-30 at. % Fe", I. Baker, S. Guha and J.A. Horton, Philosophical Magazine, **67** (1993) 663-674. ttps://doi.org/10.1080/01418619308207183

65. "The Temperature Dependence of the Flow and Fracture of Fe-40Al", H. Xiao and I. Baker, Scripta Metallurgica et Materialia, **28** (1993) 1411-1416. https://doi.org/10.1016/0956-716X(93)90491-A

66. "A Compression Jig for X-ray Topography of Ice", F. Liu and I. Baker, Measurement Science and Technology, **4** (1993) 416-421. https://doi.org/10.1088/0957-0233/4/3/025

67. "*In situ* Straining of Fe-Al in a Transmission Electron Microscope", I. Baker and J.A. Horton, Philosophical Magazine, **67** (1993) 479-489. https://doi.org/10.1080/01418619308207172

68. "Dynamic Observations of Dislocation Generation at Grain Boundaries in Ice", F. Liu, I. Baker and M. Dudley, Philosophical Magazine, **A 67** (1993) 1261-1276. https://doi.org/10.1080/01418619308224770

69. "Room Temperature Deformation Modes in D03-structured Fe-34Al and Fe-28Al + 6Cr", P.R. Munroe and I. Baker, Journal of Materials Science, **28** (1993) 2299-2303. https://doi.org/10.1007/BF01151656

70. "Room Temperature Deformation of Lead - Based "Superalloys", I. Baker, Acta Metallurgica et Materialia, **41** (1993) 2633-2638. https://doi.org/10.1016/0956-7151(93)90132-C

71. "Comments on "Optimization of the Boron Content in FeAl (40 at. % Al) Alloys", I. Baker, Scripta Metallurgica et Materialia, **29** (1993) 835-836. https://doi.org/10.1016/0956-716X(93)90236-L

72. "Order and Recrystallization in Deformed Fe-70 at. % Co", L. Zhao and I. Baker, Philosophical Magazine Letters, **68** (1993) 327-333. https://doi.org/10.1080/09500839308242424

73. "Effects of Boron and Grain Size on the Strain-Rate Sensitivity of Fe-45Al", I. Baker, O. Klein, C. Nelson and E. P. George, Scripta Metallurgica et Materialia, **30** (1994) 863-868. https://doi.org/10.1016/0956-716X(94)90405-7

74. "Studies of Defect Behavior in Large-Grain, Polycrystalline Ice Using Synchrotron X-Ray Topography", M. Dudley, F. Liu and I. Baker, Molecular Crystals and Liquid Crystals, **240** (1994) 73-80. ttps://doi.org/10.1080/10587259408029716

75. "Effect of Heat-Treatment on the Tensile Behavior of Iron-Rich FeAl and FeAl + B", O. Klein and I. Baker, Scripta Metallurgica et Materialia, **30** (1994) 627-632. https://doi.org/10.1016/0956-716X(94)90441-3

76. "TEM *In situ* Straining of NiAl", P. Nagpal, I. Baker and J.A. Horton, Intermetallics, **2** (1994) 23-29. https://doi.org/10.1016/0966-9795(94)90047-7

77. "Extrusion processing of FeCo", L. Zhao and I. Baker, Journal of Materials Science, **29** (1994) 742-748. https://doi.org/10.1007/BF00445988

78. "Long Range Order and Defect Concentrations in NiAl and CoAl", H. Xiao and I. Baker, Acta Metallurgica et Materialia, **42** (1994) 1535-1540.

80. "The Effect of Internal Oxidation on the Stored Energy and Recrystallization of Copper Single Crystals", I. Baker and L. Liu, Scripta Metallurgica et Materialia, **30** (1994) 1167-1170. 10.1016/0956-716X(94)90333-6

81. "The Effect of Boron on the Temperature Dependence of the Flow and Fracture of Fe-45Al", O. Klein and I. Baker, Scripta Metallurgica et Materialia, **30** (1994) 1413-1417. https://doi.org/10.1016/0956-716X(94)90238-0

82. "The Effect of Grain Size and Fe:Co ratio on the Room Temperature Yielding of FeCo", L. Zhao and I. Baker, Acta Metallurgica et Materialia, **42** (1994) 1953-1958. https://doi.org/10.1016/0956-7151(94)90020-5

83. "Room Temperature Fracture of CoAl", H. Xiao and I. Baker, Materials Characterization, **33** (1994) 187-191. 10.1016/1044-5803(94)90082-5

84. "The Effect of Grain Size on the Stored Energy of Cold Work as a Function of Strain for Polycrystalline Nickel", I. Baker, L. Liu and D. Mandal, Scripta Metallurgica et Materialia, **32** (1995) 167-171. https://doi.org/10.1016/S0956-716X(99)80031-4

85. "Thermally-induced dislocation loops in polycrystalline ice", F. Liu, I. Baker and M. Dudley, Philosophical Magazine, **71** (1995) 1-14. https://doi.org/10.1080/01418619508242953

86. "The Relationship between Point Defects and Mechanical Properties in FeAl at Room Temperature", H. Xiao and I. Baker, Acta Metallurgica et Materialia, **43** (1995) 391-396. ttps://doi.org/10.1016/0956-7151(95)90295-3

87. "The dislocation structure in $L1_2$ ordered alloy Ni_3Ge", J. Fang, E.M. Schulson and I. Baker, Philosophical Magazine, **70** (1994) 1013-1025. https://doi.org/10.1080/01418619408242946

88. "Dislocation/grain boundary interactions in ice crystals", F. Liu, I. Baker and M. Dudley, Philosophical Magazine, **71** (1995) 15-42. https://doi.org/10.1080/01418619508242954

90. "The Effect of Temperature and Fe:Al Ratio on the Flow and Fracture of FeAl", I. Baker, H. Xiao, O. Klein, C. Nelson and J.D. Whittenberger, Acta Metallurgica et Materialia, **43** (1995) 1723-1730. https://doi.org/10.1016/0956-7151(94)00369-S

91. "The Microstructures of Multi-Phase Ni-20Al-30Fe and its Constituent Phases", S. Guha, I. Baker and P.R. Munroe, Materials Characterization, **34** (1995) 181-188. https://doi.org/10.1016/1044-5803(94)00094-2

92. "Determination of the Stored Energy and Recrystallization Temperature as a Function of Depth after Rolling of Polycrystalline Copper", D. Mandal and I. Baker, Scripta Metallurgica et Materialia, **33** (1995) 645-650. https://doi.org/10.1016/0956-716X(95)00272-W

93. "Measurement of the Energy of Grain Boundary Geometrically-Necessary Dislocations in Copper", D. Mandal and I. Baker, Scripta Metallurgica et Materialia, **33** (1995) 831-836. https://doi.org/10.1016/0956-716X(95)00290-C

94. "Dislocations in Fe-45Al + B after High-Temperature Deformation", P.R. Munroe and I. Baker, Philosophical Magazine, **72** (1995) 1301-1310. DOI: 10.1080/01418619508236256

95. "Dry Sliding Wear of NiAl", B.J. Johnson, F.E. Kennedy and I. Baker, Wear, **192** (1996) 241-247. https://doi.org/10.1016/0043-1648(95)06735-3.

96. "Production and Properties of Two-Phase Nanocrystalline Fe/Cu Compacts", F. Liu and I. Baker, Nanostructured Materials, **7** (1996) 13-23. https://doi.org/10.1016/0965-9773(95)00301-0

97. "The Effect of X - Radiation on the Plastic Deformation of Ice", X. Hu, F. Liu, I. Baker and D. Black, Philosophical Magazine, **73** (1996) 1355-1361. https://doi.org/10.1080/01418619608245138

98. "Recrystallization of FeAl and Ni_3Al with and without boron", Y. Yang and I. Baker, Scripta Metallurgica et Materialia, **34** (1996) 803-807. DOI: 10.1016/1359-6462(95)00588-9

99. "Observation of Slip Transmission Through a Grain Boundary in Ice", K. Jia, I. Baker, F. Liu and M. Dudley, Journal of Materials Science, **31** (1996) 2373-2378. https://doi.org/10.1007/BF01152949

100. "*In-Situ* X-ray Topographic Observations of Notches in Ice", X. Hu, I. Baker and M. Dudley, Scripta Metallurgica et Materialia, **34** (1996) 491-497. https://doi.org/10.1088/0957-0233/4/3/025

101. "The Effect of Boron on the Hall-Petch Behavior of Fe-45Al", X. Li and I. Baker, Scripta Metallurgica et Materialia, **34** (1996) 1219-1223. https://doi.org/10.1016/1359-6462(95)00667-2

102. "The Effects of X-Radiation on the Plastic Deformation of II-VI Compounds", V.F. Petrenko, N.N. Khusnadinov and I. Baker, Physics Review B, **53** (1996) 15401-15404. PMID: 9983356

103. "Identification of a High Temperature Magnetic Phase Transition in Ball-Milled Nanocrystalline Fe-Cu Alloys", R.D. Shull, J.P. Cline, I. Baker and F. Liu, Journal of Applied Physics, **79** (1996) 6028-6030. https://doi.org/10.1063/1.361895

104. "Comments on "The Effect of Directional Solidification on the Structure and Property of $Ni_{50}Al_{20}Fe_{30}$", I. Baker and S. Guha, Scripta Metallurgica et Materialia, **35** (1996) 557-559. DOI: 10.1016/1359-6462(96)00172-8

105. "Elevated Temperature Deformation of Multi-Phase Ni-20Al-30Fe and its Constituent Phases", S. Guha, I. Baker and P.R. Munroe, Journal of Materials Science, **31** (1996) 4055-4065. https://doi.org/10.1016/1044-5803(94)00094-2

106. "On the Effect of Fine Second-Phase Particles on Primary Recrystallization as a Function of Strain", D. Mandal and I. Baker, Acta Metallurgica et Materialia, **45** (1997) 453-461. https://doi.org/10.1016/S1359-6454(96)00215-7

107. "The Effect of Strain Rate on the Yield Strength Peak in Fe-45Al", X. Li and I. Baker, Scripta Metallurgica et Materialia, **36** (1997) 1387-1390. DOI: 10.1016/S1359-6462(97)00036-5

108. "An Experimental Study of Equal Channel Angular Extrusion", Y. Wu and I. Baker, Scripta Metallurgica et Materialia, **37** (1997) 437-442. https://doi.org/10.1016/S1359-6462(97)00132-2

109. "Temperature Dependence of Dislocations in Notched Ice", X. Hu, I. Baker and M. Dudley, Journal of Physical Chemistry B, **101** (1997) 6102-6104. **DOI:** 10.1021/jp963212k

110. "Observation of Dislocations in Ice", I. Baker, Journal of Physical Chemistry B, **101** (1997) 6158-6162. **DOI:** 10.1021/jp963211s

111. "On the Yield strength Anomaly in Stoichiometric FeAl", I. Baker and Y. Yang, Materials Science and Engineering, **A239-240** (1997) 109-117. https://doi.org/10.1016/S0921-5093(97)00568-6

113. "The Influence of Vacancy Concentration on the Mechanical Behavior of Fe-40Al", Y. Yang and I. Baker, Intermetallics, **6** (1998) 167-175. https://doi.org/10.1016/S0966-9795(97)00062-9

114. "The Room Temperature Strengthening Effect of Boron as a Function of Aluminum Concentration in FeAl", I. Baker, X. Li, H. Xiao, R. L. Carleton and E. P. George, Intermetallics, **6** (1998) 177-183. https://doi.org/10.1016/S0966-9795(97)00063-0

115. "A Model for the Temperature Dependence of the Yield Strength of FeAl", E.P. George and I. Baker, Philosophical Magazine, **77** (1998) 737-750. https://doi.org/10.1080/01418619808224080

116. "Thermal Vacancies and the Yield Anomaly of FeAl", E.P. George and I. Baker, Intermetallics, **6** (1998) 759-763. https://doi.org/10.1016/S0966-9795(98)00063-6

117. "On the Mechanism of the Paramagnetic to Ferromagnetic Transition in FeAl", Y. Yang, I. Baker, and P. Martin, Philosophical Magazine B, **79** (1999) 449-461. https://doi.org/10.1080/13642819908206419

118. "The Yield Stress Anomaly in Stoichiometric FeAl at High Strain Rate" Y. Yang, I. Baker, R.T. Gray, III and C. Cady, Scripta Materialia**, 40** (1999) 403-408. DOI: 10.1016/S1359-6462(98)00448-5

119. "Effect of Vacancies on the Tensile Properties of Fe-40Al Single Crystals in Air and Vacuum", Y. Yang, I. Baker and E.P. George, Materials Characterization, **42** (1999) 161-168. https://doi.org/10.1016/S1044-5803(98)00049-7

120. "Improving the Ductility of Intermetallic Compounds by Particle-Induced Slip Homogenization", I. Baker, Scripta Materialia, **41** (1999) 409-414. OI: 10.1016/S1359-6462(99)00100-1

121. "Solute Partitioning in TiAl/Ti_3Al Alloys", P.R. Munroe and I. Baker, Scripta Materialia, **41** (1999) 1295-1299. https://doi.org/10.1016/S1359-6462(99)00296-1

122. "The Orientation Dependence of the Strength of Ice Single Crystals", Y. L. Trickett, I. Baker and P.M.S. Pradhan, Journal of Glaciology, **46** (2000) 41-44. https://doi.org/10.3189/172756500781833296

123. "Dislocation Motion at Notch-Tips in Ice Single Crystals: Experiments and Interpretation", D. Cullen, X. Hu, I. Baker and M. Dudley, Cold Regions Science and Engineering, **31** (2000) 103-117. https://doi.org/10.1080/01418618808209918

124. "The Effects of Sulfuric Acid on the Mechanical Properties of Ice Single Crystals", Y. L. Trickett, I. Baker and P.M.S. Pradhan, Journal of Glaciology, **46** (2000) 239-243. https://doi.org/10.3189/172756500781832819

125. "Dynamic observation of dislocation/grain-boundary interactions in ice", I. Baker, F. Liu, K.Jia, X. Hu, D. Cullen and M. Dudley, Annals of Glaciology, **31** (2000) 236-240. https://doi.org/10.3189/172756400781820525

126. "The Effect of Environment and Strain Rate on the Room Temperature Tensile Properties of FeAl Single Crystals", D. Wu and I. Baker, Intermetallics**, 9** (2001) 57-65. https://doi.org/10.1016/S0966-9795(00)00097-2

127. "The Chemistry of Grain Boundaries in Greenland Ice", D. Cullen and I. Baker, Journal of Glaciology**, 46** (2000) 703-706. https://doi.org/10.3189/S0022143000212756

128. "On the Electrical Properties of Dislocations in ZnS Using Electric Force Microscopy", G.F. Bai, V.F. Petrenko and I. Baker, Scanning, **23** (2001) 160-164. PMID:11405300

129. "Observation of Impurities in Ice", D. Cullen and I. Baker, Microscopy Research and Technique, **55** (2001) 198-207. https://doi.org/10.1002/jemt.10000

130. "The Role of Edge and Screw Dislocations on Hydrogen Embrittlement of Fe-40Al". M. Wittmann, D. Wu, I. Baker, E.P. George, and L. Heatherly, Materials Science and Engineering, **319-321** (2001) 352-355. https://doi.org/10.1016/S0921-5093(01)01060-7

131. "Directional Recrystallization of Cold-Rolled Copper Single Crystals", J. Li and I. Baker, Acta Materialia. **50** (2002) 805-813. DOI: 10.1016/S1359-6454(01)00384-6

132. "Microstructure, Mechanical Properties and Wear of Ni-Al-Fe Alloys", P.R. Munroe, M. George, I. Baker and F.E. Kennedy, Materials Science and Engineering, **A325** (2002) 1-8. https://doi.org/10.1016/S0921-5093(01)01403-4

133. "Mechanical Properties of Soft Magnetic FeCo Alloys", E. P. George, A. N. Gubbi, I. Baker and L. Robertson, Materials Science and Engineering, A, **329-331** (2002) 325-333. https://doi.org/10.1016/S0921-5093(01)01594-5

134. "Strain-Induced Ferromagnetism in FeAl Single Crystals", D. Wu and I. Baker, Materials Science and Engineering, A, **329-331** (2002) 334-338. https://doi.org/10.1016/S0921-5093(01)01595-7

135. "The Yield Strength Anomaly in Stoichiometric CoTi", M. Wittmann and I. Baker, Materials Science and Engineering, A, **329-331** (2002) 206-212. https://doi.org/10.1016/S0921-5093(01)01571-4

136. "The Effects of Environment on the Room-Temperature Mechanical Behavior of Single-Slip Oriented FeAl Single Crystals", I. Baker, D. Wu, S. O. Kruijver, and E.P. George, Materials Science and Engineering A, **329-331** (2002) 729-733. https://doi.org/10.1016/S0921-5093(01)01518-0

137. "Sulfate Crystallites in Vostok Accretion Ice", D. Cullen and I. Baker, Materials Characterization, **48** (2002) 263-270. https://doi.org/10.1016/S1044-5803(02)00273-5

138. "The Activation Energy of APB Tube Annihilation in FeAl", D. Wu and I. Baker, Philosophical Magazine, **82** (2002) 2239-2248. http://dx.doi.org/10.1080/01418610208235735

139. "Microstructural Evolution During Directional Annealing", A.Y. Badmos, H.J. Frost and I. Baker, Acta Materialia, **50** (2002) 3347-3359. https://doi.org/10.1016/S1359-6454(02)00138-6

140. "Preliminary Microstructural and Microchemical Observations of Pond and River Accretion Ice", D. Iliescu, I. Baker, and D. Cullen, Cold Regions Science and Engineering, **35** (2002) 81-99. https://doi.org/10.1016/S0165-232X(02)00042-3

141. "The Effect of Hot Zone Velocity and Temperature Gradient on the Directional Recrystallization of Polycrystalline Nickel", J. Li, S.L. Johns B. Iliescu, H.J. Frost and I. Baker, Acta Materialia, **50** (2002) 4491-4497. https://doi.org/10.1016/S1359-6454(02)00265-3

142. "Imaging of Uncoated Snow Crystals Using a Low-Vacuum Scanning Electron Microscope", D. Iliescu and I. Baker, Journal of Glaciology, **48** (162) (2002), 479-480. https://doi.org/10.3189/172756502781831188

143. "The Paramagnetic to Ferromagnetic Transition in B2-structured FeAl single crystals: Experiments and Calculations", D. Wu, P.R. Munroe and I. Baker, Philosophical Magazine, **83** (2003) 295-313. https://doi.org/10.1080/0141861021000042280

144. "The Structure and Chemistry of 94 m GISP2 ice", I. Baker and D. Cullen, Annals of Glaciology, **35** (2003) 224-230. DOI: 10.3189/17275640278181662

145. "The effects of sulfuric acid on the creep, recrystallization, and electrical properties of ice", D. Iliescu, I. Baker and X. Li, Canadian Journal of Physics, **81** (2003) 395-400. https://doi.org/10.1139/p02-130

146. "SEM/EDS observations of impurities in polar ice: artifacts or not?", I. Baker and D. Cullen, Journal of Glaciology, **49**(16) (2003) 184-190. DOI: 10.3189/172756503781830773

147. "The microstructural location of impurities in ice", I. Baker, D. Cullen and D. Iliescu, Canadian Journal of Physics, **81** (2003) 1-9. https://doi.org/10.1139/p03-030

148. "Simulation of Microstructural Evolution During Directional Annealing with Variable Boundary Energy and Mobility", A.Y. Badmos, H.J. Frost and I. Baker, Acta Materialia, **51** (2003) 2755-2764. https://doi.org/10.1016/S1359-6454(03)00029-6

149. "SEM/EDS Comparison of Polar and Seasonal Temperate Ice" R. Obbard, D. Iliescu, D. Cullen. J. Chang and I. Baker, Microscopy Research and Technique, **62** (2003) 49-61. DOI: 10.1002/jemt.10382

150. "Imaging Dislocations in Ice", I. Baker, Microscopy Research and Technique, **62** (2003) 70-82. DOI 10.1002/jemt.10382

151. "An EBSP Study of Isothermally Annealed Cold-Rolled Nickel", I. Baker and J. Li, Microscopy Research and Technique, **63** (2004) 289-297. DOI:10.1002/jemt.20042

152. "Determining the Orientations of Ice Crystals using Electron Backscatter Patterns", D. Iliescu, I. Baker and H. Chang, Microscopy Research and Technique, **63** (2004) 183-187. DOI:10.1002/jemt.20029

153. "Observation of Strain-Induced Ferromagnetism in Off-Stoichiometric Fe_2AlMn Single Crystals" I. Baker, D. Wu, M. Wittmann and P.R. Munroe, Materials Characterization, **52/3** (2004) 209-216. https://doi.org/10.1016/j.matchar.2004.05.006

154. "An EBSP Study of Statically and Directionally Recrystallized Cold-rolled Nickel", I. Baker, J. Li and H. J. Frost, TMS Letters, **1**(4) (2004) 67-68. DOI 10.1002/jemt.20042

155. "The Effect of Substitutional Elements on the Strain-Induced Ferromagnetism in B2-structured Fe-Al Single Crystals", D. Wu, I. Baker and P.R. Munroe, Intermetallics, **12** (2004) 851-858. DOI: 10.1016/j.intermet.2004.02.036

156. "The Structure and Mechanical Properties of $L2_1$-structured Fe_2AlMn", M. Wittmann, P.R. Munroe and I. Baker, Philosophical Magazine, **84** (2004) 3169-3194. DOI: 10.1557/PROC-842-S5.17

157. "Initial experiments on the effects of particles at grain boundaries on the anelasticity and creep behavior of granular ice", M. Song, D. Cole and I. Baker, Annals of Glaciology, **39** (2005) 397-401. https://doi.org/10.3189/172756404781814069

158. "An EBSP Study of Directionally Recrystallized Cold-Rolled Nickel", J. Li and I. Baker, Materials Science and Engineering, **A392** (2005) 8-22. https://doi.org/10.1016/j.msea.2004.07.017

159. "A New Ultra-High-Strength Spinodal Alloy" J.A. Hanna, I. Baker, M.W. Wittmann, and P.R. Munroe, Journal of Materials Research, **20** (2005) 791-795. DOI: 10.1557/JMR.2005.0136

160. "Creep of Granular Ice with and without Dispersed Particles", M. Song, D. Cole and I. Baker, Journal of Glaciology, **51** (2005) 210-218. https://doi.org/10.3189/172756505781829377

161. "Magnetic Ordering of Sputtered Nanostructured $Fe_{50}Ni_{50}$ Films", Q. Zeng, I. Baker and Y. Zhang, IEEE Transactions on Magnetics, **41**(10) (2005) 3358-3360. DOI: 10.1109/TMAG.2005.854709

162. "Microstructural Characterization of Ice Cores", I. Baker, D. Iliescu, R. Obbard, H. Chang, B. Bostick and C.P. Daghlian, Annals of Glaciology, **42** (2005) 441-444. https://doi.org/10.3189/172756405781812853

163. "Strain-Induced Ferromagnetism in $L1_2$ Compounds", I. Baker and D. Wu, TMS Letters, **2** (2005) 57-58.

164. "The effect of particles on dynamic recrystallization and fabric development of granular ice during creep", M. Song, I. Baker and D. Cole, Journal of Glaciology, **51(173)**, (2005) 377-382. https://doi.org/10.3189/172756505781829287

165. "Magnetic Properties and Thermal Ordering of Mechanically Alloyed Fe-40 at.% Al", Q. Zeng and I. Baker, Intermetallics, **14** (2006) 396-405. https://doi.org/10.1016/j.intermet.2005.07.005

166. "Nanostructured Mn-Al-C permanent magnets produced by mechanical milling" Q. Zeng, I. Baker and Z.C. Yan, Journal of Applied Physics, **99** (2006), E08902-1 - E08902-3. ttps://doi.org/10.1063/1.2159187

167. "Heat Deposition in Iron Oxide and Iron Nanoparticles for Localized Hyperthermia", I. Baker, Q. Zeng, W. Li and C.R. Sullivan, Journal of Applied Physics, **99** (2006) 08H106-1 - 08H106-3. Also available in the Virtual Journal of Biological Physics Research, **11(9)** (2006). https://doi.org/10.1063/1.2171960

168. "Grain Boundary Grooving in Ice in a Scanning Electron Microscope", R. Obbard, I. Baker and D. Iliescu, Journal of Glaciology, **52** (2006) 169-172. https://doi.org/10.3189/172756506781828845

169. "Thickness dependence of the microstructure and in-plane magnetic anisotropy of sputtered $Fe_{50}Ni_{50}$ films", Q. Zeng, I. Baker, Y. Sun, J.B. Cui and C. P. Daghlian, Journal of Applied Physics, **99** (2006), 08M302-1 - 08M302-3. https://doi.org/10.1063/1.2165583

170. "Using Electron Backscatter Diffraction Patterns To Examine Recrystallization in Polar Ice Sheets", R. Obbard, I. Baker and K. Sieg, Journal of Glaciology, **52** (2006) 546-557. https://doi.org/10.3189/172756506781828458

171. "An Investigation of the Effects of Particles on the Creep of Polycrystalline Ice", M. Song, D.M. Cole and I. Baker, Scripta Materialia, 55 (2006) 91-94. DOI: 10.1016/j.scriptamat.2006.03.029

172. "An Investigation of the Newtonian Creep in Polycrystalline Ice", M. Song, D.M. Cole and I. Baker, Philosophical Magazine Letters, 86 (2006) 763-771. https://doi.org/10.1080/09500830601023787

173. "Structural and Magnetic Properties of Nanostructured Mn-Al-C Magnetic Materials", Q. Zeng, I. Baker, J.B. Cui and Z.C. Yan, Journal of Magnetism and Magnetic Materials, **308** (2007) 214-226. https://doi.org/10.1016/j.jmmm.2006.05.032

174. "The Yield Strength Anomaly of Single-Slip-Oriented Fe-Al Single Crystals", D. Wu, I. Baker, P.R. Munroe and E.P. George, Intermetallics, 15 (2007) 103-107. https://doi.org/10.1016/j.intermet.2006.03.007

175. "Signal Dependence on Frequency in Magnetic Particle Imaging", J.B. Weaver, A.M. Rauwerdink, C.R. Sullivan and I. Baker, Medical Physics, 34 (2007) 2361-2361. DOI: 10.1118/1.2760479

176. "The effects of local versus bulk disorder on the magnetic behavior of stoichiometric Ni_3Al", Q. Zeng and I. Baker, Intermetallics, 15 (2007) 419-427. https://doi.org/10.1016/j.intermet.2006.08.010

177. "The Microstructure of Meteoric Ice from Vostok, Antarctica", R. Obbard and I. Baker, Journal of Glaciology, **53** (2007) 41-62. https://doi.org/10.3189/172756507781833901

178. "The Structure and Mechanical Properties of River and Lake Ice", D. Iliescu and I. Baker, Cold Regions Science and Engineering, **48** (2007) 202-217. https://doi.org/10.1016/j.coldregions.2006.11.002

179. "Fe/Fe oxide Nanocomposite Particles with Large Specific Absorption Rate (SAR) for Hyperthermia", Q. Zeng, I. Baker, J. A. Loudis, Y. Liao, P.J. Hoopes, J. B. Weaver, Applied Physics Letters, **90** (2007) 233112-233114. Also available in the Virtual Journal of Biological Physics Research, **13(12)** (2007). https://doi.org/10.1063/1.2746064

180. "Microstructural Characterization of Firn", I. Baker, R.W. Obbard, D. Iliescu and D. Meese, Hydrological Processes, **21** (2007) 1624-1629. https://doi.org/10.1002/hyp.6725

181. "Soft ferromagnetism in nanostructured mechanical alloying FeCo-based powders", Q. Zeng, I. Baker, V. McCreary and Z. Yan, Journal of Magnetism and Magnetic Materials, **318** (2007) 28-38. https://doi.org/10.1016/j.jmmm.2007.04.037

182. "Effect of fine particles on the flow behavior of polycrystalline ice and glaciers - (I) a dislocation-based relaxation model", M. Song, D.M. Cole and I. Baker, Chinese Journal of Geophysics (Acta Geophysica Sinica), **50** (2007) 126-130.

183. "Effect of fine particles on the flow behavior of polycrystalline ice - (II) anelastic behavior", M. Song, D.M. Cole and I. Baker, Chinese Journal of Geophysics (Acta Geophysica Sinica), **50** (2007) 1156-1160.

184. "α- and β-Mn Precipitates in the Spinodal $Fe_{30}Ni_{20}Mn_{25}Al_{25}$ Alloy", J.A. Loudis and I. Baker, Philosophical Magazine, **87** (2007) 5639-5656. https://doi.org/10.1080/14786430701708372

185. "Effects of Degree of Deformation and Deformation Temperature on Primary Recrystallization Textures in Polycrystalline Nickel" H. Chang and I. Baker, Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, **38 A** (2007) 2815-2824. https://doi.org/10.1007/s11661-007-9324-1

186. "Isothermal Annealing of Cold-rolled High-Purity Nickel", H. Chang and I. Baker, Materials Science and Engineering, A **476** (2008) 46-59. https://doi.org/10.1016/j.msea.2007.04.097

187. "Effects of Impurities and their Redistribution during Recrystallization of Ice Crystals", D. Iliescu and I. Baker, Journal of Glaciology, **54** (2008) 362-370(9). https://doi.org/10.3189/002214308784886216

188. "Dislocation Identification and *In Situ* Straining in the Spinodal $Fe_{30}Ni_{20}Mn_{25}Al_{25}$ Alloy", J.A. Loudis and I. Baker, Microscopy Research and Technique, 71 (2008) 489-96. doi: 10.1002/jemt.20576.

189. "Microstructure and Room-Temperature Mechanical Properties of $Fe_{30}Ni_{20}Mn_{35}Al_{15}$", Y. Liao and I. Baker, Materials Characterization, **59** (2008) 1546–1549. https://doi.org/10.1016/j.matchar.2008.01.017

190. "Frequency distribution of the nanoparticle magnetization in the presence of a static as well as a harmonic magnetic field", J.B. Weaver, A.M. Rauwerdink, C.R. Sullivan and I. Baker, Medical Physics, **35** (2008) 1988-1994. Also appeared in Virtual Journal of Nanoscale Science & Technology, May 5, 2008, Vol. 17, Issue 18. DOI:10.1118/1.2903449

191. "Experiments and Simulations of Directionally Annealed ODS MA 754", I. Baker, B. Iliescu, J. Li and H.J. Frost, Materials Science and Engineering A, **492** (2008) 353–363. https://doi.org/10.1016/j.msea.2008.03.032

192. "The effect of particles on creep rate and microstructures of granular ice during creep", M. Song, I. Baker and D.M. Cole, Journal of Glaciology, **54** (2008) 533-537. DOI: 10.3189/002214308785836959

193. "Microstructural Evolution in the Spinodal Alloy $Fe_{35}Ni_{15}Mn_{25}Al_{25}$", I. Baker, R.K. Zheng, D.W. Saxey, S. Kuwano, M.W. Wittmann, J.A. Loudis, K.S. Prasad, alu, R. Marceau and S.P. Ringer, Intermetallics, **17** (2009) 886-893. DOI: 10.1016/j.intermet.2009.03.016

194. "On the Effects of Temperature on the Strength of H_2SO_4-Doped Ice Single Crystals", X. Li, D. Iliescu and I. Baker, Journal of Glaciology, **55** (2009) 481-484. https://doi.org/10.3189/002214309788816579

195. "Imaging brine and air inclusion in sea ice using micro-X-ray computed Tomography", R.W. Obbard, G. Troderman and I. Baker, Journal of Glaciology, 55 (2009) 1113-1115. https://doi.org/10.3189/002214309790794814

196. "Dry Sliding Wear of Eutectic Al-Si", I. Baker, Y. Sun, F.E. Kennedy and P. R. Munroe, Journal of Materials Science, **45** (2010) 969-978. DOI 10.1007/s10853-009-4027-1

197. "Surface Engineering of Core/Shell Iron/Iron Oxide Nanoparticles from Microemulsions for Hyperthermia", G. Zhang, Y. Liao and I. Baker, Materials Science and Engineering C, **30** (2010) 92-97. https://doi.org/10.1016/j.msec.2009.09.003

198. "A new technique for firn grain size measurements", N.E. Spaulding, D. A. Meese, I. Baker, P.A. Mayewski and G.S. Hamilton, Journal of Glaciology, **55**(195) (2010) 12-19. https://doi.org/10.3189/002214310791190893

199. "Observation of the Morphology and Sublimation-induced Changes in Uncoated Snow using SEM", S. Chen and I. Baker, Hydrological Processes **24(14)**, (2010) 2041-2044. https://doi.org/10.1002/hyp.7689

200. "Structural Evolution during Ice Sphere Sintering", S. Chen and I. Baker, Hydrological Processes, **24(14)** (2010) 2034-2040. https://doi.org/10.1002/hyp.7787

201. "Containerless Consolidation of Mg Powders using ECAE", I. Baker, D. Iliescu, Y. Liao, Materials and Manufacturing Processes, **25(12)** (2010) 1381-1384. https://doi.org/10.1080/10426914.2010.495031

202. "Effect of sliding environment on dry sliding wear of as-cast eutectic Al-Si", I. Baker, M. Gwaze, F.E. Kennedy and P. R. Munroe, Journal of Materials Science, **45** (2010) 6849–6852. DOI 10.1007/s10853-010-4955-9

203. "The evolution of individual snowflakes during Metamorphism", S. Chen and I. Baker, Journal of Geophysical Research - Atmospheres, **115** (2010) D21114. https://doi.org/10.1029/2010JD014132

204. "Evolution of the Microstructure and Mechanical Properties of Eutectic $Fe_{30}Ni_{20}Mn_{35}Al_{15}$", Y. Liao and I. Baker, Journal of Materials Science, **46** (2011) 2009–2017. https://doi.org/10.1007/s10853-010-5197-6

205. "On the Room-Temperature Deformation Mechanisms of Lamellar-Structured $Fe_{30}Ni_{20}Mn_{35}Al_{15}$", Y. Liao and I. Baker, Materials Science and Engineering, **A 528** (2011) 3998–4008. https://doi.org/10.1016/j.msea.2011.01.089

206. "A scanning electron microscope technique for identifying the mineralogy of dust in ice cores", R.W. Obbard, I. Baker and D.J. Prior, Journal of Glaciology, **57** (2011) 511-514. https://doi.org/10.3189/002214311796905622

207. "*In-situ* TEM Observation of Dislocation/Anti-Phase Boundary Interactions", Y. Liao and I. Baker, Philosophical Magazine, **91** (2011) 3242-3252. DOI: 10.1080/14786435.2011.574098

208. "Microstructural Characterization of Greenland Firn Samples", R. Lomonaco, M.A. Albert and I. Baker, Journal of Glaciology, **57** (2011) 755-762. https://doi.org/10.3189/002214311797409730

209. "Environmental Embrittlement of Two-Phase $Fe_{30}Ni_{20}Mn_{35}Al_{15}$", Y. Liao, F. Meng and I. Baker, Intermetallics, **19** (2011) 1533-1537. DOI:10.1016/j.intermet.2011.05.023

210. "Magnetically-triggered heating of Fe-Al powders", H. Wu, I. Baker, Y. Liu and X. Wu, Intermetallics, **19** (2011) 1517-1525. https://doi.org/10.1016/j.intermet.2011.05.026

211. "$L1_2$ precipitates within $L2_1$ ordered Fe-21.7Mn-14.5Al", Y. Liao, F. Meng and I. Baker, Philosophical Magazine, **91** (2011) 3547-3556. DOI:10.1080/14786435.2011.586954

212. "The Microstructure of Near-Equiatomic B2/f.c.c. FeNiMnAl Alloys", I. Baker, H. Wu, X. Wu, M. K. Miller and P.R. Munroe, Materials Characterization, **62** (2011) 952-958. https://doi.org/10.1016/j.matchar.2011.07.009

213. "Advanced Microstructural Characterization of Four East Antarctic Firn/Ice Cores", N.E. Spalding, D.A. Meese and I. Baker, Journal of Glaciology, **57** (2011) 796-810. https://doi.org/10.3189/002214311798043807

214. "Using Borehole Logging to Orient an Ice Core from the Upper Fremont Glacier, Wyoming", R. W. Obbard, T. Cassano, K. Aho, G. Troderman and I. Baker, Journal of Glaciology, **57** (2011) 832-840. https://doi.org/10.3189/002214311798043762

215. "Towards an Integrated Materials Characterization Toolbox", I. M. Robertson, C. A. Schuh, J. S. Vetrano, N. D. Browning, D. P. Field, D. Juul Jensen, M. K. Miller, I. Baker, D. C. Dunand, R. Dunin-Borkowski, B. Kabius, T. Kelly, S. Lozano-Perez, A. Misra, G.S. Rohrer, A.D. Rollett, M. Taheri, G. B. Thompson, M. Uchic, X.-L. Wang, G. Was, Journal of Materials Research, **26** (2011) 1341-1383. https://doi.org/10.1557/jmr.2011.41

216. "Microstructural Evolution in the Fine-Grained Region of the Siple Dome (Antarctica) Ice Core", R.W. Obbard, K.E. Sieg, I. Baker, D. Meese and G.A. Catania, Journal of Glaciology, **57** (2011) 1046-1056. https://doi.org/10.3189/002214311798843322

217. "Insight into the phase transformations between Ice I_h and Ice II from electron backscatter diffraction data", D.J. Prior, S. Diebold, R.W. Obbard, C. Daghlian, David L. Goldsby, W.H. Durham and I. Baker, Scripta Materialia, **66** (2012) 69-72. https://doi.org/10.1016/j.scriptamat.2011.09.044

218. "Giant Strain-Induced-Ferromagnetism in $Fe_{59}Mn_{17}Al_{24}$", Y. Liao, Q. Zeng and I. Baker, Philosophical Magazine, **92** (2012) 849-862. https://doi.org/10.1080/14786435.2011.634854

219. "Dry sliding wear of nanostructured $Fe_{30}Ni_{20}Mn_{20}Al_{30}$", X. Wu, I. Baker and P. R. Munroe, Intermetallics, **23** (2012) 116-127. https://doi.org/10.1016/j.intermet.2011.12.017

220. "Effects of Confining Pressure on Flaw Formation During the Consolidation of Ductile Powders by Angular Extrusion" J. Hanna and I. Baker, Materials Science and Engineering A, **536** (2012) 24– 32. https://doi.org/10.1016/j.msea.2011.11.029

221. "Study of Yield Stress Anomaly of Fe_2MnAl Single Crystal by In-situ TEM Straining", Y. Liao and I. Baker, Philosophical Magazine, **92** (2012) 959-985. https://doi.org/10.1080/14786435.2011.637983

222. "The Effects of Environment on the Dry Sliding Wear of Eutectic $Fe_{30}Ni_{20}Mn_{35}Al_{15}$", F. Meng, I. Baker and P. R. Munroe, Journal of Materials Science, **47** (2012) 4827-4837. DOI: 10.1007/s10853-012-6341-2

223. "Dry sliding tribological behavior of a Zr-based bulk metallic glass", H. Wu, I. Baker, Y. Liu and X. Wu, Transactions of Nonferrous Metals Society of China, **22** (2012) 585−589. https://doi.org/10.1016/S1003-6326(11)61217-X

224. "Effects of environment on the sliding tribological behaviors of Zr-based bulk metallic glass", H. Wu, I. Baker, Y. Liu, X. Wu and P.R. Munroe, Intermetallics, in **25** (2012) 115-25. https://doi.org/10.1016/j.intermet.2011.12.025

225. "Microstructure and Mechanical Behavior of Directionally-Solidified $Fe_{35}Ni_{15}Mn_{25}Al_{25}$" X. Wu, I. Baker, H. Wu, M. K. Miller, K. L. More and H. Bei, Intermetallics, **32** (2013) 413-422. https://doi.org/10.1016/j.intermet.2012.07.032

226. "Tribological Studies of Zr-based Bulk Metallic Glass", H. Wu, I. Baker, Y. Liu, X. Wu, P.R. Munroe and J. Zhang, Intermetallics, **35** (2013) 25-32. https://doi.org/10.1016/j.intermet.2012.11.010

227. "Accelerated precipitation due to mechanical milling of two-phase B2/$L2_1$ $Fe_{30}Ni_{20}Mn_{20}Al_{30}$", X. Wu, I. Baker, H. Wu and P.R. Munroe, Journal of Alloys and Compounds, **559** (2013) 97–100. https://doi.org/10.1016/j.jallcom.2013.01.083

228. "Dislocations in Nanostructured Two-Phase $Fe_{30}Ni_{20}Mn_{20}Al_{30}$", X. Wu and I. Baker, Microscopy Research and Technique, **76** (2013) 263–267. DOI: 10.1002/jemt.22162

229. "A Comparison of Dry Sliding Wear of $Fe_{30}Ni_{20}Mn_{25}Al_{25}$ at Room Temperature and Elevated Temperature", Y. Lu, I. Baker, P. Blau, F.E. Kennedy and P.R. Munroe, Intermetallics, **39** (2013) 94-103. https://doi.org/10.1016/j.intermet.2013.03.019

230. "Microstructure and Mechanical Properties of Two-Phase $Fe_{30}Ni_{20}Mn_{20}Al_{30}$ Alloy, Part I: Microstructure", X. Wu, I. Baker, H. Wu. M. K. Miller, K. L. More, Z. Cai and S. Chen, Journal of Materials Science, **48** (2013) 7435-7445. DOI 10.1007/s10853-013-7558-4

231. "Microstructure and Mechanical Properties of Two-Phase $Fe_{30}Ni_{20}Mn_{20}Al_{30}$ Alloy, Part II: Mechanical Properties", X. Wu, I. Baker and H. Wu. Journal of Materials Science, **48** (2013) 6535–6541. DOI 10.1007/s10853-013-7449-8.

232. "The effect of Stoichiometry on the Dry Sliding Wear of FeAl", J. Qiu, I. Baker, Y. Liu and P.R. Munroe, Intermetallics, **40** (2013) 19–27. https://doi.org/10.1016/j.intermet.2013.03.020

233. "The Effects of Chromium on the Microstructure and Tensile Behavior of $Fe_{30}Ni_{20}Mn_{35}Al_{15}$", F. Meng, J. Qiu and I. Baker, Materials Science and Engineering, **A586** (2013) 45–52. https://doi.org/10.1016/j.msea.2013.08.005

234. "Observation of the Microstructural Evolution of Snow under Uniaxial Compression using X-ray Computed Micro-tomography", X. Wang and I. Baker, Journal of Geophysical Research - Atmospheres, **118** (2013) 1-12. https://doi.org/10.1002/2013JD020352

235. "Surface Instability and Mass Transfer During the Bonding of Ice Spheres", S. Chen, I. Baker and H.J. Frost, Philosophical Magazine, **93** (2013) 3177-3193. DOI: 10.1080/14786435.2013.805274.

236. "Impact of physical properties and accumulation rate on pore close-off in layered firn", S. A. Gregory, M. R. Albert and I. Baker, The Cryosphere, **8** (2014) 91-105. https://doi.org/10.5194/tc-8-91-2014

237. "Microstructure and Magnetic Properties of Bulk Nanocrystalline MnAl", A. Chaturvedi, R. Yaqub, and Ian Baker, Metals, **4** (2014) 20-27. DOI:10.3390/met4010020.

238. "Effect of Al content on the microstructure and mechanical behavior of two-phase FeNiMnAl alloys", F. Meng, J. Qiu and I. Baker, Journal of Materials Science, **49** (2014) 1973-1983. https://doi.org/10.1007/s10853-013-7884-6

239. "A Comparison of τ-MnAl Particulates Produced Via Different Routes", A. Chaturvedi, R. Yaqub, and I. Baker, Journal of Physics: Condensed Matter, **26** (2014) 064201 (7pp). doi:10.1088/0953-8984/26/6/064201.

240. "Impact of melt layers on gas transport in the firn column at NEEM, Greenland", K. Keegan, M. Albert, I. Baker, The Crysphere, **8** (2014) 1095-1110. DOI:10.5194/tcd-8-1095-2014.

241. "Microstructures and Mechanical Properties of FeNiMnAl Alloys" I. Baker, X. Wu, F. Meng and P.R. Munroe, Materials Science Forum, **783-786** (2014) 2549-2554. DOI: 10.4028/www.scientific.net/MSF.783-786.2549

242. "Effects of environment on dry sliding wear of powder metallurgical Ti-47Al-2Cr-2Nb-0.2W", J. Qiu, Y. Liu, F. Meng, I. Baker, and P.R. Munroe, Intermetallics, **53** (2014) 10–19. http://dx.doi.org/10.1016/j.intermet.2014.02.021

243. "Cryogenic EBSD Reveals Structure of Directionally Solidified Ice-polymer Composite", U.G.K. Wegst. J. Burger, R. Doherty, A.E. Donius, P.M. Hunger, M. Wheatley, N. Pashos, I. Baker and R.W. Obbard, Materials Characterization, **93** (2014) 184–190. http://dx.doi.org/10.1016/j.matchar.2014.04.003

244. "Climate change and forest fires synergistically drive widespread melt events of the Greenland Ice Sheet", K.M. Keegan, M. R. Albert, J. R. McConnell and I. Baker**,** Proceedings of the National Academy of Science*,* May 19, **111** (2014) 7964–7967. DOI: 10.1073/pnas.1405397111.

245. "Accelerated Precipitation in the AFA Stainless Steel Fe-20Cr-40Ni-2Nb-5Al Via Cold Working", G. Trotter, G. Rayner, I. Baker and P.R. Munroe, Intermetallics, **53** (2014) 120-128. DOI: 10.1016/j.intermet.2014.04.018.

246. "Global warming releases microplastic legacy frozen in Arctic Sea Ice", R.W. Obbard, S. Sadri, Y. Q. Wong, A. A. Khitun, I. Baker and R. C. Thompson, Earth's Future, **2** (2014) 315–320. DOI: 10.1002/2014EF000240.

247. "Evolution of the Specific Surface Area of Snow in a High Temperature Gradient Metamorphism", X. Wang and I. Baker, Journal of Geophysical Research: Atmospheres, **119** (2014) 13,690**–**13,703. http//dx.doi:10.1002/2014JD022131.

248. "Concentration Dependence of Cr for Alleviating Environmental Embrittlement in $Fe_{30}Ni_{20}Mn_{35}Al_{15}$", F. Meng, S.F. Bauer, Y. Liao and I. Baker, Intermetallics, **56** (2015) 28-32. http://dx.doi.org/10.1016/j.intermet.2014.08.007

249. "Contact Temperatures and Their Influence on Wear During Pin-on-Disk Tribotesting", F. E. Kennedy, Y. Lu and I. Baker, Tribology International, **82** (2015) 534-542. http://dx.doi.org/10.1016/j.triboint.2013.10.022

250. "The effect of aging on the microstructure and mechanical behavior of the alumina-forming austenitic stainless steel Fe-20Cr-30Ni-2Nb-5Al", G. Trotter and I. Baker, Materials Science and Engineering A, **627** (2015) 270–276. ttp://dx.doi.org/10.1016/j.msea.2014.12.072

251. "Magnetic nanoparticles with high specific absorption rate of electromagnetic energy at low field strength for hyperthermia therapy", F.Shubitidze, K. Kekalo, R. Stigliano and I. Baker, Journal of applied physics, **117** (2015) 094302 (12 pages). http://dx.doi.org/10.1063/1.4907915.

252. "Antibody-mediated targeting of iron oxide nanoparticles to the Folate receptor alpha increases tumor cell association *in vitro* and *in vivo*", C. Ndong, S. Toraya-Brown, K. Kekalo, I. Baker, T. U. Gerngross, S. Fiering and K.E. Griswold, International Journal of Nanomedicine, **10** (2015) 2595—2617. doi.org/10.2147/IJN.S79367

253. "Control of grain boundary character distribution and its effects on the deformation of Fe-6.5 wt. % Si", Z. W. Zhang, W. H. Wang, Y. Zou, I. Baker, Y. F. Liang, Journal of Alloys and Compounds **639** (2015,) 40–44. http://dx.doi.org/10.1016/j.jallcom.2015.03.129

254. "Lamellar Coarsening in $Fe_{28}Ni_{18}Mn_{33}Al_{21}$ and its Influence on Room Temperature Tensile Behavior", Ian Baker and Fanling Meng, Acta Materialia, **95** (2015) 124–131. doi:10.1016/j.actamat.2015.05.006

255. "Nitriding of a High Entropy FeNiMnAlCr Alloy", F. Meng and I. Baker, Journal of Alloys and Compounds, **645** (2015) 376–381. doi:10.1016/j.jallcom.2015.05.021

256. "The Effects of Cold Work on the Microstructure and Mechanical Properties of Intermetallic Strengthened Alumina-Forming Austenitic Stainless Steels", B. Hu, G. Trotter, I. Baker, M.K. Miller, L. Yao, S. Chen, Z. Cai, Metallurgical and Materials Transactions, **46** (2015) 3773-3785. doi:10.1007/s11661-015-2981-6.

257. "Making EBSD on water ice routine", D.J. Prior, K. Lilly, M. Seidemann, M. Vaughan, L. Becroft, R. Easingwood, S. Diebold, R. Obbard, C. Daghlian, I. Baker, T. Caswell, N. Golding, D. Goldsby, W.B. Durham, S. Piazolo and C.J.L. Wilson, Journal of Microscopy, **259** (2015) 237–256. DOI: 10.111/jmi.12258

258. "An Assessment on the future development of high-entropy alloys: summary from a recent workshop", Z.P. Lu, H. Wang, M.W. Chen, I. Baker, J. W. Yeh, C. T. Liu and T. G. Nieh, Intermetallics, **66** (2015) 67-76. http://dx.doi.org/10.1016/j.intermet.2015.06.021

259. "The Dartmouth Center for Cancer Nanotechnology Excellence: Magnetic Hyperthermia", I. Baker, S.N. Fiering, K.E. Griswold, P.J. Hoopes, K. Kekalo, C. Ndong, K. Paulsen, A. Petryk, B. Pogue, F. Shubitidze and J. Weaver, Nanomedicine, **10** (2015) 1685-92.

260. "Magnetic Nanoparticles with High Specific Absorption Rate", K. Kekalo, I. Baker, R. Meyers, F. Zhang and J. Shyong, NanoLife, **5** (2015) 1550002 (6 pages). http://dx.doi.org/10.1063/1.4907915

261. "Orientation Relationships of Laves Phase and NiAl Particles in an AFA Stainless Steel", G. Trotter and I. Baker, Philosophical Magazine, **95** (2015) 4078-4094. DOI:10.1080/14786435.2015.1111529.

262. "The effects of annealing on the microstructure and mechanical properties of $Fe_{28}Ni_{18}Mn_{33}Al_{21}$", F. Meng, J. Qiu, I. Baker and H. Bei, Journal of Materials Science, **50** (2015) 7821-7834. https://doi.org/10.1007/s10853-015-9353-x.

263. "Investigating the Thermophysical Properties of the Ice-Snow Interface Under a Controlled Temperature Gradient", K. Hammonds, R. Lieb-Lappen, X. Wang, Z. Courville and I. Baker, Cold Regions Science and Engineering, **120** (2015) 157–167. doi:10.1016/j.coldregions.2015.09.006

264. "Microstructural Evolution of Polycrystalline Ice During Confined Creep Testing", D.J. Breton, I. Baker and D.M. Cole, Cold Regions Science and Engineering, **127** (2016) 25–36. http://dx.doi.org/10.1016/j.coldregions.2016.03.009

265. "Recrystallization of a Novel Two-Phase FeNiMnAlCr High Entropy Alloy" I. Baker, F. Meng, M.Wu and A. Brandenberg, Journal of Alloys and Compounds, **656** (2016) 458-464. http://dx.doi.org/10.1016/j.jallcom.2015.09.264

266. "Magnetic Nanoparticle based Immunoassays-on-Chip: Materials Synthesis, Surface Functionalization and Cancer Cell Screening", Y. Zhu, K. Kekalo, C. NDong, Y.-Y. Huang, F. Shubitidze, K. E. Griswold, I. Baker, J. X. J. Zhang, Advanced Functional Materials, **26** (2016) 3953-3972. DOI: 10.1002/adfm.201504176

267. "The Effect of Thermo-mechanical Treatment on the High Temperature Tensile Behavior of an Alumina-forming Austenitic Steel" B. Hu and I. Baker, Materials Science and Engineering A, **651** (2016) 795–804. doi:10.1016/j.msea.2015.11.036

268. "Investigating the Thermophysical Properties of the Ice-Snow Interface Under a Controlled Temperature Gradient Part II: Analysis", K. Hammonds and I. Baker, Cold Regions Science and Engineering, **125** (2016) 12–20. http://dx.doi.org/10.1016/j.coldregions.2016.01.006.

269. "Precipitation Kinetics During Aging of an Alumina-Forming Austenitic Stainless Steel", G.Trotter, B. Hu, Y. (Annie), R. Harder, M.K. Miller, L. Yao and I. Baker, Materials Science and Engineering, **667** (2016) 147–155. http://dx.doi.org/10.1016/j.msea.2016.04.081.

270. "Interstitial Strengthening of a f.c.c. FeNiMnAlCr High Entropy Alloy", Z. Wang and I. Baker, Materials Letters, **180** (2016) 153–156. http://dx.doi.org/10.1016/j.matlet.2016.05.122.

271. "The microstructure and mechanical behavior of $(Fe_{36}Ni_{18}Mn_{33}Al_{13})_{100-x}Ti_x$ high-entropy alloys", Z. Wang, M. Wu, Z. Cai, S. Chen and I. Baker, Intermetallics, **75** (2016) 79-87. http://dx.doi.org/10.1016/j.intermet.2016.06.001.

272. "Martensitic Phase Transformation in a NiAl (B2)-based FeNiMnAl Alloy", M. Wu, P.R. Munroe, and I. Baker, Journal of Materials Science, **51** (2016) 7831-7842. https://doi.org/10.1007/s10853-016-0015-4

273. "Magnetic Heating of Fe-Co Ferrites: Experiments and Modeling", K. Kekalo, F. Shubitidze, R. Meyers, R. Yaqub and I. Baker NanoLife, **6** (2016) 1650007-1 - 1650007-11. DOI: 10.1142/S1793984416500070

274. "The Effects of Ca++ on the Strength of Polycrystalline Ice", K. Hammonds and I. Baker, Journal of Glaciology, **62** (2016) 1-9. doi:10.1017/jog.2016.84.

275. "The effect of interstitial carbon on the mechanical properties and dislocation substructure evolution in $Fe_{40.4}Ni_{11.3}Mn_{34.8}Al_{7.5}Cr_6$ high entropy alloys", Z. Wang, I. Baker, Z. Cai, S. Chen, J.D Poplawsky and W. Guo, Acta Materialia, **120** (2016) 228-239. http://dx.doi.org/10.1016/j.actamat.2016.08.072.

276. "The Effect of Sliding Velocity on the Dry Sliding Wear of Nanophase $Fe_{30}Ni_{20}Mn_{25}Al_{25}$", Y. Lu, I. Baker, F.E. Kennedy and P.R. Munroe, Intermetallics, **83** (2017) 17-28. http://dx.doi.org/10.1016/j.intermet.2016.12.008

277. "The Influence of Sliding Velocity and Third Bodies on the Dry Sliding Wear of $Fe_{30}Ni_{20}Mn_{25}Al_{25}$ against 347 Stainless Steel", F.E. Kennedy, Y. Lu, I. Baker, and P.R. Munroe, Wear, **374-375** (2017) 63–76. http://dx.doi.org/10.1016/j.wear.2017.01.002

278. "The effect of carbon on the microstructures, mechanical properties, and deformation mechanisms of thermo-mechanically treated $Fe_{40.4}Ni_{11.3}Mn_{34.8}Al_{7.5}Cr_6$ high entropy alloys", Z. Wang, I. Baker, W. Guo and J.D. Poplawsky, Acta Materialia, **126** (2017) 346-360. http://dx.doi.org/10.1016/j.actamat.2016.12.074

279. "Comparison of the Effects of Unidirectional and Alternating Temperature Gradients on the Sintering of Ice Spheres", X. Wang and I. Baker, Hydrological Processes, **31** (2017) 871–879. DOI 10.1002/hyp.11067

280. "Quantifying Damage in Polycrystalline Ice via X-Ray Computed Micro-tomography", K. Hammonds and I. Baker, Acta Materialia, **127** (2017) 463-470. http://dx.doi.org/10.1016/j.actamat.2017.01.046

281. "High Temperature Deformation of Laves Phase Precipitates in Alumina-forming Austenitic Stainless Steels", B. Hu and I. Baker, Materials Letters, **195** (2017) 108–111. http://dx.doi.org/10.1016/j.matlet.2017.02.086.

282. "Effects of annealing and thermo-mechanical treatment on the microstructures and mechanical properties of a carbon-doped FeNiMnAl medium-entropy alloy", Z. Wang and I. Baker, Materials Science and Engineering, A **693** (2017) 101–110. http://dx.doi.org/10.1016/j.msea.2017.03.099

283. "Single crystal I_h ice surfaces unveil connection between macroscopic and molecular structure", A. Brumberg, K.D. Hammonds, I. Baker, E. Backus, P.J. Bisson, M. Bonn, C.P. Daghlian, M. Mezger and M.J. Shultz, Proceedings of the National Academy of Sciences, **114** (21), (2017) 5349-5354. www.pnas.org/cgi/doi/10.1073/pnas.1703056114.

284. "Effect of Boron and Carbon Addition on Microstructure and Mechanical Properties of the Aged Gamma Prime Alumina-Forming Austenitic Alloys", B. Hu, G. Trotter, Z. Wang, S. Chen, Z. Cai and I. Baker, Intermetallics, **90** (2017) 36-49. https://doi.org/10.1016/j.intermet.2017.06.011.

285. "Direct versus indirect particle strengthening in a strong, ductile FeNiMnAlTi high entropy alloy", Z. Wang, A. Genc and Ian Baker, Materials Characterization **132** (2017) 156-161. https://doi.org/10.1016/j.matchar.2017.08.019.

286. "Preliminary Creep Testing of the Alumina-Forming Austenitic Stainless Steel Fe-20Cr-30Ni-2Nb-5Al", I. Baker, N. Afonina, Z. Wang and M. Wu, Materials Science and Engineering, A **718** (2018) 492-498. https://doi.org/10.1016/j.msea.2018.01.090.

287. "The Effects of H_2SO_4 on the Mechanical Behavior and Microstructural evolution of Polycrystalline Ice", K. Hammonds and I. Baker, Journal of Geophysical Research - Solid Earth, **123** (2018) 1-22. https://DOI/10.1002/2017JF004335.

288. "Microband Induced Plasticity and the temperature dependence of the mechanical properties of a carbon-doped FeNiMnAlCr high entropy alloy" Z. Wang, H. Bei and I. Baker, Materials Characterization, **139** (2018) 373-381. https://doi.org/10.1016/j.matchar.2018.03.017

289. "Manufacturing of Intermetallic Mn-46%Al by laser powder bed fusion", P. Krakhmalev, I. Yadroitsev, I. Baker and I. Yadroitsava, Procedia CIRP **74** (2018) 64–67. https://doi.org/10.1016/j.procir.2018.08.031

290. "Effects of Environment on the Wear Behavior of P/M Ti-47Al-2Cr-0.2 Mo", J.W. Qiu, D. Pan, Y. Liu, I. Baker and WD Zhang, Key Engineering Materials, **770** (2018) 106-115. https://doi.org/10.4028/www.scientific.net/KEM.770.106

291. "Eutectic/Eutectoid Multi-Principle Component Alloys: A Review", I. Baker, M. Wu and Z. Wang, Materials Characterization**,** **147** (2019) 545-557. https://doi.org/10.1016/j.matchar.2018.07.030.

292. "The effects of carbon on the phase stability and mechanical properties of heat-treated FeNiMnCrAl high entropy alloys, M. Wu, Z. Li, B. Gault, P. Munroe and I. Baker, Materials Science and Engineering: A, **748** (2019) 59-73. https://doi.org/10.1016/j.msea.2019.01.083

293. "Elevated Temperature Directional Recrystallization of High-Purity Nickel", C. Yang and I. Baker, Philosophical Magazine, **99** (2019) 1057–1078. https://doi.org/10.1080/14786435.2019.1576936

294. "Climatic effects on firn microstructure are preserved within the firn column", K. Keegan, M. Albert, J.R. McConnell and I. Baker, Journal of Geophysical Research: Earth Surface, **124** (2019) 830–837. https://doi.org/10.1029/ 2018JF004798

295. "Characterization of high-strength high-nitrogen austenitic stainless steel synthesized from nitrided powders by spark plasma sintering", L. Hu, H. Peng, L. Lia, Ian Baker, W. Zhang, Materials Characterization, 152 (2019) 76-84. https://doi.org/10.1016/j.matchar.2019.04.005.

296. "Breakdown of growth front at elevated drawing velocity during directional recrystallization", Chao Yang and Ian Baker, Philosophical Magazine Letters, **99** (2019) 167-172. https://doi.org/10.1080/09500839.2019.1644459.

297. "Effects of Niobium Particles on the Wear Behavior of Powder Metallurgical γ-TiAl alloy in Different Environments", J. Qiu, Z. Fu, B. Liu, Y. Liu, J. Yan, D. Pan, W. Zhang and I. Baker, Wear, 434-435 (2019) 202964. https://doi.org/10.1016/j.wear.2019.202964

298. "Effect of solute on microstructural evolution during directional recrystallization", C. Yang and I. Baker, Journal of Alloys and Compounds, 815 (2020) *available on line*.

299. "High Strength and High Ductility in a Novel $Fe_{40.2}Ni_{11.3}Mn_{30}Al_{7.5}Cr_{11}$ Multiphase High Entropy Alloy", M. Wu and I. Baker, Journal of Alloys and Compounds, *in press*.

300. "An Organo-Apatitic Composite Cement: pH Effects and Reaction Product Evolution", F. Prifti Kesseli, C. Lauer, I. Baker, K. Mirica, D. Van Citters, submitted to Acta Biomaterialia.

301. "Enhanced Mechanical Properties of Carbon-doped FeNiMnAlCr High Entropy Alloy via Hot-Rolling", Margaret Wu, Chao Yang, Michael Kuijer and Ian Baker, submitted to the Materials Characterization.

302. "A comparison of the dry sliding wear behavior of NiCoCr medium entropy alloy with 316 stainless steel", X. Guo, I. Baker, F.E. Kennedy and M. Song, submitted to Materials Characterization.

303. "A model for French-press experiments of dry snow compaction", C.R. Meyer, K.M. Keegan, I. Baker and R.L. Hawley, submitted to. The Cryosphere.

304. "A Comparion of the Dry Sliding Wear of Single-Phase f.c.c. FeNiMnAlCr and CoCrFeMnNi High Entropy Alloys with 316 Stainless Steel", X. Guo, I. Baker, F.E. Kennedy, S.P. Ringer, H. Chen, W. Zhang, Y. Liu and M. Song, submitted to Acta Materialia.

305. "Effect of soluble particles on microstructural evolution during directional recrystallization" C. Yang and I. Baker, submitted to Acta Materialia.

INVITED CONFERENCE PAPERS

1. "Structure and Properties of Rapidly Solidified Intermetallic Compounds", I. Baker, E.M. Schulson and N.S. Stoloff, in "Mechanical Behavior of Rapidly Solidified Materials", Edited by- S.M.L. Sastry and B.A. MacDonald, The Metallurgical Society, Warrendale, Pa., (1986) 257-277.

2. "The Strength and Ductility of Intermetallic Compounds: Grain Size Effects", E.M. Schulson, I. Baker and H.J. Frost, " in "High Temperature Ordered Intermetallic Alloys II", Proceedings of the Material Research Society, 81 (1987) 195-205.

3. "Dislocation Structures in B2 Ordered Alloys", I. Baker, 47th Proceedings of the Electron Microscopy Society of America (1989) 314-315.

4. "Properties of B2 Compounds", I. Baker and P.R. Munroe, Proceedings of the Symposium on "High Temperature Aluminides and Intermetallics", The Metallurgical Society, Edited by S.H. Whang, C.T. Liu, D.P. Pope and J.O. Stiegler, (1990) 425-452.

5. "Examination of Grain Boundary Structure and Chemistry in Ordered Alloys", I. Baker, in "Structure/Property Relationships for Interfaces", Edited by - J.L. Walter, A.H. King and K. Tangri, American Society of Metals, Materials Park, OH, (1991) 67-96.

6. "The Brittle to Ductile Transition and Slip Transmission Across Grain Boundaries in $L1_2$ Intermetallic Compounds", E.M. Schulson and I. Baker, "Ordered Intermetallics - Physical Metallurgy and Mechanical Behavior", Edited by C.T. Liu, R.W. Cahn and G. Sauthoff, Kluwer Academic Publishers, (1991) 371-389.

7. "Processing of Iron and Nickel Aluminides via Hot Extrusion", I. Baker and P. Nagpal, in "Processing and Fabrication of Advanced Materials for High Temperature Applications - II", Edited by T.S. Srivatsan and V.A. Ravi, The Metallurgical Society, Warrendale, Pa., (1993) 3-18.

8. "On In-Situ Study of Dislocation/Grain Boundary Interactions Using X-ray Topography and TEM", I. Baker and F. Liu, Proceedings of the Material Research Society, 319 (1994) 203-214.

9. "Flow and Fracture of FeAl", I. Baker, in "Processing, Properties and Applications of Iron Aluminides, Edited by J.H. Schneibel and M.A. Crimp, The Metallurgical Society, Warrendale, Pa., 1994, 101-115.

10. "An Overview of Environmental Effects in Iron Aluminides", X. Pierron and I. Baker, Design Fundamentals of High Temperature Composites, Intermetallics and metal-Ceramic Systems", Editors - R.Y. Lin, Y.A. Chang, R.G. Reddy and C.T. Liu, The Metallurgical Society, Warrendale, Pa., 1996, 271-286.

11. "Deformation and Fracture of B2 Compounds", I. Baker, in Deformation and Fracture of Ordered Intermetallic Materials, Editors - W.O. Soboyejo, H.L. Fraser and T.S. Srivatsan, The Metallurgical Society, Warrendale, Pa., (1996) 27-44.

12. "Aluminides: Processing Properties and the Mechanical Properties of FeAl", I. Baker and E.P. George, in Proceedings of the International Symposium on Nickel and Iron Aluminides: Processing, Properties and Applications, Editors - S. Deevi, V. Sikka, P.J. Maziasz and R.W. Cahn, The Metallurgical Society, Warrendale, Pa., (1997) 145.

13. "Brittle Fracture in B2 Compounds", P.R. Munroe and I. Baker, George R. Irwin Symposium on Cleavage Fracture, The Metallurgical Society, Warrendale, Pa., (1997) 329-346.

14. "The Mechanical Behavior of FeAl", I. Baker and E.P. George, "High Temperature Ordered Intermetallic Alloys VIII", Proceedings of the Material Research Society, 552 (1999) KK4.1.1.

15. “An Overview of the Effects of Testing Environment on the Mechanical Properties of FeAl”, I. Baker, D. Wu, M. Wittmann, and E. P. George, Proceedings of the Fourth Pacific Rim International Conference on Advanced Materials and Processing (PRICM IV), Vol. I, (2001) 811-814.

16. “Some Unusual Aspects of The Mechanical Behavior of FeAl”, I. Baker, in “Dislocations, Plasticity and Metal Forming”, Proceedings of Plasticity 2003, Neat Press, Maryland, p7-9.

17. “Synthesis and heating effect of iron/iron oxide composite and iron oxide nanoparticles”, Q. Zeng, I. Baker, J. A. Loudis, Y.F. Liao and P.J. Hoopes, Proc. SPIE, Thermal Treatment of Tissue: Energy Delivery and Assessment IV; Ed. - Thomas P. Ryan, **6440** (2007) 64400H.

18. “Intratumoral Iron Oxide Nanoparticle Hyperthermia and Radiation Cancer Treatment”, P.J. Hoopes, R.R. Strawbridge, U. Gibson, Q. Zeng, Z. Pierce, I. Baker, R. Ivkov and A.R. Foreman, Proc. SPIE, Thermal Treatment of Tissue: Energy Delivery and Assessment IV; Ed. - Thomas P. Ryan, **6440** (2007) 64400K.

19. “An Overview of the Properties of Iron Aluminides”, I. Baker, Proceedings of 2008 Fall Materials Research Society meeting, Symposium U, 2009, 1128-U02-01. (12 pages)

20. “Some Unusual Aspects of the deformation of FeAl”, I. Baker, proceedings of the David Pope Honorary Symposium on Fundamentals of deformation and Fracture of Advanced Metallic Materials, 2011 TMS Annual Meeting, Feb. 27th - March 3rd, 2011, San Diego, CA.

CONTRIBUTED CONFERENCE PAPERS

1. "Micromechanisms of Recrystallization in Internally Oxidized Copper Crystals", I. Baker and J.W. Martin, 1st Risø International Symposium "Recrystallization and Grain Growth in Multi-Phase and Particle-Containing Alloys", Roskilde, Denmark, (1980) 27-33.

2. "Misorientations in Cold-Rolled Copper and Copper-Alumina Single Crystals", I. Baker and J.W. Martin, 10th International Congress on Electron Microscopy, Hamburg, W. Germany, Vol. I, (1982) 157-158.

3. "The Effect of a Dispersed Phase upon the Deformation Structure of Rolled Copper Crystals", I. Baker and J.W. Martin, International Conference on the Strength of Metals and Alloys 6, Melbourne, Australia, Vol. I, (1982) 487-492.

4. "The Structure of Rapidly Solidified Powders of Ni_3Al and Ni_3Al + B + Ti", I. Baker, F.S. Ichishita and E.M. Schulson, in "Rapidly Solidified Metastable Materials", Proceedings of the Material Research Society 28 (1984) 395-399.

5. "Observation of Slip Propagation Across Grain Boundaries in Ni_3Al", I. Baker, E.M. Schulson and J.A. Horton, 44th Proceedings of the Electron Microscopy Society of America (1986) 864-865.

6. "The Microstructure and Tensile Properties of Extruded Melt-Spun Ribbons of Iron-Rich B2 FeAl", I. Baker and D.J. Gaydosh, in "High Temperature Ordered Intermetallic Alloys II", Proceedings of the Material Research Society 81 (1987) 315-320.

7. "Effect of Boron on the Composition of Grain Boundaries in Ni_3Al", I. Baker, E.M Schulson and J.R. Michael, Proceedings of the Analytical Electron Microscopy Workshop, Kona, Hawaii, (1987) 218-220.

8. "The Ductility of Ni_3Al and the Accommodation of Slip at Grain Boundaries", E.M. Schulson, I. Baker and H.J. Frost, Revue Physique Appliqué, 23 (1988) 705.

9. "Annealing Studies of B2 FeAl", B. Schmidt, P. Nagpal and I. Baker, in "High Temperature Ordered Intermetallic Alloys III", Proceedings of the Material Research Society, 133 (1989) 755-760.

10. "Improving the Ductility of NiAl", S. Guha, P.R. Munroe and I. Baker, in "High Temperature Ordered Intermetallic Alloys III", Proceedings of the Material Research Society, 133 (1989) 633-638.

11. "Observation of Tweed Microstructures in Ni-Al-Fe Alloys", P.R. Munroe and I. Baker, 47th Proceedings of the Electron Microscopy Society of America (1989) 676-677.

12. "Grain Boundary Chemistry in Ni3Al and Ni_3Si", I. Baker, E.M. Schulson, J.R. Michael and R.A. Padgett, Proceedings of the 5th International Conference on Intergranular and Interphase Boundaries in Materials", Colloque de Physique, 51 C1 (1989) 77-82.

13. "An ALCHEMI Investigation of Ternary Site Occupancy in NiAl - based Alloys", P.R. Munroe and I. Baker, Proceedings of the XIIth International Congress for Electron Microscopy, (1990) 448-449.

14. "Application of ALCHEMI to the Study of Non-Stoichiometric Compounds", P.R. Munroe and I. Baker, Proceedings of the XIIth International Congress for Electron Microscopy, (1990) 472-473.

15. "Application of ALCHEMI to Intermetallic Compounds", P.R. Munroe and I. Baker, Proceedings of the Microbeam Analysis Society (1991) 297-300.

16. "Room Temperature Strength and Fracture of FeAl and NiAl", P. Nagpal, I. Baker, F. Liu and P.R. Munroe, in "High Temperature Ordered Intermetallic Alloys - IV", Proceedings of the Material Research Society 213 (1991) 533-538.

17. "Decomposition of Ni - 23 at. % Si and Formation of Ni_3Si", I. Baker and E.M. Schulson, 49th Proceedings of the Electron Microscopy Society of America (1991) 600-601.

18. "TEM In Situ Straining of Polycrystalline Stoichiometric NiAl", P. Nagpal and I. Baker, 49th Proceedings of the Electron Microscopy Society of America, (1991) 586-587.

19. "TEM In Situ Straining of B2 Compounds", I. Baker, P. Nagpal, S. Guha and J.A. Horton, Proceedings 6th Japanese International Symposium on Intermetallic Compounds, (1991) 603-608.

20. "Synchrotron X-Ray Topography of Polycrystalline Ice", F. Liu, I. Baker, G. Yao and M. Dudley, Proceedings of the 11th International Association for Hydraulic Research Ice Symposium, Banff, Canada, June, (1992) 1115-1126.

21. "Room Temperature Fracture of Polycrystalline FeAl and NiAl", I. Baker, P. Nagpal, O. Klein and F. Liu, Processing of Materials, Edited by M.H. Loretto and C.J. Beevers, Birmingham, U.K., September, 1992, Vol. II, 665-670.

22. "Dynamic Observations of Grain Boundaries and Dislocations in Ice", I. Baker, F. Liu and M. Dudley, Proceedings of the 6th International Conference on Intergranular and Interphase Boundaries, Material Science Forum, vol 126-128 (1993), 543-546.

23. "The Effects of Stoichiometry on the Mechanical Behavior of Grain Boundaries in NiAl and FeAl", I. Baker, P. Nagpal and F. Liu, Proceedings of the 6th International Conference on Intergranular and Interphase Boundaries, Material Science Forum, vol 126-128 (1993), 495-498.

24. "Room Temperature Fracture of FeCo", L. Zhao, I. Baker and E.P. George, "High Temperature Ordered Intermetallic Alloys V", Proceedings of the Material Research Society, 288 (1993) 501-506.

25. "Environmental Effects in B2 FeAl Alloys", O. Klein, P. Nagpal and I. Baker, "High Temperature Ordered Intermetallic Alloys V", Proceedings of the Material Research Society, 288, (1993) 935-940.

26. "A Review of the Flow and Fracture of FeAl", I. Baker and P. Nagpal, in "Structural Intermetallics", Edited by R. Darolia, J.J. Lewandowski, C.T. Liu, P.L. Martin, D.B. Miracle and M.V. Nathal, The Metallurgical Society, Warrendale, Pa., 1993, 463-474.

27. "In-situ Synchrotron X-ray Topographic Studies of Polycrystalline Ice", I. Baker, F. Liu, M. Dudley and D. Black, International Association for Hydraulic Research Ice Symposium, 1994, 416-425.

28. "Dislocation/Grain Boundary Interactions in Ice I_h under Creep Conditions", F. Liu, I. Baker and M. Dudley, International Association for Hydraulic Research Ice Symposium, 1994, 484-494.

29. "Dislocation Dissociation in $L1_2$ Ordered Alloy Ni_3Ge" J. Fang, E.M. Schulson and I. Baker, 52nd Proceedings of the Microscopy Society of America (1994) 688-689.

30. "Dislocation Mobility in HCl-doped Ice", X. Hu, K. Jia, F. Liu, I. Baker and D. Black, Proceedings of the Material Research Society, 375 (1995), 287-292.

31. "A New Method to Characterize Dislocation Loops", F. Liu, I. Baker and M. Dudley, Proceedings of the Material Research Society, 375 (1995), 319-324.

32. "Wear of Ductile-Phase Toughened NiAl", F.E. Kennedy, I. Baker and B.J. Johnson, Proceedings of the Material Research Society, 364 (1995), 555-560.

33. "Dislocation/Grain Boundary Interactions in Ice Crystals under Creep Conditions", I. Baker, F. Liu, K. Jia, X. Hu and M. Dudley, Materials Forum, 207-209 (1996) 581-584.

34. "The Influence of Grain Boundaries on the Stored Energy of Cold-Work and Recrystallization Kinetics", D. Mandal and I. Baker, Materials Forum, 207-209 (1996) 521-524.

35. "Influence of Composition and Environment on Wear of NiAl and Ni-Fe-Al", F.E. Kennedy, M. George, I. Baker, B.J. Johnson and N. Chang, Proceedings of the International Tribology Conference (1995), 337-342.

36. "Dynamic In-situ Synchrotron X-ray Topographic Observations of Dislocations in Notched Ice Crystals", X. Hu, I. Baker and M. Dudley, in "Applications of Synchrotron Radiation to Materials Science", L. Terminello, S. Mini, D. L. Perry, and H. Ade (Eds.), Mat. Res. Soc. Symp. Proc., 437, (1996) 119-124.

37. "Annealing of Cold-Rolled Fe-40Al single Crystals", Y. Yang and I. Baker, Proceedings of the Material Research Society, 460 (1997) 367-372.

38. "A Model for the Yield Strength Anomaly in FeAl", I. Baker and E. P. George, Proceedings of the Material Research Society, 460 (1997) 373-378.

39. "Effect of Iron Content and Heat-Treatment on The Precipitation of a New Tetragonal Boride in FeAl + B", X. Pierron and I. Baker, Proc. of the Material Research Society, 460 (1997) 331-336.

40. "Boron Strengthening in FeAl" I. Baker, X. Li, H. Xiao, O. Klein, C. Nelson, R. L. Carleton and E. P. George, in "Interstitial and Substitutional Solute Effects in Intermetallics", Edited by I. Baker, R.D. Noebe and E.P. George, The Metallurgical Society, Warrendale, Pa., (1998), 23-38.

41. "Annealing of Quenched FeAl alloys with and without B and Ti, Y. Yang and I. Baker, "High Temperature Ordered Intermetallic Alloys VIII", Proceedings of the Material Research Society, 552 (1999) KK8.22.1.

42. "Study of Electrical Properties of Dislocations in ZnS using Electric Force Microscopy", G. F. Bai, V. F. Petrenko, and I. Baker, Proceedings of the Material Research Society, 578 (2000) 255--260.

43. "The Effect of H_2SO_4 on the stress exponent in Ice Single Crystals", I. Baker, Y.L. Trickett and P.M.S. Pradhan, Deformation of Glacial Materials, Ed- A.J. Maltman, B. Hubbard and M.J. Hambrey, Geological Society, London, Special Publications, 176 (2000) 39-45.

44. "Directional Recrystallization Processing", I. Baker, A. Badmos and H.J. Frost, Proceedings of the AFOSR Metallic Materials Contractors Meeting, St Louis, Mo, 13-14th, October, 2000.

45. "Directional Recrystallization Processing", J. Li, I. Baker and H.J. Frost, Proceedings of the 2001 NSF Design, Service and Manufacturing Grantees and Research Conference, Tampa, Florida, January 7-10, 2001.

46. "Simulation of Microstructural Evolution during Directional Annealing", A.Y. Badmos, I. Baker, H.J. Frost, Recrystallization and Grain Growth, Proceedings of the 1st Joint International Conference, Eds. - G. Gottstein and D.A. Molodov, Aachen, Germany, Springer-Verlag, 2001, 1041-1046.

47. "Dislocation Motion Around Loaded Notches in Ice Single Crystals", D. Cullen, X. Hu, I. Baker and M. Dudley, in High Temperature Ordered Intermetallic Alloys IX", Proceedings of the Material Research Society, 590 (2001) 291-296.

48. "The Effects of Environment on the Room-Temperature Deformation of B2-structured Fe-43Al Single Crystals", I. Baker, D. Wu and E.P. George, in High Temperature Ordered Intermetallic Alloys IX", Proceedings of the Material Research Society, 646 (2001) N5.1.1-N5.1.7.

49. "Strain-Induced Ferromagnetism in FeAl Single Crystals", D. Wu and I. Baker, in High Temperature Ordered Intermetallic Alloys IX", Proceedings of the Material Research Society, 646 (2001) N3.2.1-N3.2.6.

50. "The Yield Anomaly in CoTi" M. Wittmann, I. Baker and N.D. Evans, in High Temperature Ordered Intermetallic Alloys IX", Proceedings of the Material Research Society, 646 (2001) N3.5.1-N3.5.6.

51. "The Low-Temperature Tensile Behavior of FeAl Single Crystals", I. Baker, D. Wu and E. P. George, Proceedings of the Third International Symposium on Structural Intermetallics, Eds. - K.J. Hemker et al., The Minerals, Metals and Materials Society, Warrendale, PA., 2001, 279-288.

52. "Directional Recrystallization Processing", I. Baker, A. Badmos and H.J. Frost, Proceedings of the AFOSR Metallic Materials Contractors Meeting, Snowbird, Utah, 21st - 22nd, August, 2001.

53. "Directional Recrystallization Processing", J. Li, I. Baker, A. Badmos and H.J. Frost, Proceedings of the 2001 NSF Design, Service and Manufacturing Grantees and Research Conference, San Juan, Peurto Rico, January 7th-11th, 2002.

54. "The Effects of Boron on the Yield Strength Anomaly in FeAl Single Crystals", E. P. George, D. Wu and I. Baker, Proceedings of the Fourth Pacific Rim International Conference on Advanced Materials and Processing (PRICM IV), Vol. I, (2001) 815-818.

55. "The Mechanical Behavior of Fe_2AlX $L2_1$ Compounds ", M. Wittmann, I. Baker, S.L. Johns and V.N. Durand, Proceedings of the Fourth Pacific Rim International Conference on Advanced Materials and Processing (PRICM IV), Vol. I, (2001) 827-830.

56. "Time and Orientation Dependence of the Ferromagnetism in Plastically Strained Feal Single Crystals " D. Wu and I. Baker, Proceedings of the Fourth Pacific Rim International Conference on Advanced Materials and Processing (PRICM IV), Vol. I, (2001) 823-826.

57. "The Effects of H_2SO_4 on the Mechanical Behavior of Ice Single Crystals", I. Baker, Y.L. Trickett, D. Iliescu and P.M.S. Pradhan, in Creep Deformation Fundamentals and Applications, Ed. - R.S. Mishra, J.C. Earthman and S.V. Raj, TMS, Warrendale, PA (2002) 85-94.

58. "Structure, Chemistry and Properties of Grain Boundaries in H_2SO_4-Doped Ice", D. Iliescu, D. Cullen, C. Muscat and I. Baker, Proceedings of Microscopy and Microanalysis 2002, 1544-45CD.

59. "SEM/EDS Studies of Impurities in Natural Ice ", D. Cullen, D. Iliescu and I. Baker, Proceedings of Microscopy and Microanalysis 2002, 1398-9CD.

60. "Scanning Electron Microscopy of Vostok Acrretion Ice", D. Cullen and I. Baker, Proceedings of Microscopy and Microanalysis 2002, 1546-7CD.

61. "Characterization of directionally recrystallized cold-rolled nickel using EBSP", B. Iliescu, J. Li and I. Baker, Proceedings of Microscopy and Microanalysis 2002,1264-5CD.

62. "Directional Recrystallization Processing", I. Baker, A.Y. Badmos, J. Li and H.J. Frost, Proceedings of the AFOSR Metallic Materials Contractors Meeting, Bar Harbor, ME, 14^{th}-16^{th}, August, 2002.

63. "Directional Annealing of Cold-Rolled Polycrystalline Nickel", J. Li, B. Iliescu, I. Baker and H.J. Frost, Proceedings of the 2003 NSF Design, Service and Manufacturing Grantees and Research Conference, Birmingham, Al, January 5th-8th, 2003.

64. "The Effects of Ternary Additions on the Saturation Magnetization of Nanocrystalline FeCo Powders", I. Baker, R.G. Quiller, M. Robson and D. Wu, in "High Temperature Ordered Intermetallic Alloys X", Proceedings of the Material Research Society, **753** (2003) BB5.48.

65. "The Effects of Dopants on the Flow and Fracture of Ice Single Crystals", I. Baker, D. Iliescu, Y.L. Trickett, X. Li, and H.J. Frost, in "Dislocations, and Metal Forming", Proceedings of Plasticity 2003, Neat Press, Maryland, p121-123.

66. "A Technique for the Scanning Electron Microscopy and Microanalysis of Uncoated Ice Crystals" R. Obbard, D. Iliescu, I. Baker and D. Cullen, Electron Microscopy: Its Role in Materials Science, The Mike Meshii Symposium, TMS, Warrendale, PA (2003) 133-140.

67. "Static and Directional Annealing of Cold-Rolled Nickel", J. Li, I. Baker and H.J. Frost, Proceedings of the 2004 NSF Design, Service and Manufacturing Grantees and Research Conference, Dallas, TX, January 5th-8th, 2004.

68. "Magnetic Properties of Nanocrystalline $Fe_{50}Co_{50}$ Powders" B. Shashishekar and I. Baker, in "Continuous Nanophase and Nanostructured Materials", Proceedings of the Material Research Society, **788** (2004) L3.13.1-7.

69. "Recrystallization Processing of Cold-Rolled Nickel", I. Baker, H. Chang and J. Li, in Interfacial Engineering for Optimized Properties III, Proceedings of the Material Research Society, vol. **819** (2004) 255-263.

70. "Characterization of the microstructure and mechanical properties in seasonal lake and river ice" D. Iliescu and I. Baker, Proceedings of the 24th Army Science Conference, Orlando, Fla, Nov. 29th – Dec. 2nd, 2004, article OS-26.

71. "Static and Directional Annealing of Cold-Rolled High Purity Nickel", H. Chang and I. Baker, Proceedings of the 2005 NSF Design, Service and Manufacturing Grantees and Research Conference, Scottsdale, AZ, January 3-6 2005.

72. "Microstructure and Mechanical Properties of Fe-Ni-Mn-Al Alloys", M.W. Wittmann I. Baker, J.A. Hanna and P. R. Munroe, in Integrative and Interdisciplinary Aspects of Intermetallics, Proceedings of the Material Research Society, vol. 842 (2005) S5.17.1-6.

73. "Characterization of Rolled and Recrystallized High-Purity Nickel Using EBSP", H. Chang and I. Baker, Proceedings of Microscopy & Microanalysis 2005, Honolulu, Hawaii, July 31-August 4, 2005, p2022-2023.

74. "Orientation Mapping in Polycrystalline Ice Using Electron Backscatter Patterns" D. Iliescu, I. Baker, and C. P. Daghlian, Proceedings of Microscopy & Microanalysis 2005, Honolulu, Hawaii, July 31-August 4, 2005, p1500-1501.

75. "Nanostructural Analysis of Advanced Alloys in a Local Electrode Atom Probe", D.W. Saxey, J. Hanna, R. Zheng, R.K.W. Marceau, I. Baker and S.P. Ringer, Proc. Microscopy & Microanalysis 2005, Honolulu, Hawaii, p872-873.

76. "Microstructure of a Spinodal Fe-Ni-Mn-Al Alloy", I. Baker, J. A. Hanna, M. W. Wittmann, P. R. Munroe, Proc. Microscopy & Microanalysis 2005, Honolulu, Hawaii, p1864-1865.

77. "Effects of silt particles on the creep of granular ice", M. Song, I. Baker and D.M. Cole, Creep Deformation and Fracture, Design and Extension, Edited by R.S. Mishra, J.C. Earthman, S.V. Raj and R. Viswanaathan, 2005, 277-284.

78. "The mechanical properties of $Fe_{30}Ni_{20}Mn_{25}Al_{25}$", I. Baker, J.A. Hanna, M.W. Wittmann and P.R. Munroe, Processing and Fabrication of Advanced Materials XIV With Frontiers in Materials Science 2005: Innovative Materials and Manufacturing Techniques, 237-247.

79. "Isothermal and Directional Annealing of Cold-Rolled High-Purity Nickel", H. Chang and I. Baker, Proceedings of the 2006 NSF Design, Service and Manufacturing Grantees and Research Conference, St. Louis, Mo., July 24th-27th, 2006.

80. "Microstructural Characterization of Firn", I. Baker, R.W. Obbard, D. Iliescu and D. Meese, Proceedings of the 63rd Eastern Snow Conference, Newark, DE, 2006, p211-218.

81. "Microstructure and Mechanical Properties of an Extruded $Fe_{30}Ni_{20}Mn_{25}Al_{25}$ Alloy", J. Loudis, T. C. Boyd, D. Coen and I. Baker, in "Advanced Intermetallic-Based Alloys", Proceedings of the Materials Research Society, **980** (2007) 0980-II01-02980.

82. "The Heating Effects of Dextran Coated Iron Oxides", Q. Zeng, I. Baker and P.J. Hoopes, in "Nanoscale Magnets -- Synthesis, Self-Assembly, Properties and Applications", Proceedings of the Materials Research Society, **962** (2007) 0962-P10-16.

83. "Coercivity in Nanostructured Mechanically-Alloyed FeCo-based Powders Prepared by Mechanical Alloying", Q. Zeng, I. Baker, V. McCreary and Z. Yan, in "Advanced Intermetallic-Based Alloys", Proceedings of the Materials Research Society, **980** (2007) 0980-II06-09.

84. "Advanced Electron Microscopy Techniques for Studying Ice and Firn Cores" I. Baker, K. Sieg, N. Spaulding and D. Meese, Proceedings of the 10th International Symposium on Antarctic Earth Sciences, University of California- Santa Barbara, CA, August 26th-31st, 2007.

85. "A Microstructural Study of Wear in Nanocrystalline Metals and Alloys" I. Baker, Y. Sun, F.E. Kennedy, D. Iliescu and Q. Zeng, Proceedings of 2008 NSF Engineering Research and Innovation Conference, Knoxville, TN, January 7-10th, 2008.

86. "Preliminary Results on the Characterization of Firn Using SEM and Micro CT", R.W. Lomonaco, S. Chen and I. Baker, 65th Eastern Snow Conference, Fairlee (Lake Morey), VT, May 28-30th, 2008, p359-364.

87. "The Influence of Temperature Gradient on Sintering of Ice Particles", S. Chen and I. Baker, 65th Eastern Snow Conference, Fairlee (Lake Morey), VT, May 28-30th, 2008, p293-300.

88. "Dislocation/APB Interaction during TEM *In-Situ* Straining of Fe_2MnAl", Y. Liao and I. Baker, Microscopy and Microanalysis, Volume 14, Issue SUPPL. 2, August 2008, Pages 1328-1329.

89. "Microstructure and Fractography of Eutectoid $Fe_{30}Ni_{20}Mn_{35}Al_{15}$", Y. Liao and I. Baker, Microscopy and Microanalysis (2008), 14 (Suppl. 2): 574-575

90. "Multidisciplinary Approach to Introductory Engineering Design", P. Robbie, I. Baker, W. Lotko and J.P. Collier, Frontiers in Education Conference Proceedings, Saratoga Springs, NY, October 22nd-25th, 2008, 1136-1141.

91. "On the effect of strain rate and temperature on the yield strength anomaly in $L2_1$-structured Fe_2AlMn", M.W. Wittmann, J.M. Chang, Y. Liao and I. Baker, Proceedings of the Materials Research Society, Symposium U, 2009, 1128-U05-09. (6 pages)

92. "A Microstructural Study of Wear Mechanisms in Nanocrystalline Metals", Ian Baker, Ye Sun, Adam T. Dohner, Francis E. Kennedy, 2009 NSF Engineering Research and Innovation Conference, June 22-25, 2009, Honolulu, HI.

93. "Characterization of Porous Snow with SEM and Micro CT", R.W. Lomonaco, S. Chen and I. Baker, Proceedings of Microscopy & Microanalysis 2009, July 26-30, 2009, Richmond, VA, p1110-1111.

94. "Influence of Environment on Wear of Al-Si Alloys", I. Baker, Y. Sun, A.T. Dohner, F.E. Kennedy and P.R. Munroe, Proceedings of Microscopy & Microanalysis 2009, July 26-30, 2009, Richmond, VA, p1068-1069.

95. "Microstructure and Mechanical Behavior in Spinodal $Fe_{35}Ni_{15}Mn_{25}Al_{25}$ Alloy" X. Wu, I. Baker, M.K. Miller and K.L. More, Proceedings of Microscopy & Microanalysis 2009, July 26-30, 2009, Richmond, VA, p116-117.

96. "Microtomography versus Optical Microscopy in the Examination of Interior Features in Ice", R.W. Obbard, I. Baker and G. Troderman, Proceedings of Microscopy & Microanalysis 2009, July 26-30, 2009, Richmond, VA, p728-729.

97. "*In-situ* Observations of Snow Sublimation using Scanning Electron Microscopy", S. Chen and I. Baker, proceeding of the 66th Annual Eastern Snow Conference, 9–11th June 2009, Niagara-on-the Lake, Ontario, Canada, p5-9. (*Weisnet Medal for Best Student Paper*)

98. "An Overview of the Microstructures of High-Strength Two-Phase Near-Equiatomic FeNiMnAl Alloys", I. Baker, Y. Liao, X. Wu, H. Wu, M.K. Miller, K.F. Russell and P.R. Munroe, Proc 139th Annual Meeting & Exhibition, Supplemental Proceedings, Volume 3, General Paper Selections 2010.

99. "A Microstructural Study of Wear Mechanisms in Nanocrystalline Metals", I. Baker, M.T. Gwaze, Y. Sun, F.E. Kennedy, A. Grosse and P.R. Munroe, Proceedings of NSF CMMI Engineering Research and Innovation Conference 2011, Atlanta, GA, January 4-7th, 2011.

100. "Development of novel magnetic nanoparticles for hyperthermia cancer therapy", Shiraz M. Cassim, Andrew J. Giustini, Ian Baker and P. Jack Hoopes, *Proc. SPIE* 7901, Energy-based Treatment of Tissue and Assessment VI, 790115 (2011), http://dx.doi.org/10.1117/12.876514.

101. "Microemulsion Synthesis of Iron Core/Iron Oxide Shell Magnetic Nanoparticles and Their Physicochemical Properties", Katsiaryna Kekalo, Katherine Koo, Evan Zeitchick and Ian Baker. (2012) MRS Proceedings, 1416, mrsf11-1416-jj05-54 http://dx.doi.org/10.1557/opl.2012.736.

102. "Micro CT and a SEM Observation of the Structural Evolution of Ice Sphere Arrays under a Temperature Gradient", S. Chen and I. Baker, Proceedings of Microscopy & Microanalysis 2012, Phoenix, AZ., July 29th-Aug. 3rd.

103. "An Overview of Dry Sliding Wear of Two FeNiMnAl Alloys", X. Wu, F. Meng, I. Baker and P.R. Munroe, MRS Proceedings, **1516** (2013). DOI: http://dx.doi.org/10.1557/opl.2012.1681.

104. "The Mechanical Properties of Near-equiatomic B2/f.c.c. FeNiMnAl Alloys", X. Wu, I. Baker, H Wu and P.R. Munroe, MRS Proceedings, **1516** (2013). DOI: http://dx.doi.org/10.1557/opl.2012.1751

105. "Understanding mNP hyperthermia for cancer treatment at the cellular scale", Robert V. Stigliano, Fridon Shubitidze, Katsiaryna Kekalo, Ian Baker, Andrew J. Giustini and P. Jack Hoopes, *Proc. SPIE* 8584, Energy-based Treatment of Tissue and Assessment VII, 85840E (2013); doi:10.1117/12.2007518

106. "Dislocations in B2/$L2_1$ $Fe_{30}Ni_{20}Mn_{20}Al_{30}$ after High Temperature Deformation", X. Wu and I. Baker, Proceedings of Microscopy and Microanalysis, Indianapolis, IN, 4-8th, 2013.

107. "Characterization of Melt Layers in Firn at Summit, Greenland using Micro CT", R. W. Lomonaco and I. Baker, Proceedings of Microscopy and Microanalysis, Indianapolis, IN, 4-8th, 2013.

108. "Laboratory Investigation on the Thermo-physical Properties of the Ice-Snow Interface while Under a Controlled Temperature Gradient", Kevin Hammonds, Ross Lieb-Lappen, Zoe Courville, Arnold Song, Xuan Wang and Ian Baker, Proceedings of the International Snow Science Workshop (ISSW), Sept. 29th – Oct. 3rd, (2014), Banff, Alberta, Canada, 35-42.

109. "Sintering of Ice Spheres under Different Thermal Conditions", Xuan Wang and Ian Baker, Proceedings of Microscopy and Microanalysis, Portland, OR, August 2-6, 2015.

110. "Creep Failure of a Gamma Prime-Strengthened Alumina-forming Austenitic Stainless Steel", B. Hu, I. Baker, S.J. Kernion, Y. Yamamoto and M.P. Brady, Proceedings of the Eighth International Conference on Advances in Materials Technology for Fossil Power Plants, Algarve, Portugal, October 10-14, 2016, P295-303.

OTHER ARTICLES

1. "Direct Measurement of Superlattice Dislocation Separations in Ni_3Al", J.A. Horton and I. Baker, Energy Conservation and Utilization of Technologies Quarterly, September 1986, 252-254.
2. "Improving Intermetallic Ductility and Toughness", I. Baker and P.R. Munroe, J. Metals **40** (1988) 28-31.
3. "Structural Intermetallic Compounds", P.R. Munroe and I. Baker, Metals and Materials, **4** (1988) 435-438.
4. "Metals pass the endurance test", I. Baker, New Scientist, 30th May (1992) 34-38.

5. "Intermetallic Compounds: An Update", I. Baker and E.P. George, Metals and Materials, **8** (1992) 318-323.
6. "Synchrotron X-ray Topographic Studies of Dislocations in Polycrystalline Ice", I. Baker, F. Liu, K. Jia, X. Hu and M. Dudley, Antarctic Journal: Review 1995, **30**(5) (1997) 75-76.
7. "Impurities in Greenland Ice", D. Cullen, L. Torrey and I. Baker, Engineering Research Review, Thayer School of Engineering, July 1999 –June 2000, 12-19.
8. "Introduction" to the special issue on Advanced Techniques for the Characterization of Ice and Snow in Microscopy Research and Technique, **62** (2003) 1.
9. "Physics, Chemistry. Nanotechnology and the Ice Archive of Climate", I. Baker and M.R. Albert, EOS, **9** (27) July 2008.
10. "Preface to the 13th Physics and Chemistry of Ice Conference (PCI-2014)", R.W. Obbard and I Baker, Journal of Physical Chemistry B, **118** (47) (2014) 13323-13323.
11. "Editorial to Special Issue on "Manganese-based Permanent Magnets", Metals, **5** (2015) 1435-1436.

INVITED PRESENTATIONS (* indicates presenter other than I. Baker)

1. "Structure and Properties of Rapidly Solidified Intermetallic Compounds", I. Baker*, E.M. Schulson and N.S. Stoloff, Symposium on "Mechanical Behavior of Rapidly Solidified Materials", AIME Annual Meeting, New York, NY, February 24-28, 1985.
2. "The Role of Boron in Improving the Ductility of Ni_3Al", I. Baker, Univ. Surrey, U.K., April 1987.
3. "The Role of Boron in Improving the Ductility of Ni_3Al", I. Baker, Johns Hopkins Univ., April 1987.
4. "The Role of Boron in Improving the Ductility of Ni_3Al", I. Baker, University of Wisconsin – Madison, April 1987.
5. "The Role of Boron in Improving the Ductility of Ni_3Al", I. Baker, Massachusetts Institute of Technology, April 1987.
6. "The Role of Boron in Improving the Ductility of Ni_3Al", I. Baker, State University of New York - Stony Brook, May 1987.
7. "The Role of Boron in Improving the Ductility of Ni_3Al", I. Baker, University of California - Los Angeles, May 1987.
8. "The Role of Boron in Improving the Ductility of Ni_3Al", I. Baker, Arizona State Univ., May 1987.
9. "The Strength and Ductility of Intermetallic Compounds: Grain Size Effects", E.M. Schulson*, I. Baker and H.J. Frost, High Temperature Ordered Intermetallic Alloys II Symposium, Materials Research Society meeting, Boston, MA, Dec 2-4, 1986.
10. "Dislocation Structures in B2 Ordered Alloys", I. Baker, 47th meeting of the Electron Microscopy Society of America, San Antonio, TX, 6-11 August 1989.
11. "Properties of B2 Compounds", I. Baker* and P.R. Munroe, Symposium on "High Temperature Aluminides and Intermetallics", The Metallurgical Society meeting, Indianapolis, IN, October 1-5, 1989. (**PLENARY SPEAKER**)
12. "Heat Treatment and Processing of Nickel Aluminides", I. Baker, ASM Symposium on Heat Treatment and Annealing of Ordered Alloys, Detroit, MI, Oct. 1990.

13. “The Role of Boron in Improving the Ductility of Ni_3Al”, I. Baker, Oregon Graduate Institute, Beaverton, OR, April 1990.
14. “Improving the Ductility of Intermetallic Compounds”, I. Baker, United Technologies Research Center, East Hartford, Conn., May 1990.
15. “Improving the Ductility of Intermetallic Compounds”, I. Baker, Sherritt-Gordon Ltd., Fort Saskatchewan, AL, Canada, Nov. 1990.
16. "Examination of Grain Boundary Structure and Chemistry in Ordered Alloys", I. Baker, Symposium on "Structure/Property Relationships for Interfaces", ASM Materials Week/TMS Fall Meeting, Detroit, MI, October 8-11, 1990.
17. "The Brittle to Ductile Transition and Slip Transmission Across Grain Boundaries in $L1_2$ Intermetallic Compounds", E.M. Schulson and I. Baker, NATO Advanced Workshop on Ordered Intermetallics - Physical Metallurgy and Mechanical Behavior, Irsee, Germany, June 23-28, 1991.
18. “Mechanical Properties of FeAl”, I. Baker, Oak Ridge National Laboratory, March 1992.
19. “Mechanical Properties of FeAl”, I. Baker, Monash University, Australia, Sept. 1992.
20. “Mechanical Properties of FeAl”, I. Baker, University of Auckland, New Zealand, Sept. 1992.
21. “Improving the Ductility of Intermetallic Compounds”, I. Baker, Rolls Royce PLC, Derby, U.K., Oct. 1992.
22. “Mechanical Properties of FeAl”, I. Baker, University of Sheffield, Sheffield, U.K., Oct. 1992.
23. “Improving the Ductility of Intermetallic Compounds”, I. Baker, University of Pittsburgh, Oct. 1992.
24. "Formation of Ni_3Si", I. Baker*, J. Yuan and E.M. Schulson, Fall ASM Meeting, Chicago, November 1992.
25. "Processing of Iron and Nickel Aluminides via Hot Extrusion", I. Baker and P. Nagpal, Symposium on Processing and Fabrication of Advanced Materials for High Temperature Applications – II, TMS Materials Week meeting, Chicago, Il, November 1-5, 1992.
26. "Synchrotron X-ray Topography of Ice", I. Baker, U.S. Army Cold Regions Research and Engineering Laboratories, Hanover, NH, 1994.
27. "The Effect of Hydrogen on the Production of Nanocrystalline Materials By Ball-Milling", I. Baker, R. Yi, F. Liu and J. Shu, Annual TMS Meeting, San Francisco, CA, March, 1994.
28. "Flow and Fracture of FeAl", I. Baker, Symposium on "Processing, Properties and Applications of Iron Aluminides, Annual Meeting of TMS, San Francisco, CA, February 27-March 3, 1994.
29. "Flow and Fracture of FeAl", I. Baker, Workshop on Constitutive Modelling of Intermetallics, Los Alamos National Laboratory, Los Alamos, NM, August 1994.
30. "On In-Situ Study of Dislocation/Grain Boundary Interactions Using X-ray Topography and TEM", I. Baker and F. Liu, Symposium on Defect-Interface Interactions, Material Research Society Meeting, November 29 – December 2, 1993.
31. "The Flow and Fracture of FeAl", I. Baker, Plasticité 95, Marseille, France, June 19-21, 1995.
32. "Synchrotron X-Ray Topography of Ice", I. Baker, Laboratoire de Thermodynamique et de Physico-Chemie Métallurgiques, CNRS, Grenoble, June 1995.
33. "Flow and Fracture of FeAl", I. Baker, Laboratoire de Glaciologie et Geophysique de l'Environnement, CNRS, Grenoble, June 1995.

34. "Synchrotron X-Ray Topography of Ice", I. Baker, U.S. Army Cold Regions Research and Engineering Laboratories, September 1995.
35. "A New Model for the Anomalous Temperature Dependence of the Yield Strength of FeAl", E.P. George and I. Baker, Fall TMS meeting, Cleveland, OH, Oct. 29 - Nov. 2, 1995.
36. "Modelling and Experiments Related to a New Explanation for the Strength Anomaly in FeAl", E.P. George, I. Baker, R. Carleton and R.H. Zee, Fall TMS meeting, Cleveland, OH, Oct. 29 - Nov. 2, 1995.
37. "The Flow and Fracture of FeAl", I. Baker, Plasticité 95, Marseille, France, June 19-21, 1995.
38. "Flow and Fracture of FeAl", I. Baker, University of Vermont, March 1996.
39. "An Overview of Environmental Effects in Iron Aluminides", X. Pierron and I. Baker, Symposium on "Design Fundamentals of High Temperature Composites, Intermetallics and metal-Ceramic Systems", Annual TMS Meeting, Anaheim, CA, February 4-8, 1996.
40. "Deformation and Fracture of B2 Compounds", I. Baker, Symposium on "Deformation and Fracture of Ordered Intermetallic Materials", Materials Week '96, Cincinnati, OH, October 6-10, 1996.
41. "Aluminides: Processing Properties and the Mechanical Properties of FeAl", I. Baker and E.P. George, International Symposium on Nickel and Iron Aluminides: Processing, Properties and Applications, Materials Week '96, Cincinnati, OH, October 7-9, 1996.
42. "Dislocations in Ice", University of Wisconsin-Madison, 1996.
43. "Mechanical Properties of FeAl", I. Baker, DOE Workshop on Intermetallics, Atlanta, June 3rd-4th, 1996.
44. "An Overview of the Mechanical Properties of FeAl", I. Baker and E.P. George, Fall TMS meeting, Cincinnati, OH, Oct., 1996.
45. "The Mechanical Properties of FeAl", I. Baker, University of Tennessee, 1997.
46. "The Mechanical Properties of FeAl", I. Baker, General Electric Corporate R&D Center, 1997.
47. "Dislocations in Ice", I. Baker, Oak Ridge National Laboratory, 1997.
48. "Dislocations in Ice", I. Baker, Rensselaer Polytechnic Institute, 1997.
49. "Dislocations in Ice", I. Baker, University of Sydney, Australia, 1997.
50. "Brittle Fracture in B2 Compounds", P.R. Munroe and I. Baker, George R. Irwin Symposium on Cleavage Fracture, Annual, TMS Meeting, Indianapolis, Indiana, September 15-17, 1997.
51. "The Mechanical Behavior of FeAl", I. Baker, Annual TMS Meeting, San Antonio, TX, February, 1998.
52. "The Mechanical Properties of FeAl", I. Baker, Brown University", September 1998.
53. "Dislocations in Ice", I. Baker, University of New Hampshire, February 1999.
54. "Recovery, Recrystallization and Grain Growth in Ordered Alloys", I. Baker, International Symposium on "Intermetallics for the Third Millenium", Fall ASM meeting, Cincinnati, OH, Nov. 1-4, 1999.
55. "The Mechanical Behavior of FeAl", I. Baker and E.P. George, Symposium on "High Temperature Ordered Intermetallic Alloys VIII", Material Research Society Meeting, Boston, MA, November 30 – December 3, 1998.
56. "The Yield Strength Anomaly in FeAl", E.P. George and I. Baker, International Symposium on "Intermetallics for the Third Millenium", Fall ASM meeting, Cincinnati, OH, Nov. 1-4, 1999.

57. "Advanced Intermetallic Alloys", I. Baker, Materials Technology 99, University of Waterloo, Waterloo, Ontario, November 10th, 1999.

58. "The Effects of Sufuric Acid on the Mechanical Properties of Ice Single Crystals", I. Baker, ARO P.I.'s Workshop, CRREL, Hanover, NH, 16-17th February 2000.

59. "Dislocations in Ice", I. Baker, International Union of Theoretical and Applied Mechanics Symposium on Scaling Laws in Ice Mechanics and Ice Dynamics, Fairbanks, AK, 13-16th June, 2000.

60. "Studies of Natural and Artificial Ice", I. Baker, Johns Hopkins University, February 14th, 2001.

61. "Dislocations in Ice", I. Baker, 13th American Conference on Crystal Growth and Epitaxy, Burlington, Vt, August 12th - 16th, 2001.

62. "Effects of Stoichiometry on the Flow and Fracture of FeAl", E. P. George and I. Baker, presented at the United Engineering Foundation Conference on Non-Stoichiometric Ceramics and Intermetallics, Barga, Italy, September 30th – October 5th, 2001.

63. "Studies of Natural and Artificial Ice", I. Baker, Northeastern University, Oct. 26th, 2001.

64. "Some Unusual Aspects of the Mechanical Properties of Iron Aluminum", I. Baker, National Institute of Standards and Technologies, May 30th, 2002.

65. "Yield Strength Anomaly in FeAl Single Crystals", D. Wu, E. P. George* and I. Baker, 2002 Annual TMS meeting, Seattle, WA, February 17th -21st, 2002.

66. "Studies of Natural and Artificial Ice", I. Baker, McGill University, Nov. 26th, 2002.

67. "Some Unusual Aspects of the Deformation of FeAl", I. Baker, University of Connecticut, February 14th, 2003.

68. "Some Unusual Aspects of The Mechanical Behavior of FeAl", I. Baker, Plasticity 2003, Quebec City, Quebec, Canada, July 7-11, 2003.

69. "Techniques for the Microstructural Characterization of Natural Ice", I. Baker, D. Iliescu, R. Obbard, H. Chang, D. Cullen, B. Bostick and C.P. Daghlian, ARO Workshop on Cold Regions Science and Engineering Grantees Workshop, USA-CRREL, Hanover, NH, January 18th, 2005.

70. "The Structure and Properties of River and Lake Ice", D. Iliescu and I. Baker, ARO Workshop on Cold Regions Science and Engineering Grantees Workshop, USA-CRREL, Hanover, NH, January 18th, 2005.

71. "Magnetic Hyperthermia for Cancer Treatment", I. Baker, Norris Cotton Cancer Center, DHMC (2005).

72. "Studies of Natural and Artificial Ice", I. Baker, University of Tennessee, February 2006.

73. "Strain-Induced Ferromagnetism in Intermetallic Compounds", I. Baker, Oak Ridge National Laboratory, February 2006.

74. "Microstructural Characterization of Ice", I. Baker, U.S. Army Cold Regions Research and Engineering Laboratories, October 13th, 2006.

75. "Iron Oxide Particles for Magnetic Hyperthermia", I. Baker, 7th Annual Dartmouth Nanomaterials Symposium, Dartmouth College, October 28th, 2006.

76. "Studies of Natural and Artificial Ice", I. Baker, Harvey Mudd College, February 7th, 2007.

77. "Microstructural Characterization of Snow Firn using SEM/EDS/EBSP", I. Baker, R. Obbard, D. Iliescu and D. Meese, 2007 Annual TMS meeting, Orlando, FL, Feb. 25th-March 1st, 2007.

78. "Advanced Electron Microscopy Techniques for Studying Firn and Ice Cores", I. Baker, R. Obbard, D. Iliescu, K. Sieg, D. Meese, M. Albert, Arctic Science Summit Week, Dartmouth College, Hanover, NH, March 14th - 20th, 2007.

79. "Some Unusual Aspects of the Mechanical Behavior of FeAl", I. Baker, Central South University, Changsha, PRC, Oct. 11th, 2007.

80. "Directional Recrystallization Processing", I. Baker, Central South University, Changsha, PRC, 11th Oct., 2007.

81. "Synthesis and heating effect of iron/iron oxide composite and iron oxide nanoparticles", I. Baker, Q. Zeng, J. A. Loudis, P.J. Hoopes, J. Weaver, R.R. Strawbridge, Z.E. Pierce, J. Tate and J. Ogden, 2007 Virtual Conference on Nanoscale Science and Technology, Fayetteville, Arkansas, October 21-25, 2007.

82. "Synthesis and heating effect of iron/iron oxide composite and iron oxide nanoparticles", Q. Zeng*, I. Baker, J. A. Loudis, Y.F. Liao and P.J. Hoopes, SPIE Photonics West, San Jose, CA, January 20-25, 2007.

83. "Intratumoral Iron Oxide Nanoparticle Hyperthermia and Radiation Cancer Treatment", P.J. Hoopes*, R.R. Strawbridge, U. Gibson, Q. Zeng, Z. Pierce, I. Baker, R. Ivkov and A.R. Foreman, SPIE Photonics West, San Jose, CA, January 20-25, 2007.

84. "Directional Recrystallization Processing", I. Baker, Oak Ridge National Lab., January 14th, 2008.

85. "Advanced Microstructural Characterization of Firn", I. Baker, Workshop on the Microstructure and Properties of Firn, Dartmouth College, NH, March 10-11th, 2008.

86. "Magnetic Nanoparticle Heating for Hyperthermia Treatment", I. Baker, Q. Zeng, J. A. Loudis, P.J. Hoopes, J. Weaver, R.R. Strawbridge, Z.E. Pierce, J. Tate and J. Ogden, Materials Research Society meeting, San Francisco, CA, March 25-27th, 2008.

87. "Microstructure and Mechanical Properties of Novel Fe-Ni-Mn-Al Alloys", I. Baker, J. Loudis, Y. Liao and X. Wu, 7th International Workshop on Advanced Intermetallics and Metallic Materials, Harbin, PRC, May 18-23, 2008.

88. "Directional Recrystallization Processing", I. Baker, University of Science and Technology, Beijing, PRC, May 28th, 2008.

89. "Studies of Natural and Artificial Ice", I. Baker, British Antarctic Survey, Cambridge, U.K., August 14th, 2008.

90. "An Overview of the Properties of Iron Aluminides", I. Baker, 2008 Fall Materials Research Society meeting, Boston, MA, December 1-5, 2008.

91. "Studies of Natural and Artificial Ice", I. Baker, University of Sydney, Australia, April 28th, 2009.

92. "Strain-Induced ferromagnetism in Intermetallic Compounds", I. Baker, University of Sydney, Australia, April 30th, 2009.

93. "Studies of Natural and Artificial Ice", I. Baker, Australian Nuclear Science and Technology Organization, Australia, May 1st, 2009.

94. "Advanced Microstructural Characterization of Snow, Firn and Ice", I. Baker, IACS-IAMAS-IAPSO Joint Assembly, Montréal, Canada, 19-29 July, 2009.

95. "4-D structure of snow". Baker DOE workshop on Characterization of materials and damage in four dimensions, Annapolis, MD, 16-19August, 2009.

96. "Microstructure and mechanical behavior in spinodal FeNiMnAl alloys" X. Wu, I. Baker, K.L. More and M.K. Miller, Euromat 2009, September 7-10th, Glasgow, U.K.

97. "Microstructure and Mechanical Behavior in Spinodal FeNiMnAl Alloys", X. Wu, H. Wu, I. Baker, K. L. More and M. K. Miller, Materials Science and Technology 2009, Pittsburgh, PA, October 25- 29th, 2009.

98. "An Overview of the Properties of Iron Aluminides", I. Baker, Symposium on "Advanced Intermetallic-Based Alloys for Extreme Environment and Energy Applications", Materials Research Society meeting, Boston, MA, December, 2008.

99. "Microstructural Characterization of Snow and Firn", I. Baker, R.W. Obbard, S. Chen, R.W. Lomonaco, American Geophysical Union, Fall Meeting, 14-18 December, 2009.

100. "Dry Snow Metamorphism", ARO Contractors meeting, U.S. Army Cold Regions Research and Engineering Laboratories, February 9th, 2010.

101. "Nanotechnology and its Future Role in Medicine", I. Baker, Bionic Man and Super Woman - Medicine Changing Human Capabilities Seminar Series, DMS, May 5th, 2010.

102. "Microstructural Evolution and Mechanical Behavior of Ice and Snow", Gordon Conference on Transient and transitional behaviour in rock deformation: moving away from steady-state. August 8-13th, 2010, Tilton School, NH.

103. "Advanced Microstructural Characterization of Snow and Ice", I. Baker, R.W. Obbard, R. Lomonaco and M. Albert, presented at the 12th International Conference on the Physics and Chemistry of Ice, 5-10th September, 2010, Sapporo, Japan.

104. "Directional Recrystallization Processing", I. Baker, University of Science and Technology, Beijing, PRC, September15th, 2010.

105. "Structure/Property Relationships in High Strength Nanostructured FeNiMnAl Alloys", I. Baker and X. Wu, poster at the DOE Contractor's workshop, Washington, DC, 28th September- October 1st, 2010.

106. "Nanotechnology and its Future Role in Medicine", I. Baker, Bionic Man and Super Woman - Medicine Changing Human Capabilities Seminar Series, DMS Fall Seminar Series, October 6th, 2010, Manchester, NH.

107. "Microstructure and Mechanical Behavior of Ice and Snow, I. Baker, Columbia University, October 8th, 2010.

108. "Iron/Iron Oxide Core/Shell Nanoparticles for Magnetic Hyperthermia", I. Baker, S. Cassim, G. Zhang, Q. Zeng, Y. Liao, J. Weaver and J. Hoopes, Materials Science & Technology 2010, October 17-21, 2010, Houston, TX.

109. "Microstructure and Mechanical Behavior of Ice and Snow", I. Baker, University of Connecticut, November 2nd, 2010.

110. "Dartmouth Center for Cancer Nanotechnology Excellence: Magnetic Hyperthermia", Grand Rounds, Dartmouth Medical School, January 13th, 2011.

111. "Some Unusual Aspects of the deformation of FeAl", I. Baker, David Pope Honorary Symposium on Fundamentals of deformation and Fracture of Advanced Metallic Materials, 2011 TMS Annual Meeting, Feb. 27th - March 3rd, 2011, San Diego, CA.

112. "Microstructural Characterization of Snow, Firn and Ice", University of Tennnessee- Knoxville, March 29th, 2011.

113. "Dartmouth Center for Cancer Nanotechnology Excellence" K. Paulsen* and I. Baker presented at the Gordon Conference on Cancer Nanotechnology, Waterville, ME, July 17th-22nd, 2011.

114. "An Overview of the Mechanical and Physical Properties of Iron Aluminides", FeAl 2011, Lanzarote Island, Spain, October 5th-7th, 2011. (**PLENARY SPEAKER**)

115. "Iron/Iron Oxide Core/Shell Nanoparticles for Magnetic Hyperthermia Treatment", I. Baker and K. Kekalo, Symposium on Next Generation Biomaterials, Materials Science and Technology 2011, Columbus, OH, Oct. 16-20th, 2011.

116. "An Overview of Dry Sliding Wear of Two-Phase FeNiMnAl Alloys", I. Baker, 141st Annual TMS Annual Meeting, Orlando, FL, March 11-15th, 2012

117. "Iron/Iron Oxide Core/Shell Nanoparticles for Magnetic Hyperthermia Treatment", I. Baker and K. Kekalo, Materials Research Society Spring Meeting 2012, April 9-13, 2012.

118. "Dartmouth Center for Cancer Nanotechnology Excellence: Magnetic Hyperthermia", I. Baker, 2012 Norris Cotton Cancer Center Scientific Retreat, April 27-28th, 2012.

119. "Dartmouth Center for Cancer Nanotechnology Excellence: Magnetic Hyperthermia", I. Baker, Grand Rounds, Dartmouth Hitchcock Medical Center, May 15th, 2012.

120. "Dartmouth Center for Cancer Nanotechnology Excellence", I. Baker, Innovations in Biomedical Materials 2012, Raleigh, NC, September 10-13th.

121. "Microstructure and Mechanical Behavior of Ice and Snow", I. Baker, Laboratoire de Glaciologie et Géophysique de l'Environnement, Grenoble, France, October 8th, 2012.

122. "Deformation of Nanostructured Two-Phase B2/$L2_1$ FeNiMnAl Alloys", I. Baker, DOE P.I. meeting, Washington, DC, March 25-27th, 2013.

123. "Microstructure and Mechanical Behavior of Two-Phase Near-Equiatomic FeNiMnAl Alloys", I. Baker*, X. Wu, M. K. Miller, K. L. More, P.R. Munroe, Z. Cai and S. Chen, Materials Science and Technology, Oct. 27-31, 2013, Montreal, Canada.

124. "A new type of magnetic nanoparticles with high SAR", K. Kekalo* and I. Baker, Fall Materials Research Society meeting, Boston, MA, December 1-6, 2013.

125. "An Overview of the Microstructures and Mechanical Properties of FeNiMnAl Alloys" Ian Baker, Xiaolan Wu, Fanling Meng and Paul R. Munroe, Thermec 2013, Las Vegas, December 2nd-6th, 2013.

126. "Dartmouth Center for Cancer Nanotechnology Excellence", I. Baker, Stanford School of Medicine Department of Radiology, December 12th, 2013.

127. "An Overview of the Microstructures and Mechanical Properties of FeNiMnAl Alloys", University of Vermont, January 17th, 2014.

128. "Dartmouth Center for Cancer Nanotechnology Excellence", I. Baker, University of Oxford, February 5th, 2014.

129. "Microstructures and Mechanical Properties of Novel Two-Phase FeNiMnAl Alloys", I. Baker, International Workshop on Compositionally Complex Alloys (CCAlloys-2014), Munich, Germany July 16th-18th, 2014.

130. "Dartmouth Center for Cancer Nanotechnology Excellence", I. Baker, Annual NCI Alliance for Nanotechnology in Cancer Investigators' Meeting, October 1-3, 2014, Rockville, MD.

131. "Overview of the Microstructures and Mechanical Properties of Intermetallic-based FeNiMnAl Alloys", Ian Baker, Materials Science & Technology 2014, Pittsburgh, PA, October 12-16, 2014.

132. "Microstructures and Mechanical Properties of FeNiMnAl Alloys", Ian Baker, CMSE2104, The 3rd Global Conference on Materials and Engineering, October 20-23rd, 2014, Shanghai, PRC.

133. "Microstructures and Mechanical Properties of Novel FeNiMnAl Alloys", Ian Baker, Texas A & M University, November 10th, 2014.

134. "*In Situ* Micro CT Snow Metamorphism Studies", Meteo-France CNRS/CEN (Snow Research, Center), November 14th, 2014.

135. "Microstructures and Mechanical Behavior of near-equiatomic FeNiMnAl Alloys", 1st International Workshop on Microstructures and Mechanical Behavior of High-entropy Alloys, Guiyang City, PRC, December 14-18th, 2014.

136. "Microstructures and Mechanical Properties of FeNiMnAl Alloys", Ian Baker, Central South University, Changsha, PRC, June 23rd, 2015

137. "Characterization of Snow, Firn and Ice", Ian Baker, Harbin Engineering University, Harbin, PRC, June 26th, 2015

138. "Microstructure and Mechanical Behavior of Ice and Snow", Ian Baker Gordon Research Conference on High Temperature Corrosion, Colby-Sawyer College, New London, NH, 26th-31st July, 2015.

139. "The Effects of Cold Rolling and Recrystallization on the Mechanical Properties of Eutectic FeNiMnAl Alloys", Ian Baker*, Margaret Wu, and Fanling Meng, Advances in Materials and Processing Technologies (AMPT), Madrid, Spain, Dec 14-17, 2015. (**KEYNOTE**)

140. "Microstructures and Mechanical Properties of FeNiMnAl Alloys", University of Florida, December 8th, 2015.

141. "Precipitation Dynamics and the Role of Microstructural Changes in the Development of Alumina-Forming Austenitic Stainless Steels", G. Trotter* and I. Baker, 2016 Annual TMS meeting, Nashville, TN, Feb. 14 – 18, 2016.

142. "Solute Effects in High-Entropy FeNiMnAlCr Alloys", Z. Wang and I. Baker*, 2016 Annual TMS meeting, Nashville, TN, Feb. 14 – 18, 2016.

143. "Microstructural Evolution and Mechanical Properties of High-Entropy FeNiMnAl Alloys" International Workshop on Advanced Materials 2016, Yangzhou, P.R.China, March 27-30, 2016.

144. "Microstructures and Mechanical Behavior of FeNiMnAl Alloys", Nanjing Institute of Technology, Nanjing, PRC, March 31, 2016.

145. "Microstructural Characterization of FeNiMnAl Alloys", Eastern NY ASM Spring Symposium, GE Global Research, Niskayuna, NY (April 19-20, 2016) (**KEYNOTE**)

146. "Microstructures and Mechanical Behavior of FeNiMnAl Alloys", University of New Hampshire, April 21st, 2016.

147. "Microstructural Evolution and Mechanical Properties of FeNiMnAl Alloys" XXI Physical Metallurgy and Materials Science Conference Advanced Materials and Technologies AMT, Rawa Mazowiecka, Poland 2016, 5-8 June 2016. (**KEYNOTE**)

148. "Microstructures and Mechanical Behavior of FeNiMnAl Alloys" Max Planck Institute fur Eisenforschung, Dusseldorf, Germany, October 7th, 2016.

149. "Utilizing Interstitial Strengthening in High-Entropy FeNiMnAlCr Alloys ", 1st International Conference on High-Entropy Materials (ICHEM 2016), Hsinchu, Taiwan, November 6-10, 2016.

150. "FeNiMnAl Alloys" Symposium on Intermetallics - from Fundamentals to Applications, Materials Research Society meeting, Boston, MA, 27 Nov. – 1 Dec., 2016.

151. "Microstructural Evolution and Mechanical Properties of High-Strength FeNiMnAlCr Multicomponent Alloys" University of California, Santa Barbara, CA, February 6th, 2017.

152. "Designing a High Entropy, High Strength Stainless Steel", Frontiers in Materials Processing Applications, Research and Technology (FIMPART'17), Bordeaux, France, July 9-12th, 2017.

153. "Microstructure and Mechanical Behavior of Ice and Snow", University of Otago, Dunedin, New Zealand, July 21st, 2017.

154. "The Microstructure and Mechanical Properties of Alumina-Forming Austenitic Stainless Steels", University of Canterbury, Christchurch, NZ, July 24th, 2017.

155. "Magnetic Hyperthermia for Cancer Treatment" University of Otago, Dunedin, New Zealand, July 27th, 2017.

156. "Mechanical Properties of Ductile Lamellar FeNiMnAl(Cr,Ti) High-Entropy Alloys" I. Baker, M. Wu, Z. Wang, F. Meng, XXVI International Materials Research Congress (IMRC) 2017, Cancun, Mexico, August 20-25, 2017.

157. "Processing of τ-MnAl", International Conference on Magnetism and Magnetic Materials, London, U.K., 9-10 October, 2017. (**KEYNOTE**)

158. "Characterization of Snow, Firn and Ice", Climate Change Institute University of Maine, Orono, ME, October 3rd, 2017.

159. "Microstructural Characterization of Snow, Firn and Ice", International Conference on the Physics and Chemistry of Ice, Zurich, Switzerland, 7 - 12 January, 2018.

160. "Microstructural Characterization of Snow, Firn and Ice", University of Washington, 1st February, 2018.

161. "Strain-Induced Ferromagnetism in Intermetallic Compounds", Cornell University, March 23rd, 2018.

162. "Designing Low-Cost, High Strength, Ductile, High Entropy, Stainless Steels", THERMEC'2018 International Conference on Processing and Manufacturing of Advanced Materials: Processing, Fabrication, Properties, Applications, July 8-13, 2018, Paris, France.

163. "Strain-Induced Ferromagnetism in Intermetallic Compounds", 5th International Conference on Materials Science and Smart Materials "MSSM 2018", Glasgow, United Kingdom, 7-11 August, 2018. (**KEYNOTE**)

164. "APB tubes in intermetallic compounds", Gordon Research Conference on Structural Nanomaterials, The Hong Kong University of Science and Technology, Hong Kong, China, 12-17 August , 2018.

165. "Microstructure and Magnetic Properties of τ-MnAl", Symposium on Intermetallics - from Fundamentals to Applications, Materials Research Society meeting, Boston, MA, 27 Nov. – 1 Dec., 2018.

166. "Engineering New Materials for the Future", Museum of the Rockies, Bozeman, Montana, September 18, 2019.

167. "Microstructural Characterization of Snow, Firn and Ice", University of Montana, Bozeman, MT, September 20, 2019.

168. "Electro-pulse and High Magnetic Field Annealing of Cold-Rolled NiFe", Ian Baker, Patrice Chantrenne, Si Chen, Damien Fabrègue, Xiaobin Guo, Nour B. Hayek, Gerard M. Ludtka, Bart Murphy, Rachel Osmundsen, Yang Ren, Ty Teodori, Liang Wang and Chao Yang, Materials Science and Technology 2019, Portland, OR, Sept 29-Oct 3, 2019.

169. "Designing Low-Cost, High Strength, Ductile, High Entropy, Stainless Steels", Lehigh University, Bethlehem, Pa, November 1st, 2019

170. "The Microstructure and Mechanical Behavior of the Alumina-Forming Austenitic Stainless Steel Fe-20Cr-30Ni-2Nb-5Al", The 8th Global Conference on Materials Science and Engineering (CMSE2019) Sanya City, China, 12-15 November, 2019. (**KEYNOTE**)

171. "Characterization of Snow, Firn and Ice", Meteo-France CNRS, CEN (Snow Research Center), Grenoble, December 17th, 2019.

172. "Flow and Fracture of FeAl", International Conference on Plasticity, Damage, and Fracture 2020 (ICPDF 2020), Rivera Maya, Mexico, Jan. 3-9, 2020.

173. "Directional Recrystallization Processing", Symposium on "Purveyors of Processing Science and ICME: A SMD Symposium to Honor the Many Contributions of Taylan Altan, Wei Tsu Wu, Soo-Ik Oh, and Lee Semiatin", 2020 TMS Annual Meeting, San Diego, CA, February 23-27th, 2020.

174. "An Overview of the Dry Sliding Wear of FeMnNiAl(Cr) Multi-Principal Component Alloys" to be presented at THERMEC'2020, Vienna, Austria, May 31st - June 5th, 2020.

UNPUBLISHED CONFERENCE PRESENTATIONS (* indicates presenter)

1. "The Structure of Rapidly Solidified Powders of Ni_3Al + B + Ti", I. Baker*, F. Ichishita and E.M. Schulson, Fall TMS Meeting, Philadelphia, PA, October 1983.

2. "The Microstructure of Extruded NiAl", I. Baker* and E.M. Schulson, Fall TMS Meeting, Philadelphia, PA, October 1983.

3. "The Effect of Temperature on Dislocation Structures in Polycrystalline Ni_3Al", I. Baker* and E.M. Schulson, Fall TMS Meeting, Phoenix, September 1984.

4. "The Effects of Grain Size on the Strength and Ductility of NiAl and Ni_3Al + Boron", D.V. Viens, T.P. Weihs, I. Baker and E.M. Schulson*, Fall TMS Meeting, Phoenix, September 1984,

5. "Grain Boundary Accommodation of Slip in Ni_3Al with Boron", T.P. Weihs, E.M. Schulson*, H.J. Frost, I. Baker and J.A. Horton, Annual TMS Meeting, New Orleans, LA, March 1986.

6. "In-Situ Straining of Ni_3Al in the TEM", I. Baker*, E.M. Schulson and J.A. Horton, Annual TMS Meeting, New Orleans, LA, March 1986.

7. "The Effect of Boron Additions on the Lattice Resistance of Polycrystalline Ni_3Al", I. Baker*, B. Huang and E.M. Schulson, Annual TMS Meeting, Denver, CO, Feb. 1987.

8. "The Effect of Temperature on the Tensile Behavior of FeAl Alloys", I. Baker* and D.J. Gaydosh, Annual TMS Meeting, Denver, CO, February 1987.

9. "Superlattice Dislocation Structures in Ordered Intermetallic Alloys", J.A. Horton*, P. Veyssière, I. Baker and M.H. Yoo, TMS Annual Meeting, Phoenix, January 1988.

10. "The Microstructure of Extruded Fe - 51 at. % Al", P.R. Munroe* and I. Baker, Annual TMS Meeting, Las Vegas, NV, February 1989.

11. "Some Unusual Aspects of the Deformation of B2 Alloys", I. Baker*, Swiss Materials Workshop on Current Topics on Intermetallics for Structural Applications, Neuchatel, Switzerland, March 1989.

12. "Grain Boundary Slip Accommodation and Ductility of Ni_3Al and Ni_3Si", E.M. Schulson*, Y. Xu, L.J. Briggs and I. Baker, Fall TMS Meeting, Cincinnati, OH, October 1989.

13. "Non - Conservative Loop Generation in Deformed Ni_3Al", J.R. Horton*, M.H. Yoo and I. Baker, Fall TMS Meeting, Cincinnati, OH, October 1989.

14. "Effect of Grain Size on Yield Strength and Fracture Mode of B2 NiAl and FeAl", P. Nagpal*, F. Liu and I. Baker, TMS Annual meeting, Anaheim, CA, Feb. 1990.

15. "Elevated Temperature Mechanical Behavior of Ni-20Al-30Fe", S. Guha*, P.R. Munroe and I. Baker, TMS Annual meeting, Anaheim, CA, February 1990.
16. "Effect of Cooling Rate on Hardness of FeAl and NiAl", P. Nagpal* and I. Baker, TMS Annual meeting, Anaheim, CA, February 1990.
17. "Improving the Room Temperature Ductility of NiAl-based Alloys", S. Guha*, P.R. Munroe and I. Baker, TMS Annual meeting, Anaheim, CA, Feb. 1990.
18. "Failure of Gold-Aluminum Bonds", I. Baker*, Workshop on Application of Fracture Mechanics to Microscale Structures of Modern Electronics, El Segundo, 15th May 1990.
19. "Observation of <001> Dislocations in B2-Structured FeAl", P.R. Munroe and I. Baker*, TMS Fall meeting, Detroit, MI Oct. 1990.
20. "Synchrotron X - Ray Topography of Polycrystalline Ice", F. Liu*, I. Baker, G. Yao and M. Dudley, 1992 Annual American Geophysical Union Meeting, Montreal, Canada, May 11-15th 1992.
21. "Synchrotron X - Ray Topography of Dislocation/Grain Boundary Interactions in Polycrystalline Ice", I. Baker*, F. Liu, and M. Dudley, Spring MRS Meeting, San Francisco, April 12-15,1993.
22. "Production and Properties of Two-Phase Nanocrystalline Materials, I. Baker*, F. Liu, H. Xiao, J. Toomey and J. Shu, Fall TMS Meeting, Pittsburgh, Pa, October 18-21,1993.
23. "Stored Energies and Recrystallization Kinetics of Copper and Nickel Single Crystals and Polycrystals", I. Baker* and L. Liu, Fall TMS Meeting, Pittsburgh, Pa, October 18-21,1993.
24. "Dynamic Observations of Grain Boundary/Dislocation Interactions in Ice", I. Baker*, F. Liu and M. Dudley, Fall TMS Meeting, Pittsburgh, Pa, October 18-21,1993.
25. "Stored Energies and Recrystallization Kinetics of Copper single Crystals with and without SiO_2 Particles", I. Baker*, L. Zhao and L. Liu, Annual TMS Meeting, San Francisco, CA, March, 1994.
26. "In-Situ Synchrotron X-ray Topography of Dislocation Motion in Single Crystal and Polycrystalline Ice", I. Baker*, F. Liu, K. Jia, X. Hu and M. Dudley, Annual TMS Meeting, San Francisco, CA, Feb. 28 - March 3, 1994.
27. "Synthesis and Characterization of Nanocrystalline Fe + Cu Compacts", F. Liu, I. Baker* and M. Damelin, Annual TMS Meeting, Las Vegas, NV, Feb. 12-16th, 1995.
28. "Stored Energies and Recrystallization Kinetics of Copper single Crystals with and without Fine SiO_2 Particles", I. Baker* and D. Mandal, Annual TMS Meeting, Las Vegas, NV, Feb. 12-16th, 1995.
29. "Synchrotron X-ray Topographic Studies of Plastic Deformation of Polycrystalline Ice", F. Liu, I. Baker*, X. Hu, M. Dudley and D. Black, Annual TMS Meeting, Las Vegas, NV, Feb. 12-16th, 1995.
30. "Effect of X-ray Radiation on Ice", X. Hu*, F. Liu, I. Baker and D. Black, Joint Applied Mechanics and Materials Program, ASME AMD-MD Summer conference, Los Angeles, CA, June 28-30, 1995.
31. "Dislocation/Grain Boundary Interactions in Ice Crystals under Creep Conditions", F. Liu, X. Hu*, K. Jia, I. Baker and M. Dudley, Joint Applied Mechanics and Materials Program, ASME AMD-MD Summer conference, Los Angeles, CA, June 28-30, 1995.
32. "The Effect of Boron on the Lattice Properties of FeAl", I. Baker*, X. Li, H. Xiao, R. Carlton and E.P. George, presented at the Fall TMS meeting, Cleveland, OH, Oct. 29 - Nov. 2, 1995.
33. "New Magnetic Phase Transitions in Ball-Milled Nanocrystalline Fe-Cu Alloys", R.D. Shull*, I. Baker and F. Liu, presented at the 40th Annual Conference on Magnetism and Magnetic Materials, Philadelphia, PA, Nov. 6-9, 1995.

34. "Modelling the Temperature Dependence of the Yield Strength of the B2 Compound FeAl", I. Baker* and E.P. George, presented at International Symposia on Advanced Materials and Technology for the 21st Century, 117th meeting of the Japanese Institute of Metals, 13-15th December, 1995, Honolulu, Hawaii.

35. "The Microstructure and Wear of Ductile-Phase (Fe) Toughened NiAl", I. Baker*, M. George, F.E. Kennedy and P.R. Munroe, presented at International Symposia on Advanced Materials and Technology for the 21st Century, The 117th meeting of the Japanese Institute of Metals, 13-15th December, 1995, Honolulu, Hawaii.

36. "Grain Boundary Structure and Chemistry in Ordered Alloys", E.P. George* and I. Baker, Symposium in honor of the Late David A. Smith, presented at the Fall TMS meeting, Indianapolis, IN, Sept. 15-17th, 1997.

37. "The Effect of Synchrotron Radiation on Plastic Deformation of II-VI semiconductors", V.F. Petrenko*, N. Khusnatdinov and I. Baker, Fall MRS Meeting, Boston, December 1-4,1997.

38. "Synchrotron X-ray Topographic Studies of Dislocations in Ice" I. Baker*, X. Hu, D. Cullen, X. Li, M. Dudley, and D. Black, Annual TMS Meeting, San Antonio, TX, February, 1998.

39. "Effects of Thermal Vacancies and Deviations from Stoichiometry on the Yield strength Anomaly of FeAl" E.P. George* and I. Baker, presented at the meeting on Nonstoichiometric Ceramics and Intermetallics, Kona, Hawaii, April 26-30, 1998.

40. "Thermomechanical Wear of Zirconia by Intermetallic Counterfaces", F.E. Kennedy*, D.A. Miller, and I. Baker, presented at the 1998 Annual Meeting of the Society of Tribologists and Lubrication Engineers, May 18-22, 1998, Detroit.

41. "Thermal vacancies and the Yield Anomaly of FeAl", E.P. George* and I. Baker, Kyoto Workshop on High-Temperature Intermetallics, Kyoto, Japan, May 11-13, 1998.

42. "On the Mechanism of Deformation-Induced Magnetic Transition in FeAl", Y. Yang, I. Baker* and P. Martin, Annual TMS meeting, San Diego, CA, March 1-5, 1999.

43. "The Mechanical Properties of Ice Single Crystals" Y. L. Trickett* and I. Baker, Eight Annual Midwest Glaciology Meeting, Boulder, CO, March 15-16, 1999.

44. "Synchrotron X-ray Topographic Observations of the Interactions of Dislocations with Grain Boundaries in Ice", I. Baker*, F. Liu, K.Jia, X. Hu, D. Cullen, D. Black and M. Dudley, American Geophysical Union Spring Meeting, May 31-June 4, 1999.

45. "The Mechanical Properties of Ice Single Crystals", I. Baker*, Y.L. Trickett and P.M.S. Pradhan, American Geophysical Union Spring Meeting, May 31-June 4, 1999.

46. "X-ray Topographic Observations of Dislocation/Grain Boundary Interactions in Ice", I. Baker*, F. Liu, K. Jia, X. Hu, D. Cullen and M. Dudley, poster at the International Symposium on the Verification of Cryospheric Models: bringing data and modeling scientists together, Zurich, Switzerland, 16-20 August, 1999.

47. "Deformation of Ice Single Crystals with and without H_2SO_4", I. Baker*, Y.L. Trickett and P.M.S. Pradhan, poster at the International Symposium on the Verification of Cryospheric Models: bringing data and modeling scientists together, Zurich, Switzerland, 16-20 Aug., 1999.

48. "The Effect of H_2SO_4 on the Stress Exponent in Ice Single Crystals", I. Baker*, Y.L. Trickett and P.M.S. Pradhan, International Conference on the Deformation of Glacial Materials, London, U.K., September 6-8, 1999.

49. "The Strength of High-Purity and Acid-Doped Ice Crystals", Y.L. Trickett P.M.S. Pradhan and I. Baker*, poster at the Fall TMS meeting, Cincinnati, OH, Oct 1-4, 1999.

50. "On the Yield Strength Anomaly in CoTi and CoHf", I. Baker*, M. Wittmann and P. Bove, Annual TMS meeting, Nashville, TN, 12-16 March, 2000.
51. "The Strain-Induced Paramagnetic to Ferromagnetic Transition in FeAl", I. Baker*, Y. Yang, D. Wu and P. Martin, Annual TMS meeting, Nashville, TN, 12-16 March, 2000.
52. "X-Ray Topographic Observations of Dislocation/Grain Boundary Interactions in Ice", I. Baker*, F. Liu, K. Jia, X. Hu, D. Cullen, M. Dudley and D. Black, Poster at the International Union of Theoretical and Applied Mechanics Symposium on Scaling Laws in Ice Mechanics and Ice Dynamics, Fairbanks, AK, 13-16 June, 2000.
53. "Deformation of Ice Single Crystals with and without H_2SO_4", I. Baker*, Y.L. Trickett, P.M.S. Pradhan and D. Cullen, Poster at International Union of Theoretical and Applied Mechanics Symposium on Scaling Laws in Ice Mechanics and Ice Dynamics, Fairbanks, AK, 13-16 June, 2000.
54. "On a Model for the Strain-Induced Paramagnetic to Ferromagnetic Transition in FeAl", D. Wu and I. Baker*, presented at the 5th International Conference on Structural and Functional Intermetallics, Vancouver, BC, 16-19 July, 2000.
55. "The Yield Strength Anomaly in the B2 Compound CoTi", M. Wittmann, P. Bove and I. Baker*, 5th International Conference on Structural and Functional Intermetallics, Vancouver, BC, 16-19 July, 2000.
56. "Mechanical Properties of Soft Magnetic FeCo Alloys", E. P. George*, A. N. Gubbi, and I. Baker, 5th International Conference on Structural and Functional Intermetallics, Vancouver, BC, 16-19 July, 2000.
57. "The effects of environment, vacancies, hydrogen charging and strain rate on the mechanical behavior of FeAl", I. Baker*, D. Wu, M. Wittmann, Y. Yang, S. O. Kruijver, and E.P. George, 5th International Conference on Structural and Functional Intermetallics, Vancouver, BC, 16-19 July, 2000.
58. "The Role of Edge and Screw Dislocations on Hydrogen Embrittlement of Fe-40Al". M. Wittmann, D. Wu, I. Baker*, E.P. George, and L. Heatherly, 12th International Conference on the Strength of Metals and Alloys, Monterey, CA, August 26th-September 1st, 2000.
59. "Directional Recrystallization Processing", A. Badmos*, I. Baker and H.J. Frost, Fall TMS meeting, St Louis, Mo, 8-12th, October, 2000.
60. "Directional Recrystallization of Cold-Rolled Copper Single Crystal", J. Li*, I. Baker and H.J. Frost, Fall TMS meeting, St Louis, Mo, 8-12 October, 2000.
61. "Impurities and Filaments in Greenland Ice", D. Cullen, I. Baker* and L. Torrey, Fall Materials Research Society meeting, Nov 26th – Dec 1st, 2000.
62. "The Microstructural Location of Impurities in Natural Ice", I. Baker*, D. Cullen and D. Iliescu, ARO Workshop on Snow and Ice, Hanover, NH, 5th-7th March, 2001.
63. "Impurities in Ice Cores", D. Cullen and I. Baker*, 31st Annual Arctic Workshop, University of Massachusetts - Amherst, MA, 22nd-24th March 2001.
64. "Microanalysis of Impurities in Ice from GISP2, Greenland and Byrd Station, Antarctica", D. Cullen and I. Baker*, poster at the 2001 Spring meeting of the American Geophysical Union, May 29th – June 2nd, Boston, MA.
65. "The Microstructural Location of Impurities in Ice Cores", D. Cullen, I. Baker*, presented at the International Symposium on Ice Cores and Climate, Kangerlussuaq, Greenland, 19th - 23rd August, 2001.

66. "Directional Annealing of Cold-Rolled Copper Single Crystals with and without SiO_2 particles, J. Li*, I. Baker and H.J. Frost, 2001 Fall TMS meeting, Indianapolis, IN, November 4th-8th, 2001.

67. "Simulation of Grain Growth during Directional Annealing, A. Badmos, I. Baker*, and H.J. Frost, poster at 2001 Fall TMS meeting, Indianapolis, IN, November 4th-8th, 2001.

68. "The Structure and Chemistry of 94 m GISP2 ice, D. Cullen and I. Baker*, poster at 2001 Fall TMS meeting, Indianapolis, IN, November 4th-8th, 2001.

69. "The Mechanical Behavior of the $L2_1$–structured Compounds Fe_2AlMn and Fe_2AlTi, I. Baker*, M. Wittmann, S.L. Johns, V.N. Durand and P.R. Munroe, 2002 Annual TMS meeting, Seattle, WA, February 17th -21st, 2002.

70. "Directional Annealing of Worked Alloys", I. Baker*, J. Li, S.L. Johns, B. Iliescu and H.J. Frost, 2002 Annual TMS meeting, Seattle, WA, February 17th -21st, 2002

71. "Simulation of Directional Annealing", I. Baker*, J. Li, A. Badmos and H.J. Frost, 2002 Annual TMS meeting, Seattle, WA, February 17th -21st, 2002.

72. "Directional Annealing of Cold-Rolled Copper Single Crystals With and Without SiO_2 Particles", J. Li*, I. Baker and H.J. Frost, poster at the 2002 Annual TMS meeting, Seattle, WA, February 17th -21st, 2002.

73. "Electron Back-Scatter Diffraction Pattern Study of Directionally Recrystallized MA 754 and Cold-Rolled Nickel", B. Iliescu, J. Li* and I. Baker, poster at the 2002 Annual TMS meeting, Seattle, WA, February 17th -21st, 2002.

74. "Scanning electron microscopy and X-ray topography of Vostok ice", D. Cullen and I. Baker*, poster at the 2002 Spring meeting of the American Geophysical Union, May 28th – 31st, Washington, DC.

75. The microstructural location of impurities in ice from GISP2 and Byrd Station", I. Baker*, D. Cullen and R. Obbard, 2002 Spring meeting of the American Geophysical Union, May 28th – 31st, Washington,DC.

76. "Anti-Phase Boundary Nanotubes and the Strain-Induced Paramagnetic to Ferromagnetic Transition in B2-structured FeAl Single Crystals ", I. Baker*, D. Wu and P.R. Munroe, poster at conference on Nanostructured Advanced Magnetic Materials, Irsee, Germany, June 9-13, 2002.

77. "The Microstructural Location of Impurities in Natural Ice ", I. Baker*, D. Cullen and D. Iliescu, International Conference on the Physics and Chemistry of Ice (PCI 2002), St. Johns, NewFoundland, Canada, 14th-19th July, 2002.

78. "Recrystallization, Grain Boundary Chemistry and Properties of Sulfuric Acid-Doped Ice", D. Iliescu, X. Li and I. Baker*, International Conference on the Physics and Chemistry of Ice (PCI 2002), St. Johns, NewFoundland, Canada, 14th-19th July, 2002.

79. "Structure, Chemistry and Properties of Grain Boundaries in H_2SO_4-Doped Ice", D. Iliescu, D. Cullen, C. Muscat and I. Baker*, poster at Microscopy and Microanalysis 2002, Québec City, Canada, August 4th-8th, 2002.

80. "SEM/EDS Studies of Impurities in Natural Ice ", D. Cullen, D. Iliescu and I. Baker*, Microscopy and Microanalysis 2002, Québec City, Canada, August 4th-8th, 2002.

81. "Scanning Electron Microscopy of Vostok Accretion Ice", D. Cullen and I. Baker*, poster at Microscopy and Microanalysis 2002, Québec City, Canada, August 4th-8th, 2002.

82. "Characterization of directionally recrystallized cold-rolled nickel using EBSP", B. Iliescu, J. Li and I. Baker*, Microscopy and Microanalysis 2002, Québec City, Canada, August 4th-8th, 2002.

83. "The microstructural location of impurities in polar ice", I. Baker*, D. Cullen and R. Obbard, 2002 Fall TMS meeting, Columbus, OH, October 6th-10h, 2002.

84. "Directional Recrystallization of Cold-Worked Nickel", I. Baker*, J. Li, B. Iliescu, B. Bollinger, A. Badmos and H.J. Frost, 2002 Fall TMS meeting, Columbus, OH, October 6th-10h, 2002.

85. "Ferromagnetism in plastically strained Feal single crystals", D. Wu and I. Baker*, 2002 Fall TMS meeting, Columbus, OH, October 6th-10h, 2002.

86. "The Effects of Substitutional Elements on the Strain Induced Ferromagnetism in B2-Structured FeAl Single Crystals", D. Wu, I. Baker and P. R. Munroe, Materials Research Society symposium on " Functional and Structural Ordered Intermetallic Alloys X", Boston, MA, 1st-6th December, 2002.

87. "The Yield Strength and Ductility of Single-Slip-Oriented FeAl Single Crystals", I. Baker*, D. Wu and E. P. George, Materials Research Society symposium on "Functional and Structural Ordered Intermetallic Alloys X", Boston, MA, 1st-6th December, 2002.

88. "Strain-Induced Ferromagnetism in plastically-strained FeAl single crystals, I. Baker*, D. Wu and P.R. Munroe, Annual TMS meeting, San Diego, CA, 2nd-6th March, 2003.

89. Scanning Electron Microscopy of Natural Ice", I. Baker*, D. Cullen, D. Iliescu and R. Obbard, Annual TMS meeting, San Diego, CA, 2nd-6th March, 2003.

90. "Processing of Cold-Rolled Nickel by Directional Recrystallization" I. Baker*, J. Li, B. Iliescu, A. Badmos and H.J. Frost, Annual TMS meeting, San Diego, CA, 2nd-6th March, 2003.

91. "Nanocrystalline FeCo Powders produced by Mechanical Milling", I. Baker*, M. Robson, R.G. Quiller, B. Shashishekar and D. Wu, Annual TMS meeting, San Diego, CA, 2nd-6th March, 2003.

92. "Using the scanning electron microscope to investigate history at GISP2", R. Obbard* and I. Baker, poster at the EGS - AGU - EUG Joint Assembly, Nice, France, 6th -11th April 2003.

93. "SEM/EDS Studies of the Microstructural Location of Impurities in Polar Ice", I. Baker*, R. Obbard, J.M. Chang and D. Cullen, 7th International Symposium on Antarctic Glaciology (ISAG 7), Milano, Italy, 25-29th August, 2003.

94. "The Effect of Doping on Recrystallization, Grain Boundary Chemistry and Properties of Ice", I. Baker*, D. Iliescu, X. Li, Y.L. Trickett and C. Muscat, poster at the 7th International Symposium on Antarctic Glaciology (ISAG 7), Milano, Italy, 25-29th August, 2003.

95. "Directional Recrystallization Processing of Cold-Rolled Nickel", I. Baker*, J. Li, B.R. Bollinger, A. Badmos and H.J. Frost, European Congress on Advanced Materials and Processes (Euromat 2003), Lausanne, Switzerland, 1st-5th September, 2003.

96. "The Effects of Milling Time and Elemental Additions on the Saturation Magnetization and Coercivity of Nanocrystalline FeCo Powders", I. Baker*, B. Shashishekar, R.G. Quiller and M. Robson, poster at the European Congress on Advanced Materials and Processes (Euromat 2003), Lausanne, Switzerland, 1st-5th September, 2003.

97. "The Effect of particles on dynamic recrystallization and fabric development of granular ice during creep", M. Song*, I. Baker and D. Cole, poster at the 2003 Annual Geophysical Union meeting, San Francisco, CA, 8-12 December, 2003.

98. "Static and Directional Annealing of Cold-Rolled Nickel", I. Baker*, J. Li and H.J. Frost, 2004 TMS Annual meeting, Charlotte, NC, March 14-18.

99. "Characterization of Mechanically-Milled Nanocrystalline powders of FeCo", I. Baker* and B. Shashishekar, 2004 TMS Annual meeting, Charlotte, NC, March 14-18.

100. "Directional Recrystallization of Polycrystalline Nickel Cold-Rolled at 77 K", H. Chang* and I. Baker, 2004 TMS Annual meeting, Charlotte, NC, March 14-18.
101. "Recrystallization Processing of Cold-Rolled Nickel", I. Baker*, H. Chang, B. Iliescu, J. Li and H.J. Frost, 2004 Materials Research Society Spring Meeting, San Francisco, CA, April 12-16th, 2004.
102. "Creep of Granular Ice With and Without Dispersed Particles" M. Song*, D. Cole and I. Baker, poster at the 2004 meeting of the American Geophysical Union, 17-21 May 2004, Montreal, Québec, Canada.
103. "Determining the Orientations of Ice Crystals Using Electron Backscatter Patterns" D. Iliescu, I. Baker* and H. Chang, poster at the 2004 meeting of the American Geophysical Union, 17-21 May 2004, Montreal, Québec, Canada.
104. "Characterization of Ice Cores using Scanning Electron Microscopy", I. Baker*, D. Iliescu, R. Obbard, H. Chang, B. Bostick and C.P. Daghlian, International Symposium on Arctic Glaciology, Geilo, Norway, 23 - 27 August, 2004.
105. "Strain-Induced ferromagnetism in Single Crystal Intermetallic Compounds", I. Baker*, D. Wu, M.W. Wittmann and P.R. Munroe, Materials Research Society symposium on "Integrative and Interdisciplinary Aspects of Intermetallics", Boston, MA, Nov. 29th – Dec. 3rd, 2004.
106. "The Yield Anomaly and Ductility of Single-Slip-Oriented FeAl Single Crystals", I. Baker*, D. Wu, P. R. Munroe, E.P. George, poster at the Materials Research Society symposium on "Integrative and Interdisciplinary Aspects of Intermetallics", Boston, MA, Nov. 29th – Dec. 3rd, 2004.
107. "Techniques for the Microstructural Characterization of Natural Ice", I. Baker*, D. Iliescu, R. Obbard, H. Chang, D. Cullen, B. Bostick and C.P. Daghlian, ARO Workshop on Cold Regions Science and Engineering Grantees Workshop, USA-CRREL, Hanover, NH, January 18th 2005.
108. "The Structure and Properties of River and Lake Ice", D. Iliescu* and I. Baker, ARO Workshop on Cold Regions Science and Engineering Grantees Workshop, USA-CRREL, Hanover, NH, January 18th 2005.
109. "Directional Recrystallization of High Purity Ni and Ni-V Alloys", H. Chang*, I. Baker and J. Li, 2005 TMS Annual meeting, San Francisco, CA, February 13-17, 2005.
110. "Microstructure and mechanical Behavior of Fe-20Ni-25Mn-25Al", I. Baker, M.W. Wittmann*, J. Hanna and P.R. Munroe, 2005 TMS Annual meeting, San Francisco, CA, February 13-17, 2005.
111. "The Strain-Induced Paramagnetic to ferromagnetic transition in intermetallic compounds", I. Baker*, M.W. Wittmann, D. Wu and P.R. Munroe, 2005 TMS Annual meeting, San Francisco, CA, February 13-17, 2005.
112. "Magnetic and Ordering Studies of Sputtering Nanostructured $Fe_{50}Ni_{50}$ Films" Q. Zeng, I. Baker and Y. Zhang*, Intermag 2005, Nagoya, Japan, 3-8 April, 2005.
113. "Maximizing and Modeling Heat Deposition in Iron Oxide Nanoparticles for Localized Hyperthermia", I. Baker, Q. Zeng*, W.D. Li and C. R. Sullivan, 50th Conference on Magnetism and Magnetic Materials: October 30-November 3, 2005, San Jose, California.
114. "Thickness dependence of the microstructure and in-plane magnetic anisotropy of sputtered $Fe_{50}Ni_{50}$ films", Q. Zeng*, I. Baker, Y. Sun, J.B. Cui and C. P. Daghlian, 50th Conference on Magnetism and Magnetic Materials: October 30-November 3, 2005, San Jose, California.
115. "Nanostructured Mn-Al-C permanent magnets produced by mechanical milling" Q. Zeng*, I. Baker and Z.C. Yan, 50th Conference on Magnetism and Magnetic Materials: October 30-November 3, 2005, San Jose, California.

116. MFM/AFM Study of Electroplated $Fe_{50}Ni_{50}$ Films", Q. Zeng*, I. Baker and C. P. Daghlian, Fall Materials Research Society symposium. Nov. 28- Dec. 2nd, 2005, Boston, MA.
117. "Microstructural Characterization Of Polycrystalline Ice From The East Rongbuk Glacier (Mt. Everest)", K. Sieg*, R. Obbard, I. Baker, P. Mayewski, S. Kang, S. Hou and S. Kaspari, American Geophysical Union Fall 2005 meeting, December 5-9, 2005 San Francisco, CA.
118. "Variations In Microstructure Of Polycrystalline Ice From Vostok, Antarctica", R Obbard* and I. Baker, American Geophysical Union Fall 2005 meeting, December 5-9, San Francisco, CA.
119. "An overview of the effects of dispersed particles on the creep of granular ice", I. Baker*, M. Song and D.M. Cole, 2006 Annual TMS meeting, San Antonio, TX, March 12-16, 2006.
120. "The effects of deformation on the magnetic behavior of stoichiometric Ni_3Al", Q. Zeng and I. Baker*, 2006 Annual TMS meeting, San Antonio, TX, March 12-16, 2006.
121. "Microstructural Characterization of Ice, I. Baker*, R. Obbard, K. Sieg, D. Iliescu and C.P. Daghlian, 2006 Annual TMS meeting, San Antonio, TX, March 12-16, 2006.
122. "Magnetic properties of mechanically alloyed and annealed Fe-40 at. % Al", Q. Zeng and I. Baker*, 2006 Annual TMS meeting, San Antonio, TX, March 12-16, 2006.
123. "Microstructural Characterization of the Novel Alloys in the FeCoMnAl System", J.A. Loudis*, I. Baker, S.D. Lish and C. Zhang, Poster at the Materials Research Society meeting Boston, MA, Nov. 26th-30th, 2006.
124. "Iron oxide nanoparticle hyperthermia and radiation treatment of breast cancer" P.J. Hoopes*, R.R. Strawbridge I. Baker, Q. Zeng, Z.E. Pierce, C.D. Gaito, L.T. Dulatas, U. Gibson, A.R. Forman and R. Ivkov, SPIE Symposium on Biomedical Optics (BiOS 2007), January 20-25, 2007, San Jose, CA.
125. "Nanostructured Mn-Al-C Permanent Magnets Produced by Mechanical Milling", Q. Zeng, I. Baker* and Z.C. Yan, 2007 Annual TMS meeting, Orlando, Fl, Feb. 25th-March 1st, 2007.
126. "Clues to Environmental Change from Microstructure of a Polar Ice Core", R. Obbard and I. Baker, poster at the Arctic Science Summit Week, Dartmouth College, Hanover, NH, March 14th - 20th 2007.
127. "Determination of polar firn/ice core physical properties using scanning electron microscopy", N. Spalding*, D. Meese, I. Baker, poster at the 37th Annual Arctic Workshop, Skaftafell, Iceland, May 2nd – 5th, 2007.
128. "Determination of polar firn/ice core physical properties using scanning electron microscopy" N. Spaulding*, D. Meese and I. Baker, 15th J. Louis Agassiz Symposium, U. Maine-Orono, ME, May 10th -11th, 2007
129. "Signal Dependence on Frequency in Magnetic Particle Imaging", J.B. Weaver*, A.M. Rauwerdink, C.R. Sullivan and I. Baker, 49th Annual meeting of American Association of Physicists in Medicine (AAPM), July 22nd-26th, 2007, Minneaapolis, Minnesota.
130. "Friction in Equal Channel Angular Extrusion" J. Hanna* and I. Baker, poster presented at Materials Science and Technology '07, Detroit, MI, Sept 16th-20th, 2007.
131. "Iron Based Composite Nanoparticles for Hyperthermia Application", G. Zhang*, U. Gibson and I. Baker, poster presented at the 8th Annual Dartmouth Nanomaterials Symposium, Dartmouth College, October 27th, 2007.
132. "Iron/Iron Oxide Nanocomposites for Magnetic Hyperhermia", I. Baker*, Q. Zeng, G. Zhang, K. Sung, U.J. Gibson, J. A. Loudis, P.J. Hoopes, J.B. Weaver, R. Strawbridge, Z.E. Pierce, J. Tate and J. Ogden, Materials Research Society meeting, Boston, MA, Nov. 26th-30th, 2007.

133. "Nanostructured Mn-Al-C Permanent Magnets", Q. Zeng, I. Baker*, J. Hanna, Z.C. Yan and J. Grosek, Materials Research Society meeting Boston, MA, Nov. 26th-30th, 2007.

134. "Strain-Induced Ferromagnetism in Fe-based B2 and $L2_1$ Intermetallic Compounds", I. Baker*, Q. Zeng and Y. Liao, Materials Research Society meeting, Boston, MA, Nov. 26th-30th, 2007.

135. "Determination of polar firn/ice core physical properties using scanning electron microscopy" N. Spaulding*, D. Meese and I. Baker, poster at the Workshop on the Microstructure and Properties of Firn, Dartmouth College, NH, March 10-11th, 2008.

136. "Investigation on the sintering process of dry snow", S. Chen, R. W. Lomonaco and I. Baker, poster at the Workshop on the Microstructure and Properties of Firn, Dartmouth College, NH, March 10-11th, 2008.

137. Determination of Polar Firn/Ice Core Physical Properties Using Scanning Electron Microscopy" N. Spaulding, D. Meese and I. Baker, Poster at the Workshop on the Microstructure and Properties of Firn, Dartmouth College, NH, March 10-11th, 2008.

138. "Microstructure and mechanical Properties of Eutectoid FeNiMnAl Alloy" Y. Liao* and I. Baker, poster at the 2008 Annual TMS meeting, New Orleans, LA, March 9-13, 2008

139. "On the use of Scanning Electron Microscopy to Characterize Firn/Ice Cores", N. Spalding, D. Meese and I. Baker, 2008 16th Hal Borns Symposium, U. Maine-Orono, ME, May8th-9th, 2008.

140. "Scanning Electron Microscopic Characterization of U.S. ITASE Firn/Ice", N. Spalding*, D. Meese, I. Baker, P. Mayewski and G. Hamilton, ITASE Synthesis Workshop, Castine, ME, 2-5 Sept. 2008.

141. "Advanced Microstructural Characterization of Firn", I. Baker*, S. Chen, R. Lomonaco, R. Obbard, D. Iliescu, N. Spalding and D. Meese, Materials Science and Technology '08, Pittsburgh, PA, October 5-9th, 2008.

142. "Magnetic Nanoparticle Heating for Hyperthermia Treatment" I. Baker*, G. Zhang; Q. Zeng, J. A. Loudis, P.J. Hoopes, J. Weaver, R.R. Strawbridge, Z.E. Pierce, J. Tate and J. Ogden, Materials Science and Technology '08, Pittsburgh, PA, October 5-9th, 2008.

143. "Microstructure, Precipitation and Deformation Behavior of Novel Spinodal FeNiMnAl Alloys; I. Baker*, J.A. Loudis, J. Hanna and X. Wu, Materials Science and Technology '08, Pittsburgh, PA, October 5-9th, 2008.

144. "Microstructure and Mechanical Properties of a Eutectoid FeNiMnAl Alloy", Y. Liao* and I Baker, poster at Materials Science and Technology '08, Pittsburgh, PA, October 5-9th, 2008.

145. "The Yield Strength Anomaly in Fe_2MnAl Single Crystals", Y. Liao* and I Baker, presented at Materials Science and Technology '08, Pittsburgh, PA, October 5-9th, 2008.

146. "Microstructural changes and mechanisms in dry snow sintering", S. Chen and I. Baker, poster at Sintering 2008, La Jolla, CA, USA, November 16-20th, 2008.

147. "Microstructure and Mechanical Properties of a Eutectoid FeNiMnAl Alloy", Y. Liao* and I. Baker, 2008 Fall Materials Research Society meeting, Boston, MA, December 1-5, 2008.

148. "Microstructure and Mechanical Behavior in High Strength Nanostructured Spinodal FeNiMnAl Alloys", X. Wu*, I. Baker, Y. Liao and M.K. Miller, 2008 Fall Materials Research Society meeting, Boston, MA, December 1-5, 2008.

149. "Structural evolution from snowflakes to bonded spheres observed using SEM and micro-CT", S. Chen* and I. Baker, poster at the 65th Annual Meeting of the Eastern Snow Conference, 9-11th June, 2009, Niagara on the Lake, Ontario, Canada.

150. "Temperature effects on depth-hoar formation and grain-chain orientation in dry snow metamorphism", S. Chen*, R. Lomonaco and I. Baker, 65th Annual Meeting of the Eastern Snow Conference, 9-11th June, 2009, Niagara on the Lake, Ontario, Canada.

151. "Characterization of Snow and Firn using Micro-CT and SEM", I. Baker, S. Chen, R. Lomonaco and R. Obbard*, 65th Annual Meeting of the Eastern Snow Conference, 9-11th June, 2009, Niagara on the Lake, Ontario, Canada.

152. "Microstructure and Mechanical Behavior in High Strength Nanostructured Spinodal FeNiMnAl Alloys", X. Wu*, I. Baker, Y. Liao and M.K. Miller, 2009 Annual TMS meeting, San Francisco, CA, February 15-19, 2009.

153. "Studying the Microstructural Evolution of Natural Snow using X-Ray Microtomography and Scanning Electron Microscopy", S. Chen* and I. Baker, IACS-IAMAS-IAPSO Joint Assembly, Montréal, Canada, 19-29 July, 2009.

154. "Flow Induced Microstructure in an Alpine Glacier: Ice Core Study of Upper Fremont Glacier, Wyoming", R. Obbard*, K. Aho, T. Cassano and I. Baker, IACS-IAMAS-IAPSO Joint Assembly, Montréal, Canada, 19-29 July, 2009.

155. "Microstructure and mechanical properties of a two-phase FeNiMnAl alloy", Y. Liao and I. Baker, Euromat 2009, September 7-10th, Glasgow, U.K.

156. "Dry sliding wear of eutectic As-cast Al-Si", I. Baker, Y. Sun, A.T. Dohner, F.E. Kennedy and P.R. Munroe, Euromat 2009, September 7-10th, Glasgow, U.K.

157. "Strain-induced ferromagnetism in intermetallic compounds", I. Baker, Y. Liao, D. Wu, Y. Yang and Q. Zeng, Euromat 2009, September 7-10th, Glasgow, U.K.

158. "Iron/iron oxide core/shell nanoparticles for MRI and magnetic hyperthermia", I. Baker, G. Zhang, Q. Zeng, Y. Liao and J. Weaver, Euromat 2009, September 7-10th, Glasgow, U.K.

159. "Microstructural characterization of polar snow firn and ice", I. Baker, R. Obbard, S. Chen and R. Lomonaco, Euromat 2009, September 7-10th, Glasgow, U.K.

160. "Influence of Environment on Wear of Al-Si Alloys" F.E. Kennedy, I. Baker, Y. Sun and P.R. Munroe, 4th World Tribology Congress (WTC IV), 6th - 11th September, 2009 in Kyoto, Japan.

161. "Advanced Microstructural Characterization of Snow, Firn and Ice", I. Baker, R.W. Obbard and R. Lomonaco, 2009 WAIS Divide Science Meeting, October 1-2, 2009, La Jolla.

162. "Iron/iron oxide core/shell nanoparticles for MRI and magnetic hyperthermia", I. Baker, G. Zhang, Q. Zeng, Y. Liao, S. Cassim, J. Weaver and J. Hoopes, Materials Science and Technology 2009, Pittsburgh, PA, October 25- 29th, 2009.

163. "Microstructural Characterization of Snow and Ice", I. Baker, R. Obbard, S. Chen, R. Lomonaco, N. Spalding, D. Meese, Materials Science and Technology 2009, Pittsburgh, PA, October 25- 29th, 2009.

164. "Dry Sliding Wear of Eutectic Al-Si", I. Baker, Y. Sun, A.T. Dohner, F.E. Kennedy and P. R. Munroe, Poster at Materials Science and Technology 2009, Pittsburgh, PA, October 25- 29th, 2009.

165. "Microstructure and Mechanical properties of Two-Phase FeNiMnAl Alloys", Yifeng Liao* and Ian Baker, Materials Science and Technology 2009, Pittsburgh, PA, October 25- 29th, 2009.

166. "A comparison of dry Sliding Wear of conventional and nanocrystalline Eutectic Al-Si", I. Baker*, M. Gwaze, Y. Sun, A.T. Dohner, P.R. Munroe and F.E. Kennedy, Fall MRS meeting, Boston, MA, 30th Nov. – Dec 4th, 2009.

167. Microstructures and Mechanical Properties of FeNiMnAl Spinodal Alloys", X. Wu*, I. Baker and H. Wu, Hongbin Bei, and P.R. Munroe, Fall MRS meeting, Boston, MA, 30th Nov. – Dec 4th, 2009.

168. "Biocompatible Iron/Iron Oxide Core/Shell Nanoparticles for Magnetic Hyperthermia", I. Baker*, G. Zhang, Q. Zeng, Y. Liao, S. Cassim, J. Weaver and J. Hoopes, Fall MRS meeting, Boston, MA, 30th Nov. – Dec 4th, 2009.

169. "Combining Analysis Techniques to Understand Brine Channel Morphology and Chemistry in Sea Ice", R.W. Obbard, G.W. Troderman, I. Baker, American Geophysical Union, Fall Meeting, 14-19 Dec., 2009,

170. "An Overview of the Microstructures of High-Strength Two-Phase Near-Equi-atomic FeNiMnAl Alloys", I Baker, Y. Liao, X. Wu*, H. Wu, M. K. Miller, K.F. Russell and P. R. Munroe, 2010 TMS Annual Meeting & Exhibition, Seattle, Wa, Feb. 14-18th, 2010.

171. "4-D Microstructural Characterization of Snow and Ice", I. Baker, R. Obbard, S. Chen*, R. Lomonaco, K. Aho and G. Troderman, 2010 TMS Annual Meeting & Exhibition, Seattle, Wa, Feb. 14-18th, 2010.

172. "Dry Sliding Wear of Nanocrystalline Al - 12.6 at. % Si", I. Baker*, M. Gwaze, Y. Sun, A.T. Dohner, A. Grosse, T. Tran, F.E. Kennedy and P.R. Munroe, 2010 TMS Annual Meeting & Exhibition, Seattle, WA, Feb. 14-18th, 2010.

173. "The Microstructure and Mechanical Behavior of $Fe_{30}Ni_{20}Mn_{30}Al_{20}$ Alloys", X. Wu*, I. Baker and H. Wu, M.K. Miller and K.F. Russell, 2010 TMS Annual Meeting & Exhibition, Seattle, Wa, Feb. 14-18th, 2010.

174. "Characterizing the Microstructural Evolution of both Natural Snow Crystals and Spherical Ice Particles", S. Chen* and I. Baker, 67th Annual Meeting of the Eastern Snow Conference, Hancock, MA, June 8-10, 2010.

175. "Microstructural Characterization of Winter and Summer Layers of Summit, Greenland Firn", K. Keegan*, R. Lomonaco, M. Albert, and I. Baker, poster at the 67th Annual Meeting of the Eastern Snow Conference, Hancock, MA, June 8-10, 2010.

176. "Microstructural characterization of dry snow metamorphism" "S. Chen and I. Baker*, poster to be presented at the 12th International Conference on the Physics and Chemistry of Ice, 5-10th September, 2010, Sapporo, Japan.

177. "The Mechanical Behavior of Two-Phase Alloy FeNiMnAl Alloys", I. Baker*, Y. Liu and X. Wu, poster at Materials Science & Technology 2010, October 17-21, 2010, Houston, TX.

178. "Iron/Iron Oxide Core/Shell Nanoparticles for Magnetic Hyperthermia", I. Baker*, S. Cassim, G. Zhang, Q. Zeng, Y. Liao, J. Weaver and J. Hoopes, 2010 Workshop on Advance in Breast Cancer Research", NSF Workshop on 26th – 29th October, 2010.

179. "Physical Properties in the Near-Surface Firn at NEEM", K. Keegan*, M. Albert and I. Baker, poster at 2010 WAIS Divide Science Meeting, 30th September – October 1st, La Jolla, CA.

180. "Microstructure and Mechanical Behavior of Two-Phase $Fe_{30}Ni_{20}Mn_{20}Al_{30}$ Alloy", X. Wu* and I. Baker 2010 MRS Fall Meeting, November 29th-December 3rd, 2010**,** Boston, MA.

181. "Microstructure and Mechanical Behavior of $Fe_{30}Ni_{20}Mn_{35}Al_{15}$ Eutectic Alloy", F. Meng*, I. Baker, Y. Liao, poster at 2010 MRS Fall Meeting, November 29th-December 3rd, 2010**,** Boston, MA.

182. "Wear Mechanisms in Nanocrystalline Al-Si", I. Baker*, F. Kennedy, M. Gwaze, poster at 2010 MRS Fall Meeting, November 29th-December 3rd, 2010**,** Boston, MA.

183. *"In-situ* TEM straining study of the yield anomaly in $L2_1$-ordered Fe_2MnAl single crystal", Y. Liao* and I. Baker, 2010 MRS Fall Meeting, November 29th-December 3rd, 2010**,** Boston, MA.

184. "Microstructure and deformation of the eutectic alloy $Fe_{30}Ni_{20}Mn_{35}Al_{15}$", Y. Liao* and I. Baker, poster at 2010 MRS Fall Meeting, November 29th-December 3rd, 2010**,** Boston, MA.

185. "Test environments and sliding tribological behavior of Zr-based bulk metallic glass", H. Wu*, I. Baker, Y. Liu, P. R. Munroe, poster at 2010 MRS Fall Meeting, November 29th-December 3rd, 2010**,** Boston, MA.

186. "Comparison between the Structural Evolution of Dry Snow under Quasi-isothermal Conditions and in a Temperature Gradient", S. Chen* and I. Baker, American Geophysical Union Fall meeting, 13th-17th December 2010, San Francisco, CA.

187. "Microstructural Variations in the Siple Dome, Antarctica ice core: Evidence of climate change?", R.W. Obbard*, K.E. Sieg, D. Meese, I. Baker, American Geophysical Union Fall meeting, 13th –17th December 2010, San Francisco, CA.

188. "Properties of the Near Surface Firn at NEEM", K. Keegan*, M. Albert and I. Baker, American Geophysical Union Fall meeting, 13th –17th December 2010, San Francisco, CA.

189. "The Effect of Temperature on the Microstructure and Mechanical Behavior of Two-Phase $Fe_{30}Ni_{20}Mn_{20}Al_{30}$ Alloy", X. Wu and I. Baker*, 2011 TMS Annual Meeting, Feb. 27th - March 3rd, 2011, San Diego, CA.

190. "Microstructural Characterization of Snow Metamorphism using X-ray Computed Micro-Tomography", S. Chen and I. Baker*, Poster at Microscopy and Microanalysis, 2011, Nashville, TN, August 7-11th, 2011.

191. "Dry Sliding Wear of Two-Phase $Fe_{30}Ni_{20}Mn_{20}Al_{30}$ Alloy", X. Wu, I. Baker* and P.R. Munroe, Euromat 2011, Montpellier, France, Sept. 12-15th, 2011.

192. "Dry sliding tribological behavior of Zr-based bulk metallic glass", H. Wu, I. Baker* and P.R. Munroe poster presented at Euromat 2011, Montpellier, France, Sept. 12-15th, 2011.

193. "Development of Iron/Iron Oxide Core/Shell Nanoparticles for Magnetic Hyperthermia", I. Baker, Q. Zeng, G. Zhang, Y. Liao and K. Kekalo, poster presented at Euromat 2011, Montpellier, France, Sept. 12-15th, 2011.

194. "Development of Iron/Iron Oxide Core/Shell Nanoparticles for Magnetic Hyperthermia", K. Kekalo, I. Baker, Q. Zeng, G. Zhang, Y. Liao, K. Koo and E. Zeitchick, poster at the Alliance for Nanotechnology in Cancer Annual Principal Investigators meeting, Sept 21st-23rd, 2011, Boston, MA.

195. "Microstructural Characterization of Snow Metamorphism", I. Baker, 2011 WAIS Divide Science Meeting, 28th -29th September, La Jolla, CA.

196. "Firn Structure at WAIS Divide", S. Gregory, M. Albert and I. Baker, poster at the 2011 WAIS Divide Science Meeting, 28th -29th September, La Jolla, CA.

197. "Ice Layers in the NEEM Firn Core", K. Keegan, M. Albert, I. Baker and J. McConnell, poster at the 2011 WAIS Divide Science Meeting, 28th -29th September, La Jolla, CA.

198. "Advanced Microstructural Characterization of Firn and Ice", I. Baker*, R.W. Obbard, K. Keegan, R. Lomonaco and M. Albert, Conference on Ice deformation: from the model material to ice in natural environments, Grenoble, France, November 7-9th, 2011.

199. Microstructural Characterization of Dry Snow Metamorphism using X-ray Computed Micro-tomography and Scanning Electron Microscopy", S. Chen and I. Baker*, poster at the Conference on Ice deformation: from the model material to ice in natural environments, Grenoble, France, November 7-9th, 2011.

200. "Insight into the phase transformations between Ice Ih and Ice II from EBSD data", D.J. Prior*, S. Diebold, Rachel Obbard, C. Daghlian; D.L. Goldsby; W.B. Durham and Ian Baker, Conference on Ice deformation: from the model material to ice in natural environments, Grenoble, France, November 7-9th, 2011.

201. "Microstructural Characterization of Dry Snow Metamorphism using X-ray Computed Micro-tomography and Scanning Electron Microscopy", S. Chen and I. Baker*, Fall Materials Research Society Meeting, Boston, MA, Nov 26-30th, 2011.
202. "Mechanical Properties and Deformation Mechanism of Nanostructured Two-Phase $Fe_{30}Ni_{20}Mn_{20}Al_{30}$ Alloy", X. Wu* and I. Baker, TMS Annual Meeting, Orlando, FL, March 11-15th, 2012.
203. "Innovation and International Partnerships for Interdisciplinary Graduate Training in Polar Environmental Change", R.A.Virginia*, M.R. Albert, M.P. Ayers, I. Baker, N.B. Duthu, X. Feng, M.A. Kelly, L.A. Grenoble, A. Lynge and T. Pars, IPY 2012, 22-27 April 2012, Montréal, Canada.
204. "Magnetic Heating of Fe-Co Ferrites: Experiments and Modeling", K. Kekalo*, R. Meyers, I. Baker, F. Shubitidze, R. Yaqub, Scientific and Clinical Applications of Magnetic Carriers, Minneapolis, MN, 22-26th, May, 2012
205. "Microstructural Characterization of Dry Snow Metamorphism", I. Baker* and S. Chen, International Symposium on Seasonal Snow and Ice, Lahti, Finland 28 May-1 June 2012.
206. "Microstructure, Mechanical Properties and Deformation Mechanisms of Nanostructured Two-Phase Near-Equiatomic FeNiMnAl Alloys", I. Baker*, X. Wu, M. K. Miller, K. L. More and P.R. Munroe, Nanosmat 2012, Prague, Czech Republic, September 18-21, 2012
207. "Bulk Nanostructured τ-MnAl Permanent Magnets", I. Baker*, A. Chaturvedi and R. Yaqub, Nanosmat 2012, Prague, Czech Republic, September 18-21, 2012.
208. "Ice layers in the firn at NEEM" K. Keegan,M. Albert and I. Baker, International Partners in Ice Coring Sciences conference, France, Oct 2012.
209. "The effect of local climate on the physical properties of firn near pore close-off for two Antarctic sites" G. Stephanie*, M. Albert and I. Baker, International Partnerships in Ice Core Sciences, First Open Science Conference, Presqu'île de Giens, Côte d'Azur, France, 1-5 October 2012.
210. "NEEM Firn Melt Layers" K. Kaitlin*, M. Albert, I. Baker and J. McConnell, International Partnerships in Ice Core Sciences, First Open Science Conference, Presqu'île de Giens, Côte d'Azur, France, 1-5 October 2012.
211. "Novel High-Temperature Austenitic Alloys for Energy Conversion Applications", G. Trotter*, G. Rayner and I. Baker; Materials Science & Technology 2012, Pittsburgh, PA, October 7-10th, 2012.
212. "Microstructure and Deformation Behavior of the Eutectic Alloy $Fe_{30}Ni_{20}Mn_{35}Al_{15}$", F. Meng*, I. Baker, and Y. Liao, Fall Materials Research Society Meeting, Boston, MA, November 25-30th, 2012.
213. "The Effects of Stoichiometry on the Dry Sliding Wear of B2 FeAl", J. Qiu*, I. Baker, Y. Liu and P.R. Munroe, Fall Materials Research Society Meeting, Boston, MA, November 25-30th, 2012.
214. "A Comparison of Dry Sliding Wear in Two FeNiMnAl Alloys", Y. Lu*, I. Baker, P. Blau, F.E. Kennedy and P.R. Munroe, Fall Materials Research Society Meeting, Boston, MA, November 25-30th, 2012.
215. "Microstructure and Magnetic Properties of Bulk nanocrystalline MnAl", A. Chaturvedi*, R. Yaqub and I. Baker, Fall Materials Research Society Meeting, Boston, MA, November 25-30th, 2012.
216. "Structure and Magnetic Properties of Mechanically-milled Gas-atomized MnAl Powders", R. Yaqub*, A. Chaturvedi and I. Baker, Fall Materials Research Society Meeting, Boston, MA, November 25-30th, 2012.
217. "The Effects of Overburden on Snow Metamorphism", X. Wang* and I. Baker, American poster Geophysical Union Fall meeting, San Francisco, CA, 3-7th December, 2012.

218. "Relationship Between NEEM Firn Permeability and Diffusivity", K. Keegan*, M. Albert and I. Baker, poster at the American Geophysical Union Fall meeting, San Francisco, CA, 3-7th December, 2012.

219. "On the impact of impurities on firnification and gas entrapment in Antarctic firn", S. Gregory*, M. Albert and I. Baker, poster at the American Geophysical Union Fall meeting, San Francisco, CA, 3-7th December, 2012.

220. "Observations of Fabric Development in Polycrystalline Ice at Basal Pressures: Methods and Initial Results", D.J. Breton* I. Baker and D.M. Cole, poster at the American Geophysical Union Fall meeting, San Francisco, CA, 3-7th December, 2012.

221. "Comparisons Of Fabric Development In Polycrystalline Ice At Basal And Atmospheric Pressures", Daniel J. Breton, Ian Baker, David M. Cole, Geological Society of America, New England Branch Meeting, Bretton Woods, NH, March 16 - 20, 2013.

222. "Comparisons of Fabric Strength and Development in Polycrystalline Ice at Atmospheric and Basal Hydrostatic Pressures", D.J. Breton*, I. Baker, D.M. Cole, European Geosciences Union, Vienna, Austria, 07 – 12 April 2013.

223. "Laves Phase-Strengthened Austenitic Steels for Coal-Fired Power Systems", Bin Hu and Ian Baker, 2013 UCR/HBCU-OMI DOE Contractors Review Meeting, June 11-13th, 2013.

224. "Microstructures and Mechanical Properties of two-phase FeNiMnAl Alloys", I. Baker*, X. Wu, F. Meng and P.R. Munroe, Gordon Research Conference on Physical Metallurgy: Materials at Extremes, University of New England, Biddeford, ME, July 28th - August 2nd, 2013.

225. "Laves-phase-strengthened Alumina-Forming Austenitic Steels", B. Hu* and I. Baker Gordon Research Conference on Physical Metallurgy: Materials at Extremes, University of New England, Biddeford, ME, July 28th - August 2nd, 2013.

226. "The effects of environment on the dry sliding wear of powder metallurgy Ti-Al-Cr-Nb-W alloy", J. Qiu*, F. Meng, I. Baker, and P.R. Munroe, Gordon Research Conference on Physical Metallurgy: Materials at Extremes, University of New England, Biddeford, ME, July 28th - August 2nd, 2013.

227. "Effects of Different Sliding Velocities and Different Environments on Wear of $Fe_{30}Ni_{20}Mn_{25}Al_{25}$", Y. Lu*, I. Baker, F.E. Kennedy and P.R. Munroe, Gordon Research Conference on Physical Metallurgy: Materials at Extremes, University of New England, Biddeford, ME, July 28th - August 2nd, 2013.

228. "The Effect of Cold Work and Aging on the Microstructure and Mechanical Properties of Fe-20Cr-30Ni-2Nb-5Al (at. %)", G. Trotter*, G. Rayner and I. Baker, Gordon Research Conference on Physical Metallurgy: Materials at Extremes, University of New England, Biddeford, ME, July 28th - August 2nd, 2013.

229. "The Microstructure and Mechanical Behavior of Cr-modified $Fe_{30}Ni_{20}Mn_{35}Al_{15}$", F. Meng*, J. Qiu and I. Baker, Gordon Research Conference on Physical Metallurgy: Materials at Extremes, University of New England, Biddeford, ME, July 28th - August 2nd, 2013.

230. "Microstructure and Mechanical Properties of Two-Phase $Fe_{30}Ni_{20}Mn_{20}Al_{30}$", X. Wu, I. Baker*, H. Wu, M. K. Miller, K. L. More, Z. Cai and S. Chen, Euromat 2013, Seville, Spain, 8th-13th Sept. 2013.

231. "Magnetic Fluids With High Specific Absorption Rate", K. Kekalo and I. Baker*, Euromat 2013, Seville, Spain, 8th-13th Sept. 2013.

232. "Tau-MnAl: Moving Beyond Conventional Permanent Magnets", I. Baker*, A. Chaturvedi and R. Yaqub, Euromat 2013, Seville, Spain, 8th-13th Sept. 2013.

233. "Dry Sliding Wear of $Fe_{30}Ni_{20}Mn_{25}Al_{25}$", Y. Lu, I. Baker*, P. Blau, F.E. Kennedy and P.R. Munroe, poster at Euromat 2013, Seville, Spain, 8th-13th Sept. 2013.

234. "A new type of magnetic nanoparticles with high SAR" K. Kekalo and I. Baker, Principal Investigators meeting of the NCI Alliance for Nanotechnology in Cancer, September 17-19th, 2013, Bethesda, MD.

235. "Nanostructured two-phase FeNiMnAl Alloys", I. Baker*, X. Wu, J. Hanna, M.W. Wittman and H. Wu, M.K. Miller, K.L. More, P. Munroe, Z. Cai and S. Chen, Nanosmat 2013, September 22nd- 25th, 2013, Granada, Spain.

236. "Magnetic Fluids With High Specific Absorption Rate", K. Kekalo, I. Baker*, R. Meyers, F. Zhang and C. Ndong, poster at Nanosmat 2013, September 22nd- 25th, 2013, Granada, Spain.

237. "Firn Microstructure Near Pore Close-off at NEEM and WAIS Divide", K. Keegan*, S. Gregory, M. Albert and I. Baker, 2013 WAIS Divide Ice Core Science Meeting, September 24 - 25, 2013, La Jolla, CA.

238. "Dry Sliding Wear of B2 Aluminides and Related Two-Phase Alloys", I. Baker, Intermetallics 2013, 30 September - 4 October, 2013, Bad Staffelstein, Germany.

239. "Microstructure and Mechanical Behavior of $Fe_{30}Ni_{20}Mn_{35}Al_{15}$ and Cr-modified $Fe_{30}Ni_{20}Mn_{35}Al_{15}$", F. Meng, I. Baker* and Y. Liao, Materials Science and Technology, Oct. 27-31, 2013, Montreal, Canada.

240. "Intermetallic Strengthened Alumina-Forming Austenitic Steels for Energy Applications", Bin Hu*, G. Trotter, L. Yao, M.K. Miller, Y. Yamamoto, Michael P. Brady and I. Baker, Materials Science and Technology, Oct. 27-31, 2013, Montreal, Canada.

241. "Controlled Precipitation of Fe_2Nb Laves and NiAl in Alumina-Forming Austentic Stainless Steels", G. Trotter*, G. Rayner and I. Baker, Materials Science and Technology, Oct. 27-31, 2013, Montreal, Canada.

242. "Dry Sliding Wear of $Fe_{30}Ni_{20}Mn_{25}Al_{25}$ at Different Sliding Velocities", Y. Lu*, I. Baker, F.E. Kennedy and P.R. Munroe, Materials Science and Technology, Oct. 27-31, 2013, Montreal, Canada.

243. "The Effects of Temperature Gradient on the Formation of Depth Hoar Structures in Snow", Xuan Wang* and Ian Baker, American Geophysical Union Meeting, Dec. 9-13, 2013, San Francisco.

244. "The Effect of Impurities on Firn Layering", K. Keegan*, I. Baker and M. Albert, American Geophysical Union Meeting, Dec. 9-13, 2013, San Francisco.

245. "Alternating and Single-Direction Temperature Gradient Influence on Sintering of Ice Spheres" X. Wang* and I. Baker, 13th International Conference on the Physics and Chemistry of Ice (PCI-2014), March 17–20, 2014, Hanover, NH.

246. "The Effects of Impurities on Firn Layering at NEEM, Greenland, K. Keegan, I. Baker* and M. Albert, Poster at the 13th International Conference on the Physics and Chemistry of Ice (PCI-2014), March 17–20, 2014, Hanover, NH.

247. "The Effects of Soluble Impurities on the Flow and Fabric of Polycrystalline Ice", K. Hammonds*, and I. Baker. Poster at the 13th International Conference on the Physics and Chemistry of Ice (PCI-2014), March 17–20, 2014, Hanover, NH.

248. "Ice Fabric Development Under Hydrostatic Pressure", P. Bisson*, D. Breton, I. Baker and D.M. Cole, 13th International Conference on the Physics and Chemistry of Ice (PCI-2014), March 17–20, 2014, Hanover, NH.

249. "The effects of environment on the wear behavior of powder metallurgical Ti-47Al-2Cr-0.2Mo", J. Qiu*, Y. Liu, F. Meng and I. Baker, 7th China international symposium on Tribology (CIST 2014), Xuzhou, China, April 27th-30th, 2014.

250. "The Effects of Thermo-mechanical Treatments on the Microstructure and Mechanical Properties of Iron Based Superalloy", B. Hu* and I. Baker, 2014 National Energy Technology Laboratory Crosscutting Research Review Meeting, Pittsburgh, PA, May 19-23, 2014.

251. "Study of the heating mechanism of new type of magnetic nanoparticles with high Specific absorption rate at low field strength", F. Shubitidze, K. Kekalo* and I. Baker, 10th International Conference on the Scientific and Clinical Applications of Magnetic Carriers, Dresden, Germany, June 10-14th, 2014.

252. "Dartmouth Center for Cancer Nanotechnology Excellence: Magnetic Hyperthermia", I. Baker, 10th International Conference on the Scientific and Clinical Applications of Magnetic Carriers, Dresden, Germany, June 10-14th, 2014.

253. "An Overview of the Microstructures and Mechanical Properties of FeNiMnAl Alloys', Ian Baker*, Xiaolan Wu, Fanling Meng, Jingwen Qiu, Yifeng Liao and Paul Munroe, poster at the Gordon Research Conference on Structural Nanomaterials, The Chinese University of Hong Kong, Hong Kong, China, July 20-25, 2014.

254. "Firn Structure Impacts on Delta-Age", M. Albert, S. Gregory and I. Baker, WAIS DIVIDE ice Core 2014 Science Meeting, Sept. 21-22, 2014, La Jolla, CA.

255. "Enhanced Magnetic Nanoparticle Hyperthermia for Pancreatic Cancer Treatment", Fridon Shubitidze*, Katsiaryna Kekalo, Kerrington Smith, Dawn Fisher, Robert Stigliano, Charles Daghlian, Christopher Ogomo and Ian Baker, poster at Annual NCI Alliance for Nanotechnology in Cancer Investigators' Meeting, October 1-3, 2014, Rockville, MD.

256. "The role of Cr addition on alleviating the environmental embrittlement in $Fe_{30}Ni_{20}Mn_{35}Al_{15}$", Fanling Meng*, Samuel F. Bauer, Ian Baker and Yifeng Liao, Materials Science & Technology 2014, Pittsburgh, PA, October 12-16, 2014.

257. "The Effects of Cold Work and Heat Treatment on the Microstructure and Mechanical Properties of Iron Based Superalloys", B. Hu* and I. Baker, Materials Science & Technology 2014, Pittsburgh, PA, October 12-16, 2014.

258. "Wear Behavior of $Fe_{30}Ni_{20}Mn_{25}Al_{25}$", Y. Lu*, I. Baker, F.E. Kennedy and P.R. Munroe, Materials Science & Technology 2014, Pittsburgh, PA, October 12-16, 2014.

259. "The Effect of Cold-Work and Temperature on the Microstructural Evolution of an Alumina-Forming Austenitic Stainless Steel", Geneva Trotter*, Garrett Rayner, Yi Sun, Paul Munroe and Ian Baker, Materials Science & Technology 2014, Pittsburgh, PA, October 12-16, 2014.

260. "The Effects of Thermo-mechanical Treatments on the Microstructure and Mechanical Properties of Iron Based Superalloys", B. Hu*, G.Trotter, I.Baker, M.K. Miller, L. Yao, S. Chen and Z. Cai, Fall Materials Research Society Meeting, Boston, MA, November 30 - December 5, 2014.

261. "Effect of Al content on the microstructure and mechanical behavior of two-phase FeNiMnAl alloys", Fanling Meng, Jingwen Qiu and Ian Baker*, Fall Materials Research Society Meeting, Boston, MA, November 30 - December 5, 2014.

262. "Analysis of the Role of Cold Work and Aging in the Precipitation of Laves Phase in an Alumina-Forming Austenitic Stainless Steel", Geneva Trotter*, Garrett Rayner, Paul Munroe and Ian Baker, Fall Materials Research Society Meeting, Boston, MA, November 30 - December 5, 2014.

263. "The Microstructure and Mechanical Properties of Two-Phase f.c.c./B2 $Fe_{28}Ni_{18}Mn_{33}Al_{21}$", Fanling Meng*, Jingwen Qiu, Ian Baker, Fall Materials Research Society Meeting, Boston, MA, November 30 - December 5, 2014.

264. "The Influence of Third Bodies on the Wear of $Fe_{30}Ni_{20}Mn_{25}Al_{25}$", Y. Lu*, I. Baker, F.E. Kennedy and P.R. Munroe, poster at the Fall Materials Research Society Meeting, Boston, MA, November 30 - December 5, 2014.

265. "Evolution of the Specific Surface Area of Snow in a High Temperature Gradient Metamorphism", Xuan Wang* and Ian Baker, AGU Meeting, San Francisco, CA, Dec. 15-19, 2014.
266. "Climate change and forest fires synergistically drive widespread melt events of the Greenland Ice Sheet", Kaitlin M Keegan*, Mary R Albert, Joe McConnell and Ian Baker, AGU Meeting, San Francisco, CA, Dec. 15-19, 2014.
267. "The Effects of Soluble Impurites on the Flow and Fabric of Polycrystalline Ice", K. Hammonds* and I. Baker, European Geosciences Union General Assembly 2015, Vienna, Austria, 12-17th April, 2015.
268. "Investigating the Thermophysical Properties of the Ice-Snow Interface Under a Controlled Temperature Gradient", K. Hammonds*, R. Lieb-Lappen, I. Baker, X. Wang and Z. Courville, European Geosciences Union General Assembly 2015, Vienna, Austria, 12-17th April, 2015.
269. "The Effects of Thermo-mechanical Treatments on the Microstructure and Mechanical Properties of Iron Based Superalloy", B. Hu and I. Baker, 2015 NETL Crosscutting Research Review Meeting, Pittsburgh, PA, April 27-30, 2015.
270. "Investigation of the Influence of Laves phase and NiAl Precipitation on Mechanical Properties in an Alumina-Forming Austenitic Stainless Steel", G. Trotter* and I. Baker, Advanced High-Temperature Materials Technology for Sustainable and Reliable Power Engineering (123HiMAT-2015), Sapporo, Japan, 29 June-3 July, 2015.
271. "B2/f.c.c FeNiMnAl Alloys for High Temperature Applications", I. Baker*, F. Meng, Z. Wang, M. Wu, Advanced High-Temperature Materials Technology for Sustainable and Reliable Power Engineering (123HiMAT-2015), Sapporo, Japan, 29 June-3 July, 2015.
272. "Investigation of Laves and NiAl Particle Orientation Relationships in an AFA-type alloy," G. Trotter* and I. Baker, 2015 Gordon Research Conference on Physical Metallurgy, University of New England, Biddeford, ME 19-23 July, 2015.
273. "The Effect of Thermo-mechanical Treatment on an Alumina-forming Austenitic Steel", B. Hu* and I. Baker, 2015 Gordon Research Conference on Physical Metallurgy, University of New England, Biddeford, ME 19-23 July, 2015.
274. "The effects of annealing on the microstructure and mechanical properties of f.c.c./B2 $Fe_{28}Ni_{18}Mn_{33}Al_{21}$", Ian Baker, Fanling Meng and Jingwen Qiu, Intermetallics 2015, Bad Staffelstein, Germany, 28 Sept. - 2 Oct., 2015.
275. "The Effects of Thermo-mechanical Treatments on the Microstructure and Mechanical Properties of AFA Steels", Bin Hu* and Ian Baker, Intermetallics 2015, Bad Staffelstein, Germany, 28 Sept. - 2 Oct., 2015.
276. "The Effects of Thermo-mechanical Treatments on the Microstructure and Mechanical Properties of Alumina-forming Stainless Steels", B. Hu* and I. Baker, Materials Science & Technology 2015, Columbus, OH, October 4-8, 2015.
277. "Effects of Sliding Velocities on Wear Behavior of $Fe_{30}Ni_{20}Mn_{25}Al_{25}$", Y. Lu*, I. Baker, F.E. Kennedy and P.R. Munroe, Materials Science & Technology 2015, Columbus, OH, October 4-8, 2015.
278. "The Effect of Lamellar Coarsening on the Tensile Behavior of $Fe_{28}Ni_{18}Mn_{33}Al_{21}$", Ian Baker*, Fanling Meng, Zhangwei Wang and Jingwen Qiu, Materials Science & Technology 2015, Columbus, OH, October 4-8, 2015.
279. "Alternating and single-direction Temperature Gradient Influence on Sintering of Ice Spheres", X. Wang and I Baker*, Materials Science & Technology 2015, Columbus, OH, October 4-8, 2015.

280. "The Effect of Sulfuric Acid on the Flow and Fabric of Polycrystalline Ice", K.D. Hammonds* and I. Baker, American Geophysical Union Meeting, San Francisco, CA, 14-18 Dec., 2015.
281. "Investigating the Thermophysical Properties of the Ice-Snow Interface Under a Controlled Temperature Gradient", K. Hammonds*, R. Lieb-Lappen, I. Baker and X. Wang, American Geophysical Union Meeting, San Francisco, CA, 14-18 Dec., 2015.
282. "The Structure and Mechanical Behavior of High-Entropy FeNiMnAlTi Alloys", Z. Wang* and I. Baker, 2016 Annual TMS meeting, Nashville, TN, Feb. 14 – 18, 2016.
283. "Investigating the Thermophysical Properties of the Ice-Snow Interface Part II: Thermal Contact Resistance", Kevin Hammonds* and Ian Baker, International Snow Science Workshop 2016, Breckenridge, CO, Oct. 3-8, 2016.
284. "The Microstructure and Mechanical Properties of AFA Stainless Steels", I. Baker*, G. Trotter, B. Hu, G. Rayner and N. Afonina, M.K. Miller, L. Yao, S. Chen and Z. Cai, S.J. Kernion and P.R. Munroe, Eighth International Conference on Advances in Materials Technology for Fossil Power Plants, Algarve, Portugal, October 10-14, 2016.
285. "Martensitic Phase Transformation in a f.c.c./B2 FeNiMnAl Alloy", M. Wu*, P.R. Munroe and I. Baker, Materials Science & Technology 2016, Salt Lake City UT, Oct. 23rd – 27th, 2016.
286. "High-Entropy FeNiMnAlCr Alloys".I. Baker* and Z. Wang, Materials Science & Technology 2016, Salt Lake City UT, Oct. 23rd – 27th, 2016.
287. "Influence of grain size and temperature on the mechanical properties of a FeNiMnAlCr high entropy alloy", Z. Wang*, I. Baker, J. D. Poplawsky, W. Guo, Materials Research Society meeting, Boston, MA, 27 Nov. – 1 Dec., 2016.
288. "The Effects of H_2SO_4 on the Flow and Fabric of Polycrystalline Ice", K. Hammonds and I. Baker*, American Geophyisical Union Meeting, San Francisco, CA, 12-16 December, 2016.
289. "Precipitation in Carbon-doped High-Entropy FeNiMnAlCr Alloy", M. Wu*, Z. Wang, P. Munroe and I. Baker, 2017 TMS Annual Meeting, San Diego, CA, Feb. 26 – March 2, 2017.
290. "Creep of Alumina-forming Austenitic Stainless Steels", I. Baker*, N. Afonina, B. Hu, G. Trotter and S.J. Kernion, 2017 TMS Annual Meeting, San Diego, CA, Feb. 26 – March 2, 2017.
291. "The Mechanical Properties of a Model Alumina-forming Austenitic Stainless Steel", I. Baker*, N. Afonina, H. Nicholson, M. Wu and G. Trotter, Frontiers in Materials Processing Applications, Research and Technology (FIMPART'17), Bordeaux, France, July 9-12th, 2017.
292. "Creep of the Alumina-forming Austenitic Stainless Steel Fe-20Cr-30Ni-2Nb-5Al", I. Baker*, N. Afonina, H.R. Nicholson, M. Wu and G. Trotter, XXVI International Materials Research Congress (IMRC) 2017, Cancun, Mexico, August 20-25, 2017.
293. "The Microstructure and Mechanical Properties of Alumina-Forming Austenitic Stainless Steels", I. Baker, Advanced Materials for Energy and Bioenginering Applications, University of Vermont, December 4th, 2017.
294. "The Effects of H_2SO_4 on the Mechanical Behavior and Microstructural Evolution of Polycrystalline Ice", K. Hammonds and I. Baker*, International Conference on the Physics and Chemistry of Ice, Zurich, Switzerland, 7 - 12 January, 2018.
295. "Organo-Ceramic Bone Adhesive: Reaction Kinetics and Adhesive Properties", F. Prifti Kesseli, C.S. Lauer, I. Baker, D.W. Van Citters, Orthopedic Research Society, New Orleans, LA, 10-13 March, 2018.

296. "Manufacturing of Intermetallic Mn-46%Al by laser powder bed fusion", P. Krakhmalev*, I. Yadroitsev, I. Baker and I. Yadroitsava, 10th International Conference on Photonic Technologies-LANE 2018, Fürth, Germany, 3-6 September, 2018.
297. "The Microstructure and Mechanical Properties of High Strength, Ductile, Eutectic FeNiMnAl(Cr,Ti) High-Entropy Alloys", I. Baker, Z. Wang, M. Wu and F. Meng, Materials Science & Technology Conference & Exhibition - MS&T 2018, Columbus, OH, October 14-18.
298. "Thermo-mechanical Processing of Carbon-doped FeNiMnAlCr High Entropy Alloys", M. Wu* and I. Baker, Materials Science & Technology Conference & Exhibition - MS&T 2018, Columbus, OH, October 14-18.
299. "FeMnNiAlCr High Entropy Alloys (HEAs) and Their Native Oxide Solar Absorbers for Concentrated Solar Power Systems" E. Lee*, M. Wu, S. Somers, I. Baker and J. Liu, Symposium on Intermetallics - from Fundamentals to Applications, Materials Research Society meeting, Boston, MA, 27 Nov. – 1 Dec., 2018.
300. "Climate Effects on Firn Microstructure are Preserved within the Firn Column', K. Keegan*, M. Albert, J. McConnell and I. Baker, American Geophysical Union Meeting, Washington, DC, 10-14 Dec. 2018.
301. "The Effects of Solute and Particles on the Microstructure Changes during Directional Annealing in a Ni-Al System", C. Yang* and I. Baker, TMS Annual meeting, San Antonio, Texas, March 10-14, 2019.
302. "Observation of the Microstructural Evolution of Polar Firn under Compression in a Micro CT" Yuan Li* and Ian Baker, 76th Annual Meeting of Eastern Snow Conference, Fairlee, Vermont, June 4-6, 2019.
303. Characterization of Snow, Firn and Ice, Ian Baker, 76th Annual Meeting of Eastern Snow Conference, Fairlee, Vermont, June 4-6, 2019.
304. "Does Power-law Creep Describe Polar Firn Densification?", Yuan* Li, Ian Baker and Kylie Simpson, 27th International Union of Geodesy and Geophysics General Assembly, Montreal, Canada, 8-18 July, 2019.
305. "Quantifying the Role of APB Tubes on the Work-hardening of Ordered Phases", Ian Baker* and Rachel Osmundsen, poster at DOE Contractors meeting, Gaitherberg, MD, August 13-15, 2019.
306. "Dry snow compaction: theory and French-press Experiments", Colin R. Meyer*, Kaitlin Keegan, Ian Baker, and Robert Hawley, Fall American Geopgysical Union Meeting, San Francisco, CA, December 9-13, 2019.
307. "Densification of Polar Firn", Yuan Li, Ian Baker,* Coalter Palmer, Fall American Geopgysical Union Meeting, San Francisco, CA, December 9-13, 2019.
308. Deformation Behavior of a Single-Phase $L1_2$ High-Entropy Alloy", Rachel Diane Osmundsen* and Ian Baker. to be presented at THERMEC'2020, Vienna, Austria, May 31st - June 5th, 2020.

GRADUATE STUDENT THESES

Name	Degree	Year	Thesis Title
B. Huang[#]	M.S.	1986	The Effect of Boron on Yield Strength, Recrystallization and Grain Growth in Ni_3Al
T. Weber	B.E.	1987	The Effect of Boron on the Microstructure of Ni_3Al
D. Smyers	M.S.	1988	Electrical Resistance and Mechanical Shear Strength of Gold Bonds to Aluminum Films
L. Maiocco	M.S.	1988	Intermetallic Growth in Wire Bonds to Aluminum Metallization Layers
B. Schmidt	B.E.	1988	Grain Growth and Oxidation Studies of FeAl
S. Kadiyala	M.E.	1989	Growth of Au-Al Intermetallic Phases in Gold Wires Bonded to Aluminum Metallizations Containing Cu and Si
F.S. Ichishita	M.E.	1990	Investigation of the Effects of Al-Cu and Al-Cu-Si Thin Film Composition and Microstructure on the Reactive Ion Etching Results
N. Khasgiwale	M.S.	1990	The Effect of Extraneous Factors on Gold Aluminum Bonds on Semiconductor Chips
M. Kryska	M.S.	1991	The Effect of Low Temperature on the Flexural Fatigue and Fracture of Carbon Fiber/Epoxy Composites
P. Nagpal	Ph.D.	1992	The Structure and Properties of Grain Boundaries in NiAl
S. Guha	Ph.D.	1992	Improving the Low Temperature Ductility of NiAl-based Alloys
L. Zhao	M.S.	1993	Mechanical Properties and Microstructures of FeCo Alloys
F. Liu	Ph.D.	1993	X-ray Topography of Polycrystalline Ice
O. Klein	M.S.	1993	Effects of Temperature and Strain Rate on the Mechanical Behavior of FeAl
L. Liu	M.S.	1994	Recrystallization of Copper and Nickel
H. Xiao	M.S.	1994	Defect Structure and Properties of Some B2-Structured Compounds
B. Johnson[*]	M.S.	1995	Wear of NiAl
K. Jia	M.S.	1995	X-ray Topography of Dislocation/Grain Boundary Interactions in Ice
D. Mandal	M.S.	1995	Recrystallization of Polycrystalline and Dispersion-Hardened Monocrystalline Copper
X. Li	M.S.	1996	Effect of Boron and Strain Rate on the Mechanical Properties of FeAl
M. George[*]	M.S.	1996	Wear of Ductile-Phase Toughened NiAl
Yuhong Wu	M.S.	1997	Simple Shear Processing of Materials
Jian Yu	M.S.	1997	Directional Recrystallization of Tungsten Heavy Alloys
Xiaohong Hu	Ph.D.	1998	X-ray Topography of Freshwater Ice
Ying L. Trickett	M.S.	1999	The Mechanical Properties of Ice Single Crystals
Yong Yang	Ph.D.	1999	Mechanical and Magnetic Properties of Single Crystals of FeAl.

[#] Co-advisor with Prof. E.M. Schulson
[*] Co-advisor with Prof. F.E. Kennedy

GRADUATE STUDENT THESES (Continued)

Name	Degree	Year	Thesis Title
Guofeng Bai[#]	M.S.	2000	Study of Dislocations in II-VI Compounds using Scanning Probe Microscopy.
Cheng Chen[#]	M.S.	2001	On the Properties of moving Dislocations in ZnS semiconductor.
Markus Wittman	Ph.D.	2002	The Yield Strength Anomaly in B2 Compounds
Xiang Li	M.S.	2002	The Effect of Sulfuric Acid on the Mechanical Properties of Ice Single Crystals
Daniel Cullen	Ph.D.	2002	The Microstructural Location of Impurities in Ice Cores
Dongmei Wu	Ph.D.	2003	The Mechanical Properties and Strain-Induced Ferromagnetism in B2-Structured Fe-Al Single Crystals
Beatrice Iliescu	M.S.	2003	Characterization of Directionally Recrystallized Cold-Rolled Nickel and MA 754 Superalloy
Jiying Li	Ph.D.	2003	Directional Recrystallization of Copper and Nickel
James Hanna	M.S.	2004	Investigations of $Fe_{30}Ni_{20}Mn_{25}Al_{25}$: A New High-Strength Spinodal Alloy
Min Song[$]	Ph.D.	2005	Effects of Particles on Anelasticity, Creep and Microstructural Evolution of Granular Ice
Scott Lish	M.S.	2005	Investigations of the FeCoMnAl Alloy System
Rachel Obbard	Ph.D.	2006	Microstructural Determinants in Glacial Ice
Hui Chang	Ph.D.	2006	Directional Recrystallization of Nickel
Johnathan Loudis	M.S.	2007	Microstructural Evolution and Dislocation Behavior in Coherent B2/BCC Alloys: $Fe_{44}Ni_{28}Al_{28}$, and $Fe_{30}Ni_{20}Mn_{25}Al_{25}$.
Katherine E. Sieg	M.S.	2008	Examination of the Fine-grained Region of the Siple Dome Ice Core
Nicole Spalding	M.S.[*]	2009	Characterization of Firn Microstructure Using Scanning Electron Microscopy: Implications for Physical properties Measurements and Climate Reconstructions
James Hanna	Ph.D.	2009	Equal Channel Angular Extrusion of Nanocrystalline Powders
Rachel Lomonaco	M.S.	2010	Microstructural Characterization of Winter Layers from Summit, Greenland
Ye Sun	M.S.	2010	A Microstructural Study of Wear Mechanisms in Nanocrystalline Aluminum-Silicon Alloys
Yifeng Liao	Ph.D.	2010	The Yield Anomaly and the Role of APBs in $L2_1$-structured Fe_2AlX Compounds and Related Alloys
Si Chen	Ph.D.	2011	Characterizing Dry Snow Metamorphism
Michael Gwaze[*]	M.S.	2011	Wear of Nanocrystalline Metals and Alloys

[#] Co-advisor with Prof. V.F. Petrenko
[$] Co-advisor - Dr. D. Cole of U.S.A. CRREL
[*] U. Maine – Orono student. Primary advisor –Debra Meese

GRADUATE STUDENT THESES (Continued)

Name	Degree	Year	Thesis Title
Shiraz Cassim[#]	M.S.	2011	Surface Engineering Iron/Iron Oxide for Magnetic Hyperthermia
Garrett Rayner	M.S.	2011	Novel High-Temperature Austenitic Alloys for Energy Conversion
Xiaolan Wu	Ph.D.	2013	Structure and properties of FeNiMnAl Spinodal Alloys
Stephanie Gregory[&]	M.S.	2013	Characterization of the WAIS Divide firn core
Fanling Meng	Ph.D.	2014	Microstructure and Mechanical Behavior of $Fe_{30}Ni_{20}Mn_{35}Al_{15}$ and modified $Fe_{30}Ni_{20}Mn_{35}Al_{15}$ alloys
Kaitlin Keegan[*]	Ph.D.	2014	The Effect of Microstructure on Firn Gas Transport
Xuan Wang	Ph.D.	2015	The Effects of Overburden and Temperature Gradients on Dry Snow Metamorphism
Margaret Wu	M.S.	2016	Recrystallization Behavior of FeNiMnAl Alloys
Geneva Trotter	Ph.D.	2016	Microstructure and Mechanical Behavior of Alumina-Forming Austenitic Stainless Steel Alloys
Bin Hu	Ph.D.	2016	Intermetallic Strengthened Alumina-Forming Austenitic Steels for Energy Applications
Yuan Lu[#]	Ph.D.	2016	Wear of FeNiMnAl Spinodal Alloys
Natalie Afonina	M.S.	2017	Creep of Laves Phase-Strengthened Austenitic Steels
Kevin Hammonds	Ph.D.	2017	The Effects of Soluble Impurities on the Mechanical Behavior of Polycrystalline Ice and Laboratory Investigations on the Thermophysical Properties of Ice-Snow Interface
Anand Pratik*	M.S.	2017	Fe_2AlV for Energy-Harvesting applications.
Zhangwei Wang	Ph.D.	2017	Alloying and Heat Treatment of High-Entropy FeNiMnAlCr alloys
Fioleda Prifti[††]	Ph.D.	2018	Compositions and Properties of Adhesive, Self-Setting Tetracalcium Phosphate and Phosphoserine Organo-Ceramic Cements for Musculoskeletal Applications
Margaret Wu	Ph.D.	2019	Microstructure and Mechanical Performance of $Fe_{40.2}Ni_{11.3}Mn_{30}Al_{7.5}Cr_{11}$ and Annealed $Fe_{40.4}Ni_{11.3}Mn_{34.8}Al_{7.5}Cr_6$ with and without 1.1% carbon

FORMER POST-DOCTORAL FELLOWS

Dr. Löic Nazé	Nov. 1987 - July 1989	Transmission Electron Microscopy of Dislocations in Ice
Dr. Paul R. Munroe	Oct. 1987 - Sept.1990	Transmission Electron Microscopy of B2 Compounds

[*] Co-advisor – Francis Kennedy
[#] Primary advisor – Jack Hoopes
[&] Primary Advisor – Mary Albert
[*] Co-Advisor – Mary Albert
[#] Co-Advisor – Prof. F.E. Kennedy
[*] Co-advisor - Prof. Jifeng Liu
[††] Co-advised with D. Van Citters

Dr. Fuping Liu	Aug. 1993-Nov. 1994	Synchrotron X-ray Topographic Studies of Dislocation/Grain Boundary Interactions in Ice
Dr. Xavier Pierron	Feb. 1995-May 1997	Fracture of FeAl
Dr. Huan Li	Dec 1998-April 1999	Mechanical Behavior of Intermetallics
Dr. Adebayo Y. Badmos	Jan 1999-Dec 2002	Computer Simulation of Directional Recrystallization
Dr. Markus Wittmann	Sept. 2003-Jan. 2006	Investigations of two-phase magnetic intermetallics
Dr. Qi Zeng	Nov. 2003 - Jan 2007	Studies of novel Nanocrystalline magnetic alloys
Dr. Guandong Zhang	Feb. 2008 -Sept. 2008	Nanoparticle Development for Magnetic Hyperthermia
Dr. Rumana Yaqub	Jan. 2012- Feb.2013	Nanocrystalline τ-MnAl Permanent Magnets
Dr. Anurag Chaturvedi	Jan. 2012-Feb. 2013	Nanocrystalline τ-MnAl Permanent Magnets
Dr. Daniel Breton	May 2011 –Aug. 2013	Strain-Induced Fabric Development in Ice under Hydrostatic Pressure
Dr. Patrick Bisson	Aug. 2013 –Aug. 2014	Strain-Induced Fabric Development in Ice under Hydrostatic Pressure
Dr. Fanling Meng	Dec. 2013 – Jun. 2015	Structure/Property Relationships in FeNiMnAl alloys
Dr. Yuan Li.	Dec 2017 -	Dynamic Micro CT Studies of Firn

FORMER RESEARCH SCIENTISTS

Dr. Rachel Obbard	Jan. 2009 – Sept 2012	Microstructural Analysis of Ice and Firn Cores
Dr. Katerina Kekalo	Jan. 2011 – July 2016	Development of Magnetic nanoparticles for Cancer Hyperthermia

RESEARCH ASSOCIATE

Beatrice Iliescu	July 2016 – March 2017	Directional Recrystallization Processing

FORMER VISITING SCIENTISTS/STUDENTS

Prof. Zhiqiang Xing	Sept. 1995 - Aug. 1996
Prof. Ying Xu	Feb. 1997 - Feb. 1998
Prof. Jin-Song Huang	Jan. 2008 - Dec 2008
Hong Wu	Jan 2009 - Dec 2010
Jianlin Cheng	Jan 2011- June 2011
Jingwen Qui	Sept. 2011 - Sept.2013
Katharina (Sophia) Ungermann	Nov. 2017 - April 2018
Xiaobin Guo	Dec 2017 - Sept. 2019

RESEARCH EXPERIENCES FOR TEACHERS ASSOCIATES

Kevin Lavigne	Summer 2005	Directional Recrystallization Processing

Steve Kirsche	June/Fall 2017	Dynamic Observations of the Evolution of Firn

FORMER UNDERGRADUATE RESEARCH ASSISTANTS

P.M.S. Pradhan, Janelle M. Chang, Kathryn R. Lundquist, Jay Jung, Brian M. Lehrman, Navan Welhinda, Matthew Robson (Cooper Union), Serguey A. Polissar, Anderson Hoke, Ryan Quiller (RPI), Brian O. Henthorn, Elizabeth Tatkow, Yirong Hu, Kristin Canavan, Kajal Khanna, Matthew p. Dattwyler, Stephanie L. Johns, Vanessa Durand, Lisa A. Torrey, Catharine S. Muscat, Bryan R. Bollinger, Benjamin Bollinger, Patrick Cantwell, Marina Markova, Daniel Mazzucco, Cara M. Mathews, Emma W. Kulwa, Joshua D. McCurdy, Robert A. Jensen, Jesse T. McCann, Steven W. Hsu, Marcella D. Gift, M. Damelin, Pier P. Bove, Alexander Pool, Navam G. Welihinda, Audi Okullo, Mark R. Tomaszewski, Veronica Mendez, Trisha M. Grant, Elizabeth Parrish (North Carolina State Univ.), Abraham Korn (Oregan State Univ.), Jonathan Loudis, Virginia McCreary (Columbia University), James B. Joslin, Ryan Conger, Milene Kennedy, Thomas Donovan, Michael C. Zargham, Hao Bi, Stavros Moysidis (U. Florida), Andrew P. Argeski, Kazi Kased L. Ahmed, Taniquea C. Boyd, Cecelia C. Zhang, David A. Coen, Jennifer Albretsen, Mael Bredeche, Stephen M. Ubnoske, Andrew S. Geffken, Jacob.R.Grosek, (U. Utah), Kimberly Sung, (Mt. Holyoke College), Ahra Cho, Ayrat Safine. W. Robert Wilson III, Derikka Mobley, Shreyan Poudyal, Benjamin Foreback (U. Utah), Theresa Cassano, Kelly Aho, Adam Dohner, Benjamin Meigs, Gregory W. Troderman, Thanhhanh Tran (City College of New York), Annika Grosse (Helmut Schmidt University, Germany), Worapol Ngamcherdtrakul (Chulalongkorn University, Thailand). Katherine Conway, Sharon Zhang, Christopher Bustard, Evan Zeitchick, Bjorn Engelke (Helmut Schmidt U., Germany), Preechaya (Aim) Ungwattanapanitch (Chulalongkorn U., Thailand), Curtis Lim, Michael Kellar, Alex J. Hanson, Daniel J. Pennachio, Nirakar Poudel, Nitya S. Rajgopal, Liliana Ma, Katherine Koo, Madeleine Parker, Harold Dansu, Jingxi (Emily) Li, Saaid H. Arshad, Bingyue Wang, Stefan Deutsch, Joseph Styer, Kevin Figgins, Russell Primeau, Hughes Lee, Reed Harder, Max Block (Stanford), Yi (Annie) Sun, Benjamin Nollet, Frank Zhang, Jocelyn Shyong, Andre Brandenberg (Helmut Schmidt U., Germany), Samuel Bauer, Alexander Crain, Marie Schwabe, Karen P. Jacques, Sean J. Oh, Akshay H. Subramaniam, Skyler J. Perot, Jose Burnes Garza, Braelyn M. Riner, Rachel Shatanof, Jessica Caron, Chaoran Cheng, Ryan Strain, Amaris A. De La Rosa-Moreno, Meera Nagpal (high School student), Pascal-Benedict Nebel (Helmut Schmidt U., Germany), Evan W. Schlick, Michael A. Fraunberger, Emmanuel S. Akosah, Napon Ravirujiphant (Chulalongkorn University, Thailand), Hailey Nicholson, William Burger, Kasidet Trerayapiwat, William L. Roussell, Lindsay Pitt, Ijeoma Temitope Nwuke, Jarrett Taylor, Mitchell Tang, Kylie Simpson, Mitchell Meade, Rachel Josef, Jessica Teipel, Russell Beckerman, Peter Unger, Sarah Chong, Ty Teodori, Timothy J.S. Yoo, Nour B. Hayek, Lindsey E. Beaudoin, Caitlin Lynch, Wesley (Thomas) Clark, Jonah M. Sternthal, Kylie Simpson, Cynthia J. Bundi, Elisa (Juliet) Giraso, Tracy Mutoni, Coalter Palmer.

.

CURRENT UNDERGRADUATE RESEARCH ASSISTANTS

Jonathan Bonilla Toledo

CURRENT POST-DOCTORAL FELLOWS

Yuan Li	Dec. 2017-	Microstructural Evolution of Firn

CURRENT GRADUATE STUDENTS

Name	Degree	Working Project Title
Chao Yang	Ph.D.	Directional Recrystallization Processing
Andrew Peterson	Ph.D.	Creep of AFA Steels
Rachel Osmundsen	Ph.D.	Quantifying the Role of APB Tubes on the Work-Hardening of Ordered Alloys.
Michael Bram Kuijer	Ph.D.	Microstructural Analysis of incrementally-formed metals.

Cory Cline[#]	Ph.D.	Correlation of ternary element atom site effect on the thermoelectric properties of Fe_2AlV using ALCHEMI
Yong Wang[*]	Ph.D.	Cryogenic Wear of High Entropy Alloys
Thomas Keller	Ph.D.	ECAE processing of τ-MnAl
Ayobami Ogunmolasuyi	Ph.D.	The Impact of Inpurities and Stress State on Polycrystalline Ice Deformation and Ice-Core Layering

CURRENT Ph.D. Exchange Students

Ling Hu	Oct 2018 -	Development of high nitrogen stainless steels
Hanlin Peng	Feb. 2019 -	Deformation of $L1_2$ High Entropy Alloys
Lei Wang	Nov. 2019 -	High Entropy Alloys

[#] Jifeng Liu, co-advisor
[*] Francis E. Kennedy, co-advisor