CURRICULUM VITAE

NAME: Waltraud M. Kriven

BORN: in Eisenstadt, Austria.

CITIZENSHIP: Dual Australian and USA citizen

PROFESSION: Full Professor of Material Science and Engineering,
Department of Material Science and Engineering,
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QUALIFICATIONS:

- Ph. D. in Physical and Inorganic Chemistry (1976) from the Dept. of Physical and Inorganic Chemistry, University of Adelaide, South Australia. Ph. D. Supervisor, Dr. S. W. Kennedy.
- B. Sc. (Hons.) Bachelor of Science, Honours degree (1971), in Physical and Inorganic Chemistry.
- B.Sc. (1970) Bachelor of Science from University of Adelaide, majoring in Physical and Inorganic Chemistry and Biochemistry.
- Matriculation from St. Joseph's Girl's High School, 1966, in Adelaide, South Australia, Australia (1961 - 1966).

PROFESSIONAL AFFILIATIONS:

Academician, World Academy of Ceramics
Fellow of the American Ceramic Society
Fellow of the Australian Ceramic Society
Member of the Materials Research Society, USA
Member of the American Chemical Society, USA
Member of the Electron Microscopy Society of America

LANGUAGES: English (by education), German, French (to matriculation standard, 5 years), Latin (four years in high school)

NATIONALITY AND VISA STATUS:

Dual Australian and U.S. Citizen.

AWARDS:

- Fellow of the American Ceramic Society, 1995
- Academican, World Academy of Ceramics, 2004
- Fellow of the Australian Ceramic Society, 2008

- Brunauer Award (1988), jointly with C.J. Chan. and Prof. J.F. Young. Awarded by the Cements Division of theAmerican Ceramic Society, for the Best Paper of the Year.

- Brunauer Award (1991), jointly with Dr. O.O. Popoola and Prof. J. F. Young. Awarded by the Cements Division of the American Ceramic Society, for the Best Paper of the Year.

PATENTS:

- "A High Strength, Flaw Tolerant, Oxide Ceramic Composite,"
  Inventors: W. M Kriven and D. H. Kuo
  US Patent number 5,948,516 issued Feb 1999.

- "Toughening of Ceramic Composites by Transformation Weakening of Interphases,"
  Inventors: W. M. Kriven and S.-J. Lee
  US patent number 6,361,888 issued March 2002.

- "Processes for Preparing Mixed-Oxide Powders,"
  Inventors: M. A. Gülgün, W. M. Kriven and M. H. Nguyen
  US patent number 6,482,387 issued Nov 19th 2002

- "High Temperature Tolerant Ceramic Composites Having Porous Interphases,"
  Inventors: W. M. Kriven and S. -J. Lee
  US patent number 6,887,569 issued May 3rd 2005.

- "Refractory Composite Comprising a Geopolymer and Method of Making a Refractory Composite,"
  Inventors: Waltraud M. Kriven and Gregory P. Kutyla
  US Patent Application 14/832,484 submitted April 2015.

RESEARCH EXPERIENCE:

Aug 1995 - present:
Professor, Department of Materials Science and Engineering,
University of Illinois at Urbana-Champaign.

Research areas:

- In situ, high temperature (≤ 2000°C) synchrotron studies of phase transformations and thermal expansions in ceramics
- Geopolymers, their composites and geopolymer derived ceramics
- Structural ceramic composites, bioceramics (design, fabrication, characterization and mechanical evaluation)
- Microstructure characterization by scanning and transmission electron microscopy (SEM, TEM, EDS, HVEM, XPS)
- Mechanisms of ferroelasticity and ferroelastic transformations
- Martensitic transformations in ceramics
- Bioceramics and bioresorbable nanoceramics for gene/drug delivery

June 2011: Visiting Sabbatical Professor, Department of Earth Sciences, Cambridge University, UK.

Jan 1997 - July 1997 (inclusive)

Visiting professor on sabbatical leave at:
The Institut für Kristallographie und Angewandte Mineralogie,
(Institute for Crystallography and Applied Mineralogy)
Ludwig-Maximilians-Universität, München
Theresienstrasse 41,
D 80333 München, Germany

Aug 1995: Promoted to Full Professor

Aug. 1987 - 1995:
Tenured Associate Professor, Department of Material Science and Engineering, University of Illinois at Urbana-Champaign.
Principal investigator, Materials Research Laboratory (1984-1989).

Feb 1984 - Aug 1985:
Visiting Research Associate Professor at the Materials Research Laboratory and Department of Ceramic Engineering, University of Illinois at Urbana-Champaign.

Nov. 1983 - Jan. 1984:
Assistant Research Engineer, Department of Materials Science and Mineral Engineering, University of California, Berkeley.

May 1980 - Nov. 1983:

Visiting Scientist at Max Planck Institut für Metallforschung, Institut fur Werkstoffwissenschaften (Stuttgart). Conducted research in the field of transformation toughening of ceramics in colloraboration with Dr. M. Rühle and Dr. N. Claussen. Experimental determination of elastic strain field contrast and crystallographic mechanism of the martensitic transformation in composite zirconia-alumina ceramics by 1 MeV high voltage electron microscopy. Microstructural characterization by analytical STEM-TEM electron microscopy, including energy dispersive X-ray (EDX) techniques.

April 1979 - May 1980:

Assistant Research Engineer and Lecturer at the University of California, Berkeley, in the Dept. of Materials Science and Mineral Engineering, working with Prof. A. G. Evans. The research project was to understand the mechanisms of ceramic toughening by martensitic transformations. Experimental techniques included transmission electron microscopy, microchemical analysis by scanning and transmission electron microscopy (with EDX methods) and theoretical martensite analyses by computer calculations. Related to the above, worked with four graduate students and assisted with their doctoral supervision.

Fall Quarters (1977-1979, 3 years):

Lecturer in the Dept. of Materials Science and Mineral Engineering, University of California, Berkeley.
Gave a 4-unit course on Phase Equilibria and Transformations (phase diagrams) to Juniors and Seniors. It was a main-stream course required for a ceramics major, and by six engineering departments. Instruction was supported by two teaching assistants. Set up a laboratory course to complement the lecture course.

April 1977 - April 1979:

Post-doctoral research scientist at Lawrence Berkeley Laboratory, Division of Materials and Molecular Research, University of California, Berkeley. The research project was carried out with Prof. Joseph A. Pask at LBL and in the Dept. of Material Science and Mineral Engineering. The project was a crystal chemical and crystallographic investigation of mullite, using the techniques of ceramic processing, X-ray diffraction and STEM in association with Prof. Gareth Thomas' research group. X-ray diffraction and STEM-EDX work was done with Prof. H. Rudy Wenk in the Dept. of Earth Sciences at U.C.-Berkeley.

Sept. 1976 - April 1977:

Post-doctoral Teaching and Research Fellow in the Chemistry Dept. of the University of Western Ontario, London, Ontario, Canada. The research project involved experimental chemical

physics, with Prof. A. R. Allnatt. Tutored and demonstrated first year chemistry for two days per week for the Canadian academic year.

April 1976 - Sept 1976:

At Adelaide University, Dept. of Physical and Inorganic Chemistry, undertook a research project sponsored by a grant from the Australian Research Grants Committee. The project was a crystallographic structure analysis of rubidium nitrate phase IV. Part-time studies for a graduate Diploma of Education, at the University of Adelaide, South Australia.

February 1971 - February 1976:

Studied for a Ph.D. in Solid State Chemistry at Adelaide University, South Australia, Australia.
Title of Thesis: "Crystallographic Mechanisms of Topotactic Structure Changes, especially in Inorganic Nitrate Crystals"
Short Title: "Displacive Transformations in Nitrate Crystals"
Thesis work was done on four projects:
1. The NaCl-type to CsCl-type transformation was studied in the phases I-II-III in $RbN0_3$ by optical microscopy, X-ray precession and diffractometry methods, and combinations thereof. Experimental observations were compared with computed martensitic analyses which predicted orientation relations, habit planes and shape changes. The IV-III transformation was observed by transmission electron microscopy.
2. The decomposition of potassium nitrate under electron irradiation in an electron microscope, a martensitic analysis of the structure change being made by the stereographic method.
3. The mechanism of the aragonite-type to calcite-type transformation in $KN0_3$ using techniques of x-ray diffraction, electron microscopy, optical microscopy, scanning electron microscopy and computing.
4. A computer martensitic analysis of the zirconia tetragonal to monoclinic transformation using lattice parameters from literature, and based on a coordinate geometry method developed in this laboratory for calculating the input data.

BOOKS EDITED

1. Advances in Ceramic-Matrix Composites-IX. Edited by Narottam P. Bansal, J.P. Singh, Waltraud M. Kriven, and Hartmut Schneider. Ceramic Transactions, vol **153** published by the American Ceramic Society, (2003).

2. 27th Annual Conference on Composites, Advanced Ceramics, Materials, and Structures: Parts A and B. Edited by H.-T. Lin and W. M. Kriven. Ceramic Engineering and Science Proceedings, vol **24**, issues 3 and 4 (2003) (180 papers).

3. 64th Conference on Glass Problems. Edited by Waltraud M. Kriven. Papers presented at the 64th Conference on Glass Problems at the University of Illinois, USA, (2003). Ceramic Engineering and Science Proceedings (CESP) vol. **25**, issue 5, (2004). Published by the American Ceramic Society (2004).

4. Advances in Ceramic-Matrix Composites-X. Edited by J. P. Singh, N. P. Bansal and W. M. Kriven, Ceramic Transactions, vol. **165**, (2005). Published by the American Ceramic Society, Westerville, OH, USA.

5. Mechanical Properties and Performance of Engineering Ceramics and Composites. Edited by Edgar Lara-Curzio, Dongming Zhu and Waltraud M. Kriven. Ceramic Engineering and Science Proceedings, vol **26**, issue 2 (2005) (50 papers).

6. Advanced Ceramic Coatings and Ceramic-Metal Systems. Edited by Dongming Zhu, Kevin Plucknett and Waltraud M. Kriven. Ceramic Engineering and Science Proceedings, vol **26**, issue 3 (2005) (50 papers).

7. Advances in Solid Oxide Fuel Cells. Edited by Narottam Bansal, Dongming Zhu, Waltraud M. Kriven. Ceramic Engineering and Science Proceedings, vol **26**, issue 4 (2005) (35 papers).

8. Advances in Electronic Ceramic Materials. Edited by Sheng, Yao, Bruce Tuttle, Clive Tandall. Dwight Viehland, Dongming Zhu and Waltraud M. Kriven. Ceramic Engineering and Science Proceedings, vol **26**, issue 5 (2005) (40 papers).

9. Advances in Bioceramics and Biocomposites. Edited by Mineo Mizuno, Dongming Zhu and Waltraud M. Kriven. Ceramic Engineering and Science Proceedings, vol **26**, issue 6 (2005) (20 papers).

10. Advances in Ceramic Armor. Edited by Jeff J. Schwab, Dongming Zhu and Waltraud M. Kriven. Ceramic Engineering and Science Proceedings, vol **26**, issue 7 (2005) (30 papers).

11. Developments in Advanced Ceramic and Composites. Edited by Manuel E. Brito, Peter Filip, Charles Lewinsohn, Ali Sayir, Mark Opeka, William M. Mullins,

Dongming Zhu and Waltraud M. Kriven. Ceramic Engineering and Science Proceedings, vol **26**, issue 8 (2005) (43 papers).

12. Advances in Ceramic-Matrix Composites-XI. Edited by J. P. Singh, N. P. Bansal and W. M. Kriven, Ceramic Transactions, vol. **175**, (2005). Published by the American Ceramic Society, Westerville, Ohio, USA.

13. The Conference on Glass Problems. Edited by Waltraud M. Kriven. Ceramic Engineering and Science Proceedings, vol **27**, issue 1, (2006).

14. Developments in Porous, Biological and Geopolymer Ceramics. Edited by Jonathan Salem and Dongming Zhu, General Editors; Manuel Brito, Eldon Case and Waltraud Kriven. Ceramic Engineering and Science Proceedings, Volume **28**, Issue 9 (2007).

15. Developments in Strategic Materials. Edited by Hua-Tay Lin, Kunihito Koumoto, Waltraud M. Kriven, David P. Norton, Edwin Garcia and Ivar Reimanis, Ceramic Engineering and Science Proceedings, Vol **29** issue 10 (2008).

16. Mechanical Properties and Performance of Engineering Ceramics and Composites IV. Edited by Dileep Singh and Waltraud M. Kriven. Volume editors - Dileep Singh and Jonathan Salem. Ceramic Engineering and Science Proceedings, Vol **30**, issue 2 (2009).

17. Strategic Materials and Computational Design, Editors Waltraud M. Kriven, Yanchun Zhou and Miladin Radovic, Volume editors: Sanjay Mathur and Tatsuki Ohji, Vol. **31**, issue 10 (2010).

18. Developments in Strategic Materials and Computational Design II, Editors Waltraud M. Kriven, Andrew L. Gyekenyesi, Jingyang Wang. Volume Editors Sajanto Widjaja and Dileep Singh, Vol. **32**, issue 10 (2011).

19. Developments in Strategic Materials and Computational Design III, Editors: Waltraud M. Kriven, Andrew L. Gyekenyesi, Gunnar Westin, Jingyang Wang; volume editors Michael Halbig and Sanjay Mathur Vol. **33**, issue 10 (2012).

20. Development in Strategic Materials and Computational Design IV. Editors Waltraud M. Kriven, Jingyang Wang and Yanchun Zhou, Andrew L. Gyekenyesi, Volume editors Soshu Kirhara and Sujanto Widaja. Proceedings of the (2013) Daytona Beach Int. Conf. and Expo on Advanced Ceramics, vol **34**, issue 10 (2013).

21. Design, Development and Applications of Structural Ceramics, Composites and Nanomaterials, edited by Dileep Singh, Dongming Zhu, Waltraud M. Kriven, Sanjay Mathur; and Hua-Tay Lin, volume editor. Ceramic Transactions vol. **244** (2014).

22. Development in Strategic Ceramic Materials. Editors, Waltraud M. Kriven, Dongming Zhu, Kyoung Il Moon, Taejin Hwang, Jingyang Wang, Charles Lewinshon and Yanchun Zhou. Volume Editors, Andrew Gyekenyesi and Michael Halbig. Proceedings of the (2014) Daytona Beach Int. Conf. and Expo on Advanced Ceramics, vol **35**, issue 8 (2014).

23. Development in Strategic Ceramic Materials. Editors, Waltraud M. Kriven, Jingyang Wang, Donging Zhu, Thomas Fischer. Volume Editors, Jingyang Wang, and Soshu Kirihara. Proceedings of the (2015) Daytona Beach Int. Conf. and Expo on Advanced Ceramics, vol **36**, issue 8 (2015).

24. Ceramics For Environmental Systems. Edited by Lianzhou Wang, Nobuhito Imanaka, Waltraud M. Kriven, Manabu Fukushima, Girish Kale. Volume Editors Mrityunjay Singh, Tatsuki Ohji, Alexander Michaelis. Ceramic Transactions vol **257** (2016).

25. Development in Strategic Ceramic Materials. Editors, Waltraud M. Kriven et al. Proceedings of the (2016) Daytona Beach Int. Conf. and Expo on Advanced Ceramics, vol **37**, issue 8 (2016), in preparation.

REFEREED JOURNAL PUBLICATIONS AND BOOK CHAPTERS:

1. "Surface Effects Before and After the Aragonite-Type to Calcite-like Transformation in Potassium Nitrate in Relation to Mechanism", S. W. Kennedy and W. M. Kriven, Journal of Material Science **7** (1972) 1092-1095.

2. "Martensitic Transformation Cubic to Rhombohedral in Rubidium Nitrate", S. W. Kennedy and W. M. Kriven, Journal of Material Science **11** (1976) 1767-1769.

3. "Topotaxial Decomposition of Calcite-Type $KN0_3$ Crystals", S. W. Kennedy and W. M. Kriven, Journal of Solid State Chemistry **33** (1980) 71-77.

4. "Structural Transformations in $KN0_3$, $RbN0_3$ and NH_4Br", S. W. Kennedy, W. M. Kriven and W. L. Fraser, International Conference on Martensitic Transformations, (ICOMAT) MIT, Cambridge,USA (1979) 208-213.

5. "The Influence of Grain Boundary Silica Impurity on Alumina Toughness", J. S. Moya, W. M. Kriven and J. A. Pask, Surfaces and Interfaces in Ceramic and Ceramic-Metal Systems, J. A. Pask and A. G. Evans (Editors), Berkeley, (1980) 317-322.

6. "Martensitic Transformations in Zirconia-Particle Size Effects and Toughening", A. G. Evans, N. Burlingame, M. Drory and W. M. Kriven, Acta Metallurgica **29** (1981) 447-456.

7. "The Martensite Crystallography of Tetragonal Zirconia", W. M. Kriven, W. L. Fraser and S. W. Kennedy, Advances in Ceramics **3** (1981) 82-97.

8. "Martensite Theory and Twinning in Composite Zirconia Ceramics", W. M. Kriven, Advances in Ceramics **3** (1981) 168-183.

9. "Shear Transformations in Inorganic Materials", W. M. Kriven, Invited review paper, published Proceedings of the International Conference on Solid to Solid Phase Transformations, Ed. H. 1. Aaronson, D. E. Laughlin, R. F. Sekerka and C. M. Wayman, (AIME), Pittsburgh, (1982) pp. 1507- 1532.

10. "Martensitic and Other Transformation Mechanisms and Relaxation in $RbN0_3$", S. W. Kennedy and W. M. Kriven, published Proceedings of the International Conference on Solid to Solid Phase Transformations, Ed. H. I. Aaronson, D. E. Laughlin, R. F. Sekerka and C. M. Wayman, (AIME), Pittsburgh, (1982) pp. 1545-1549.

11. "The II to I Transformation of Aragonite-Type Potassium Nitrate", W. M. Kriven and S. W. Kennedy, published Proceedings of the International Conference on Solid to Solid Phase Transformations, Ed. H. I. Aaronson, D. E. Laughlin, R. F. Sekerka and C. M. Wayman, (AIME), Pittsburgh, (1982) pp. 1551-1555.

12. "Analysis of Strain Around Tetragonal and Monoclinic Zirconia Inclusions", M. Rühle and W. M. Kriven, published Proceedings of the International Conference on Solid to Solid Phase Transformations, Ed. H. I. Aaronson, D. E. Laughlin, R. F. Sekerka and C. M. Wayman, (AIME), Pittsburgh, (1982) pp. 1569-1573.

13. "The Stability of Tetragonal Zirconia Particles in Ceramic Matrices", A. H. Heuer, N. Claussen, W. M. Kriven and M. Rühle, J. Am. Ceram. Soc., **65** [12] (1982) 642-650.

14. "Lattice-Deformational Transformations in Non-Metals", W. M. Kriven, Proceedings of the International Conference on Martensitic Transformations (ICOMAT), Summer Course held in Leuven, Belgium (1982) pp. 9.1-9.26.

15. "Solid Solution Range and Microstructures of Melt-Grown Mullite", W. M. Kriven and J. A. Pask, J. Am. Ceram. Soc., **66** [9], (1983) 649-654.

16. "Stress-Induced Transformations in Composite Zirconia Ceramics", M. Rühle and W. M. Kriven, Berichte der Bunsegesellschaft fur Physikalische Chemie **87**, (1983) 222-228.

17. "Anomalous Expansion in $A1_20_3$- 15 vol.% $(Zr_{0.5}Hf_{0.5})O_2$", W. M. Kriven and E. Bischoff, Advances in Ceramics, **12**, (1984) 425-427.

18. "The Transformation Mechanism of Spherical Zirconia Particles in Alumina", W. M. Kriven, Advances in Ceramics, **12** (1984), 64-77.

19. "Microcrack Nucleation in Ceramics Subject to a Phase Transformation", Y. Fu, A. G. Evans and W. M. Kriven, J. Am. Ceram. Soc., **67** [9], (1984) 626-630.

20. "Characterization of Copper-Ceramic Interfaces," W. M. Kriven and S. H. Risbud, Electronic Packaging Materials Science. Published by Materials Research Society, Pittsburgh. **Vol 40**, (1985) 323-328.

21. "Microstructure of Non-Stoichiometric Dicalcium Silicate Doped with Potassium Oxide," C-J. Chan, A. Ghose, W. M. Kriven and J. F. Young, Proc. Beijing Int. Symp. Cement and Concrete, China, Vol**. I,** (1986) 11-24.

22. "Electron Diffraction of Precipitates at Copper-Cordierite Interfaces," W. M. Kriven and S. H. Risbud, Materials Letters, [12], (1985) 471-474.

23. "Investigation of a Ceramic-Metal Interface Prepared by Anodic Spark deposition," K. A. Koshkarian and W. M. Kriven, J. de Physique (1988) **49**, Suppl. [10] C5-213 to 217.

24. "Displacive Transformation Mechanisms in Zirconia Ceramics and Other Non-Metals," W. M. Kriven, in Tailoring Multiphase and Composite Ceramics, Edited by R. E. Tressler, G. L. Messing, C. G. Pantano and R. E. Newnham, Plenum Press, (1986) 223-237.

25. "Particle Size Effect of Dicalcium Silicate in a Calcium Zirconate Matrix", W. M. Kriven, C. J. Chan and E. A. Barinek. Advances in Ceramics, (1988) **24A**, pp. 145-155.

26. "Effect of High Temperature Oxidation on the Microstructure and Mechanical Properties of Whisker-Reinforced Ceramics," W. M. Kriven, G. Van Tenderloo, T. N. Tiegs and P. F. Becher, Ceramic Microstructures 86: Role of Interfaces, Plenum Press Publ., Edited J. A. Pask and A. G. Evans, Berkeley (1987), 939-947.

27. "Analytical Electron Microscopic Studies of Doped Dicalcium Silicates," C. J. Chan, W. M. Kriven and J. F. Young, J. Am. Ceram. Soc.,(1988) **71** [9] pp. 713-719. Paper won the Brunauer Award of the American Ceramic Society, Cements Division (1988).

28. "Possible Alternative Transformation Toughened to Zirconia: Crystallographic Aspects," W. M. Kriven, J. Am. Ceram. Soc. (1988) **71** [12] 1021-1030.

29. "On the Formation and Properties of 2 $Tb_2O_3 \cdot Al_2O_3$," P. D. Jero and W. M. Kriven, J. Am. Ceram. Soc., (1988) **71** [11] C454-455.

30. "Microstructure and Wear Characterization of Self-Lubricating Al_2O_3-MoS_2 Composite Ceramic Coatings," K. A. Koshkarian and W. M. Kriven, in New Materials Approaches to Tribology: Theory and Applications. Edited by L. E. Pope, L. E. Fehrenbacher, W. O. Winet. Publ. by Materials Research Society, Pittsburgh, vol 140, pp. 369-376 (1989).

31. "Investigation of Plasma-Sprayed Dysprosia Coatings," K. R. Venkatachari and W.M. Kriven, J. Am. Ceram. Soc., (1989) **72** [10] 2023-2026.

32. "Martensitic Toughening of Ceramics," W. M. Kriven, (invited Paper), J. Mater. Sci. and Eng., (1990) **A127**, 249-255.

33. "Ceramic Coatings by Anodic Spark Deposition," G. P. Wirtz, S. D. Brown and W. M. Kriven, (invited Paper), Materials and Manufacturing Processes, **6** [1] 87-116 (1991), Marcel Dekker, Inc., New York.

34. "Anodic Spark Deposition - A Novel Approach to Ceramic Coatings," S. D. Brown, G. P. Wirtz and W. M. Kriven, High Performance Ceramic Films and Coatings, Edited by P. Vincenti, Elsevier Science Publishers, Amsterdam, The Netherlands. Materials Science Monographs **67**, 221-232, (1991).

35. "TEM Characterization of Modulated Microstructures in CaO-Dy_2O_3 Solid Solutions," Y. J. Kim and W. M. Kriven. J. Ultramicroscopy, **37**, 351-361, (1991).

36. "High Resolution Electron Microscopy and Microchemical Characterization of a Polyvinyl Alcohol Acetate/Calcium Aluminate Composite (Macro Defect Free Cement)," O. O. Popoola, W. M. Kriven and J. F. Young, J. Ultramicroscopy, **37**, 318-325, (1991).

37. "Microstructural and Microchemical Characterization of a Calcium Aluminate-Polymer Composite (MDF) Cement," O. O. Popoola, W. M. Kriven and J. F. Young, J. Am. Ceram. Soc., **74** [8] 1928-1933 (1991). (Paper received the Brunauer Award of the American Ceramic Society).

38. "Physical Stabilization of the α to β Transformation in Dicalcium Silicate," C. J. Chan, W. M. Kriven and J. F. Young, J. Am. Ceram. Soc., **75** [6] 1621-1627 (1992).

39. "Interfacial Structure and Chemistry in a Ceramic/Polymer Composite Material," O.O. Popoola and W. M. Kriven, J. Materials Research **7** [6] 1545-1552 (1992).

40. "Application of Ultramicrotomy to TEM Specimen Preparation of Particulate Inclusion and Composite Materials," O. O. Popoola, J. J. Cooper, B. P. Jakstys and W. M. Kriven, in Specimen Preparation for Transmission Electron

Microscopy III, edited by R. Anderson, B. Tracy and J. Bravman. Mat. Res. Soc. Symp.Proc.245, 271-278 (1992).

41. "Preparation and Hydration Kinetics of Pure $CaAl_2O_4$," M. A. Gulgun, I. Nettleship, O. O. Popoola, W. M. Kriven and J. F. Young. In Advanced Cementitious Systems: Mechanisms and Properties, edited by F. P. Glasser, P. L. Pratt, T. O. Mason, J. F. Young and G. J. McCarthy. Publ. by Materials Research Society, Pittsburgh, vol **245**, 199-204, (1992)

42. "In Situ Transmission Electron Microscopy (TEM) Investigation of Fracture Mechanisms in a Calcium Aluminate MDF Cement," O. O. Popoola, W. M. Kriven and J. F. Young. In Advanced Cementitious Systems: Mechanisms and Properties, edited by F. P. Glasser, P. L. Pratt, T. O. Mason, J. F. Young and G. J. McCarthy. Publ. by Materials Research Society, Pittsburgh, vol 245, 283-288, 1992.

43. "Chemical Preparation and Phase Stability of Ca_2SiO_4 and Sr_2SiO_4 Powders," I. Nettleship, J. L. Shull Jr. and W. M. Kriven, J. European Ceramic Society, **11** 291-298 (1993).

44. "Phase Transformations in Dicalcium Silicate. I: Fabrication and Phase Stability," I. Nettleship, K. G. Slavick, Y. J. Kim and W. M. Kriven, J. Am. Ceram. Soc., **75** [9] 2400-2406 (1992).

45. "Phase Transformations in Dicalcium Silicate. II: TEM Studies of Crystallography, Microstructures and Mechanisms," Y. J. Kim, I. Nettleship and W. M. Kriven, J. Am. Ceram. Soc., **75** [9] 2407-2419 (1992).

46. "Microstructure-Property Relationships in Macro-Defect-Free Cement," J.A. Lewis and W. M. Kriven. Mat. Res. Soc. Bull**. Vol XVIII** [3] pp 25-29 (1993).

47. "Phase Transformations in Dicalcium Silicate. III: Effects of Barium on the Stability of Fine-grained α'_L and α'_H Phases," I. Nettleship, K. G. Slavick, Y. J. Kim and W. M. Kriven, J. Am. Ceram. Soc., **76** [10] 2628-2634 (1993).

48. "Kinetics and Crystallography of the Monoclinic (B) to Cubic (C) Transformation in Dysprosia," O. Sudre, K. R. Venkatachari and W. M. Kriven, in Science and Technology of Zirconia V. Technomic Publishing Company, pp 180-189 (1993).

49. "High Temperature Transformation Toughening of Magnesia by Terbia," P. D. Jero and W. M. Kriven, in Science and Technology of Zirconia V. Technomic Publishing Company, 190-197 (1993).

50. "Microstructural Investigation of Fracture-Initiating Nickel Sulfide Inclusions in Glass," O. O. Popoola, J. J. Cooper and W. M. Kriven. Cer. Eng. and Sci. Proc., **14** [3-4] 284-294 (1993).

51. "TEM Study of Synthetic Hillebrandite (Ca_2SiO_4•H_2O)," Y.J. Kim and W. M. Kriven, J. Materials Research, **8** [11] 2948-2953 (1993).

52. "Mechanical Properties and Microstructure of $CaZrO_3$-Ca_2SiO_4 Composites," T. I. Hou and W. M. Kriven, J. Am. Ceram. Soc., **77** [1] 65-72 (1994).

53. "Processing and Mechanical Properties of Alumina Platelet Reinforced Zirconia," I. K. Cherian and W. M. Kriven, Ceramic Transactions, **38** 509-520, (1994).

54. "Chemical Synthesis and Characterization of Calcium Aluminate Powders," M. A. Gülgün, O. O. Popoola and W. M. Kriven, J. Am. Ceram. Soc., **77** [2] 531-539 (1994).

55. "Preparation, Microstructure and Mechanical Properties of Silicon Carbide - Dysprosia Composites," S. Kim and W. M. Kriven, J. Am. Ceram. Soc., **80** [12] 2997-3008 (1997).

56. "Mechanical Behavior and Microstructure of SiC and SiC/TiB_2 Ceramics," D. H. Kuo and W. M. Kriven, J. European Ceramic Soc., **18**, 51-57 (1998).

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- "Kinetics and Crystallography of the Monoclinic (B) to (C) Transformation in Dysprosia. Parts I & II," O. Sudre, K.R. Venkatachari and W. M. Kriven. For the Journal of the American Ceramic Society.

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GRADUATE THESES SUPERVISED

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"The Development of Dicalcium Silicate as a Transformation Toughener" by Elizabeth A. Barinek.
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"Investigation of Monoclinic (B) to Cubic (C) Transformation of Dysprosium Sesquioxide (Dy_2O_3)" by Olivier Sudre.
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"Investigation of the Lanthanide Sesquioxides as High Temperature Transformation Toughening Agents" by Paul D. Jero.
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"Control of β-Dicalcium Silicate Particle Size for Dispersion in a Magnesia Matrix" by Eric Sidney Mast.
M.S. thesis submitted December 1990.

"Preparation, Microstructure and Properties of Silicon Carbide - Dysprosia Composites" by Shin Kim.
Ph.D. thesis submitted June 1991.

"Preparation, Properties and Microstructures of Dicalcium Silicate-Calcium Zirconate Composites" by Tien -I Hou.
Ph.D. thesis submitted July 1991.

"Crystallography and Microstructural Studies of Phase Transformations in Two Ceramic Systems: Dysprosia (Dy_2O_3) and Dicalcium Silicate (Ca_2SiO_4)"
by Youn Joong Kim.
Ph.D. thesis submitted August 1991.

"Investigation of Nickel Sulfide (NiS) as a Possible Transformation Toughener,"
by Jemima Jane Cooper
M. S. thesis submitted June 1992.

"Mechanical Properties and Phase Stability of Dicalcium Silicates,"
by Kurt Gordon Slavick
M. S. thesis submitted August 1992.

"Chemical Preparation and Phase Stability of Strontium Orthosilicate (Sr_2SiO_4),"
by James Lee shull, Jr.
M.S. thesis submited June 1993.

"Processing, Microstructure and Mechanical Properties of Alumina Platelet Reinforced 3Y-TZP and Mullite Composites,"
by Isaac Kollenmareth Cherian.
Ph. D. Thesis submitted May 1995.

"Phase Transformation Weakening in Fibrous Ceramic Composites: An Investigation of the Enstatite ($MgSiO_3$)/Titania (TiO_2) System,"
by Steven Chad Mirek
M.S. Thesis submitted July 1995.

"Processing and Microstructure of Standard and Modified Macro-Defect-Free Cements,"
by Mehmet Ali Gulgun
Ph. D. Thesis submitted Dec 1995.

"Processing of Calcium Aluminate-based Chemically Bonded Ceramic Composites at Elevated Temperatures and Pressures,"
Bradley Richard Johnson
M. S. Thesis submitted Aug 1996

"Investigation of Oxide Fiber/Oxide Matrix Composites with a Weak Interphase,"
Dong-Hau Kuo
Ph. D. Thesis submitted Nov 1996

"An Investigation of Several "Transformation Weakeners" for Ceramic Composite Interfaces,"
James Lee Shull
Ph. D. thesis submitted January 1997

"A New Polymer Route to the Synthesis of Mixed Oxide Ceramics,"
My Hoang Nguyen
M. S. Thesis submitted Aug 1997

"Determination of the Elastic Tensor of Mullite (~$2.5Al_2O_3 \cdot SiO_2$) and Yttria (Y_2O_3) as a Function of Temperature,"
James Wayne Palko
M. S. Thesis submitted Oct 2000

"Kinetics and Pathways for Crystallization of Amorphous Mullite and YAG,"
Bradley Richard Johnson
Ph. D. Thesis, submitted March 2001

"Design of Sintered, Tough, Oxide Laminate and Fibrous Monolithic Composites"
Dong-Kyu Kim
Ph. D. Thesis, submitted February 2002

"*In Situ*, in Air, High Temperature Phase Transformations in $RNbO_4$ and R_2TiO_5 (R = Dy and Y), using a thermal-Image Furnace,"
Lay Foong Siah
Ph. D. Thesis submitted April 2002

"Iron Release from Corrosion scales in Old Iron/Steel Drinking Water Distribution Pipes,"
Pankaj Sarin
Ph. D. Thesis submitted Nov 2002

"Synthesis and Characterization of Solid Oxide Fuel Cell and Titanate Materials,"
Benjamin R. Roszyk
M. S. Thesis, submitted Jan 2005.

"Growth of Textured Mullite Fibers using Polycrystalline Precursors"
Wonki Yoon
Ph. D. Thesis, submitted April 2007

"Structural Evolution and Ceramic Formation in Metakaolin-based Geopolymers"
Jonathan Lee Bell
Ph. D. Thesis, submitted Aug 2008

"High Temperature Structural Evolution of Hafnia"
Ryan P. Haggerty
Ph. D. Thesis, submitted April 28th 2011

"Determination of the CTE Tensor of Materials from High Temperature X-ray Diffraction"
Zachary Aaron Jones
M. S. Thesis, submitted Dec 12th 2012

"Porosity Control of Alkali-activated Aluminosilicates via Functional Alkoxysilane Additives,"
Brayden Edward Glad, Ph. D. thesis submitted April 2013

"Processing, Microstructure and Properties of Carbon Nanotube and Silicon Carbide Composites,"
Thomas August Carlson, M. S. thesis submitted April 2013

"High-Temperature Structural Evolution of the Refractory Rare-Earth Tungsten Oxides,"
Zlatomir Dimitrov Apostolov, Ph. D. thesis submitted Jan 2014

"Role of Point Defects in Perovskite Microwave Resonators",
Steven P. Letourneau, M. S. thesis submitted April 2014

"Novel Inorganic Composites using Porous Alkali-activated, Aluminosilicate Binders",
Sean Steven Musil, Ph. D. thesis submitted June 2014

"Design and Fabrication of Granular Media and Laminated Composites for the study of Stress Wave Mitigation,"
Christian J. Espinoza Santos, Ph.D. submitted July 2014

"Synthesis and Microstructural Characterization of Phosphate Cathode Materials Prepared by a Polymeric Steric Entrapment Precursor Route,"
Daniel Ribero-Rodriguez, MS thesis, July 2014

"Geoplymer Composites and their Application to Stress Wave Mitigation,"
Shinhu Cho, Ph. D. thesis, Aug 2015

"Thermal Expansion and Phase Transformation Behavior in the Rare Earth Titanate System,"
Kevin. C. Seymour, Ph.D. submitted Dec 2015

STUDENTS GRADUATED TO DATE

Mary Margaret Fleming	M. S.	1988
Elizabeth Anne Barinek	M. S.	1988
Olivier Sudre	M. S.	1988
Kent Allen Koshkarian	M. S.	1988
Paul Daniel Jero	Ph. D.	1989
Chin Jong Chan	Ph. D.	1989
Scott D. Crudele	M. S.	1989
Eric Sidney Mast	M. S.	1990
Shin Kim	Ph. D.	1991
Tien I Hou	Ph. D.	1991
Youn Joong Kim	Ph. D.	1991
Jemima Jane Cooper	M. S.	1992

Kurt Gordon Slavick	M. S.	1992
James Lee Shull	M. S.	1993
Isaac Kollenmareth Cherian	Ph. D.	1995
Carol Beckman	M. S.	1995 (by course work)
Steven Chad Mirek	M. S.	1995
Mehmet Ali Gulgun	Ph. D.	1995
Bradley Richard Johnson	M. S.	1996
Dong-Hau Kuo	Ph. D.	1996
James Lee Shull	Ph. D.	1997
My Nguyen	M. S.	1997
Elizabeth Benson	M. S.	1998 (by senior thesis and course work)
Susan Pinchot	M. S.	1999 (by course work)
James Palko	M. S.	2000
Bradley Richard Johnson	Ph. D.	2001 (March)
Dong Kyu Kim	Ph. D.	2002 (Feb)
Lay Foong Siah	Ph. D.	2002 (April)
Seung-Doh Shin	Ph. D.	(2001-2 ex Seoul National University, Korea)
Su-Jin Kim	Ph. D.	(2001-2 ex Seoul National University, Korea)
Pankaj Sarin	Ph. D.	2002 (Nov)
Sonia Achard	M. S.	2003 (Dec)
Benjamin R. Rosczyk	M. S.	2005 (Jan)
Nilesh Borkhar	M. S.	2005 (Aug), by course work
Sarah Mongeau	M. S.	2005 (Aug), by course work
Bo Moon Yee	M. S.	2005 (Sept)
Adan Castillo	M. S.	2006, (Dec), by course work
Wonki Yoon	Ph. D.	2007 (May)
Michael Cauchy	M. S.	2007 (May), by course work
Dae Hwi Lim	M. S.	2007 (Oct), by course work
Scott Sheridan	M. S	2008 (Sept)
Ning Xie	Ph. D.	(Sept 2007 – Sept 2008) on exchange from Harbin University, China
Patrick Driemeyer	Ph. D.	2008 (Aug, not completed)
Jonathon Lee Bell	Ph. D.	2008 (Aug)
Seth Mallicot	M. S.	(write-up of thesis not completed)

Ryan Haggerty	Ph. D.	2011 (April)
Timothy Dietz	M. S.	(ex Dept. of Mechanical Science and Engineering, did not pass the Ph.D. qualifying exam)
Zachary A. Jones	M. S.	2012 (Dec)
Brayden Edward Glad	Ph. D.	2013 (April)
Thomas August Carlson	M. S.	2013 (April)
Zlatomir Apostolov	Ph. D.	2014 (Jan)
Steven Letourneau	M. S.	2014 (April)
Sean S. Musil	Ph. D.	2014 (June)
Christian Espinosa-Santos	Ph. D.	2014 (July)
Daniel Ribero	M. S.	2014 (July)
Shinhu Cho	Ph. D.	2015 (Aug)
Kevin Seymour	Ph. D	2015 (Dec)

CURRENT GRADUATE STUDENTS ADVISED

Andrew Steveson	Ph. D.
Gregry Kutyla	Ph. D.
Daniel Ribero	Ph. D.
Scott McCormack	Ph. D.
Kaushik Sankar	Ph. D.
Kuo-Pin (David) Tseng	Ph. D.

POST-DOCTORAL RESARCH ASSOCIATES

- Dr. Qun Yang, Chinese Academy of Sciences, China (April 2015- Jan (2016)
- Dr. Cuneyt Tas, University of Iowa, USA (May 2012 – April 2014)
- Dr. Robert Hughes, University of Glasgow, UK (April 2012 – March 2014)
- Dr. Pathikumar Sellappan, ex France (June 2011 – July 2014)
- Dr. Joachim Angelkort, ex Goethe Institute fur Kristallographie, Bayreuth, Germany, May 2011 – May 2012)
- Dr. Nipa Yossakda, Finnesse Company, San Jose, California (2007- April 2013)
- Dr. Pankaj Sarin, ex UIUC, former Ph. D. student, (Dec 2002-June 2013)
- Dr. Dong-Kyu Kim, ex UIUC, former Ph. D. student, (Jan 2002-April 2008)
- Dr. Kersten Jurkschat, ex Oxford University, UK, (Sept 2002-Sept 2004)
- Dr. Seo-Young Kwak, ex Seoul National University, Korea, Sept 2001-Sept 2004
- Dr. Mehmet Gülgün, ex UIUC, ex Tokyo Institute of Technology, former Ph. D. student, April 1996 to Sept 1996.

- Dr. Sang Jin Lee (ex Korea) partially supported by the Korean Institute of Metals, April 1995 - Aug 1999.
- Dr. Mohammad Jilavi, ex Max Planck Institut für Metallforschung, Stuttgart, Germany, March 1995 - April 1996.
- Dr. Peter Müllner (ex Erdgenoschishe Technische Hochschule, Zurich, Switzerland) who was supported by a Fellowship from the Swiss Government, Jan 1995 - Dec 1995.
- Dr. Dong Zhu (ex University of Illinois at Urbana-Champaign), March 1994 - Jan 1998
- Dr. Chao Huang (ex University of Wyoming, Laramie), May 1992 - Sept 1994
- Dr. Youn Joong Kim (former Ph.D. student, ex UIUC), Sept 1991-Sept 1993.
- Dr. I. Nettleship (ex UC Santa Barbara) September 1989–January 1992.
- Dr. O. O. Popoola (ex Case Western Reserve University), Aug 1989–Aug 1993
- Dr. K. R. Venkatachari (ex Cornell University), Sept. 1986–April, 1988.

VISITING SCIENTISTS

- Dr. Abdul Wazed Bhuiya, Daffodil International University, Bangladesh (Jan 2105 – June 2015)
- Dr. Cengiz Bagci, Hitit University, Turkey (Sept 2014 – February 2015)
- Ali Ozer, exchange Ph. D. student from Turkey, July 1st 2010 to July 31st (2011)
- Ercin Ersundu, exchange Ph.D. student from Turkey, June-Dec (2010)
- Dr. Nipa Yossakda, post-doctoral research associate, sent from Finesse Company, Stanford, CA for 5 years.
- Prof. Bum Rae Cho, ex Department of Advanced Materials Engineering, Keimyung University, Korea.
- Prof. Sang Jin Lee, ex Mokpo University, Korea, Jan 2008 – Aug 2009
- Prof. Hanlian Liu, ex Shangdong University, China, Sept 2007 – Sept 2008
- Prof. Dechang Jia, ex Harbin University, China, Nov Nov 2005 – Nov 2006
- Dr. Joachim Schreckenbach from the Chemistry Department of the University of Chemnitz, Germany, visited for 4 months from Nov 1992 to March 1993.
- Ms Kaori Sasaki (M. S.), sent from the Inax Company in Japan for Sept 1993 - Aug 1994.
- Mr Falko Schlottig (Ph. D. student) from the Chemistry Department of the University of Chemnitz, Germany, visited for 6 weeks in Sept - Oct. 1995.
- Mr. Diethardt Butte (Ph. D. student) from the Chemistry Department of the University of Chemnitz, Germany, visited for 4 weeks in Sept - Oct. 1998.
- Mr. Diethardt Butte (Ph. D. student) from the Chemistry Department of the University of Chemnitz, Germany, visited for 4 weeks in Sept - Oct. 1999.
- Prof. Mie Won Yung, Professor of Chemistry, Sungshin Women's University, Seoul, Korea. Visited on sabbatical leave for 10 months, Oct 2000-Aug 2001.
- Prof. Byong-Taek Lee, Kongju National University, Division of Advanced Materials Engineering, Kongju, Chungnam, Korea. On sabbatical leave from March 21st 2001- 2002.
- Mr. Peter Duxson, exchange student from the University of Melbourne, Victoria, Australia for the summer and Fall semester (4 months, 2004).
- Mr. John L. Provis, Fullbright Scholar on leave from the University of Melbourne, Victoria, Australia (Jan – Nov 2005).

- Prof. Dechang Jia, Harbin University, China Nov (2006)-Nov (2007)
- Ms Elzbieta Mielcarek, exhange student from the University of Hannover, Germany, Jan to March 2009

INVESTIGATOR'S GRADUATE AND POST-DOCTORAL ADVISORS

- Dr. S. W. Kennedy, B. Sc. (Hons) and Ph. D. thesis advisor (1970–1976) University of Adelaide, South Australia – Retired.

- Professor J. A. Pask, post-doctoral advisor, (1977–1979) - Deceased Department of Material Science and Mineral Engineering, University of California, Berkeley

- Professor A. G. Evans, post-doctoral advisor, (1979–1980) - Deceased Department of Material Science and Engineering, University of California, Berkeley. Was at UC-Santa Barbara.

- Dr. Manfred Rühle, post-doctoral advisor, (1980–1983 inclusive) – Retired Max-Planck-Institut für Metallforschung, Stuttgart, Germany

CURRENT AND FORMER RESEARCH COLLABORATORS

- Prof. Michael Carpenter, Department of Earth Sciences, Cambridge, UK.
- Prof. Ekhard Salje, Department of Earth Sciences, Cambridge University, UK.
- Professor Fritz Frey and Dr. Julius Schneider, Ludwig Maximilians University, Institute for Crystallography and Applied Mineralogy, Theresienstrasse 41, D80333 München Germany.
- Prof. Dr. Hartmut Schneider, Institute for Materials Research, German Aerospace Center, 51147 Cologne, Germany
- Dr. Ali Sayir, NASA Glenn, Cleveland Ohio
- Professor Jay Bass, Dept. of Geology, UIUC
- Prof. Vernon Snoeyink, Dept. of Civil Engineering, UIUC.
- Prof. Carolyn Dry, Architecture Department, UIUC.
- Prof. Barbara Kitchell, clinical practioner specialist, Department of Veterinary Clinical Medicine, UIUC
- Professor Nicole Griffon, Assistant Professor, Small Animal Clinician, Dept. of Veterinary Medicine, UIUC.
- Prof. Ken Sandhage, Dept. of Materials Science and Engineering, The Ohio State University
- Prof. Mehmet A. Gülgün, Assistant Professor, Dept. of Materials Science, Faculty of Engineering and Natural Sciences, Sabanci University, 81474 Tuzla, Isatanbul, Turkey.
- Prof. Sang-Jin Lee, Assistant Professor, Dept. of Materials Science and Engineering, College of Engineering, Mokpo National University, Chonnam, Korea

- Prof. Mie Won Yung, Professor of Chemistry, Sungshin Women's University, Seoul, Korea. Visited on sabbatical leave for 10 months, Oct 2000-Aug 2001.
- Prof. Byong-Taek Lee, Kongju National University, Div, of Advanced Materials Engineering, Kongju, Chungnam, Korea. On sabbatical leave from March 21st 2001- 2002.
- Prof. Doh-Yeon Kim, School of Materials Science and Engineering, Seoul National University, Korea. Sharing joint Ph.D. student on leave from SNU.
- Prof. K. S. Hong, School of Materials Science and Engineering, Seoul National University, Korea. Sharing joint Ph.D. student on leave from SNU.
- Prof. Jin Ho Choy, Dept. of Chemistry and Biomolecular Engineering, Seoul National University, Korea.

INVITED KEYNOTE (PLENARY) LECTURES

1. "Shear Transformations in Inorganic Materials." AIME invited review paper and keynote lecture presented at International Conference on Solid to Solid Phase Transformations, Carnegie Mellon University, Pittsburgh, USA, on Aug. 10-14th (1981).

2. “Lattice-deformational transformations in non-metals,” W. M. Kriven*, invited lecture presented at Int. Conf. on martensitic transformations (ICOMAT), summer course, Leuven, Belgium, August (1982).

3. "Possible Tansformation Tougheners Alternative to Zirconia- Crystallographic Aspects", an invited paper per Prof. S. Somiya, presented in Sept. 4-5th (1986) at Advanced Ceramics II Lecture Meeting held at Tokyo Institute of Technology, Japan.

4. “Possible Transformation Tougheners Alternative to Zirconia: Crystallographic Aspects.” Keynote Address at the International Ceramic Conference, Workshop on Transformation Toughening. Held in Sydney, Australia, Aug. (1988).

4. “Displacive and Martensitic Transformations in Ceramics,” W. M. Kriven.* Invited keynote lecture presented at International Conference on Solid to Solid Phase Transformations in Inorganic Materials ‘94. Held in Pittsburgh in July 17-22, (1994).

5. “Current Trends in Structural Ceramics,” W. M. Kriven, invited plenary lecture presented at the Austceram ‘94, International Ceramic Conference. Held in Sydney, Australia, July 25-27, (1994).

6. “TEM Studies of Calcium Silicate Hydrates,” W. M Kriven.* Invited lecture presented at Festive Symposium in honor of Professor T. Mitsuda of the Nagoya Institute of Technology, Ceramics research Laboratory. Held in Nagoya, Japan, Feb 24th (1995)

7. “Displacive Transformations and Their Applications in Structural Ceramics,” W. M. Kriven,* invited keynote lecture and review paper presented at the Int. Conf. on Martensitic Transformations (ICOMAT 95), held in Lausanne, Switzerland, Aug 20-25th (1995).

8. “Phase Transformations and Their Applications in Ceramics,” W. M. Kriven,* invited lecture at Symposium to honor Professor Jack Christian on his 70th birthday. Held at Oxford University, UK, March 29th (1996).

9. “Design of Oxide Composites with Transformation Weakened, Debonding Interphases, W. M. Kriven.* Presented at the Int. Workshop on Oxide/Oxide Composites, held in Irsee, Germany, June 22-24th (1998).

10. "Progress in Microstructural Design for Tough, Oxide Ceramic Composites," W. M. Kriven,* (invited keynote lecture) presented at Australian International Conference on Ceramics (Austceram) 2000, held in Sydney Australia, June 25th – 28th (2000).

11. "Design of Oxide Composites with Debonding Interphases, W. M. Kriven. Presented at Int. Conf. on Materials Science and Technology, April 2-4, (2001) Cairo, Egypt.

12. "Oxide Ceramics with Debonding Interphases", W. M. Kriven*. Invited plenary lecture presented at the Annual Meeting of the Korean Ceramics Society, held in Seoul, Korea, April 19th (2002).

13. (***Seminar Series)*** A two-day seminar series was given to graduate students and interested faculty at Seoul National University, in the Dept. of Materials Science and Engineering, Seoul, Korea, April 17th-18th (2002). The topics were: (i) "Synthesis of Highly Reactive Oxide Powders by the Organic Steric Entrapment Method" and (ii) "Phase Transformations in Oxide Ceramics".

14. "*In situ*, High Temperature, Synchrotron Studies of Oxide Ceramics using a Quadrupole Furnace," W. M. Kriven*. Invited Plenary lecture at National Workshop on Sample Environments for Neutron Scattering Experiments (SENSE). Held in Tallahassee, Florida, USA, Sept 24th –26th (2003).

15. "Ceramic Powder Synthesis and a New Toughening Mechanism in Ceramic Composites," W. M. Kriven,* NATO Advanced Research Workshop on Fuel Cell Technologies: State and Perspectives," Kyiv, Ukraine, June 6-10th (2004).

16. "Current Topics in Ceramic Materials Science Needing TEM Studies," W. M. Kriven.* Presented at First Korean Basic Science Institute, High Voltage Electron Microscope User Workshop, held in Daejeon, Korea, June 30th (2004).

17. "Geopolymers: More than just a Cement," W. M. Kriven (Plenary lecture). Presented at Geopolymer 2005, Int. Conf. on Geopolymers, held in St. Quentin, June 29th – June 30th, (2005) in St. Quentin, France.

18. "Microstructure of Geopolymers and Geopolymer-based Materials," Geopolymers as Ceramic Matrix Composites, W. M. Kriven. Plenary lecture presented at Int. Conf. and Workshop on Geopolymers and Geopolymer Concrete in Civil Engineering, Perth, Western Australia, Australia, Sept 28th – 29th (2005).

19. "From Geopolymers to Ceramics," W. M. Kriven, J. L. Bell and P. Sarin. Invited keynote lecture presented at 3rd International Conference on Alkali Activated Materials, - Research, Production and Utilization. Presented in Prague, Czech Republic, Jun 21-22nd (2007).

20. "From Geopolymers to Ceramics," W. M. Kriven, J. Bell and P. Sarin. Invited keynote lecture presented at 4th Int. Conf. on Advanced Materials (ICAMP-4), held in Sydney, Australia, July 4th – 6th (2007).

21. Invited lecture at Honorary Colloquium for Dr. Nils Claussen, Technische Universitat Hamburg-Harburg, part of the Deutsche Keramische Gesellschaft (DKG) and Deutsche Gesellschaft für Materialkunde (DGM) Feb 25th (2008).

22. "Ceramics Without Sintering: Inorganic Polymers," W. M. Kriven,* J. Bell, P. Sarin and P. E. Driemeyer," Invited Keynote Lecture to be presented at FORUM 2008, of the World Academy of Ceramics, Siena, Italy July 5th – 8th (2008)

23. "In situ, High Temperature Studies of Monoclinic to Tetragonal Phase Transformation in HfO_2", W. M. Kriven,* R. P. Haggerty, P. Sarin, Z. Apostolov. Invited Keynote Lecture, presented at the 8th European Symposium on Martensitic Transformations (ESOMAT), held in Prague Sept 7th – 11th (2009).

24. "Microstructure and Properties of Metakaolin-based Geopolymers," W. M. Kriven,* presented at Annual Meeting of the Cements Division of the American Ceramic Society, Purdue, IN, July 11th- 13th (2010) and at Int. Conf. of Cements Microscopy Soc. Held in New Orleans, March 29, New Orleans.

25. "Atomic Structure and Microstructure of Geopolymer and Crystallized Geopolymer Ceramics," W. M. Kriven. Invited lecture presented at Conferences Internationales Materiaux et Technologies (CIMTEC) 2010. Held in Montecatini Terme, Tuscany, Italy, June 6th-11th (2010).

26. "Geopolymers and Environmental Stability," W. M. Kriven. Presented at the Gordon Conference on Solid State Studies in Ceramics, held in New Hampshire, USA, Aug 15th – 20th (2010).

27. "In Situ, High Temperature, Synchrotron Studies of Monoclinic to Tegragonal Phase Transformation in HfO_2 and Ta_2O_5 – doped HfO_2 System," W. M. Kriven, R. P. Haggerty, P. Sarin, Z. D. Apostolov and Z. A. Jones. Invited lecture presented at 7th International Conference on High Temperature Ceramic Matrix Composites (HT-CMC 7) held in Bayreuth, Germany, Sept 20 -22nd (2010).

28. "Geopolymer Composites – Low Energy, Ecofriendly and Sustainable Ceramics – a Potential Partial Solution to Global Warming," W. M. Kriven*. The Nicholson Memorial Lecture presented at 2013 Composites at Lake Louise Conference, ECI conference at Lake Louise, Alberta, Canada, Nov 3-7th (2013).

29. "Microstructural Investigation of Carbothermally reacted Geopolymer Composites made under Specific Alkaline Conditions," Cengiz Bagci, G. P. Kutyla and W. M. Kriven*. Presented at ECI Enginering Conference International on Geopolymers: Route to Eliminate Waste and Emissions in Ceramic and

Cement Manufacturing," held in Hernstein, Austria, May 24th -29th (2015).

30. "Geopolymers as Sustainable Construction Materials," W. M. Kriven. Presented at the Advanced Ceramics and Application IV Conference organized by the Serbian Ceramic Society and held in Belgrade, Serbia Sept 21-23rd (2015).

INVITED LECTURES:

1. "Ceramic Martensite Crystallography" on April 23 (1980) and "Crystal Chemistry and Ceramics" on May 5th (1980) at Department of Materials Science and Mineral Engineering, University of California, Berkeley, California, USA.

2. "Ceramic Martensite Crystallography" on June 2 (1980) per Dr. M. Rühle at: Werkstoffwissenschaftliches Seminar Series of the Institut fur Metallkunde der Universitat Stuttgart and MPI fur Metallforschung, Stuttgart, West Germany.

3. "Transformation Toughening in $Zr0_2$ Ceramics" in July 1980 per Dr. J. Moya at: Instituto de Ceramica y Vidrio, Consejo de Investigaionas, Arganda del Rey, Madrid, Spain.

4. "Martensitic Transformations in Non-metals" on Dec. 5th 1980 per Prof. L. Delaey at: Dept. Metaalkunde, Katholieke Universiteit Leuven, Leuven, B-3030.Heverlee - Leuven Belgium.

5. Martensitic Transformations and Toughening of Ceramics" in January 1982 per Prof. J. S. Bowles at: School of Metallurgy, University of New South Wales, Sydney, NSW, Australia.

6. "Martensitic Tansformations of Non-metals and their Application to the Toughening of Ceramics" on January 8th (1983) per Dr. R. Gotthardt, Colloque de Science des Materiaux series at: Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland.

7. "Transformation Toughening in Zirconia Ceramics" on December 1st (1983) per Prof. C. G. Bergeron at: Materials Research Laboratory and Dept. of Ceramic Engineering, University of Illinois at Urbana-Champaign, Illinois, USA.

8. "Transformation Toughening of $A1_20_3$-ZrO_2 Ceramics and Possible Alternatives to Zirconia" on June 22nd (1984) per Dr. U. Chowdhry at: Central Research and Development Department, E. I. DuPont de Nemours & Co., Wilmington, Delaware USA.

9. "The Martensitic Transformation in Zirconia" per Dr. W. Rhodes on August 3rd, (1984) at General Telephone and Electronics (GTE) Laboratories Encorporated, Waltham, Massachussetts, USA

10. "Transformation Toughening in $Zr0_2$ Ceramics-Where to from here?" per Dr. H. Sowman on January 20th (1985) at the Advanced Inorganic Materials Research Division, 3M Company, St. Paul, Minnesota, USA.

11. "Displacive Transformations in Zirconia Ceramics and Other Non-metals," per Dr. R. Tucker on March 14th (1985) at Union Carbide Research Center, Speedway Labs, Indianapolis, USA.

12. "Strengthening Mechanisms in Ceramics," per Dr. R. D. Young and Dr. T. Francis, on March 29th (1985) at the Alcoa Technical Center, Pittsburgh, PA, USA.

13. "Displacive Transformations in Zirconia Ceramics and Other Non-metals" per Prof. G. Wallwork, on April 19th (1985) at the School of Material Science, University of New South Wales, Sydney, NSW, Australia.

14. "Transformation Toughening in Composite Zirconia Ceramics," per Prof. M. Bruce, on Aug. 12th (1985) at the Dept. of Physical and Inorganic Chemistry, University of Adelaide, Adelaide, South Australia.

15. "Transformation Toughening of Composite Ceramics - Origin of the Particle Size Effect," per Dr. L. Cox, on Jan. 30th (1986) at the American Society for Metals (ASM) Meeting, Indianapolis Chapter, Indianapolis, USA.

16. "Strain Analysis in Ceramic Composites," an invited paper presented at the American Society for Electron Microscopy (EMSA) Fall Meeting, Aug. 10-15 (1986). Albuquerque, USA.

17. "Transformation Mechanisms in Confined Zirconia Particles and in Other Potential New Tougheners of Ceramics," invited by the Chemistry and Physics of Metals Committee of the Metallurgical Society (TMS) of AIME. Presented at the Fall Meeting in Orlando, Florida, October 5-9 (1986).

18. "New Development in Electron Microscopy of Ceramics," per Dr. R. V. Heath, in March (1987) at Indiannapolis Chapter of the American Society of Metals, Indiannapolis, USA.

19. "Possible Transformation Tougheners Alternative to Zirconia-Crystallographic Aspects," per Prof. E. Case on Oct. 20th 1987 at the Dept. of Metallurgy, Mechanics and Materials Science, Michigan State University, East Lansing, MI, USA.

20. "Possible Transformation Tougheners Alternative to Zirconia: Crystallographic Aspects," per Dr. C. P. Ballard on April 5th, 1988 at Allied Signal Inc., Morristown, New Jersey, USA.

21. "High Temperature Transformation Toughening with the Lanthanide Sesquioxides," per Dr. David St. John, on Aug. 19th, 1988. Given at the Dept. of Mining and Metallurgical Engineering, University of Queensland, Brisbane, Australia.

22. "High Temperature Transformation Toughening of Ceramics with the Lanthanide Sesquioxide," Departmental Colloquium presented on September 26th, 1988 at the Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, IL.

23. "Martensitic Toughening in Ceramics" Invited lecture at DOE-sponsored International Workshop on First-Order Displacive Phase Transformations. Held in Berkeley, California, on October 23-28th, 1988.

24. "Microstructure and Microchemistry of Organo-Ceramics", W. M. Kriven and O.O. Popoola. Invited lecture presented at the Microbeam Analysis Society (MAS) Symposium on Interfaces, held in San Jose, California, Aug 5-9th 1991.

25. "SEM and TEM in Materials Science," W.M. Kriven. Invited lecture, American Chemical Society Annual Meeting, Tutorial Sessions in Materials Science, New York, NY, Aug 25th 1991.

26. "On Phase Transformation Mechanisms in Dicalcium Silicate (Ca_2SiO_4)," Y.J. Kim and W. M. Kriven*. Invited lecture presented at the Fall meeting of the American Geolophysical Union held in San Fransisco, California, Dec 9-13th 1991.

27. "Phase Transformations and Toughening Mechanisms in Composite Ceramics," W. M. Kriven. Invited lecture presented at the Materials Science and Engineering Departmental Colloquium, University of Illinois at Urbana-Champaign, on February 10th 1992.

28. "Phase Transformations and Toughening Mechanisms in Composite Ceramics," W. M. Kriven. Invited lecture presented at the Materials Science and Engineering Departmental Seminar, Massachussetts Institute of Technology (MIT), on February 18th 1992.

29. "Toughening Mechanisms in Non-Zirconia Composites," W. M. Kriven. Invited lecture to be presented at the Annual Meeting of the American Ceramic Society, April 12-16th, 1992 in Minneapolis, MN.

30. "Phase Transformations and Toughening Mechanisms in Composite Ceramics," W. M. Kriven. Invited lecture presented at the Materials Science and Engineering Departmental Seminar, Illinois Institute of Technology (IIT), on April 30th 1992.

31. "Martensitic Transformations in Ceramics," W. M. Kriven*. Presented at the International Conference on Martensitic Transformations (ICOMAT '92). Held in Monterey, CA, July 20-24th 1992.

32. "Transformation Mechanisms in Dicalcium Silicate and Distrontium Orthosilicates," Y. J. Kim, J.L. Shull, B. N. Sun and W. M. Kriven*. Presented at the International Conference on Martensitic Transformations (ICOMAT '92). Held in Monterey, CA, July 20-24th 1992.

33. "Electron Microscopy Observations of Micromechanical Behavior in Ceramic Composites," W. M. Kriven. Invited seminar presented in the Materials Science and Engineering Laboratory, National Institute of Science and Technology (NIST), Gaithesburg, MD., per Dr. S. M. Wiederhorn. Held on Oct 29th (1992).

34. "Phase Transformations in Ceramics," W. M. Kriven*. Invited talk, presented at the Microscopy Society of America (MSA) Annual Meeting, held in Cincinnati in Aug 1-6, (1993).

35. "Twinning in Structural Ceramics," W. M. Kriven.* Invited lecture presented at TMS Annual Meeting in Symposium on Twinning in Advanced Materials. Held in Pittsburgh, PA, Oct 17-21, 1993.

36. "Volume Changes During Transformation in Ceramics," W. M. Kriven.* Invited lecture presented at the ASM Annual Meeting in Symposium on Effect of Plastic Deformation on the Thermodynamics, Kinetics and Mechanisms of Phase Transformations,". Held in Pittsburgh, PA, Oct 17-21, 1993.

37. "Ceramics Via Organic and Inorganic Synthesis," W. M. Kriven*. Invited lecture presented to the Illinois Association of Chemistry Teachers, Annual Meeting at the University of Illinois at Urbana-Champaign, March 4th (1994)

38. "Current Trends in Structural Ceramics," W. M. Kriven, invited lecture presented at the Pacific Coast Regional Meeting of the American Ceramic Society, Oct 19-22, (1994), Los Angeles.

39. "Electron Microscopy Charactrerization of Melt-Grown Mullites and Mullite Fibers," W. M. Kriven,* R. A. Gronsky and J. A. Pask, M. H. Jilavi, D. Zhu, J. J. Felten, J. K. R. Weber amd P. C. Nordine, (invited) paper presented at Int. Conf. on Ceramic Microstructures'96: Control at the Atomic Level," held June 24-27 (1996), in Berkeley, CA, USA.

40. "Displacive Transformations and their Applications in Structural Ceramics," W. M. Kriven* Invited lecture presented at the Crystallographic Colloquium, Institut fur Kristallographie und Angewandte Mineralogie der Ludwig-Maximilian-Universitåt Munchen, Theresienstrasse 41, D-80333 Munchen; per Professor F. Frey, 16th May 1997.

41. "Chemical Synthesis of Oxide Powders via Polymeric Stearic Entrappment," W. M. Kriven. * Invited lecture per Professor Peter Greil (Head), presented at the Institute of Werkstoffwissenschaften III, (Materials Science) University of Erlangen-Nurnberg, Germany, June 1997.

42. "Toughening of Ceramic Composites by Transformation Weakening of Interphases," W. M. Kriven*, S. J. Lee, C. M. Huang, D. Zhu, Y. Xu and S. M. Mirek. Invited poster presented at Int. Workshop on Multiscale Materials Prediction: Fundamentals and Industrial Applications," held at MIT, MA, USA, Sept 14-16, (1997).

43. "Synthesis of Oxide Powders by a Stearic Complexation Precursor Route," W. M. Kriven*, invited keynote lecture presented at The 4th IUMRS International, Conference in Asia Makuhari, Chiba, Japan, September 16-18, 1997.

44. "Mullite/Cordierite Laminates with $\beta \rightarrow \alpha$ Cristobalite Transformation Weakened Interphases," W. M. Kriven* and S. J. Lee, (invited paper), 22 nd Am. Ceram. Soc. Annual Meetingon Composites, Advanced Ceramics, Materials and Structures, held at Cocoa Beach, Florida, Jan 20-24 (1998).

45. "High Temperature Single Cystal Properties of Mullite ($3Al_2O_3 \cdot 2SiO_2$)," W. M. Kriven,* J. Palko, S. Sinogeikin, J. D. Bass, A. Sayir, G. Brunauer, H. Boysen, F. Frey and J. Schneider. Presented at Int. Conf. on "New Developments in High Temperature Ceramics, Istanbul, Turkey, Aug. 12-15th (1998).

46. "Amorphous Precursors to Oxide Fibers and Powders," W. M. Kriven. Invited lecture per Profs. Werner Mader and Hartmut Schneider, presented at the Institute for Inorganic Chemistry, Univerity of Bonn, Germany, Aug. 19th (1998).

47. "Design of Oxide Ceramic Composites with Transformation Weakened, Debonding Interphases," W. M. Kriven*. Presented at Workshop on Advanced Materials for Extreme Environments: New Experimental Opportunities in Neutron Scattering, held at the Argonne National Laboratory, Sept. 11-12th 1998.

48. "Oxide Laminated Composites with Graceful Failure," W. M. Kriven* invited lecture, to be presented at The Minerals, Metals and Materials (TMS) Society Fall Meeting, Symposium on Processing and Properties of Advanced Structural Ceramics, held in Rosemont IL Oct 11-15, (1998).

49. "Design of Oxide Ceramic Composites with Transformation Weakened, Debonding Interphases," W. M. Kriven,* Invited lecture per Prof. P. Pirouz, presented as a Colloquium, at the Department of Materials Science and Engineering, Case Western Reserve University, Cleveland, Ohio, Feb 22nd 1999.

50. "Design of Oxide Ceramic Composites with Debonding Interphases," W. M. Kriven,* Invited lecture per Prof.Ersan Ustundag, presented as a Colloquium, at the Department of Materials Science and Engineering, California Institute of Technology, Los Angeles, March 31st 1999.

51. "Synthesis of Oxide Powders via Polymeric Steric Entrapment," (invited paper), W. M. Kriven*, S. J. Lee, M. A. Gulgun, M. Nguyen and D. K. Kim. Presented at 101st Annual Meeting and Exposition of the American Ceramic Society, Indianapolis, April 25-28th 1999.

52. "Oxide Fibers and Interphase Debonding Mechanisms," W. M. Kriven,* B. R. Johnson, S. J. Lee, C. M. Huang, D. Zhu and Y. Xu. Presented at Int. Conf. On Processing of Fibers and Composites, held in May 21-26, 2000, Tuscany Italy.

53. "Synthesis and Hydration Study of Portland Cement Components by Polymer Complexation Processing," S. J. Lee, E. A. Benson and W. M. Kriven* invited lecture presented at Australian International Conference on Ceramics (Austceram) 2000, held in Sydney Australia, June 25th – 28th 2000.

54. "High Temperature, Displacive Transformations in Oxide Ceramics," W. M. Kriven,* presented at the 2000 Denver X-ray Conference, in the special session on Phase Transformations and Reactions. Held in July 31st-Aug 4th at Denver, Colorado, USA.

55. "Crystallization Mechanisms and Microstructures in Mullite," W. M. Kriven* and B. R. Johnson, invited lecture presented at Mullite 2000 Workshop, held on the Isle of Mull, Aug 28th to 30th, 2000.

56. "Preparation of Titanate Powders by an Ethylene Glycol Method," S. J. Lee, B. R. Rosczyk and W. M. Kriven. Presented at Int. Symposium on Soft Solution Processing, Dec. 11-13, 2000, at Tokyo Institute of Technology, Tokyo, Japan.

57. "Design of Oxide Composites with Debonding Interphases," W. M. Kriven. Invited lecture presented at 25th Annual International Conf. on Advanced Ceramics and Composites, Jan 21-26 (2001) Cocoa Beach, Florida.

58. "Design of Oxide Laminates and Fibrous Monolithic Composites," W. M. Kriven* and D.-K. Kim. Invited lecture presented at 103rd Annual Meeting of the American Ceramic Society, Indianapolis, April 22-25 (2001).

59. "From Zirconia to Shape Memory Ceramics," W. M. Kriven*. Invited lecture given as part of the Special Session in Honor of Professor Arthur H. Heuer on his 65th Birthday, as part of the 103rd Annual Meeting of the American Ceramic Society, Indianapolis, April 22-25 (2001).

60. "Colored Water Formation in Old Iron/Steel Drinking Water Distribution Pipes" P. Sarin*, V.L. Snoeyink, and W.M. Kriven, Invited talk at the Australian Water Quality Center, Adelaide, South Australia, Australia, April 12, (2001).

61. "Corrosion Scales - A Source of "Red Water" in Old Iron/Steel Drinking Water Distribution Pipes" P. Sarin*, V.L. Snoeyink, and W.M. Kriven, Invited talk given at the Center for Manufacturing Science and Technology, Commonwealth Scientific and Industrial Research Organization, Clayton, Victoria, Australia, April 11, (2001).

62. "A Conceptual Model for Iron Release from Corrosion Scales," P. Sarin*, V. L. Snoeyink, J. Bebee, M. A. Beckett, K. K. Jim, D. A. Lytle, J.A. Clement and W. M. Kriven, Invited Talk at US Environmental Protection Agency (EPA), Cincinnati, OH, August 17th, (2001).

63. "Drinking Water Quality Deterioration in Distribution Systems: Colored Water Formation and Its Control" - Association of Environmental Engineering and Science Professors' Distinguished Lecture Series, 2001 V. L. Snoeyink,* P. Sarin, W. M. Kriven et al. Presented at several (over 12) different universities in US during Spring (2001).

64. "Crystallization Mechanisms of Amorphous Mullite and the Al_2O_3-$2SiO_2$ Phase Digram," W. M. Kriven,* presented at the Annual Meeting of the Materials Research Society, Boston, MA, Dec (2001).

65. "Energy Dissipation by Martensitic Transformations in Ceramics," W. M. Kriven,* Pacific Rim (PAC RIM) 4 Conf., held in Maui, Hawaii, Nov 4-8 (2001).

66. "A Multilayer, High Strength, High Toughness, Debonding Oxide Composite for Armor Plating," D. H. Kuo and W. M. Kriven,* Pacific Rim (PAC RIM) 4 Conf., held in Maui, Hawaii, Nov 4-8 (2001).

67. "Bioresorbable Ceramics," W. M. Kriven,* S.-J. Lee, D.-K. Kim, L. J. Farhner, Pacific Rim (PAC RIM) 4 Conf., held in Maui, Hawaii, Nov 4-8 (2001).

68. "Oxide Fibrous Monoliths," W. M. Kriven,* D. K. Kim and S. J. Kim, presented at 104th Annual Meeting of the American Ceramic Society, held in St. Louis, April 28th-May 1st (2002).

69. "Oxide Fibrous Monoliths," W. K. Kriven,* D.-K. Kim and S.-J. Kim. Presented at 10th Int. Congress and 3rd Forum on New Materials (CIMTEC 2002), held in Florence, Italy, July 14-18th (2002).

70. "Ceramics for Structural and Biomaterial Applications," Invited lecture given as part of the Ceramics Seminar series in the Dept. of Materials Science and Engineering, University of Illinois at Urbana-Champaign; Oct 10th (2002).

71. *"In-situ*, High-temperature Synchrotron Powder Diffraction Studies of Oxide Systems In Air Using A Thermal-image Furnace," W. M. Kriven,* invited lecture presented at the Argonne National Laboratory, Intense Pulsed Neutron Source, lunchtime seminars, Oct (2002).

72. "*In situ*, High Temperature, Synchrotron Studies of Oxide Ceramics using a Quadrupole Furnace," W. M. Kriven. Invited Plenary lecture at the National Workshop on Sample Environments for Neutron Scattering Experiments (SENSE). Held in Tallahassee, Florida, USA, Sept. 24th -26th (2002).

73. "Oxide Fibrous Monoliths," W. K. Kriven,* presented as the Departmental Colloquium in the Dept of Materials Science and Engineering, University of Alabama, Birmingham, Oct 15th (2002).

74. "Microstructure and Microchemistry of Fully Reacted Geopolymer and Metal Geopolymer Composites," W. M. Kriven,* M. Gordon and J. Bell. Presented at 105th Annual Meeting and Exposition of the American Ceramic Society, Nashville, Tennessee, April 27th –30th (2003).

75. "Fabrication of YAG and Mullite Fibers," W. M. Kriven,* K. Jurkschat, W. Yoon and C. Chiritescu. Presented at 105th Annual Meeting and Exposition of the American Ceramic Society, Nashville, Tennessee, April 27th –30th (2003).

76. "Composite Cold Ceramic Geopolymer in a Refractory Application,", D. C. Comrie* and W. M. Kriven. Presented at 105th Annual Meeting and Exposition of the American Ceramic Society, Nashville, Tennessee, April 27th–30th (2003).

77. "Ceramic Powder Synthesis by the Organic-Inorganic, Steric Entrapment Method," W. M. Kriven*, invited lecture given as part of the World Universities Network (WUN) satellite lecture series organized by Sheffield Unversity, UK. Dec.

78. "Geopolymers: Refractory Inorganic Adhesives," W. M. Kriven.* Presented at 28th Int. Cocoa Beach Conf. and Expo, Cocoa Beach, Florida, Jan 26th - 30th 2004.

79. "Pure Geopolymers Made from a "Synthetic Metakaolin" Analogue," W. M. Kriven*, M. Gordon and P. Sarin. Presented at 106th Annual Meeting of the American Ceramic Society, to be held in Indianapolis, IN, USA, April 18-21st 2004.

80. "Composites of Duplex, Triplex and Quadruplex Microstructures," W. M. Kriven* and D. K. Kim. Presented at 106th Annual Meeting of the American Ceramic Society, to be held in Indianapolis, IN, USA, April 18-21st 2004.

81. "The Optical Microscope – How it Works," W. M. Kriven,* presented in the lecture series on Special Topics in Science and Engineering, hosted by the High School of St. Thomas More, Champaign, IL, April 28th (2004).

82. "Atomic Traffic Jams and Formation of Duplex, Triplex and Quadruplex Microstructures,"Waltraud M. Kriven* and Dong Kyu Kim. Presented at International Symposium on Understanding Complex Systems, Dept. of Physics, University of Illinois at Urbana-Champaign, May 17-20, (2004).

83. "Ceramic Powder Synthesis and a New Toughening Mechanism in Ceramic Composites," W. M. Kriven, NATO Advanced Research Workshop on Fuel Cell Technologies: State and Perspectives," Kiev, Ukraine, June 6-10th (2004).

84. "Current Topics in Ceramic Materials Science Needing TEM Studies," W. M. Kriven. Presented at the First Korean Basic Science Institute, High Voltage Electron Microscope User Workshop, held in Daejeon, Korea, June 30th (2004).

85. "Large Force Ceramic Actuators for Smart Systems," W. M. Kriven. invited lecture presented at the Annual Meeting of the American Crystallography Association, to be held on July 17th -22nd (2004) in Chicago, IL, USA.

86. "The Quadrupole Lamp Furnace- An Excellent Tool for Conducting In-situ High Temperature X-ray Diffraction", P. Sarin*, K. Jurkschat, W. Yoon, A. J. Randolph, and W. M. Kriven, July 29 (2004), Condensed Matter Physics Seminar, Brookhaven National Laboratory, Upton New York.

87. "Extrusion of Oxide Fibrous Monoliths" W. M. Kriven*, invited lecture presented in the Department of Civil Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, Oct 28th 2004.

88. "Geopolymers as Refractory Adhesives," W. M. Kriven and J. L. Bell.* Invited lecture presented at 3rd Int. Conf. on Advanced Materials Processing (ICAMP-3) and Austceram 2004, held in Melbourne, Australia, Nov 29th – Dec 1st 2004.

89. "In situ High Temperature Study of Phase Transformations in Ceramics," W. M. Kriven, L. F. Siah, P. Sarin and K. Jurkschat. Invited lecture presented at 3rd Int. Conf. on Advanced Materials Processing (ICAMP-3) and Austceram 2004, held in Melbourne, Australia, Nov 29th – Dec 1st 2004.

90. "*In Situ,* High Temperature, Crystallographic Measurements of Ceramics," W. M. Kriven. Invited lecture presented at 29th Int. Cocoa Beach Conf. and Exposition on Advanced Ceramics and Composites, Jan 23-28th (2005).

91. "Geopolymers: Alkali Bonded Ceramics (ABC's) for High Tech Applications," W. M. Kriven,* M. Gordon and J. L. Bell. Invited lecture presented at the 107thAnnual

meeting of The American Ceramic Society, held in Baltimore, MD, April 10-13th 2005.

92. "Bioresorbable Nanoceramics for Gene and Drug Delivery," W. M. Kriven. Invited lecture presented at Int. Conference on Understanding Complex Systems, held on May 16th – 20th 2005, at the University of Illinois at Urbana-Champaign.

93. "Sintering in Multiphase Ceramics," W. M. Kriven. Invited lecture presented at Int. Conference on Understanding Complex Systems, held on May 16th – 20th (2005), at the University of Illinois at Urbana-Champaign.

94. "*In-situ*, in Air, High Temperature Study of Phase Transformations in Ceramics," W. M. Kriven, P. Sarin, J. Jurkschat, L. F Siah, (invited lecture). Presented at the International Conference on Solid-Solid Phase Transformations in Inorganic Materials 2005 (PTM 2005), held May 29th – June 3rd (2005), Phoenix Arizona, USA.

95. "Geopolymers: More than Just a Cements," W. M. Kriven (Plenary Lecture). Presented at *Geopolymer 2005*. Int. Conf. on Geopolymers, held in St. Quentin, June 29th – July 1st 2005.

96. "Microstructure and Nanoporosity of As-set and Heat-Treated Geopolymers," W. M. Kriven, J. L. Bell, M. Gordon and J. Wen. Presented at 30th Int. Cocoa Beach Conf. and Exposition on Advanced Ceramics and Composites, Jan 22-27th (2006), Florida, USA.

97. "High Temperature Investigations of Ceramics in Air using Synchrotron Radiation, "P. Sarin, W. Yoon, R. P Haggerty, P. Zschack and W. M. Kriven. Invited talk, Advanced Photon Source Use Science Seminar, Aronne National Laboratory, Argonne, Illinois, February 3rd (2006).

98. "In Situ, High Temperature Measurement of Phase Transformations and Thermal Expansion Coefficients in Ceramics," W. M. Kriven* and P. Sarin, (invited lecture) presented at 11th Int. Ceramics Congress, Sicily, Italy, June 4-9th (2006).

99. "Growth of Textured and Single Crystal Mullite Fibers Using a Quadrupole Lamp Furnace," W. Yoon and W. M. Kriven, (invited lecture) to be presented at International Conference on Mullite in June 9-11th, 2006 in Vienna, Austria.

100. "Effect of Transition-metal-ion Doping on High Temperature Thermal Expansion of 3:2 Mullite – An in-situ High Temperature Synchrotron Diffraction Study," P. Sarin, W. Yoon, N.C. Bhorkar, C. Chiritescu, and W.M. Kriven, (invited lecture) presented at International Conference on Mullite in June 9-11th 2006 in Vienna, Austria.

101. Processing of Ceramics via the Geopolymer Route," International Conference on Novel and Emerging Ceramics and Composites, to be held in Kona, Hawaii, July 10-15th (2006).

102. "Microstructure and Effect of Heat Treatment on Geopolymers" W. M. Kriven,* J. L. Bell and M. Gordon (invited lecture) to be presented at International Workshop on Geopolymer Binders – Interdependence of Composition, Structure and Properties, Sept 18-19th 2006 in Weimar, Germany.

103. "In-situ, High-temperature Synchrotron Powder Diffraction Studies of Oxide Systems In Air Using A Thermal-image Furnace" W. M. Kriven* and P. Sarin. Presented at 64th Pittsburgh Diffraction Conference, Duquesne University, Pittsburgh, PA, Oct 26th-28th (2006).

104. "Multicomponent, Multiphase, Ceramic Composites for high hardness, Strenth and toughness Applications," D.-K. Kim and W. M. Kriven*. Presented at the 108th Annual Meeting of the American Ceramic Society, in conjunction with Materials Science and Technology 2006 Conference and Exhibition (MS &T '06), held in Cincinnati, Ohio, Oct 15th -19th (2006).

105. "In Situ, High Temperature Measurement of Phase Transformations and Thermal Expansion Coefficients in Ceramics," W. M. Kriven* and P. Sarin, (invited lecture) presented at International Workshop on Advanced Ceramics, Nagoya, Japan, Oct 30th – Nov 3rd (2006).

106. **"**Mullite," W. M. Kriven*, presented at Dow Chemical Research Center in Midlands, Michigan, Jan 8th (2007).

107. "En Route to Porous Alumina," W. M. Kriven,* presented to Union Carbide and Dow Chemical at the Dow Chemical Research Center in Midlands, Michigan, Jan 9th (2007).

108. **"**Crystallization of Leucite and Pollucite from Geopolymer Gels," W. M, Kriven,* J. L Bell, M. Gordon, and P. Sarin Abstract [#ICACC-FS3-007-2007] presented at 31st International Cocoa Beach Conference and Exposition on Advanced Ceramics and Composites held at Daytona Beach on Jan 21st - 26th 2007.

109. "Geopolymers," W. M. Kriven, presented at Pittsburgh Plate and Glass Company (PPG) Coatings Division, Pittsburgh PA, on April 20th (2007).

110. "Rapid, *In Situ*, High Temperature Synchrotron Studies of Phase Transformations in Ceramics," W. M. Kriven,* P. Sarin and R. P. Haggerty. Presented at the Advanced Photon Source (APS) Users Workshop at Argonne National Lab (ANL), May 8th-9th (2007).

111. "The Complex Structure of Geopolymers," W. M. Kriven, * J. L. Bell and P. Sarin, (invited lecture) presented at 7th Understanding Complex Systems Conference held at The University of Illinois at Urbana-Champaign, Department of Physics, May 14-17th (2007).

112. "Crystallographic and Processing Studies of Calcium Phosphate Templates," W. M. Kriven, D. Jian, D. K. Kim, D. H. Lim, P. Sarin, N. Smith and M. Stewart. Presented at the Annual Meeting of the European Ceramic Society, held in Berlin, Germany, June 17th –21st (2007).

113. "From Geopolymers to Ceramics," W. M. Kriven, J. L. Bell and P. Sarin. Presented at the Annual Meeting of the European Ceramic Society, held in Berlin, Germany, June 17th-21st (2007).

114. "*In situ*, in Air, High Temperature Synchrotron Studies of Phase Transformations of Oxide Ceramics," W. M. Kriven. Presented at the AFOSR Workshop on Ultra High Temperature Ceramics, held at Menlo Park, CA, on July 23rd – 24th (2007).

115. "Geopolymers and Geopolymer Concretes," W. M. Kriven,* J. L. Bell, P. Sarin, R. P. Haggerty and P. Driemeyer. Presented at Tyndall Air Force Base, Panama City, FL Aug. 7th (2007).

116. "Strong, Hard and Tough, High Temperature Stable, Multi-phase Ceramiuc Composites with Retarded Grain Growth," D. K. Kim and W. M. Kriven. Presented at the 109th Annual Meeting of the American Ceramic Society, in conjunction with Materials Science and Technology 2007 Conference and Exhibition (MS &T '07), held in Detroit, Sept 16-20 (2007).

117. "Geopolymer-derived Ceramics based on Less Contaminated, Synthetic Analogues of Fly-Ash," W. M. Kriven*, P. E. Driemeyer, J. L. Bell. Presented at the 109th Annual Meeting of the American Ceramic Society, in conjunction with Materials Science and Technology 2007 Conference and Exhibition (MS &T '07), held in Detroit, Sept 16-20 (2007).

118. "From Geopolymers to Ceramics," W. M. Kriven, J. L. Bell and P. Sarin. Presented at Composites at Lake Louise, Canada, Oct 28th –Nov 2nd (2007).

119. "In Situ, High Temperature Studies of Phase Transformations in Ceramics,"W. M. Kriven, P. Sarin and R. P. Haggerty. Presented at Composites at Lake Louise, Canada, Oct 28th–Nov 2nd (2007).

120. "Recent Advances in Thermally-induced Evolution of Geopolymers into Ceramics," W. M. Kriven,* J. L. Bell, R. P. Haggerty, P. E. Driemeyer. Presented at the 32nd Int. Conf. and Exposition on Advanced Ceramics and Composites, Daytona Beach, Florida, Jan 27th – Feb 1st (2008).

121. "*In situ*, in Air, High Temperature (2000°C) Studies of Oxide Ceramics," W. M. Kriven,* P. Sarin, R. Haggerty, J. Bell, P. E. Driemeyer. Presented in the Department of Anorganische Chemie, the University of Bonn, Bonn, Germany, Feb 21st (2008). At the invitation of Prof. Werner Mader.

122. "*In situ*, in Air, High Temperature (2000°C) Studies of Oxide Ceramics," W. M. Kriven. Presented in the Insitut für Kristallographie at the University of Cologne, Cologne, Germany Feb 22nd (2008). At the invitation of Prof. Hartmut Schneider.

123. "From Zirconia Toughening to the Design of Advanced Composites," W. M. Kriven.* Presented at the EhrenKolloquium (Colloquium in honor of) of Nils Claussen and Symposium on Hochleistungskeramik 2008 (High Durability Ceramics) held at the University of Hamburg-Harburg, Germany Feb 25-28th (2008).

124. "Pair Distribution Function Analysis of Metakaolin-Based Geopolymers,"J. L. Bell, *, P. Sarin, R. P. Haggerty, P. E. Driemeyer and W. M. Kriven Brookhaven National Laboratory, National Synchrotron Light Source (NSLS), Seminar Series, March 7th, (2008).

125. "In Situ Synchrotron Studies of Oxide Ceramics to 2000°C in Air, " W. M. Kriven, P. Sarin, J. L. Bell, *, R. P. Haggerty and P. E. Driemeyer . Presented in the Department of Mechanical Engineering, Texas A&M University, College Station, Texas, April 24th 2008.

126. "Geopolymer Porous Nanoceramics for Structural, Smart and Thermal Shock Resistant Applications," W. M. Kriven, J. L. Bell and P. E. Driemeyer. Presented at AFOSR review at Dayton Air Force Base, Dayton, OH, May 5th 2008.

127. "In situ High Temperature Phase Transformations in Ceramics," W. M. Kriven,* presented at 2008 High Temprature Aerospace materials Contractor's meeting, held in Vienna, VA, 12-16th May (2008).

128. "From Geopolymers to Ceramics," presented at the University of Trento, (per Prof. G. D. Sororu), in Trento, Italy, July 3rd (2008).

129. "High Tech Ceramics and Refractories without Sintering," W. M. Kriven*. Presented at 2nd International Congress on Ceramics (2nd ICC2), held in Verona, Italy, June 29th – July 4th (2008).

130. "In situ Synchrotron Studies of Ceramics to 2000°C in Air," W. M. Kriven,* International Workshop on Mechanics-Based Design of Materials: Present State, Future Directions, Challenges, and Opportunities – (in honor of the retirement of Brian Lawn). Held at the University of Western Australia in Perth, Western Australia, July14th -1 6th (2008).

131. "Ultra High Temperature Materials," W. M. Kriven, P. Sarin, J. L. Bell, *, R. P. Haggerty and P. E. Driemeyer. Presented at an AFOSR Workshop on Materials Under Extreme Conditions, Lake Tahoe, CA.

132. "Geopolymers" W. M. Kriven (an intensive two day lecture course on geopolymers, at the invitation of Dr. Alek Pyzik, presented at the Corporate R & D section of Dow Chemical Company in Midland, MI, on Sept. 2nd - 5th (2008).

133. "Microstructure and Short Range Order in Aluminosilicate Geopolymers," J. L. Bell, P. Sarin and W. M. Kriven, presented at 33rd International Conference on Advanced Ceramics and Composites held at Daytona Beach, FL, Jan 18th -23rd (2009).

134. "In Situ Synchrotron Studies of Ceramics to 2000°C in Air," W. M. Kriven*, presented as the Physics Department Colloquium of Eastern Illinois University, Bloomington, IL, Feb 24th (2009).

135. "Microstructure and Mechanical Properties of Leucite Glass-Ceramics Converted from Potassium-based Geopolymer," N. Xie, J. L. Bell and W. M. Kriven, 8th Pacific Rim Confernce on Ceramics and Glass Technology, (PACRIM8), held in Vancouver, British Columbia, Canada, (May 31st – June 5th 2009).

136. "In-situ Synchrotron Studies of Ceramics to 2000°C in Air," W. M. Kriven, Departmental Seminar presented in the Department of Materials Science and Engineering, Boise State University, Idaho, Oct 9th (2009).

137. "In situ, High Temperature, Synchrotron Studies of Monoclinic to Tetragonal Phase Transformation in HfO_2", R. P. Haggerty, P. Sarin, Z. Apostolov and W. M. Kriven*. To be presented at Composites at Lake Louise, Lake Louise, Alberta, Canada, Oct 25th – 30th (2009).

138. "In situ Synchrotron Studies of Ceramics to 2000°C in Air," W. M. Kriven,* P. Sarin, R. P. Haggerty and Z. D. Apostolov. Presented at the Lunchtime seminar series at the National Synchrotron Light Source at Brookhaven National Laboratory, Brookhaven, Nov 10th (2009).

139. "Formation of Ceramics from Metakaolin-based Geoplymers," W. M. Kriven, N. Xie and J. L. Bell. Presented at Materials Science and Technology 2009 Conference and Exhibition (MS&T'09) including the ACERS 111th Annual Meeting, held in Pittsburgh PA, Oct 25th -29th (2009) .

140. "In situ High Temperature Synchrotron Studies of Phase Transformations in Oxide Ceramics," W. M Kriven,* P. Sarin, R. Haggerty, Z. Apostolov. Presented at Materials Science and Technology 2009 Conference and Exhibition (MS&T'09) including the ACERS 111th Annual Meeting, held in Pittsburgh PA, Oct 25th -29th (2009).

141. "X-ray Studies of Phase Transformations in Tantalum Pentoxide," P. Sarin,* R. P. Haggerty, J. L. Bell, A. Apostolov. Presented at Materials Science and Technology 2009 Conference and Exhibition (MS&T'09) including the ACERS 111th Annual Meeting, held in Pittsburgh PA, Oct 25th -29th (2009).

142. "Mechanical Properties and Thermal Behavior of Geopolymer Composites," W. M. Kriven, B. Andress, B. Choragwicki, D. Lowry, E. Rill, B. C. Wagoner. Presented at the 34th Int. Conf. and Exposition on Advanced Ceramics and Composites, held in Daytona Beach, FL, Jan 24th – 29th (2010).

143. "Microstructure and Properties of Metakaolin-based Geopolymers," W. M. Kriven,* J. L. Bell, P. E. Driemeyer, P. Sarin, R. P. Haggerty, M. Gordon, S. Mallicoat, P. Duxson, N. Xie, D. R. Lowry and E. Rill. Presented at 32nd Int. Conf. on Cement Microscopy, held in New Orleans, USA, March 28th-April 1st (2010).

144. "Atomic Structure and Microstructure of Geopolymer and Crystallized Geopolymer Ceramics," W. M. Kriven,* J. L. Bell, P. E. Driemeyer, P. Sarin, R. P. Haggertty, N. Xie. Presented at 12th International Ceramics Congress, Montecatini Terme, Tuscany, Italy, June 6th – 11th (2010).

145. "Atomic Structure and Microstructure of Geopolymer and Crystallized Geopolymer Ceramics," W. M. Kriven. Invited lecture presented at Conferences Internationales Materiaux et Technologies (CIMTEC) 2010. Held in Montecatini Terme, Tuscany, Italy, June 6th – 11th (2010).

146. "Microstructure and Properties of Metakaolin-based Geopolymers," W. M. Kriven.* Presented at Annual Meeting of the Cements Division of the American Ceramic Society, Purdue, IN, July 11th- 13th (2010).

147. "Geopolymers for Extreme Environments," W. M. Kriven. Presented at AFOSR Workshop on Materials Far From Equilibrium, held in Washington, DC on Nov 2nd-4th (2010).

148. "Mechanical Properties of Chopped Fiber Reinforced Composites as a Function of Temperature," T. P. Dietz* and W. M. Kriven, presented at 35th Int. Daytona Beach Conf. on Advanced Ceramics and Composites, Jan 23rd – 28th (2011).

149. "History, Microstructure and Properties of Geopolymers," presented in the Department of Materials Science and Metallurgy, Cambridge University, UK, June 15th (2011). Lecture was at the invitation of Prof. Anthony Cheetham.

150. "History, Microstructure and Properties of Geopolymers," presented at the Laboratoire des Composites Thermostructuraux (LCTS) in Bordeaux, France on June 24th (2011). Lecture was at the invitation of Prof. Roger Naslain.

151. "In Situ Synchrotron Studies of Ceramics and Geopolymers to 2000 °C in Air," W. M. Kriven. Presented at the Australian Ceramic Society Meeting of the Victoria Branch of AUSTCERAM, held on the campus of Monash University, July 28th (2011).

152. "High Temperature Stable Geopolymer Composites," T. P. Dietz and W. M. Kriven.* Presented at the 9th International Meeting of Pacific Rim Ceramic Societies (PacRim 9), held in Cairns, Australia, on July 10th to 14th (2011).

153. "Microstructure and Properties of Geopolymers," W. M. Kriven. Presented in the Department of Physics and Chemistry, The University of Adelaide, South Australia, Australia on Aug 1st (2011). Invitation was per Prof. John Carver.

154. "The Thermal Evolution of Zirconia and Hafnia in Air," R. P. Haggerty,* P. Sarin, Z. Apostalov, Z. Jones and W. M. Kriven. Presented at the "Composites at Lake Louise Conference, Oct 30th – Nov 4th (2011). Held at Lake Louise, Canada.

155. "Mechanical Properties of Geopolymer Composites and their Adhesion to Pystyrene Insulation," W. M. Kriven*, B. Glad and T. Dietz. Presented at the "Composites at Lake Louise Conference, Oct 30th – Nov 4th (2011). Held at Lake Louise, Canada.

156. "High Temperature Stable Geopolymer Composites," W. M. Kriven* and T. P. Dietz. Presented at the Materials Science and Technolgy 2011 (MS&T 11) held in Columbus, Ohio, Oct 16th 21st (2011).

157. "Production of Spherical Ceramic Beads using Sodium Alginate Chemsitry," C. Espinoza, T.- S. Wei, W. M. Kriven,* and Bum-Rae Cho. Presented at the Materials Science and Technolgy 2011 (MS&T 11) held in Columbus, Ohio, Oct 16th 21st (2011).

158. "High Temperature 4-Pt Flexural Strength of Chopped Fiber Reinforced Geopolymer Composites," T. P. Dietz and W. M. Kriven. Presented at the 36th Int. Conf. and Expo on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 22nd – 27th (2012).

159. "Microwave Processing of Chopped Silicon Carbide Reinforced Geopolymers," M. L. Fall, S. M. Allan W. M. Kriven* and H. S. Shulman. Presented at the 36th Int. Conf. and Expo on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 22nd – 27th (2012).

160. "Organic-Aluminosilicate Interface Interactions," B. E. Glad* and W. M. Kriven. Presented at the 36th Int. Conf. and Expo on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 22nd – 27th (2012).

161. "Progress in CNT-Reinforced SiC Composites," P. B. Stynoski, T. A. Carlson, C. P. Marsh, W. M. Kriven*, and C. R. Welch. Presented at the Joint U. K.–U. S. Meeting on Advanced Materials. Held at the US Army Research and Development Center (ERDC), Vicksburg, MS, May 23 and 24th (2012).

162. "Thermal Expansion of Crystalline Materials from In situ High Temperature Powder X-ray Diffraction," W. M. Kriven,* P. Sarin, Z. A. Jones, Z. D. Apostolov. Presented at the Workshop on the Design of Ceramic-Fiber Based Composites for Service above 1400 °C. Held at the National Hypersonics Science Center for Materials and Structures, Boulder, CO, June 9th -16th (2012).

163. "Thermal Expansion of Crystalline Materials from In situ High Temperature Powder X-ray Diffraction," W. M. Kriven,* P. Sarin, Z. A. Jones, Z. D. Apostolov R. P. Haggerty. Presented at the National Synchrotron Light Source, seminar series, Brookhaven National Lab, June 22nd (2012).

164. "Geopolymer Mesoporosity Control using Alkoxysilane Additives," B. E. Glad* and W. M. Kriven. Presented at 37th Inernational Conference and Exposition on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 27th – Feb 1st (2013).

165. Green Composite: Processing, Mechanical Properties and Microstructure of Sodium-based Geoplymer reinforced with Chemically Extracted Corn Husk Fibers," S. S. Musil,* P. F. Keane and W. M. Kriven. Presented at 37th Inernational Conference and Exposition on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 27th – Feb 1st (2013).

166. "Low Density Geopolymers Containing Silver Nanoparticles with Biocide Activity," B. Cabal. B. E. Glad, W. M. Kriven,* F. Rojo, Ramon Torrecillas, J. S. Moya. Presented at 37th Inernational Conference and Exposition on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 27th – Feb 1st (2013).

167. "Multicomponent Oxide Nanotechnology for Industrial Applications," W. M. Kriven.* Presented at Colombia-US Workshop on Nanotechnology in Energy and Medical Applications, held in Medellin, Colombia, March 11-13th (2013).

168. "Multicomponent Oxide Nanotechnology and Geopolymers for Industrial Applications," W. M. Kriven.* Presented at Sumicol Company in Medellin, Colombia, March 14-15th (2013).

169. Geopolymer Porosity Control using Surface Modificaiton and Templating," B. E. Glad and W. M. Kriven." Presented at 10th Pacific Rim Conference on Ceramic and Glass Technology (Pacrim 10), Jun 2-7 (2013), San Diego, CA.

170. "The Characterization of Nanoporosity in Geopolymers by Positron Annilhilation Technqiues," Presented at 10th Pacific Rim Conference on Ceramic and Glass Technology (Pacrim 10), Jun 2-7 (2013), San Diego, CA.

171. "Mechanical Properties of Carbon Fiber Reinforced Potassium Geopolymers," Shinhu Cho* and W. M. Kriven. Presented at 10th Pacific Rim Conference on Ceramic and Glass Technology (Pacrim 10), Jun 2-7 (2013), San Diego, CA.

172. "Mechanical Property Measurements of Geopolymers," X. Fan, E. D. Case, S. Cho and W. M. Kriven. Presented at 10th Pacific Rim Conference on Ceramic and Glass Technology (Pacrim 10), Jun 2-7 (2013), San Diego, CA.

173. "In situ Studies of Phase Transformations and 3D Thermal Expansions in Ceramics to 2,000°C in Air," W. M. Kriven. Presented as part of the lunch time seminar series at the Advanced Photon Source (APS) at Argonne National Laboratory (ANL), June 28th (2013).

174. "Fiber Reinforced Geopolymer Composites," W. M. Kriven, presented at 3M Corporate Research Center, St. Paul, Minnesota, Sept. 17th (2013), invited by Dr. Per Nelson.

175. "Practical Applications of Materials Science Research," W. M. Kriven,* presented at Illinois Technology Education Conference (ITEC 2013) held in Normal, Illinois, Oct 11th -12th (2013)

176. "Geopolimeros" W. M. Kriven, presented at 2nd Workshop on Sustainable Technologies, at Universidade Federal do Amazonas, Manaus, Brazil, Oct 14th - 15th (2013).

177. "Fiber reinforced Geopolymer Composites," W. M. Kriven, presented at 2nd Workshop on Sustainable Technologies, at Universidade Federal do Amazonas, Manaus, Brazil, Oct 14th -15th (2013).

178. "Controlled Heat Treatment and Crystallization of Oxide Fibers,' W. Yoon, P. Sarin and W. M. Kriven.* Presented at the Int. Symp. On Fibers Interfacing the World, held in Clemson, South Carolina, USA Oct 23rd – 25th (2013).

179. "Production of In situ Silicon Nitride Reinforced Geopolymer Composites, made by Carbothermal Reduction and Nitridation," C. Bagci, G. P. Kutyla and W. M. Kriven.* Presented at 38th Int. Conf. and Exposition of Advanced Ceramics and Ceramic Composites, held in Daytona Beach, Florida, Jan 26th -31st (2014).

180. "Flexural Creep Evalautaion of Polycrystalline Nextel and Single-Crystal Mullite Fiber Reinforced Pollucite Composites using the Geopolymerization Technique," S. Musil, W. M. Kriven,* S.T. Mileiko and A. A. Kolchin. Presented at 38th Int.

Conf. and Exposition of Advanced Ceramics and Ceramic Composites, held in Daytona Beach, Florida, Jan 26th -31st (2014).

181. " Sodium Geopolymer Reinforced with Jute Weaves or Fique Fibers," K. Sankar* and W. M. Kriven. Presented at 38th Int. Conf. and Exposition of Advanced Ceramics and Ceramic Composites, held in Daytona Beach, Florida, Jan 26th -31st (2014).

182. "In Situ High Temperature Synchrotron Studies of Ceramics," W. M. Kriven*. Presented at the IV Workshop on Applied Crystallography in Materials Science and Engineering, held in Vitoria, in the state of Espiritu Sanctu, Brazil, May 23rd – 25th (2014).

183. "Geopolymers and their Composites,"W. M. Kriven*. Presented at the V Scientific Meeting of Applied Physics, held in Vitoria, in the State of Espiritu Sanctu, Brail, May 25th – 28th (2014).

184. "Mechanical Properties of Geopolymers and their Composites,"W. M. Kriven*. Presented at the Instituto do Federal do Spirito Santo, held in Santa Teresa, in the State of Espiritu Sanctu, Brazil, May 29th (2014).

185. "Geopolymers and their Composites," W. M. Kriven*. Presented at the Instituto de Macromoleculas Professor Eloisa Mano da Universidade Federal do Rio de Janeiro, June 2nd (2014).

186. "Geopolymers and their Composites," W. M. Kriven*. Presented at Department of Civil Engineering, Pontifícia Universidade Católica do Rio de Janeiro (PUC-Rio), Rio de Janiero, Brazil, June 3rd (2014).

187. "Geopolymers and their Composites, W. M. Kriven*. Presented in the Department of Civil Engineering, Universidade Federal do Rio De Janeiro, Brazil, June 6th (2014).

188. "Fiber Reinforced Geopolymer Composites," W. M. Kriven*, S. S. Musil, K. Sankar, T. P. Dietz, G. P. Kutyla, A. A. Kolchin and S. T. Mileiko. Presented at 13th International Ceramics Congress, held in Montecatini Terme, Italy, June 8th - 13th (2014).

189. "Geopolymers and Geopolymer Composites," W. M. Kriven. Invited Departmental Seminar presented in the Department of Chemistry, Arizona State University, Tempe, Arizona, Sept 19th (2014).

190. "Phase Transformations in Fergussonite-Type Rare Earth Tantalates," R. W. Hughes, Z. D. Apostolov, P. Sarin and W. M. Kriven. Presented at MS&T 14, Oct 12-16th in Pittsburgh, PA.

191. "In situ Measurments of Electric Field Assisted Phase Transformations in Yttria Stabilized Zirconia," Jean-Marie Lebrun, Timothy Morissey, John Francis, Kevin Seymour, Waltraud M. Kriven and Rishi Raj. Presented at MS&T 14, Oct 12-16th in Pittsburgh, PA.

192. "In situ Synchrotron Difffraction of the HfO_2 Phase Transformation in Air to 1850 °C," Ryan P. Haggerty, Pankaj Sarin, Zlatomir D. Apostolov, Patrick E. Driemeyer and Waltraud M. Kriven. Presented at MS&T 14, Oct 12-16th in Pittsburgh, PA.

193. "High Temperature Ferroelastic Phase Transition in Rare Earth Niobates ($LnNbO_4$, where Ln = La, Dy, Y)," P. Sarin, R. W. Hughes, D. R. Lowry, Z. D. Apostolov and W. M. Kriven. Presented at MS&T 14, Oct 12-16th in Pittsburgh, PA.

194. "On the Utility of Metastable Phases – An example from Ln_6WO_{12} (Ln = Y, Ho, Er, Yb)," Zlatomir D. Apostolov, Pankaj Sarin, Robert W. Hughes and Waltraud M. Kriven. Presented at MS&T 14, Oct 12-16th in Pittsburgh, PA (2014).

195. "Kriven Group Research Topics and Fiber Reinforced Geopolymer Composites," W. M. Kriven. (Per Duane DeBastiani, Director of Enabling Technologies), presented at Vesuvius USA, Corporate Research Laboratories, Pittsburgh, PA Oct. 28th (2014).

196. "Effect of Fiber Length and Static Mechanical Properties of Milled, Carbon Fiber-reinforced Potassium Geopolymer Composite," Shinhu Cho, R.D. Schmidt, E. D. Case and W. M. Kriven. Presented at 39th Annual Conference and Exposition on Advanced Ceramics and Ceramic Composites, held in Daytona Beach, Florida, Jan 25th (2015).

197. "Microstructural Investigation of Carbothermally Reacted Geopolymer Composites, Made under Specific Alkaline Conditions," C. Bagci, G. Kutyla and W. M. Kriven. Presented at 39th Annual Conference and Exposition on Advanced Ceramics and Ceramic Composites, held in Daytona Beach, Florida, Jan 25th (2015).

198. "High Temperature Mechanical Properties of Alumina or Mullite Fiber Reinforced Geopolymer Composites," S. S. Musil, A. A. Kolchin, S. T. Mileiko and W. M. Kriven. Presented at 39th Annual Conference and Exposition on Advanced Ceramics and Ceramic Composites, held in Daytona Beach, Florida, Jan 25th (2015).

199. "Effect of Curing Conditions on Crystalline Phase Development of Heat-treated K/Cs Geopolymer," A. Steveson and W. M. Kriven. Presented at 39th Annual Conference and Exposition on Advanced Ceramics and Ceramic Composites, held in Daytona Beach, Florida, Jan 25th (2015).

200. "Geopolymers: Versatile Ceramic Composites made at Ambient Temperatures," W. M. Kriven* per Dr. Steven Taulbee, Army Reseach Lab, Aberdeen Proving Ground, MD, May 8th (2015).

201. "Effect of Carbon Content and Alkaline Conditions on Transformation Yield of SiC by Carbothermal Reaction of Geopolymers," Cengiz Bagci, G. P. Kutyla and W. M. Kriven*. Presented at 11th Int. Conf. on Ceramic Materials and Components for Energy and Environmental Applications, held in Vancouver, Canada, June 14th – 19th (2015).

202. "Phase Transformations in Fergusonite-Type Rare Earth Tantalates," Robert W. Hughes, Zlatomir Apostolov, Pankaj Sarin and Waltraud Kriven*. International Conference on Solid-Solid Phase Transformations in Inorganic Materials (PTM2015) held in Whistler, BC, Canada, June 28th – July 3rd (2015).

203. Potassium Geopolymer-Bamboo Composite: A Sustainable Construction Material," Ruy A. Sá Ribeiro, Marilene G. Sá Ribeiro, Kaushik Sankar, Waltraud M. Kriven. To be presented at Global Forum on Advanced Materials and Technologies for Sustainable Development (GFMAT 2016), to be held in Toronto, Canada, June 26th – July 1st (2016).

204. "Potassium Geopolymer Reinforced with E Glass Leno Weave," Kaushik Sankar and Waltraud M. Kriven. To be presented at the 40th Int. Conference and Exposition on Advanced Ceramics and Ceramic Composites, to be held in Daytona Beach, Jan 24th -29th (2016).

205. "Microstructural Investigation of Carbothermally Reacted Geopolymer Composites, made under Specific Alkaline Conditions," Gengiz Bagci, Gregory P. Kutyla and Waltraud M. Kriven. To be presented at the World Academy Forum (WAC) 2016 in Marina di Ravenna, Italy June 14-17th (2016).

206. "Potassium Geopolymer-Bamboo Composite: A Sustainable Construction Material," Ruy A. Sá Ribeiro, Marilene G. Sá Ribeiro, Kaushik Sankar, Waltraud M. Kriven. To be presented at Global Forum on Advanced Materials and technologies for Sustainable Development (GFMAT 2016), to be held in Toronto, Canada, June 26th – July 1st (2016).

CONFERENCE PRESENTATIONS (* given by)

1. "Different Mechanisms and Relations in the Aragonite-calcite Type Transformation in Potassium Nitrate," S. W. Kennedy and M. Odlyha and W. M. Kriven, Royal Australian Chemical Institute, Solid State Conference, Sydney, Australia 1976.

2. "Characterization of Mullites by Transmission Electron Microscopy," W. M. Kriven*, R. J. Mishra and J. A. Pask, Conference Abstracts, American Ceramic Society, Annual Meeting, May 1978, Detroit, USA.

3. "Microstructures of Melt-crystallized Mullites," W. M. Kriven and J. A. Pask, Conference Abstracts, American Ceramic Society, Regional Meeting, October 1978, San Diego, USA.

4. "Structural Transformations in KNO_3 , $RbNO_3$ and NH_4Br," S. W. Kennedy, W. M. Kriven* and W. L. Fraser, ICOMAT, International Conference on Martensitic Transformations, MIT, Cambridge, USA, June 1979.

5. "Dislocations and Low-angle Grain Boundaries in Mullite," W. M. Kriven*, R. Gronsky and J. A. Pask, Conference Abstracts, American Ceramic Society, Annual Meeting, October 1979, New Orleans, USA.

6. "Possible Crystallographic Mechanisms of the Tetragonal to Monoclinic Transformation in Zirconia," W. M. Kriven*, W. L. Fraser and S. W. Kennedy, Conference Abstracts, American Ceramic Society, Annual Meeting, April 1980, Chicago, USA.

7. "Experimental Analysis of the Martensitic Transformations in Partially Stabilized Zirconia," W. M. Kriven*, A. G. Evans and A. H. Heuer, Conference Abstracts, American Ceramic Society, Annual Meeting, April 1980, Chicago USA (Poster).

8. "The Martensite Crystallography of Tetragonal Zirconia," W. M. Kriven*, W. L. Fraser and S. W. Kennedy, First International Conference on Zirconia, Case Western Reserve University, June 1980, Cleveland, USA (Poster).

9. "Martensite Theory and Twinning in Composite ZrO_2 Ceramics," W. M. Kriven*, First International Conference on Zirconia, CWRU, June 1980, Cleveland, USA (Poster).

10. "The influence of grain boundary silica impurity on alumina toughness," J. S. Moya*, W. M. Kriven and J. A. Pask, International Symposium on Surfaces and Interfaces in Ceramic and Ceramic-Metal Systems, Berkeley, USA, 1980.

11. "HVEM analysis of internal strains in Al_2O_3-ZrO_2 ceramics," W. M. Kriven* and M. Ruhle, Conference Abstracts, American Ceramic Society, Annual Meeting, May 1981, Washington, USA.

12. "Dislocations and planar defects in transformed monoclinic ZrO_2," E. Bischoff, M. Kirn, W. M. Kriven and M. Ruhle*, Conference Abstracts, American Ceramic Society, Annual Meeting, May 1981, Washington, USA.

13. "Higher alumina twinned mullite: $3Al_2O_3.SiO_2$," W. M. Kriven*, Y. Nakajima, and Joseph A. Pask, Conference Abstracts, American Ceramic Society, Annual Meeting, May 1981, Washington, USA.

14. "Shear Transformations in Inorganic Materials," W. M. Kriven*, an invited review paper, Int. Conf. on Solid-Solid Phase Transformations, Carnegie-Mellon University, August 1981, Pittsburgh, USA.

15. "Martensitic Transformation and Relaxation Mechanisms in $RbNO_3$," S. W. Kennedy and W. M. Kriven*, contributed paper, Int. Conf. on Solid-Solid Phase Transformations, Carnegie-Mellon University, August 1981, Pittsburgh, USA.

16. "The Aragonite to Calcite-like Transformation in Potassium Nitrate," W. M. Kriven* and S. W. Kennedy, contributed paper, Int. Conf. on Solid-Solid Phase Transformations, Carnegie-Mellon University, August 1981, Pittsburgh, USA.

17. "HVEM analysis of shape strains around transformed zirconia inclusions," M. Ruhle* and W. M. Kriven, contributed paper, Int. Conf. on Solid-Solid Phase Transformations, Carnegie-Mellon University, August 1981, Pittsburgh, USA.

18. "Strain analysis around tetragonal zirconia inclusions," W. M. Kriven* and M. Ruhle, 10th International Congress on Electron Microscopy, Hamburg, August 1982 (poster).

19. "Lattice-deformational transformations in non-metals," W. M. Kriven*, invited lecture presented at Int. Conf. on martensitic transformations (ICOMAT), summer course, Leuven, Belgium, August 1982.

20. "Stress-induced transformations in composite zirconia ceramics," M. Ruhle* and W. M. Kriven, presented at Deutsche Bunsengesellschaft fur Physikalische Chemie, Discussion Meeting on Stability and Phase Transformations of Solids, held in Konigstein, West-Germany, September (1982).

21. "Quantitative analysis of elastic strains surrounding confined spherical zirconia particles," W. M. Kriven*, W. Mader and M. Ruhle, (poster) presented at the Second International Conference on the Science and Technology of Zirconia," held in Stuttgart, Federal Republic of Germany, June 21-23, 1983.

22. "Transformation strains of confined spherical zirconia particles," W. M. Kriven*, (poster) presented at the Second International Conference on the Science and Technology of Zirconia, held in Stuttgart, Federal Republic of Germany, June 21-23, 1983.

23. "Anomalous expansion in Al_2O_3-15 vol.% $(Zr, Hf)O_2$," W. M. Kriven* and E. Bischoff, (poster) presented at the Second International Conference on the Science and Technology of Zirconia, held in Stuttgart, Federal Republic of Germany, June 21-23, 1983.

24. "The transformation mechanism of spherical zirconia particles in alumina," W. M. Kriven* presented at the Annual Meeting of the American Ceramic Society, May 1984, Pittsburgh, USA.

25. "Characterization of copper-ceramic interfaces," W. M. Kriven* and S. H. Risbud, presented at the Fall Meeting of the Materials Research Society, Nov. (1984) Boston, Abstract number J 6.4.

26. Participated in and presented two papers at the Second International Workshop on Transformation Toughening, April (1985), Lorne (near Melbourne), Australia.

27. "Microstructures of non-stoichiometric dicalcium silicates," C.-J. Chan,* W. M. Kriven, J. F. Young and A. Ghose, presented at the Annual Meeting of the American Ceramic Society, May (1985), Cincinnati, USA.

28. "The microstructure of copper-cordierite interfaces," W. M. Kriven,* presented at the Annual Meeting of the American Ceramic Society, May (1985), Cincinnati, USA.

29. "Microstructure of non-stoichiometric dicalcium silicate doped with potassium oxide," A. Ghose, C.-J. Chan, W. M. Kriven, and J. F. Young*, presented at the Beijing Int. Symp. on Cement and Concrete, May (1985), Beijing, China.

30. "Displacive transformation mechanisms in zirconia ceramics and other non-metals," W. M. Kriven*, presented at 21st University Conference on Ceramic Science, July (1985), Pennsylvania State University, Pennsylvania, USA.

31. "Analytical electron microscopy of rapidly solidified SiO_2-Al_2O_3 glasses," A. P. Taglialavore*, W. M. Kriven, and S. H. Risbud. Presented at the Annual Meeting of the American Ceramic Society, April (1986), Chicago.

32. "Microstructure of dicalcium silicates doped with potassium or aluminum," C. J. Chan, J. F. Young*, and W. M. Kriven. Presented at the Annual Meeting of the American Ceramic Society, April (1986), Chicago.

33. "Possible transformation tougheners alternative to zirconia-crystallographic aspects," W. M. Kriven*. Presented at the Annual Meeting of the American Ceramic Society, April (1986), Chicago.

34. "Effect of high temperature oxidation on the microstructure and mechanical properties of whisker-reinforced ceramics," W. M. Kriven*, G. Van Tendeloo, T. N. Tiegs and P. F. Becher. Presented at the International Materials Symposium, "Ceramic Microstructures '86: Role of Interfaces," University of California at Berkeley, July 28-32 (1986).

35. "Strain analysis in ceramic composites," W. M. Kriven*, an invited paper presented at the American Society for Electron Microscopy (EMSA), 44th Annual Fall Meeting, Albuquerque, Aug. 10-15 (1986).

36. "Microstructural development of rapidly solidified, phase separated, SiO_2-Al_2O_3 glass," A. P. Taglialavore, W. M. Kriven* and S. H. Risbud. Presented at the American Society for Electron Microscopy (EMSA) 44th Annual Meeting, Albuquerque USA, Aug. 10-15 (1986).

37. "Microstructure characterization of non-stoichiometric dicalcium silicates doped with aluminum oxide," C. J. Chan*, W. M. Kriven and J. F. Young. Presented at the American Society for Electron Microscopy (EMSA) 44th Annual Meeting, Albuquerque USA, Aug. 10-15 (1986).

38. "Precursors to crystallization in amorphous $CdGeAs_2$" R. F. Speyer, W. M. Kriven* and S. H. Risbud. Presented at the American Society for Electron Microscopy (EMSA) 44th Annual Meeting, Albuquerque, USA, Aug. 10-15 (1986).

39. "Possible transformation tougheners alternative to zirconia-crystallographic aspects," W. M. Kriven* presented at the Advanced Ceramics II Lecture Meeting, held at Tokyo Institute of Technology, Japan, September 4-5 (1986).

40. "Dicalcium silicate in the CaO-ZrO-SiO_2 system," W.M. Kriven and C.J. Chan, presented at the Third Int. Conf. on Science and Technology of Zirconia, held at Tokyo, Japan, Sept. 9-11th (1986).

41. "Transformation mechanisms in confined zirconia particles and in other potential new tougheners of ceramics," W. M. Kriven* (invited paper) presented at Fall Meeting of the Metallurgical Society (TMS) of the AIME, on Physical Metallurgy and Materials, Orlando, Florida, October (1986).

42. "Possible transformation tougheners alternative to ZrO_2-crystallographic aspects" W. M. Kriven*. Abstract #[54-BP-87], presented at the Annual Meeting of the American Ceramic Society, April (1987), Pittsburgh, USA.

43. "Effect of kinetics on Ca_2SiO_4 microstructure development," C.J. Chan* and W. M. Kriven. Abstract #[112-B-87], presented at the Annual Meeting of the American Ceramic Society, April (1987), Pittsburgh, USA.

44. "Development of dicalcium silicate as a transformation toughener," E. A. Barinek* and W. M. Kriven. Abstract #[272-B-87], presented at the Annual Meeting of the American Ceramic Society, April (1987) Pittsburgh, USA.

45. "Analytical electron optical studies of doped dicalcium silicates," C. J. Chan,* W. M. Kriven and J. F. Young. Abstract #[27-T-87], presented at the Annual Meeting of the American Ceramic Society, April (1987), Pittsburgh, USA.

46. "Investigation of a ceramic-metal interface prepared by anodic spark deposition," K. A. Koshkarian* and W. M. Kriven. Presented at the Int. Conf. on Interface Science and Engineering '87." Lake Placid, New York, July (1987).

47. "Possible transformation toughening alternative to ZrO_2: crystallographic aspects," W. M. Kriven.* Presented at 12th Conf. on Composites Materials and Structures, Jan. 20-22nd (1988) Cocoa Beach, Florida, USA.

48. "Investigation of CaO-Dy_2O_3 as a transformation toughening system," M. M. Fleming, Y. J. Kim* and W. M. Kriven. Abstract #[191-B-88], Presented at the 90th Annual Meeting of the American Ceramic Society, Cincinnati, May 1-5th, 1988.

49. "Evaluation of Gd_2O_3 and Tb_2O_3 as transformation toughening agents," P. D. Jero* and W. M. Kriven. Abstract #[192-B-88], Presented at the 90th Annual Meeting of the American Ceramic Society, Cincinnati, May 1-5th, 1988.

50. "The stabilizing role of glassy phases on the β to γ transformation in dicalcium silicate," C. J. Chan*, W. M. Kriven and J. F. Young. Abstract #[46-BP-88]. Presented at the 90th Annual Meeting of the American Ceramic Society, Cincinnati, May 1-5th, 1988.

51. "Monoclinic to Cubic Transformation in Dysprosia," O. Sudre, K.R. Venkatachari and W. M. Kriven, #[47-BP-88]. Presented at the American Ceramic Society, Cincinnati, May 1-5th, 1988.

52. "Examination of CaO-Dy_2O_3 for potential use as a high temperature transformation toughening system," M. M. Fleming and W. M. Kriven." Presented at the 46th Annual Meeting of the Electron Microscopy Society of America (EMSA), Milwaukee, Aug. 7-12th, 1988.

53. "TEM studies of modulated structures in the monoclinic (B) phase of CaO-stabilized Dy_2O_3," Y. J. Kim and W. M. Kriven. Presented at the 46th Annual Meeting of the Electron Microscopy Society of America (EMSA), Milwaukee, Aug. 7-12th, 1988.

54. "Microstructural characterization of laser-melted, roller-quenched dicalcium silicate," C. J. Chan,* K. R. Venkatachari, W. M. Kriven and J. F. Young. Presented at the 46th Annual Meeting of the Electron Microscopy Society of America (EMSA), Milwaukee, Aug. 7-12th, 1988.

55. "Transformation toughening alternative to zirconia--crystallographic aspects" W. M. Kriven* (invited keynote address). Austceram 88, Int. Ceram. Conf. and Exhibition, held in Sydney, Australia, Aug. 21-26th 1988.

56. "High temperature transformation toughening of magnesia by terbia," W. M. Kriven* and P. D. Jero. Austceram 88, Int. Ceram. Conf. and Exhibition, held in Sydney, Australia, Aug. 21-26th, 1988.

57. "Evaluation of the calcia-dysposia system for transformation toughening," W. M. Kriven* and M. M. Fleming. Austceram 88, Int. Ceram. Conf. and Exhibition, held in Sydney, Australia, Aug. 21-26th, 1988.

58. "The monoclinic to cubic transformation of dysprosia," W. M. Kriven* and O. Sudre, Austceram 88, Int. Ceram. Conf. and Exhibition, held in Sydney, Australia, Aug. 21-26th, 1988.

59. "Martensitic toughening in ceramics: possible alternative tougheners to ZrO_2," W. M. Kriven.* Invited paper at DOE-sponsored Int'l Workshop on First-Order Displacive Phase Transformations, held in Berkeley, California, Oct. 23-28th, 1988.

60. "Investigation of a self-lubricating Al_2O_3 coating formed by anodic spark deposition," K. A. Koshkarian and W. M. Kriven*, Mat. Res. Soc., Int. Symp. on New Materials Approaches to Tribology: Theory and Applications. Held in Boston, MA Nov. 28-Dec. 3rd (1988).

61. "High temperature toughening mechanisms exhibited by the lanthanide sesquioxides," P. D. Jero and W. M. Kriven.* Abstract #[8-SI-89]. Presented at the 91st Annual Meeting of the American Ceramic Society, Indianapolis, April 23-27, 1989.

62. "The monoclinic (B) to cubic (C) transformation mechanism in dysprosia," O. Sudre, K. R. Venkatachari and W. M. Kriven.* Abstract #[100-B-89]. Presented at the 91st Annual Meeting of the American Ceramic Society, Indianapolis, April 23-27, 1989.

63. "TEM characterization of modulated structures in CaO-Dy_2O_3 solid solutions," Y.J. Kim* and W. M. Kriven. (Abstract #[47-BP-89]. Presented at the 91st Annual Meeting of the American Ceramic Society, Indianapolis, April 23-27, 1989.

64. "Processing and phase transformation of dysprosia in silicon carbide matrix," S. Kim* and W. M. Kriven. Abstract #[18-SI-89]. Presented at the 91st Annual Meeting of the American Ceramic Society, Indianapolis, April 23-27, 1989.

65. "Effect of microstructural engineering on stabilization of dicalcium silicate," C. J. Chan*, W. M. Kriven and J. F. Young. Abstract #[98-B-89]. Presented at the 91st Annual Meeting of the American Ceramic Society, Indianapolis, April 23-27, 1989.

66. "High temperature stability of mullite-cordierite composites in air," Tien-I Hou* and W. M. Kriven. Abstract #[8-SIP-89]. Presented at the 91st Annual Meeting of the American Ceramic Society, Indianapolis, April 23-27, 1989.

67. "Sintering and microstructural development of dicalcium silicate in magnesia," E. S. Mast* and W. M. Kriven. Abstract #[7-SI-89]. Presented at the 91st Annual Meeting of the American Ceramic Society, Indianapolis, April 23-27, 1989.

68. "Eutectic sintering for formation of dicalcium silicate in magnesia," E. S. Mast*, R. Pilapil and W. M. Kriven. Abstract #[43-BP-89]. Presented at the 91st Annual Meeting of the American Ceramic Society, Indianapolis, April 23-27, 1989.

69. "Processing and Microstructure of Mullite-Alumina Platelet composites," S. D. Crudele and W. M. Kriven. Abstract #[2-SI-89)] Presented at the 91st Annual Meeting of the American Ceramic Society, Indianapolis, April 23-27, 1989.

70. "Martensitic Transformations in Ceramics," W. M. Kriven.* Presented at the International Conference on Martensitic Transformations (ICOMAT-89), Sydney, Australia, July 3-7, (1989).

71. "Investigations of the monoclinic (B) to cubic (C) transformation in the lanthanide sesquioxides," W. M. Kriven*, P. D. Jero, O. Sudre, and K. R. Venkatachari. Presented at the International Conference on Martensitic Transformations (ICOMAT89), Sydney, Australia, July 3-7, (1989).

72. "Martensitic nucleation and transformation in $\beta \rightarrow \gamma$ dicalcium silicate," W. M. Kriven*, C. J. Chan and E. A. Barinek. Presented at the International Conference on Martensitic Transformations (ICOMAT-89), Sydney, Australia, July 3-7, (1989).

73. "Crystallography of Modulated Structures in CaO-Dy_2O_3 Solid Solutions", Y.J. Kim* and W.M. Kriven, Abstract # [4-SVI-90]. Presented at the Annual Meeting of the American Ceramic Society, Dallas, Texas, April 22nd -26th 1990.

74. "Preparation and Microstructure of Dispersed Dysprosia in Silicon Carbide Matrix," S. Kim* and W.M. Kriven, Abstract # [72-SIV-90]. Presented at the Annual Meeting of the American Ceramic Society, Dallas, Texas, April 22nd - 26th 1990.

75. "The Development of Dicalcium Silicate as a Transformation Toughener," W.M. Kriven* and E.A. Barinek, Abstract # [7-SVI-90]. Presented at the Annual Meeting of the American Ceramic Society, Dallas, Texas, April 22nd -26th 1990.

76. "Processing and Mechanical Evaluation of Ca_2SiO_4-Transformation Toughened $CaZrO_3$ Composites," T.I. Hou * and W.M. Kriven, Abstract # [8-SVI-90]. Presented at the Annual Meeting of the American Ceramic Society, Dallas, Texas, April 22nd -26th 1990.

77. "Retention of β Dicalcium-Silicate in a Magnesia Matrix," E.S. Mast*, I. Nettleship and W.M. Kriven, Abstract # [9-SVI-90]. Presented at the Annual Meeting of the American Ceramic Society, Dallas, Texas, April 22nd -26th 1990.

78. "Microstructural and Microchemical Characterization of a Calcium Aluminate-Polymer (MDF Cement) Composite," O.O.Popoola*, W.M. Kriven and J.F.Young, Abstract # [1-T-90]. Presented at the Annual Meeting of the American Ceramic, Dallas, Texas, April 22nd -26th 1990.

79. "TEM Characterization of Modulated Microstructures in CaO-Dy_2O_3 Solid Solutions," Y.J. Kim* and W.M. Kriven.Presented at the Int. Conf. on Frontiers in Electron Microscopy, Argonne National Laboratory, Illinois, USA, May 20-24th 1990.

80. "High Resolution Electron Microscopy and Microchemical Characterization of a Polyvinyl Alcohol Acetate/Calcium Aluminate Composite (Macro Defect Free Cement)," O.O. Popoola* W.M. Kriven and J. F. Young.Presented at the Int. Conf. on Frontiers in Electron Microscopy, Argonne National Laboratory, Illinois, USA, May 20-24th 1990.

81. "Ceramic Coatings by Anodic Spark Deposition," G.P.Wirtz, W.M. Kriven and S.D. Brown.* Presented at the World Congress on Ceramics, 7th Int Conference on Ceramics (CIMTEC), Italy, June 1990.

82. "Electron Microscopy of a Macro Defect Free Cement," O.O. Popoola* W.M. Kriven and J.F. Young. Presented at the 12th Int. Congr. for Electron Microscopy, Washington, Seattle, Aug, (1990).

83. "HREM Studies of Modulated Structures of the Monoclinic (B) Phase in CaO-Dy_2O_3 Solid Solutions," Y. J. Kim* and W.M. Kriven. Presented at the Proc.12th Int. Congr. for Electron Microscopy, Washington, Seattle, Aug, (1990).

84. "Microstructural Characterization of Ca_2SiO_4 Particles in a $CaZrO_3$ and an MgO Matrix," Y.J. Kim*, E.S. Mast, T.I. Hou, and W. M. Kriven. Presented at the Proc.12th Int. Congr. for Electron Microscopy, Washington, Seattle, Aug, (1990).

85. "Mechanical Properties of β Dicalcium Silicate Polycrystals," K.G. Slavick*, I. Nettleship and W.M. Kriven.Presented at 93rd Annual Meeting of the American Ceramic Society, held in Cincinnati, OH, April 28th-May 2nd 1991.

86. "Mechanical Properties and Microstructures of $CaZrO_3$-Ca_2SiO_4 Composites," T. I Hou* and W.M. Kriven. Presented at 93rd Annual Meeting of the American Ceramic Society, to be held in Cincinnati, OH, April 28th-May 2nd 1991.

87. "Preparation and Metastability of β Dicalium Silicate Polycrystals," I. Nettleship*, Y.J. Kim and W.M. Kriven. Presented at 93rd Annual Meeting of the American Ceramic Society, held in Cincinnati, OH, April 28th-May 2nd 1991.

88. "Crystallography and Microstructure of Polycrystalline α'_L in β-Ca_2SiO_4," Y.J. Kim,* I. Nettleship and W.M. Kriven. Presented at 93rd Annual Meeting of the American Ceramic Society, held in Cincinnati, OH, April 28th-May 2nd 1991.

89. "Crystallography and Microstructural Studies of the $\beta \rightarrow \gamma$ Transformation in Ca_2SiO_4," Y.J. Kim, I. Nettleship and W.M. Kriven*. Presented at 93rd Annual Meeting of the American Ceramic Society, held in Cincinnati, OH, April 28th-May 2nd 1991.

90. "Microstructural Studies of Ce_2OS Precipitates in a CeS Matrix," Y.J. Kim, O.O. Popoola* and W.M. Kriven. Presented at 93rd Annual Meeting of the American Ceramic Society, held in Cincinnati, OH, April 28th-May 2nd 1991.

91. "Microstructure and Microchemistry of Nickel Sulfide Inclusions in Plate Glass," J.J. Coooper*, O.O. Popoola and W.M. Kriven. Presented at 93rd Annual Meeting of the American Ceramic Society, held in Cincinnati, OH, April 28th-May 2nd 1991.

92. "Microstructure and Properties of Silicon Carbide-Dysprosia Composites," S. Kim and W.M. Kriven*. Presented at 93rd Annual Meeting of the American Ceramic Society, held in Cincinnati, OH, April 28th-May 2nd 1991.

93. "Preparation of Calcium Aluminate Powders Using a Sol-Gel Method," M.A. Gulgun*, O.O. Popoola, I. Nettleship and W.M. Kriven. Presented at 93rd Annual Meeting of the American Ceramic Society, held in Cincinnati, OH, April 28th-May 2nd 1991.

94. "HVEM Studies of Microstructure and Micromechanical Behavior of Macro-Defect Free (MDF) Cement Composites," O.O.Popoola* and W.M. Kriven. Presented at 93rd Annual Meeting of the American Ceramic Society, held in Cincinnati, OH, April 28th-May 2nd 1991.

95. "TEM Characterization of a Modulated β Phase in Polycrystalline Dicalcium Silicate," Y.J. Kim*, I. Nettleship and W.M. Kriven. Presented at 49th Annual Meeting of the Electron Microscopy Society of America (EMSA), San Jose, California (1991).

96. "Microstructural and Microchemical Characterization of Nickel Sulfide Inclusions in Plate Glass," J.J. Cooper*, O.O. Popoola and W.M. Kriven.Presented at 49th Annual Meeting of the Electron Microscopy Society of America (EMSA), San Jose, California (1991).

97. "Microstructure and Microchemistry of Organo-Ceramics", W. M. Kriven* and O.O. Popoola. Invited talk presented at the Microbeam Analysis Society (MAS) Symposium on Interfaces, held in San Jose, California, Aug 5-9th 1991.

98. "SEM and TEM in Materials Science," W.M. Kriven*. Invited lecture, American Chemical Society Annual Meeting, Tutorial Sessions in Materials Science, New York, NY, Aug 25th 1991.

99. "On Possible Origins of the Displacive β to γ Transformations in Ca_2SiO_4: Role of Lattice Strains and Non-bonded Forces," Y. J. Kim* and W. M. Kriven. Presented at Am. Ceram. Soc. Fall Meeting on *Atomic Structure, Bonding and Properties of Ceramics* as Abstract{#10-BF-91F). Held on Marco Island in Florida on October 13-18th 1991.

100. "Effect of Dysprosia Dispersions on the Properties of Silicon Carbide Composites," S. Kim* and W. M. Kriven. Proc. First Inter. Symp. on Science of Engineering Ceramics '91, pp 63-68 (1991). Symposium held in Koda, Aichi-Prefecture, Japan, Oct. 21-23 (1991).

101. "Preparation and Hydration Kinetics of Fine $CaAl_2O_4$ Powders," M. A. Gulgun*, O. O. Popoola, I. Nettleship, W. M. Kriven and J.F. Young. Presented at Materials Research Society Fall Meeting, Dec 1991, Boston, MA.

102. "TEM Specimen Preparation Techniques for Ceramic and Ceramic-Polymer Composites," O. O. Popoola* and W. M. Kriven. Presented at Materials Research Society Fall Meeting, Dec 1991, Boston, MA.

103. "In Situ Transmission Electron Microscopy (TEM) Investigation of Fracture Mechanisms in a Calcium Aluminate MDF Cement," O. O. Popoola, W. M. Kriven and j. F. Young. Presented at Materials Research Society Fall Meeting, Dec 1991, Boston, MA.

104. "On Phase Transformation Mechanisms in Dicalcium Silicate (Ca_2SiO_4)," Y.J. Kim and W. M. Kriven*. Invited talk presented at the Fall meeting of the American Geolophysical Union held in San Fransisco, California, Dec 9-13th 1991.

105. "Toughening Mechanisms in Non-Zirconia Composites," W. M. Kriven*. Invited Lecture, abstract # [42-C-92]. Presented at the Annual Meeting of the American Ceramic Society, April 12-16th, 1992 in Minneapolis, MN.

106. "Stress-induced Phase Transformations in Polycrystalline Dicalcium Silicate," K. G. Slavick,* I. Nettleship and W. M. Kriven. Abstract # [43-C-92] presented at the Annual Meeting of the American Ceramic Society, April 12-16th, 1992 in Minneapolis, MN.

107. "Preparation and Phase Stability of Strontium Orthosilicate (Sr_2SiO_4)," J. L. Shull* Jr., I. Nettleship and W. M. Kriven.Presented at the Annual Meeting of the American Ceramic Society, abstract # [197-B-92], April 12-16th, 1992 in Minneapolis, MN.

108. "Crystallography and Phase Transformations of Modulated α'-Sr_2SiO_4," Y. J. Kim*, J. L. Shull Jr. and W. M. Kriven. Presented at the Annual Meeting of the American Ceramic Society, abstract # [198-B-92], April 12-16th, 1992 in Minneapolis, MN.

109. "Microstructural Development During Pressureless Sintering of Two Alumina Platelet Composites," I. K. Cherian*, I. Nettleship and W. M. Kriven. Abstract # [5-SX-92] Presented at the Annual Meeting of the American Ceramic Society, April 12-16th, 1992 in Minneapolis, MN.

110. "Stress Induced Phase Transformations in Polycrystalline Dicalcium Silicate," K. G. Slavick, I. Nettleship and W. M. Kriven. Abstract # [23-BP-92]. Presented at the Annual Meeting of the American Ceramic Society, April 12-16th, 1992 in Minneapolis, MN.

111. "Microstructure and Phase Transformations of Nickel Sulfide Inclusions in Plate Glass," J. J. Cooper, O. O. Popoola and W. M. Kriven. Abstract # [27-BP-92].Presented at the Annual Meeting of the American Ceramic Society, April 12-16th, 1992 in Minneapolis, MN.

112. "Transformation Mechanisms in Dicalcium Silicate and Distrontium Orthosilicates," Y. J. Kim, J.L. Shull, B. N. Sun and W. M. Kriven*. Presented at the International Conference on Martensitic Transformations (ICOMAT '92). Held in Monterey, CA, July 20-24th 1992.

113. "TEM Characterization of the $\alpha'$and β Phases in Polycrystalline Distrontium Silicate (Sr_2SiO_4)," Y. J. Kim,J. S. Shull and W. M. Kriven. To be presented at the 50th Annual Meeting of the Electron Microscopy Society of America (EMSA), held in Boston, Aug 16-21, 1992.

114. "Characterisation of Nickel Sulphide Stones in Glass," J. J. Cooper, O. O. Popoola and W. M. Kriven. Presented at Austceram '92, International Ceramics Conference and Exhibition held in Australia, August 16-21st, 1992.

115. "Kinetics and Crystallography of the Monoclinic (B) to Cubic (C) Transformation in Dysprosia," O. Sudre, K. R. Venkatachari and W. M. Kriven. Presented at the Vth International Conference on the Science and Technology of Zirconia, held in Melbourne, August 16th-21st, 1992.

116. "High Temperature Transformation Toughening of Magnesia by Terbia," P. D. Jero and W. M. Kriven. Presented at the Vth International Conference on the Science and Technology of Zirconia, held in Melbourne, August 16th-21st, 1992.

117. "Phase Transformations and Fracture Associated with Nickel Sulfide Stones in Glass," W. M. Kriven*, J. J. Cooper and O. O. Popoola. Presented at 53rd Annual Conference on glass Problems, Nov 17-18th 1992, Ohio State University.

118. "Transformation Mechanisms and Induced Fracture in Ceramics," W. M. Kriven*. Presented at the Materials Research Society, Spring Meeting, held in San Fransisco, California in April 16-18th 1993.

119. "Transformation -Induced Fracture in Ceramic Composites," W. M. Kriven*. Invited talk, presented at the Annual Meeting of the American Ceramic Society, held in Cincinnati in April 18-22, 1993.

120. "Phase Transformations in Chemically Derived Enstatite Powders," D. H. Kuo*, C. M. Huang, Y. J. Kim and W. M. Kriven. Presented at the Annual Meeting of the American Ceramic Society, held in Cincinnati in April 18-22nd, 1993.

121. "TEM Study of Synthetic Hillebrandite ($Ca_2SiO_4 \bullet H_2O$), Y. J. Kim,* W. M. Kriven and T. Mitsuda. Presented at the Annual Meeting of the American Ceramic Society, held in Cincinnati in April 18-22nd, 1993.

122. "Transformation Mechanisms in Distrontium Silicate (Sr_2SiO_4)," Y. J. Kim*, J. L. Shull Jr., and W. M. Kriven. Presented at the Annual Meeting of the American Ceramic Society, held in Cincinnati in April 18-22nd, 1993.

123. "The Orthorhombic (o) to Tetragonal (t) Transformation in $KNbO_3$," O. O. Popoola* and W. M. Kriven. Presented at the Annual Meeting of the American Ceramic Society, held in Cincinnati in April 18-22nd, 1993.

124. "Processing and Mechanical Properties of Alumina Platelet Reinforced Zirconia," I. K. Cherian,* I. Nettleship and W. M. Kriven. Presented at the Annual Meeting of the American Ceramic Society, held in Cincinnati in April 18-22, 1993.

125. "Low Temperature Reactions Between a Titanate Cross-Coupling Agent and PolyVinyl Alcohol," M. A. Gulgun,* O. O. Popoola and W. M. Kriven. Presented at the Annual Meeting of the American Ceramic Society, held in Cincinnati in April 18-22nd, 1993.

126. "Calcination Behavior of Chemically Prepared Calcium Aluminate," M. A. Gulgun*, O. O. Popoola and W. M. Kriven. Presented at the Annual Meeting of the American Ceramic Society, held in Cincinnati in April 18-22nd, 1993.

127. "Crystal Growth and Characterization of Distrontium Silicate," B. N. Sun*, J. L. Shull and W. M. Kriven. Presented at the Annual Meeting of the American Ceramic Society, held in Cincinnati in April 18-22nd, 1993.

128. "Synthesis of Silicate and Aluminate Powders by a Modified Pechini Process," M. A. Gulgun*, C. M. Huang, D. H. Kuo, J. L. Shull*, K. G. Slavick, T. K Swanson,W. M. Kriven, I. Nettleship and R. Russel. Presented at the Annual Meeting of the American Ceramic Society, held in Cincinnati in April 18-22nd, 1993.

129. " TEM Investigation of Crystallization Kinetics in Calcium Aluminate Powders," M. A. Gulgun*, O. O. Popoola and W. M. Kriven. Presented at the Joint Meeeting of the Central States Electron Microscopy Society, Sangamon State University, Springfield, Illinois, May 20th 1993.

130. "Phase Transformation Induced Intragranular Microcracks in Enstatite," D. H. Kuo*, C. M. Huang, Y. J. Kim and W. M. Kriven. Presented at the Joint Meeeting of the Central States Electron Microscopy Society, Sangamon State University, Springfield, Illinois, May 20th 1993.

131. "Phase Transformations in Ceramics," W. M. Kriven*. Invited talk, Presented at the Microscopy Society of America (MSA) Annual Meeting, held in Cincinnati in Aug 1-6, 1993.

132. "Pretransitional Phenomena, Transformation Mechanisms and Crystallography of $PbTiO_3$ and $KNbO_3$," H. Chen*, C. M. Wayman, W. M. Kriven and J. D. Bass. Presented at 8th International Meeting on Ferroelectricity (IMF8) held at NIST in August, (1993)

133. "Twinning in Structural Ceramics," W. M. Kriven.* Invited lecture presented at TMS Fall Meeting in Symposium on Twinning in Advanced Materials. Held in Pittsburgh, PA, Oct 17-21, 1993.

134. "Volume Changes During Transformation in Ceramics," W. M. Kriven*. Invited lecture presented at the ASM Fall Meeting in the Symposium on Effect of Plastic Deformation on the Thermodynamics, Kinetics and Mechanisms of Phase Transformations," held in Pittsburgh, PA, Oct 17-21, 1993.

135. "Processing and Microstructure Characterization of an In-Situ Fabricated O´+β-SiAlON Composite," C. M. Huang*, Y. Xu, A. Zangvil, W. M. Kriven and D. N. Coon. Abstract #[CP-21-94F] presented at 18th Annual Cocoa Beach Conf. and Exposition on Composites and Advanced ceramics, Jan 9-14, 1994.

136. "A SiC/Combustion-Synthesized β´SiAlON Composite," C. M. Huang* Y. Xu, D. Zhu and W. M. Kriven, Abstract #[CP-26-94F] presented at 18th Annual Cocoa Beach Conf. and Exposition on Composites and Advanced ceramics, Jan

9-14, 1994. Thiis poster won third prize in the Professional Section Poster competition.

137. "Ceramics Via Organic and Inorganic Synthesis," W. M. Kriven*, invited lecture presented to the Illinois Association of Chemistry Teachers, Annual Meeting at the University of Illinois at Urbana-Champaign, March 4th 1994.

138. "Chemically Bonded Ceramics as an Alternative to High Temperature Composite Processing," B. R. Johnson, M. A. Gulgun* and W. M. Kriven. Abstract #[N5.97] presented at the Spring Meeting of the Materials Research Society, San Franscicso, April 4-8 1994.

139. "TEM Study of the Decomposition of Synthetic Hillebrandite," Y. J. Kim and W. M. Kriven*. Presented at the Annual Meeting of the American Ceramic Society, Indianapolis, IN, April 24-28 1994.

140. "Interfacial Bonding and Friction in a SiC Monofilament/β´ SiAlON Composite," C. M. Huang*, Y. Xu, D. Zhu and W. M. Kriven. Presented at the Annual Meeting of the American Ceramic Society, Indianapolis, IN, April 24-28 1994.

141. "Fabrication by Colloidal Filtration of Alumina Platelet Reinforced 3Y-TZP: Mechanical Properties," I. K. Cherian* and W. M. Kriven. Presented at the Annual Meeting of the American Ceramic Society, Indianapolis, IN, April 24-28 1994.

142. "Phase Transformations in Rare Earth Aluminates ($2Ln_2O_3 \cdot Al_2O_3$)," J. L. Shull, C. Beckman and W. M. Kriven. Presented at the Annual Meeting of the American Ceramic Society, Indianapolis, IN, April 24-28 1994.

143. "Microstructural Evolution of MDF Cement Processed in a High Shear Internal Mixer," M. A. Gulgun and W. M. Kriven. Presented at the Annual Meeting of the American Ceramic Society, Indianapolis, IN, April 24-28 1994.

144. "Displacive and Martensitic Phase Transformations in Ceramics," W. M. Kriven.* (Invited overview paper) Presented at the International Conference on Solid to Solid Phase Transformations, Pittsburgh, PA July,1994.

145. "Phase Transformations in Potassium Niobate Perovskite Ceramic," O. O. Popoola and W. M. Kriven. Presented at the International Conference on Solid to Solid Phase Transformations, Pittsburgh, PA July,1994.

146. "The Mechanism of the Tetragonal to Monoclinic Transformation in $YNbO_4$," J. L. Shull, B. N. Sun and W. M. Kriven. Presented at the International Conference on Solid to Solid Phase Transformations, Pittsburgh, PA July,1994.

147. "High Temperature Phase Transformations in $Y_4Al_2O_9$, $Gd_4Al_2O_9$ and $Dy_4Al_2O_9$," J. L. Shull and W. M. Kriven. Presented at the International Conference on Solid to Solid Phase Transformations, Pittsburgh, PA July,1994.

148. "Current Trends in Structural Ceramics," W. M. Kriven* Invited keynote lecture presented at the Austceram '94, International Ceramic Conference, held in Sydney, Australia, July 25-27, 1994.

149. "SiC Monofilament Reinforced β´- and O´-SiAlON Composites," C. M. Huang*, Y. Xu, D. Zhu and W. M. Kriven. Presented at First International conference on Composites Engineering, held in New Orleans, LA, Aug 28-31, 1994.

150. "In Situ Fabricated O´ +β´ SiAlON Mixed Ceramic Composites," C. M. Huang and W. M. Kriven. Abstract # [B-64-94F] presented at the Fall Meeting of the American Ceramic Society, held in Louisville, Kentucky, Sept 25-28, 1994.

151 "Current Trends in Structural Ceramics," W. M. Kriven.* (invited). Abstract #[I-26-94P] presented at the Pacific Coast Regional Meeting of the American Ceramic Society, Oct 9-22, 1994 at Los Angeles.

152 "Chemically Bonded Ceramic Matrix Composites: Densification and Conversion to Diffusion Bonding," B. R. Johnson*, M. A. Gulgun and W. M. Kriven. MRS Fall Meeting , Boston Dec 1994.

153** "TEM Studies of Calcium Silicate Hydrates," W. M Kriven.* Invited lecture presented at Festive Symposium in honor of Professor T. Mitsuda of the Nagoya Institute of Technology, Ceramics Research Laboratory. Held in Nagoya, Japan, Feb 24th 1995.

154 "Interfacial Properties of SiC Fiber Reinforced MDF Composite," D. Zhu, C. M. Huang and W. M. Kriven. Abstract [# T-11-95] presented at the Annual Meeting of the American Ceramic Society, Cincinnati, Ohio, April 30 - May 3rd (1995).

155 "Ferroelasticity in Ca_2SiO_4, Sr_2SiO_4 and Ba_2SiO_4," J. L. Shull and W. M. Kriven. Abstract [#BP-09-95] presented at the Annual Meeting of the American Ceramic Society, Cincinnati, Ohio, April 30 - May 3rd (1995)

156 "A Simple Solution-Polymerization Route for Oxide Powders," M. A. Gulgun and W. M. Kriven. Abstract [# SXIXP-2-95] presented at the Annual Meeting of the American Ceramic Society, Cincinnati, Ohio, April 30 - May 3rd (1995).

157 "Chemically Bonded Ceramic Processing of Monocalcium Aluminate," B. R. Johnson, M. A. Gulgun and W. M. Kriven. Abstract [# SXIX-73-95 presented at the Annual Meeting of the American Ceramic Society, Cincinnati, Ohio, April 30 - May 3rd (1995).

158. "Anodic Spark Deposition of Barium Titanate," J. Schreckenbach*, O. O. Popoola, W. M. Kriven, F. Schlottig and G. Marx. Presented at 8 Tagung Festkorperanalytic, in Vienna, Austria July 3-5 (1995).

159. "Anodic Spark Deposition in the AC Mode," J. Schreckenbach, O. O. Popoola, W. M. Kriven, G. P. Wirtz and S. D. Brown* Presented at the High Temperature Materials Chemistry VII Symposium, Oct 8-13 (1995) Chicago, IL, USA.

160. "Transformation Weakening of Ceramic Composite Interfaces,"W. M. Kriven*, C. M. Huang, D. Zhu, Y. Xu, and S. C. Mirek. Abstract # [C-115-96F]. Presented at 20th Annual Cocoa Beach Conf. and Exposition on Composites and Advanced Ceramics, Jan 7-11th (1996).

161. "Behavior of Shear Induced Constrictive Transformation in Enstatite, D. Zhu* and W. M. Kriven. Abstract #[C-99-96F].Presented at 20th Annual Cocoa Beach Conf. and Exposition on Composites and Advanced Ceramics, Jan 7-11th (1996).

162. "Fabrication, Microstructure and Mechanical Response of Lanthanum Phosphate/ Yttrium Aluminate and Yttrium Phosphate/Yttrium Aluminate Systems," D. H. Kuo* and W. M. Kriven. Abstract #[C-118-96F]. Presented at 20th Annual Cocoa Beach Conf. and Exposition on Composites and Advanced Ceramics, Jan 7-11th (1996).

163. "Interfacial Bonding of Carbon-Coated Glass Fiber Reinforced Cement," C. M. Huang*, R. Loh, J. Huang, D. Zhu and W. M. Kriven. Abstract "[CP-12-96F]. Presented at 20th Annual Cocoa Beach Conf. and Exposition on Composites and Advanced Ceramics, Jan 7-11th (1996).

164. "β´SiAlON/$MoSi_2$ Particulate Ceramic Composite," C. M. Hunag, C. Y. Yuh, M. Faroque, D. Zhu and W. M. Kriven. Abstract # [CP-14-96F]. Presented at 20th Annual Cocoa Beach Conf. and Exposition on Composites and Advanced Ceramics, Jan 7-11th (1996). Won second prize in the Poster Competition.

165. "Interfacial Properties of a YAG Fiber/Ceramic Matrix Composite with an YPO_4 Interphase," D. H. Kuo*, W. M. Kriven and T. J. Mackin. Presented at 98th Annual Meeting of the American Ceramic Society, Indiannapolis, IN April 14-17th (1996).

166. "Transformation Weakening of Interphases in Oxide Composites," W. M. Kriven*, C. M. Huang, D. Zhu, Y. Xu and S. C. Mirek. Presented at 98th Annual Meeting of the American Ceramic Society, Indiannapolis, IN April 14-17 (1996).

167. "The Effect of $LaPO_4$ Coating Thickness on Interfacial Mechanics of YAG and Al_2O_3 Fiber Reinforced Alumina Matrix Composites, D. H. Kuo, W. M. Kriven and T. J. Mackin. Presented at 98th Annual Meeting of the American Ceramic Society, Indiannapolis, IN April 14-17th (1996).

168 "Phase Transformations and Their Applications in Ceramics," W. M. Kriven,* invited lecture at Symposium to honor Professor Jack Christian on his 70th birthday. Held at Oxford University, UK, March 29th (1996).

169. "Microstructure Characterization of $BaTiO_3$ Films Obtained by Anodic Spark Deposition," F. Schlottig, M. H. Jilavi, J. Schreckenbach and W. M. Kriven,* ASM/TMS 1996 Materials Week, Surface Engineering Symposium, held on 12-16th Oct, (1996) in Cincinnati, Ohio, USA.

170. "Electron Microscopy Characterization of Melt-Grow Mullites and Mullite Fibers," W. M. Kriven,* R. A. Gronsky and J. A. Pask, M. H. Jilavi, D. Zhu, J. J. Felten, J. K. R. Weber and P. C. Nordine, (invited). Paper presented at Int. Conf. on Ceramic Microstructures'96: Control at the Atomic Level," held June 24-27 (1996), in Berkeley, CA, USA.

171. "Transformation Weakening of Oxide Interphases and Comparison with other Debonding Mechanisms," W. M. Kriven*, C. M. Huang, D. Zhu, Y. Xu and S. C. Mirek. Presented at the 2nd Int. Meeting of Pacific Rim Ceramic Societies (PACRIM 2), held in Cairns, Australia, July 15-17, (1996).

172. "Development of Yttrium Phosphate as an Interphase for Oxide/Oxide Composites," D. H. Kuo and W. M. Kriven,* Presented at the 2nd Int. Meeting of Pacific Rim Ceramic Societies (PACRIM 2), held in Cairns, Australia, July 15-17, (1996).

173. "Interfacial Modification of Fiber Reinforced Cement Composites, C. M. Huang,* C. Y. Yuh, D. Zhu and W. M. Kriven. [Abstract #HH8.3] presented at the Materials Research Society Fall Annual Meeting, Boston MA, Dec 2-6 (1996).

174. "Oxide Laminates with High Strength and Work of Fracture," D. H. Kuo* and W. M. Kriven, Invited paper [abstract # W12.6] presented at the Materials Research Society Fall Annual Meeting, Boston MA, Dec 2-6 (1996).

175. "Electron Microscopy Characterization and Evaluation of Oxide Fibers," D. Zhu, M. H. Jilavi and W. M. Kriven.* Abstract [#C-0023-97F] presented at the 21st Annual Cocoa Beach Conference and Exposition Jan 12-16th (1997), Cocoa Beach, Florida.

176. "Laser Ablated Oxide Coatings for Oxide Fibers," M. H. Jilavi, W. M. Kriven,* H. Chung, and J. Mazumder. Abstract [#C-0006-97F] presented at the 21st Annual Cocoa Beach Conference and Exposition Jan 12-16th (1997), Cocoa Beach, Florida.

177. "A Novel Technique for Producing Ceramic Fibers," J. J. Felten*, J. K. R. Weber, P. C. Nordine, B. Cho, N. Lockwood, W. M. Kriven, M. H. Jilavi, and D. Zhu.

Abstract [# C-0018-97F] presented at the 21st Annual Cocoa Beach Conference and Exposition Jan 12-16th (1997), Cocoa Beach, Florida.

178. "Fabrication, Microstructure and Mechanical Response of Zirconia Containing Lanthanum Phosphate and Yttrium Phosphate Laminates," D. H. Kuo* and W. M. Kriven. Abstract [#C-0165-97F] presented at the 21st Annual Cocoa Beach Conference and Exposition Jan 12-16th (1997), Cocoa Beach, Florida.

179. "Platelet Orientation in Slip Cast Ceramic Matrix Composites," A. Patel, I. Nettleship*, E.J. Palmiere, University of Pittsburgh, Pittsburgh PA 15261; I.K. Cherian, W.M. Kriven, University of Illinois at Urbana-Champaign, Illinios IL 61801. Presented at the Annual Meeting of the American Ceramic Society, held in Cincinatti, OH, May 4-7th 1997.

180. "Polymorphism in Hexacelsian Ceramics," J. Schneider,* F. Frey, W. M. Kriven and J. L. Shull, 17th European Crystallographic Meeting, Lisboa, Portugal, 24-28 August (1997).

181. "Characterization of Tubercles in Cast Iron Water Distribution Pipes Using Scanning Electron Microscopy (SEM) and Energy Dispersive Spectroscopy (EDS)," P. Sarin, W. M. Kriven and V. L. Snoeyink. presented at the 55th Annual Meeting of the Microscopy Society of America, Cleveland, Ohio, USA (1997).

182. Nanocrystalline $NbAl_3$ Powders and $NbAl_3$/Al Multilayers by Laser Ablation Deposition," J. Mazumder, H. Chung, T. Yamamoto, T. P. Duffey, H. Sehitoglu, M. H. Jilavi and W. M. Kriven, (Conference paper C), Nanostruct. Materials (USA) vol **9** [1-8] 75-78 (1997).

183. "Mullite/Cordierite Laminates with $\beta \rightarrow \alpha$ Cristobalite Transformation Weakened Interphases," Abstract # [C-034-98] W. M. Kriven and S. J. Lee, 22nd Am. Ceram. Soc. Annual Meetingon Composites, Advanced Ceramics, Materials and Structures, held at Cocoa Beach, Florida, Jan 20-24 (1998).

184. "Preparation of Ceramic Powders by a Solution-Polymerization Route Employing PVA Solution," S. J. Lee and W. M. Kriven, (invited paper), 22nd American Ceram. Soc. Annual Meeting on Composites, Advanced Ceramics, Materials and Structures, held at Cocoa Beach, Florida, Jan 20-24 (1998).

185. "Design of Oxide Composites with Transformation Weakened, Debonding Interphases, W. M. Kriven,* Presented at the Int. Workshop on Oxide/Oxide Composites, held in Irsee, Germany, June 22-24th (1998).

186. "High Temperature Single Cystal Properties of Mullite ($3Al_2O_3 \cdot 2SiO_2$)," W. M.Kriven,* J. Palko, S. Sinogeikin, J. D. Bass, A. Sauir, G. Brunauer, H. Boysen, F. Frey and J. Schneider. Presented at Int. Conf. on "New Developments in High Temperature Ceramics, Istanbul, Turkey, Aug. 12-15th (1998).

187. "Amorphous Precursors to Oxide Fibers and Powders," W. M. Kriven.* Invited lecture per Profs. Werner Mader and Hartmut Schneider, presented at the Institute for Inorganic Chemistry, University of Bonn, Germany, Aug. 19th (1998).

188. "Design of Oxide Ceramic Composites with Transformation Weakened, Debonding Interphases," W. M. Kriven.* Invited lecture presented at Workshop on Advanced Materials for Extreme Environments: New Experimental Opportunities in Neutron Scattering, held at the Argonne National Laboratory, Sept. 11-12th 1998.

189. "Oxide Laminated Composites with Graceful Failure," W. M. Kriven* (invited lecture), presented at The Minerals, Metals and Materials (TMS) Society Fall Meeting, Symposium on Processing and Properties of Advanced Structural Ceramics, held in Rosemont IL Oct 11-15, (1998).

190. "Design of Oxide Ceramic Composites with Fibrous Monolithic Architecture," W. M. Kriven.* Presented at 23rd Annual Conf. on Composites, Materials and Structure.US only, ITAR restricted sessions, held at Cocoa Beach, Jan 24-29th 1999.

191. "An Alumina - Leucite Composite for Fibrous Monoliths," D. -K. Kim, J. L. Shull and W. M. Kriven.* Presented at 23rd Annual Conf. on Composites, Materials and Structure. US only, ITAR restricted sessions, held at Cocoa Beach, Jan 24-29th (1999).

192. "Barium Titanate and Barium Orthotitanate Powders Through an Ethylene Glycol Polymerization Route," S. J. Lee, M D. Biegalski and W. M. Kriven*. Presented at 23rd Annual Conf. on Composites, Materials and Structure. An Int. Conf. on Engineering Ceramics and Structures, held at Cocoa Beach, Jan 24-29th (1999).

193. "A Submicron-Scale Duplex Zirconia and Alumina Composite by Polymer Complexation Processing," S. J. Lee and W. M. Kriven.* Presented at 23rd Annual Conf. on Composites, Materials and Structure. An Int. Conf. on Engineering Ceramics and Structures, held at Cocoa Beach, Jan 24-29th 1999.

194. "Synthesis of Oxide Powders via Polymeric Steric Entrapment," (invited paper), W. M. Kriven*, S. J. Lee, M. A. Gulgun, M. Nguyen and D. K. Kim. Presented at 101st Annual Meeting and Exposition of the American Ceramic Society, Indianapolis, April 25-28th 1999.

195. "High Temperature Lattice Parameters and Thermal Expansions of Mullite ($3Al_2O_3 \cdot 2SiO_2$)," W. M. Kriven*, presented at 101st Annual Meeting and Exposition of the American Ceramic Society, Indianapolis, April 25-28th 1999.

196. "Design of Oxide Ceramic Composites with Transformation Weakened, Debonding Interphases," presented at 101 st Annual Meeting and Exposition of the American Ceramic Society, Indianapolis, April 25th-28th (1999).

197. "Synthesis and Crystallization of High Specific Area, X-ray Amorphous Alumina Powder," W. Kriven, S. -J. Lee, W.M. Kriven and M. A. Gulgun*, presented at 101st Annual Meeting and Exposition of the American Ceramic Society, Indianapolis, April 25-28th 1999.

198. "An Alumina - Leucite Composite for Fibrous Monoliths," D. -K. Kim, J. L. Shull and W. M. Kriven.* Presented at 101st Annual Meeting and Exposition of the American Ceramic Society, Indianapolis, April 25-28th 1999.

199. "Crystallization Kinetics of Amorphous Yttrium Aluminum Garnet and Mullite," B. R. Johnson* and W. M. Kriven, Presented at 101st Annual Meeting and Exposition of the American Ceramic Society, Indianapolis, April 25-28th 1999.

200. "Alumina Platelet /Cordierite Ceramic Substrate with Low Dielectric Constant," S. J. Lee* and W. M. Kriven, Presented at 101st Annual Meeting and Exposition of the American Ceramic Society, Indianapolis, April 25-28th 1999.

201. "Synthesis and Hydration Study of Portland Cement Components by Polymer Complexation Processing", S. J. Lee*, E. A. Benson and W. M. Kriven, Presented at 101st Annual Meeting and Exposition of the American Ceramic Society, Indianapolis, April 25-28th 1999.

202. "Elasticity of Single Crystal Mullite and Yttria as a Function of Temperature by Brillouin Spectroscopy," J. W. Palko,* W. M. Kriven, S. Sinogeikin, J. D. Bass, Presented at 101st Annual Meeting and Exposition of the American Ceramic Society, Indianapolis, April 25-28th 1999.

203. "Toughening of Composites by Transformation Weakening of Interphases," W. M. Kriven,* S. J. Lee, C. M. Huang, D. Zhu and Y. Xu. Poster presented at the Gordon Reseach Conference on Solid State Studies in Ceramics, held at the Kimball Union Academy, Meriden, New Hampshire, Aug 1-6 (1999).

204. "Ceramic Specializations within Materials Science and Engineering at the University of Illinois at Urbana-Champaign, W. M. Kriven*. Invited poster presented at the Gordon Reseach Conference on Solid State Studies in Ceramics, held at the Kimball Union Academy, Meriden, New Hampshire, Aug 1-6 (1999).

205. "High Temperature Structure Analysis of 3:2-Mullite," G. Brunauer, F. Frey,* H. Boysen, T. Hansen and W. M. Kriven. Presented as a poster at the XVIII International Crystallography Congress, held in Glasgow, Scotland, Aug 4-13 1999.

206. "Crystallization-Microstructure-Property Relations of Amorphous Mullite and YAG Fibers," B. R. Johnson* and W. M. Kriven." Abstract [C-067-00], presented at the 24th Annual Cocoa Beach Conf. and Expo. and Int. Conf. on Engineering Ceramics and Structures, held at Cocoa Beach, Florida, Jan 23-28th, 2000. The paper was awarded the "Third Place Best Paper Presentation Award" (in student category).

207. "Oxide Laminates with Alumina Platelet, Porous Interphases and a Bi-Modal crack Deflection Mechanism, W. M. Kriven and S. J. Lee.* Abstract [S2-066-00] presented at the 24th Annual Cocoa Beach Conf. and Expo. and Int. Conf. on Engineering Ceramics and Structures, held at Cocoa Beach, Florida, Jan 23-28th, 2000.

208. "Oxide Fibrous Monoliths Based on Porous Alumina-Platelet Interphase," W. M. Kriven*, S. J. Lee and D. K. Kim. Abstract [C-049-00] presented at the 24th Annual Cocoa Beach Conf. and Expo. and Int. Conf. on Engineering Ceramics and Structures, held at Cocoa Beach, Florida, Jan 23-28th, 2000.

209. "Oxide Laminates with Weak and Porous Aluminum Phosphate-based Interphases, D. K. Kim* and W. M. Kriven. Abstract [S2-046-00] presented at the 24th Annual Cocoa Beach Conf. and Expo. and Int. Conf. on Engineering Ceramics and Structures, held at Cocoa Beach, Florida, Jan 23-28th, 2000.

210. "Temperature Dependence of the Single--Crystal Elasticity of Mullite ($2.5Al_2O_3 \cdot SiO_2$) and Yttria (Y_2O_3)," J. W. Palko, S. Sinogeikin, A. Sayir, W. M. Kriven and J. D. Bass. Presented at the Annual Meeting of the American Geophysical Union, 1999, February. San Francisco, USA.

211. "Toughened Oxide Composites Based on Porous Alumina Platelet Interphases" W. M. Kriven* and S. J. Lee. Presented at the 102nd Annual Meeting and Exposition of the American Ceramic Society, April 30th – May 3rd, St. Louis, Missouri 2000.

212. "The Design of Tough Fibrous Monolithic Composites," W. K. Kim* and W. M. Kriven. Presented at the 102nd Annual Meeting and Exposition of the American Ceramic Society, April 30th – May 3rd, St. Louis, Missouri 2000.

213. "Hot Hardness of Fused Mullite and Comparison with Single crystal Elastic Constants up to 1400°C, W. M. Kriven*, L. F. Sigh, J. W. Palko, J. Bass, A. Sayir, H. Schnieder. Presented at the 102nd Annual Meeting and Exposition of the American Ceramic Society, April 30th – May 3rd, St. Louis, Missouri 2000.

214. "Crystallization-Microstructure-Property Relations of Amorphous Mullite and YAG Fibers," B. R. Johnson* and W. M. Kriven." Presented at the 102nd Annual Meeting and Exposition of the American Ceramic Society, April 30th – May 3rd, St. Louis, Missouri 2000.

215. "Oxide Fibers and Interphase Debonding Mechanisms," W. M. Kriven,* B. R. Johnson, S. J. Lee, C. M. Huang, D. Zhu and Y. Xu. Presented at Int. Conf. On Processing of Fibers and Composites, held in May 21-26, 2000 , Tuscany Italy.

216. "Progress in Microstructural Design for Tough, Oxide Ceramic Composites," W. M. Kriven,* (invited keynote lecture) Australian International Conference on Ceramics (Austceram) 2000, held in Sydney Australia, June 25th – 28th 2000.

217. Synthesis and Hydration Study of Portland Cement Components by Polymer Complexation Processing," S. J. Lee, E. A. Benson and W. M. Kriven* invited lecture presented at Australian International Conference on Ceramics (Austceram) 2000, held in Sydney Australia, June 25th – 28th 2000.

218. "High Temperature, Displacive Transformations in Oxide Ceramics," W. M. Kriven,* presented at the 2000 Denver X-ray Conference, in the special session on Phase Transformations and Reactions. Held in July 31st-Aug 4th at Denver, Colorado, USA.

219. "Crystallization Mechanisms and Microstructures in Mullite," W. M. Kriven,* and B. R. Johnson, R. A. Gronsky and J. A. Pask (invited lecture) presented at Mullite 2000 Workshop, presented on the Isle of Mull, Aug 28th to 30th , 2000.

220. "Mechanism of Release of Iron Corroded Iron/Steel Pipes in Water Distribution Systems," P. Sarin, J. Bebee, M. A. Beckett, K. K. Jim, D. A. Lytle, J. A. Clement, W. M. Kriven and V. L. Snoeyink, Proc. American Water Work Annual Conference 2000, Denver, Colorado, June 11-15, 2000.pp 1-12.

221. "High Temperature Oxide composites Based on Porous Alumina Platelet Interphases," W. M. Kriven and S. J. Lee. Presented at Second Int. Conf. on Inorganic Materials, 13-16 Sept. (2000), The University of California at Santa Barbara, CA, USA.

222. "Oxide Composites with Transformation Weakened, Debonding Interphases," W. . Kriven, S. J. Lee, C. M. Huang, D. Zu and Y. Xu. Presented at Second In. Conf. on Inorganic Materials, 13-16 Sept. (2000), The University of California at Santa Barbara, CA, USA.

223. "Preparation of Titanate Powders by an Ethylene Glycol Method," S. J. Lee, B. R. Rosczyk and W. M. Kriven.* Presented at Int. Symposium on Soft Solution Processing, Dec. 11-13, (2000), at Tokyo Institute of Technology, Tokyo, Japan.

224. "Design of Oxide Composites with Debonding Interphases," W. M. Kriven*. Presented at 25th Annual International Conf. on Advanced Ceramics and Composites, Jan 21-26 (2001) Cocoa Beach, Florida.

225. "Crystallization Mechanism of Melt-Quenched, Solid Amorphus Mullite," B. R. Johnson, W. M. Kriven* and J. Schneider. Presented at 25th Annual International Conf. on Advanced Ceramics and Composites, Jan 21-26 (2001) Cocoa Beach, Florida.

226. Preparation of Titanate Powders by an Ethylene Glycol Method," S. J. Lee and W. M. Kriven*. Presented at 25th Annual International Conf. on Advanced Ceramics and Composites, Jan 21-26 (2001) Cocoa Beach, Florida.

227. "Oxide Fibrous Monolithic Composites with Aluminum Phosphate and Alumina Platelet Interphases," D.–K. Kim* and W. M. Kriven. Presented at 25th Annual International Conf. on Advanced Ceramics and Composites, Jan 21-26 (2001) Cocoa Beach, Florida.

228. **"Design of Oxide Composites with Debonding Interphases, W. M. Kriven*. Presented at Int. Conf. on Materials Science and Technology, April 2-4, (2001), Cairo, Egypt.

229. ** "Design of Oxide Laminates and Fibrous Monolithic Composites," W. M. Kriven* and D.-K. Kim. Invited talk presented at 103rd Annual Meeting of the American Ceramic Society, Indianapolis, April 22-25 (2001).

230. "Effects of Microstructural Architecture on the Properties of Oxide Fibrous Monolithic Composites," D. K. Kim* and W. M. Kriven. Presented at 103rd Annual Meeting of the American Ceramic Society, Indianapolis, April 22-25 (2001).

231. "CMR Praseodymium Calcium Manganate," M. W. Jung* and W. M Kriven, presented at 103rd Annual Meeting of the American Ceramic Society, Indianapolis, April 22-25 (2001).

232. "Characterization and Preparation of Mixed Oxide Thin Films via a Polymerization-Complexation Route," M. W. Jung* and W. M. Kriven, presented at 103rd Annual Meeting of the American Ceramic Society, Indianapolis, April 22-25 (2001).

233. "From Zirconia to Shape Memory Ceramics," W. M. Kriven*. Invited lecture given as part of the Special Session in Honor of Professor Arthur H. Heuer on his 65th Birthday, as part of the 103rd Annual Meeting of the American Ceramic Society, Indianapolis, April 22-25 (2001).

234. "Anodic Spark Depostion and Microstructure Characterization of Hafnium Oxide Conversion Films," J. P. Schreckenbach,* N. Meyer, G. Marx, B.-T. Lee and W. M Kriven, Proc. 11th Conf. on Solid State Analutics, Chemnitz, Germany, June 25-28th, **Vol A29** p.92 (2001).

235. "TEM Characterization of Pseudotetragonal Mullite," B. R. Johnson* and W. M. Kriven, Presented at Annual Meeting of the Microscopy and Microanalysis Society, Aug 5-9, (2001) Long Beach, CA.

236. "Thermal Expansion and Phase Transitions up to 850°C of a Celsian-Hexacelsian ($BaAl_2Si_2O_8$) Mixture," J. Schneider* and W. M. Kriven. Presented at Int. Materials Forum, held in Munich, Germany, Oct (2001).

237. "Alumina-Mullite *In*-SituComposites Made by the Organic Steric Entrapment Method"' D.-K. Kim* and W. M. Kriven. Presented at 26th Ann. Int. Conf. on Advanced Ceramics and Composites, Cocoa Beach, Florida, Jan. 13-18th (2002).

238. "Axial Thermal Expansion Coefficients of β-Eucryptite and β-Spodumene," J. Schneider, S. J. Lee and W. M. Kriven.* Presented at 26th Ann. Int. Conf. on Advanced Ceramics and Composites, Cocoa Beach, Florida, Jan. 13-18th (2002).

239. "*In-situ* High Temperature Phase Transformation in Oxide Ceramics," L. F. Siah* and W. M. Kriven. Presented at 26th Ann. Int. Conf. on Advanced Ceramics and Composites, Cocoa Beach, Florida, Jan. 13-18th (2002).

240. "Microstructure and Indentation Fracture of $DyNbO_4$ Studied by TEM," B.-T. Lee,* L. F. Siah and W. M. Kriven. Presented at 26th Ann. Int. Conf. on Advanced Ceramics and Composites, Cocoa Beach, Florida, Jan. 13-18th (2002).

241. "Effect of Attrition Milling on Microstructures and Materials Properties of Electro-conductive Si_3N_4-46 wt % TiN Composite," B. -T. Lee,* H.-D. Kim and W. M. Kriven. Presented a the 26th Ann. Int. Conf. on Advanced Ceramics and Composites, Cocoa Beach, Florida, Jan. 13-18th (2002).

242. "Interaction of Corrosion Scales in Old Iron/Steel Drinking Water Distribution Pipes," P. Sarin, V. L. Snoeyink and W. M. Kriven, presented at American Chemical Society Conference; Symp. On the Complexity at the water-solid Interface: Mineral Surfaces. Held in April (2002).

243. "Synthesis of Low-Firing Anorthite Powder by PVA Steric –Entrapment Route," S. J. Lee*, C. Lee, W. M. Kriven. Presented at the 26th Ann. Int. Conf. on Advanced Ceramics and Composites, Cocoa Beach, Florida, Jan. 13-18th (2002).

244. "Nanostructural Analysis and Properties of Nanosized $BaTiO_3$ Powder and Thin Film by Sol-Gel Process," M. W. Jung,* W. M. Kriven and H. J. Son. Presented at 104th Annual Meeting of the American Ceramic Society, held in St. Louis, April 28th-May 1st (2002).

245. "Preparation, Structural Elucidation and Properties of $La_{1-x}Ca_xMnO_3$ Powders and Thin Film," M. W. Jung,* W. M. Kriven and Y. J. Lee. Presented at 104th Annual

Meeting of the American Ceramic Society, held in St. Louis, April 28th-May 1st (2002).

246. "Functional Oxide Fibrous Monolithic Composites Made by a Co-extrusion Technique," D. K. Kim* and W. M. Kriven. Presented at 104th Annual Meeting of the American Ceramic Society, held in St. Louis, April 28th-May 1st (2002).

247. "Fabrication of Bioresorbable Bone Implants with the Fibrous Monolithic Texture," S. J. Kim, D. K. Kim and W. M. Kriven*. Presented at 104th Annual Meeting of the American Ceramic Society, held in St. Louis, April 28th-May 1st (2002).

248. "Directionally Solidified Alumina-YAG Eutectic Fiber by an Image Furnace," S. D. Shin. Presented at 104th Annual Meeting of the American Ceramic Society, held in St. Louis, April 28th-May 1st (2002).

249. "*In Situ*, in Air, High Temperature Studies of Oxide Systems using the Thermal-Imaging Technique," L.-F. Siah and W. M. Kriven*. Presented at 51st Annual Denver X-ray Conference, held in Colorado Springs, Colorado, July 29th-Aug 2nd (2002).

250. "*In Situ* High Temperature Phase transformation In $DyNbO_4$ Using the Thermal Image Technique." Presented at 51st Annual Denver X-ray Conference, held in Colorado Springs, Colorado, July 29th-Aug 2nd (2002).

251. "Oxide Ceramic Sponges," W. M. Kriven, S. J. Lee and J. Chaney. Presented at 8th International Conference on Ceramic Processing Science, held in Hamburg-Harburg, Germany, Sept. 2-5th (2002).

252. "Fabrication of Bioresorbable Bone Implants with Fibrous Monolithic Texture," D. K. Kim and W. M. Kriven. Presented at 27th Annual Cocoa Beach Conference and Exposition on Advanced Ceramics and Composites, held at cocoa Beach, Florida, Jan 26-31 (2003).

253. "Bone Scaffolding with Concentric Layered Porosity, A. D. Tevar and W. M. Kriven. Presented at 27th Annual Cocoa Beach Conference and Exposition on Advanced Ceramics and Composites, held at Cocoa Beach, Florida, Jan 26-31 (2003).

254. "Fabrication of Biocompatible Calcium Phosphate Ceramics using Eggshell," S. J. Lee, Oh Yeungnam and W. M. Kriven. Presented at 27th Annual Cocoa Beach Conference and Exposition on Advanced Ceramics and Composites, held at Cocoa Beach, Florida, Jan 26-31 (2003).

255. "Transformation Toughening of a Calcium Zirconate Matrix by Dicalcium Silicate under Ballistic Impact," W. W. Chen, K. Kremeyer, W. M. Kriven and B.

R. Rosczyk. Presented at 27th Annual Cocoa Beach Conference and Exposition on Advanced Ceramics and Composites, held at Cocoa Beach, Florida, Jan 26-31 (2003).

256. "Fibrous Monoliths of Alumina-Mullite *in Situ* Composite Matrix Aluminum Phosphate Interphase, D. K. Kim and W. M. Kriven. Presented at 27th Annual Cocoa Beach Conference and Exposition on Advanced Ceramics and Composites, held at Cocoa Beach, Florida, Jan 26-31 (2003).

257. "In Situ, High Temperature Phase Transformations in $YNbO_4$", L. F. Siah, D. K. Kim and W. M. Kriven. Presented at 27th Annual Cocoa Beach Conference and Exposition on Advanced Ceramics and Composites, held at cocoa Beach, Florida, Jan 26-31 (2003).

258. "Synthesis of Mixed Conducting $SrFeCo_{0.5}O_x$" Through a Polymeric Steric Entrapment Method, W. M. Kriven and B. R. Rocszyk. Presented at 27th Annual Cocoa Beach Conference and Exposition on Advanced Ceramics and Composites, held at Cocoa Beach, Florida, Jan 26-31 (2003).

259. "Grain Growth and Texture Development in YAG and Mullite Fibers," K. Jurkschat,* W. M. Kriven, W. Yoon and C. Chiritescu. Presented at 105th Annual Meeting and Exposition of the American Ceramic Society, Nashville, Tennessee, April 27th –30th (2003).

260. Symposium on "Understanding Complex Systems - Complex Materials and Processes." Loomis Lab, Department of Physics, University of Illinois at Urbana-Champaign, May 20/21 (2003).

261. "In situ High Temperature Phase Transformations in Rare Earth Niobates," K. Jurkschat, P. Sarin, L.F Siah and W.M. Kriven). Presented at 52nd Annual Denver X-ray Conference, held in Denver, Colorado, Aug (2003).

262. "Effect of Alkali Choice on Geopolymers," J. Bell* and W. M. Kriven. Presented at 28th Int. Cocoa Beach Conf. and Expo, Cocoa Beach, Florida, Jan 26th - 30th 2004.

263. "Transformation Weakening in Titania-Enstatite Fibrous Monoliths," W. M. Kriven.* Presented at 28th Int. Cocoa Beach Conf. and Expo, Cocoa Beach, Florida, Jan 26th - 30th 2004.

264. "New Contrast Reagent for MRI Encapsulation with Two-Dimensional Layered Materials," W. M. Kriven, W. Kwak, R. B. Clarkson and J. Choy. Presented at 28th Int. Cocoa Beach Conf. and Expo, Cocoa Beach, Florida, Jan 26th - 30th 2004.

265. "Bio-resorable Nanoceramics for Gene and Drug Delivery," W. M. Kriven,* J. H. Choy, B. E. Kitchell, M. A. Wallig, R. B. Clarkson, T. Martin-Jimenez and S.

Kwak. Presented at 28th Int. Cocoa Beach Conf. and Expo, Cocoa Beach, Florida, Jan 26th - 30th 2004.

266. "Calcium Phosphate Ceramics as Substrate for Cartilage Cultivation," R. Janssen, S. Nagel-Heyer, C. Goepfert, R. Pörtner, D. Toykan, O. Krummhauer, M. Morlock, P. Adamietz, N. M. Meenen, W. M. Kriven, D. K. Kim, A. Tampieri and G. Celotti. Presented at 28th Int. Cocoa Beach Conf. and Expo, Cocoa Beach, Florida, Jan 26th - 30th 2004.

267. "Microstructural Characterization of Metakaolin-based Geopolymers," P. Duxson, S. W. Mallicoate, G. C. Lukey, W. M. Kriven and J. S. van Deventer. Presented at the Annual Meeting of the American Ceramic Society, held in Indianapolis, April 18th 21st (2004).

268. "Synthesis and Characterization of Oxide 3- and 4-component Ceramic Composites," D. Kim* and W. M. Kriven. Presented at the Annual Meeting of the American Ceramic Society, held in Indianapolis, April 18th 21st (2004).

269. "Geopolymers: Nanoparticulate, Nanoporous Ceramics Made under Ambient Conditions," W. M. Kriven,* M. Gordon and J. L Bell. Presented at the Microscopy Society of America Annual Meeting, held in Savannah, Georgia, USA Aug 1-5 (2004)

270. "Nanoporosity in Aluminosilicate, Geopolymeric Cements," J. L. Bell and W. M. Kriven.* Presented at the Microscopy Society of America Annual Meeting, Savannah, Georgia, USA, Aug 1-5 (2004)

271. "High Temperature Phase Transformations in Rare Earth Titanates," K. Jurkschat, P. Sarin* and W. M. Kriven. Presented at 53rd Annual Denver X-ray Conference, held in Steamboat Springs, Colorado, USA, Aug 2nd-6th (2004)

272. "In-situ, High Temperature (up to 1650°C), in Air, X-ray Diffraction (Reflection Geometry) using a Quadrupole Lamp Furnace," P. Sarin*, K. Jurkschat, W. M. Kriven and P. Zschack. Presented at 53rd Annual Denver X-ray Conference, held in Steamboat Springs, Colorado, USA, Aug 2nd-6th (2004)

273. " X-ray Microdiffraction Studies of Corrosion Scales in Old Iron/ Steel Drinking Water distribution Pipes," P. Sarin*, V. L. Snoeyink, W. M. Kriven and D. Hay. Presented at 53rd Annual Denver X-ray Conference, held in Steamboat Springs, Colorado, USA, Aug 2nd-6th (2004)

274. "High Temperature Tensile Testing Method for Monofilament Ceramic Fibers," B. M. Yee,* P. Sarin and W. M. Kriven. Presented at 29th International Cocoa Beach Conference on Advanced Ceramics and Composites, held at Cocoa Beach, Florida, on Jan 23-28th (2005).

275. "Investigations of Growth of Textured and Single Crystal Oxide Fibers using a Quadrupole Lamp Furnace,"W. Yoon* and W. M. Kriven. Presented at 29th International Cocoa Beach Conference on Advanced Ceramics and Composites, held at Cocoa Beach, Florida, on Jan 23-28th (2005).

276. "Nanoceramics for Tracking a Drug and its Carrier *In Vivo* Systems," W. M. Kriven*, S. W. Kwak, B. J. Tucker, R. Clarkson, L. Lee, R. Haggerty and R. L. Belford. Presented at 29th International Cocoa Beach Conference on Advanced Ceramics and Composites, held at Cocoa Beach, Florida, on Jan 23-28th (2005).

277. "In situ Fabrication of Multiphase Ceramic Composites by Organic-Inorganic Solution Technique and Their Characteristics," S. J. Lee and W. M. Kriven*. Presented at 29th International Cocoa Beach Conference on Advanced Ceramics and Composites, held at Cocoa Beach, Florida, on Jan 23-28th (2005).

278. "Reinforcements on Properties of Self-setting and Injectable Calcium Phosphate Cement," N. C. Bhorkar* and W. M. Kriven. Presented at 29th International Cocoa Beach Conference on Advanced Ceramics and Composites, held at Cocoa Beach, Florida, on Jan 23-28th (2005).

279. "Use of Geopolymeric Cements as a Refractory Adhesive for Metal and Ceramic Joins," J. L. Bell*, M. Gordon and W. M. Kriven. Presented at 29th International Cocoa Beach Conference on Advanced Ceramics and Composites, held at Cocoa Beach, Florida, on Jan 23-28th (2005).

280. "Recovery Behavior in Compressed $DyNbO_4$ Ceramics," S. Mongeau* and W. M. Kriven. Presented at 29th International Cocoa Beach Conference on Advanced Ceramics and Composites, held at Cocoa Beach, Florida, on Jan 23-28th (2005).

281. "Multicomponent Strong Ceramic Composites made by Hot Pressing," D. K. Kim* and W. M. Kriven. Presented at 29th International Cocoa Beach Conference on Advanced Ceramics and Composites, held at Cocoa Beach, Florida, on Jan 23-28th (2005).

282. "Novel Alkali Bonded Ceramic Filtration Membranes," S. W. Mallicoat*, P. Sarin and W. M. Kriven. Presented at 29th International Cocoa Beach Conference on Advanced Ceramics and Composites, held at Cocoa Beach, Florida, on Jan 23-28th (2005).

283. "In-situ High Temperature Investigations of Phase Transformations in Ta_2O_5", P. Sarin*, A. J. Randolph, W. M. Kriven, 29th International Conference on Advanced Ceramics and Composites, Cocoa Beach, Florida, January 23rd - 28th, 2005.

284. "In-situ High Temperature Phase Transformation Studies of HfO_2 and HfO_2-Ta_2O_3 Systems," P. Sarin and W. M. Kriven*. Presented at the International

Conference on Solid-Solid Phase Transformations in Inorganic Materials 2005 (PTM 2005), held May 29th – June 3rd 2005, Phoenix Arizona, USA.

285. "Phase Transformations in Dysprosium Titanate" K. Jurkschat and W. M. Kriven*. Presented at the International Conference on Solid-Solid Phase Transformations in Inorganic Materials 2005 (PTM 2005), held May 29th – June 3rd 2005, Phoenix Arizona, USA.

286. "Phase Transformations in Rare Earth Niobates," P. Sarin, L. F. Siah and W. M. Kriven*. Presented at the International Conference on Solid-Solid Phase Transformations in Inorganic Materials 2005 (PTM 2005), held May 29th – June 3rd 2005, Phoenix Arizona, USA.

287. "High Temperature Phase Transformations in Tantalum Pentoxide," P. Sarin and W. M. Kriven*. Presented at the International Conference on Solid-Solid Phase Transformations in Inorganic Materials 2005 (PTM 2005), held May 29th – June 3rd (2005), Phoenix Arizona, USA.

288. "Thermal Shock Resistant, Graphite Fiber-reinforced, Geopolymer Composites for Near-net Shape Solidification of Fe_2Si," D. Comrie, J. L. Bell,* M. Gordon and W. M. Kriven. Presented at Int. Conf. and Workshop on Geopolymers and Geopolymer Concrete in Civil Engineering, Perth, Western Australia, Australia, Sept 28th-29th (2005).

289. "Synthesis of Multi-component Ceramic Compsoites via Organic-Inorganic Solution Method," A. Castillo, W. M. Kriven* and D. K. Kim. Presented at 30th Int. Cocoa Beach Conf. and Exposition on Advanced Ceramics and Composites, Jan 22-27th 2006, Florida, USA.

290. "High Hardness, Strength and Toughness, Multi-component Ceramic Composite," D. K. Kim* and W. M. Kriven. Presented at 30th Int. Cocoa Beach Conf. and Exposition on Advanced Ceramics and Composites, Jan 22-27th 2006, Florida, USA.

291. "Rapid In-situ, Ultra-high Temperature Investigations of Ceramics using Synchrotron X-ray Diffraction," P. Sarin, R. P. Haggerty, W. Yoon and W. M. Kriven*. Presented at 30th Int. Cocoa Beach Conf. and Exposition on Advanced Ceramics and Composites, Jan 22-27th (2006) , Florida, USA.

292. "Hot-pressed Al_2O_3-TiB_2 Ceramic Armor Composites made from Al_2O_3-coated TiB_2 Platelets," M. Gordon, D. K. Kim, D. S. Parsons and W. M. Kriven*. Presented at 30th Int. Cocoa Beach Conf. and Exposition on Advanced Ceramics and Composites, Jan 22-27th 2006, Florida, USA.

293. "In-situ High Temperature Synchrotron X-ray Diffraction Studies of Pollucite ($CaAlSi_2O_6$) and Pollucite-based Compounds," M. Gordon, P. Sarin, D. K. Kim

and W. M. Kriven*. Presented at 30th Int. Cocoa Beach Conf. and Exposition on Advanced Ceramics and Composites, Jan 22-27th 2006, Florida, USA.

294. "Novel Bioresorbable Magnetic Contrast Agent Nanoceramics," I. Kuriashkin, L. S. Lee, B. S. D. Lim and W. M. Kriven. Presented at Fourteenth Scientific Meeting and Exhibition of the International Society for Magnetic Resonance in Medicine (ISMRM). Held in Washington, Seattle, on May 6 – 12th 2006.

295. "Architecture of Calcium Phosphate Templates for Bone, Ligament and Cartilage Growth," W. M. Kriven, D-K. Kim, P. Sarin, N. L. Smith, S-L. Lee and D. Yoon. Presented at 6th Symposium on Understanding Complex Systems, held at the University of Illinois at Urbana-Champaign, Dept. of Physics, May 15th –18th (2006).

296. "Nanoporosity and Microporosity in Geopolymer Gels" J. L. Bell, M. Gordon and W. M. Kriven*. Presented at Microscopy and Microanalysis 2006, Held in Chicago, IL USA, July 30th – Aug 3rd (2006).

297. "Formation of Nanocrystalline Zeolites in Geopolymer Gels," J. L. Bell*, P. Sarin and W. M. Kriven. Presented at Microscopy and Microanalysis 2006. Held in Chicago, IL USA, July 30th – Aug 3rd (2006).

298. "Curved Image Plate (CIP) Detector for Rapid High Resolution Powder X-ray Diffraction using Synchrotron Radiation," P. Sarin, W. Yoon, R. P. Haggerty. P. Zschack, E. Karapetrova, N. Yang and W. M. Kriven. Fifth International Conference on Synchrotron Radiation in Materials Science (SRMS-5) Chicago, July 30-Aug 2nd (2006).

299. "Multicomponent, Multiphase, Ceramic Composites for High Hardness, Strength and Toughness Applications," D. K. Kim and W. M. Kriven*. Presented at Materials Science and Technology 2006 Conference and Exhibition, Cincinnati, Ohio, Oct 15th -19th 2006.

300. "Creep Characterizaiton of a Three Phase Composites of Al_2O_3, $NiAl_2O_4$, and 3Y-TZP," J. E. Trujillo, R. P. Dillon, M. L. Mecartney, D. K. Kim and W. M. Kriven. Presented at Materials Science and Technology 2006 Conference and Exhibition, Cincinnati, Ohio, Oct 15th -19th 2006.

301. "Creep Characterization of an Alumina, Nickel Alumina Spinel and Zirconia Composite," J. Trujillo, R. P. Dillon, M. L. Mecartney, D. K. Kim and W. M. Kriven. Poster presented at Materials Science and Technology 2006 Conference and Exhibition, Cincinnati, Ohio, Oct 15th-19th 2006. Poster won 2nd place in the Basic Science Division, 2006 Ceramographic Contest, in the Undergraduate Series.

302. "Crystallization of Pollucite ($CsAlSi_2O_6$) from Cs-based Geopolymer Precursor," J. L. Bell, P. Sarin, R. P. Haggerty, M. Gordon, J. L. Provis, and W. M. Kriven. Presented at 64th Pittsburgh Diffraction Conference, Duquesne University, Pittsburgh, PA, Oct 26th-28th 2006.

303. "Microstructure Evolution of Polycrystalline Mullite System – A High Temperature Synchrotron X-ray Diffraction Study," W. Yoon, P. Sarin, R. P. Haggerty and W. M. Kriven. Presented at 64th Pittsburgh Diffraction Conference, Duquesne University, Pittsburgh, PA, Oct 26th-28th 2006.

304. "Using In-situ High Temperature Synchrotron Diffraction to Study Dynamic Phenomena in Polycrystalline Material Systems," R. P. Haggerty, P. Sarin, W. Yoon, J. L. Bell, M. Gordon and W. M. Kriven. Presented at 64th Pittsburgh Diffraction Conference, Duquesne University, Pittsburgh, PA, Oct 26th-28th 2006.

305. "Concepts for Energy Absorption and Dissipation in Ceramic Armor," W. M. Kriven, D. K. Kim and V. Kelsey. Abstract [#ICACC-S4-021-2007], presented at 31st Int. Cocoa Beach Conf. and Exposition on Advanced Ceramics and Composites, Daytona Beach, Fl, Jan 21st -26th (2007).

306. "Organic Steric Entrapment (PVA) Technique for Preparation of a Pore Self-forming, Macro-Mesoporous Gehlenite Ceramic," D. Jia, D. K. Kim and W. M. Kriven. Abstract [#ICACC-S9-014-2007], presented at 31st Int. Cocoa Beach Conf. and Exposition on Advanced Ceramics and Composites, Daytona Beach, Fl, Jan 21st -26th (2007).

307. "Porous Architectures of Calcium Phosphate Templates for Bone, Ligament and Cartilage Growth," D. K. Kim, P. Sarin, N. L. Smith, L. Lee, M. C. Stewart and W. M. Kriven. Abstract [#ICACC-S5-024-2007], presented at 31st Int. Cocoa Beach Conf. and Exposition on Advanced Ceramics and Composites, Daytona Beach, Fl, Jan 21st -26th (2007).

308. "Preparation of Ceramic Foams from Geopolymer Gels," J. L. Bell, S. Mallicoat and W. M. Kriven. Abstract [#ICACC-FS3-011-2007], presented at 31st Int. Cocoa Beach Conf. and Exposition on Advanced Ceramics and Composites, Daytona Beach, Fl, Jan 21st -26th (2007).

309. "XPS Study of Metakaolin-based Geopolymers," S. Mallicoat, P. Sarin and W. M. Kriven. Abstract [#ICACC-FS3-012-2007], presented at 31st Int. Cocoa Beach Conf. and Exposition on Advanced Ceramics and Composites, Daytona Beach, Fl, Jan 21st -26th (2007).

310. "Corrosion Protection of Concrete Reinforcing Rebars using Geopolymers, " W. M. Kriven, M. Gordom and B. Erwin and H. Reis. Abstract [#ICACC-FS3-018-2007], presented at 31st Int. Cocoa Beach Conf. and Ezposition on Advanced Ceramics and Composites, Daytona Beach, Fl, Jan 21st -26th (2007).

311. "In Situ, High Temperature, Synchrotron Studies on the Oxidation Behavior of Group VI Diboride Materials Dispersed in an Oxide Matrix,"P. Sarin, D. K. Kim, R. Haggerty and W. M. Kriven. Presented at 16th International Symposium on the Reactivity of Solids (ISRM-16), held in June 3-6th Minneapolis, Minnesota, USA.

312. "Pair Distribution Function Analysis of Metakaolin Based Geopolymers," J. L. Bell, P. Sarin, R. P. Haggerty, P. E. Driemeyer and W. M. Kriven. Presented at the 32nd Int. Conf. and Exposition on Advanced Ceramics and Composites, Daytona Beach, Florida, Jan 27th – Feb 1st (2008).

313. "Short to Medium Range Structural Order in Amorphous, Pre-zeolitic Geopolymers of Composition $M_2O•Al_2O_3•4SiO_2•11H_2O$," W. M. Kriven, J. L. Bell, P. Sarin, R. P. Haggerty, P. E. Driemeyer. Presented at 2nd International Congress on Ceramic (CC2) held in Verona, Italy June 29th – July 4th (2008).

314. "In situ X-ray Diffraction of the HfO_2 Phase Transformation in Air at 1700 °C," R. P. Haggerty, P. Sarin and W. M. Kriven. Presented at International Conference on Martensitic Transformations (ICOMAT) 2008 held in Santa Fe, Jun 29th – July 4th (2008).

315. "High Temperature Oxidation of ZrB_2 and ZrB_2 - SiC- Composites," P. Sarin, R. P. Haggerty, J. L. Bell, P. E. Driemeyer and W. M. Kriven. Presented at an Engineering Conference International (ECI) conference on Ultra-High Temperature Ceramics: Materials for Extreme Environment Applications, held at Glanlibakken Conf. Center, Lake Tahoe, California, Aug 3 -8th (2008).

316. "Formation of Iron-based Inorganic Polymer (Geopolymer)," J. L. Bell and W. M. Kriven, presented at 33rd International Conference on Advanced Ceramics and Composites held at Daytona Beach, FL, Jan 18th -23rd (2009).

317. "The Aging Process of Alkali Activated Metakaolin," C. H. Rüscher, E. Mielcarek, W. Lutz; A. Ritzmann and W. M. Kriven. Presented at 8th Pacific Rim Confernce on Ceramics and Glass Technology, (PACRIM8), held in Vancouver, British Columbia, Canada, (May 31st – June 5th (2009).

318. "In-situ Studies of Oxidation of ZrB_2 and ZrB_2-SiC Composites at High Temperatures," P. Sarin, P. Driemeyer, R. P. Haggerty, D.-K. Kim, J. L. Bell and W. M. Kriven.* Presented at the AFOSR Workshop on Aerospace Materials for Extreme Environments, held at Clayton, St. Louis, Aug 3rd – 5th (2009).

319. "In situ, Synchrotron Studies of Ceramics to 2000 °C in Air," W. M. Kriven.* Presented at 8th European Symposium on Martensitic Transformations (ESOMAT), held in Prague, Czech Republic, Sept 7th – 11th (2009).

320. "High Temperature X-ray Diffraction Studies of Monoclinic to Tetragonal Phase Transformation in HfO_2", R. P. Haggerty, p. Sarin, P. D. Driemeyer, J. L. Bell, Z. Apostolov and W. M. Kriven. Presented at Materials Science and Technology 2009 Conference and Exhibition (MS&T'09) including the ACERS 111th Annual Meeting, held in Pittsburgh PA, Oct 25th -29th (2009).

321. "Determining Stable Phases in the HfO_2 – Ta_2O_5 Binary System," R. P. Haggerty, Z. D. Apostolov, S. Agnesty and W. M. Kriven. Presented at Materials Science and Technology 2009 Conference and Exhibition (MS&T'09) including the ACERS 111th Annual Meeting, held in Pittsburgh PA, Oct 25th -29th (2009).

322. "HfO_2 – Ta_2O_5 Binary System: Investigation of Stable Phases," R. P. Haggerty, Z. Apostolov, P. Sarin and W. M. Kriven. Presented at the 34th Int. Conf. and Exposition on Advanced Ceramics and Composites, held in Daytona Beach, FL, Jan 24th – 29th (2010).

323. "Effect of PVA Chopped Fiber Reinforcements on the Mechanical Properties of Potassium-based Geopolymer Systems," E. Lowry and W. M. Kriven. Presented at the 34th Int. Conf. and Exposition on Advanced Ceramics and Composites, held in Daytona Beach, FL, Jan 24th – 29th (2010).

324. "Properties of Basalt Fiber Reinforced Geopolymer Composites," E. Rill and W. M. Kriven. Presented at the 34th Int. Conf. and Exposition on Advanced Ceramics and Composites, held in Daytona Beach, FL, Jan 24th – 29th (2010).

325. "In situ, in air, HT (to 2000°C) Synchrotron Studies of Phase Transformations in Ceramics," W. M. Kriven. Presented at Solid-Solid Phase Transformations in Inorganic Materials (PTM 2010), held at Palais des Papes, Avignon, France, June 6th – 11th (2010).

326. "Studies of L-Ta_2O_5 to H-Ta_2O_5 Phase Transformation using HTXRD" P. Sarin*, R. P. Haggerty, Z. Apostolov, J. L. Bell and W. M. Kriven. Presented at Solid-Solid Phase Transformations in Inorganic Materials (PTM2010), held at Palais des Papes, Avignon, France, June 6th – 11th (2010).

327. "Properties of Chopped Fiber Reinforced Geopolymer Composites," W. M. Kriven, E. Rill and D. R. Lowry. Poster presented at 7th International Conference on High Temperature Ceramic Matrix Composites (HT-CMC 7) held in Bayreuth, Germany, Sept 20 -22nd (2010).

328. "CMC's Produced by the Geopolymer Route," W. M. Kriven and T. Dietz. Poster presented at 7th International Conference on High Temperature Ceramic Matrix Composites (HT-CMC 7) held in Bayreuth, Germany, Sept 20 -22nd (2010).

329. "Microwave Processing of Geopolymers and Evolved Glass-Ceramic Composites," T. A. Gubb, H. S. Shulman, M. L. Fall and W. M. Kriven. Presented

at 35th Int. Conf. and Expsition on Advanced Ceramics and Ceramic Composites. Held in Daytona Beach, FL, USA, Jan 23rd-28th (2011).

330. "Phase Transformations in the Cadmia-Telluria-Tungstate System, " Ersundu and W. M. Kriven. Presented at 35th Int. Conf. and Expsition on Advanced Ceramics and Ceramic Composites. Held in Daytona Beach, FL, USA, Jan 23rd-28th (2011).

331. "X-ray Studies of Phase Transformations in Tantalum Pentoxide," P. Sain, R. P. Haggerty, J. L. Bell, Z. D. Apostolov and W. M. Kriven. Presented at 35th Int. Conf. and Expsition on Advanced Ceramics and Ceramic Composites. Held in Daytona Beach, FL, USA, Jan 23rd-28th (2011).

332. "In Situ studies of Phase Transformations in Tantulum Pentoxide," D. R. Lowry, P. Sarin and W. M. Kriven. Presented at 35th Int. Conf. and Expsition on Advanced Ceramics and Ceramic Composites. Held in Daytona Beach, FL, USA, Jan 23rd-28th (2011).

333. "Oxidation Studies of ZrB_2 and ZrB_2 – SiC Composites using HTXRD," P. Sarin, P. E. Driemeyer, R. P. Haggerty, D. K. Kim, J. L. Bell, Z. D. Apolsolov and W. M. Kriven. Presented at 35th Int. Conf. and Expsition on Advanced Ceramics and Ceramic Composites. Held in Daytona Beach, FL, USA, Jan 23rd-28th (2011).

334. "A Forming Technique to Produce Spherical Ceramic Beads using Alginic Acid, Sodium Alginate and Ammonium Alginate," C. J. Espinoza, T. Wei, B. Cho and W. M. Kriven. Presented at 35th Int. Conf. and Expsition on Advanced Ceramics and Ceramic Composites. Held in Daytona Beach, FL, USA, Jan 23rd-28th (2011).

335. "In Situ High Temperature Synchrotron Studies of Monoclinic to Tetragonal Phase Transformation in HfO_2 and Ta_2O_5 – doped HfO_2 System," R. P. Haggerty, P. Sarin, Z. A. Jones and W. M. Kriven. Presented at 35th Int. Conf. and Expsition on Advanced Ceramics and Ceramic Composites. Held in Daytona Beach, FL, USA, Jan 23rd-28th (2011).

336. "CTEAS – Program to Determine Thermal Expansion Properties of Materials from High Temperature X-ray Diffraction," R. P. Haggerty, P. Sarin, Z. A. Jones* and W. M. Kriven. Presented at 35th Int. Conf. and Expsition on Advanced Ceramics and Ceramic Composites. Held in Daytona Beach, FL, USA, Jan 23rd-28th (2011).

337. "Germanium Mullites: Structural Aspects of Lattice Thermal Expansion," P. Sarin, Z. D. Apostolov, R. P. Haggerty, Z. A. Jones, D. R. Lowry, P. F. Keane and W. M. Kriven. Presented at Int. Conf. on Mullite, held in Aviles, Spain, May 8th – 11th (2011).

338. "Mechanical Properties of Chopped Alumina Fiber Reinforced Geopolymer Composites," T. P. Dietz and W. M. Kriven. Presented at 12th Conf. of the European Ceramic Society, Stockholm, June 19th – 23rd (2011).

339. "Organic-Aluminosilicate Interface Interactions," Brayden E. Glad and Waltraud M. Kriven. Presented at the 9th International Meeting of Pacific Rim Ceramic Societies (PacRim 9), held in Cairns, Australia, on July 10th to 14th (2011).

340. "High Temperature Oxidation Behavior of Carbide Based Cermet Cermet Composites: Effect of Sintering Temperature and Porosity," Ali Ozer, Yahya Tur and Waltraud M. Kriven. Presented at the Materials Science and Technolgy 2011 (MS&T 11) held in Columbus, Ohio, Oct 16th 21st (2011).

341. " Stress Wave Management of Alumina (Al_2O_3) 3D Ceramic Laminated Composites Systems, " C. Espinoza Santos,* W. M. Kriven, Kevin Brittain and D. Tororelli. Presented at the Materials Science and Technolgy 2011 (MS&T 11) held in Columbus, Ohio, Oct 16th 21st 2011.

342. "Sintering and Mechanical Behavior of Doped Cr_3C_2-NiCr Cermets: Commercial versus Steric Entrapment Method Produced 3Y-TZPs," Ali Ozer, Yahya Tur and W. M. Kriven.* Presented at the Materials Science and Technolgy 2011 (MS&T 11) held in Columbus, Ohio, Oct 16th 21st 2011.

343. "In situ Synchrotron Studies of the Tetragonal to Monoclinic Phase Transformation in Hafnia and Zirconia," R. P. Haggerty, P. Sarin, Z. D. Apostoloov and W. M. Kriven. Presented at the 36th Int. Conf. and Expo on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 22nd – 27th (2012).

344. "Ferroelastic Phase Transformations in Rare-Earth Niobates," P. Sarin, D. R. Lowry, J. Angelkort, Z. D. Apostolov, R. P. Haggerty and W. M. Kriven. Presented at the 36th Int. Conf. and Expo on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 22nd – 27th (2012).

345. "In situ Synchrotron X-ray Diffraction and Thermal Analysis Study of the Cubic to Rhombohedral Phase Transformation in Y_6WO_{12} and its thermal expansion behavior up to 1500 °C," Z. Apostolov, P. Sarin, R. P. Haggerty, and W. M. Kriven. Presented at the 36th Int. Conf. and Expo on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 22nd – 27th (2012).

346. "Investigation of Thermal Properties of ZrP_2O_7 and $Zr_2P_2O_9$," J. Angelkort, P. Sarin, P. F. Keane and W. M. Kriven. Presented at the 36th Int. Conf. and Expo on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 22nd – 27th (2012).

347. "A GUI Based Program to Calculate Coefficients of Thermal Expansion of Crystalline Materials from High Temperature Powder X-ray Diffraction," Z. A. Jones, P. Sartin, R. P. Haggerty and W. M. Kriven. Presented at the 36th Int. Conf.

and Expo on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 22nd – 27th (2012).

348. "Processing, Sintering and Dynamic Mechanical Behavior of 8Y-TZP Doped Carbide Based Cermets," A. Ozer, Y. K. Tur, W. M. Kriven. Presented at the 36th Int. Conf. and Expo on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 22nd – 27th (2012).

349. "Thermal Stability and Expansion Properties of Rare Earth Monosilicates," P. Sarin, D. R. Lowry, Z. D. Apostolov, J. Angelkort, Z. A. Jones and W. M. Kriven. Presented at the 36th Int. Conf. and Expo on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 22nd – 27th (2012).

350. "Properties of Basalt Fiber Reinforced Geopolymer Composites," G. P. Kutyla, S. S. Musil and W. M. Kriven. Presented at the 36th Int. Conf. and Expo on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 22nd – 27th (2012).

351. "Stress Wave Management in Obliquely Laminated Composite Systems," C. Espinoza Santos, P. Sellappan, W. M. Kriven, K. Brittain, M. Silva and D. Tortorelli. Presented at the 36th Int. Conf. and Expo on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 22nd – 27th (2012).

352. "Progress in the Synthesis of CNT-reinforced SiC Composites, P. B. Stynoski, T. A. Carlson, C. P. Marsh, W. M. Kriven, C. R. Welch. Presented at the Joint U.K. – U.S. Meeting on Advanced Materials, hled at the US Army Research and Development Center (ERDC) Vicksburg, MS, 23-25th May 2012.

353. "Spark Plasma Sintering of SiC –Carbon Nanotube Composite – Simulations and Experiments," T. A. Carlson, J. Allen, B. Devine, C.P. Marsh, W. M. Kriven and C. R. W. Welch. Presented at the 4th Int. Congress on Ceramics, held in Chicago, IL, USA, July 15th -19th (2012).

354. "Processing, Microstructure, and Properties of Carbon Nanotube Reinforced Silicon Carbide" T. A. Carlson, C. P. Marsh, M. Kriven, C. R. Welch, P. B. Stynoski. Presented at the SEM XII International Congress and Exposition on Experimental and Applied Mechanics, Hilton Orange County/Costa Mesa, Costa Mesa, CA USA, June 11-14, (2012).

355. "In situ Synchrotron X-ray Diffraction Study of the Cubic to Rhombohedral Phase Transformation in Ln_6WO_{12} (Ln= Y, Ho, Er, Yb) Z. D. Apostolov, P. Sarin, W. M. Kriven. Presented at the MS&T '12 Conference, Pittsburgh, PA held in Oct 7th -11th (2012).

356. "Thermal Properties and Phase Transition of $2ZrO_2 \cdot P_2O_5$ Studied by in-situ Synchrotron X-ray Diffraction Experiments," Joachim Angelkort, Pankaj Sarin,

Zachary Jones, Stephen Letourneau, Zlatomir Apostolov and Waltraud Kriven. Presented at the MS&T '12 Conference, Pittsburgh, PA held in Oct 7th -11th (2012).

357. "Mechanical Properties and Microstructure of Potassium-based Geopolymer Reinforced with Nextel 610 Woven Fabric Produced Using the VARTM Method," Sean Musil and W. M. Kriven. Presented at the MS&T '12 Conference, Pittsburgh, PA held in Oct 7th -11th (2012).

358. "The Effect of A-site Vacancies on Cell Volume Tolerance Factor and TCF of Perovskites," R. Ubic, S. Letourneau, W. Kriven. Presented at the MS&T '12 Conference, Pittsburgh, PA held in Oct 7th -11th (2012).

359. "Characteristics of Ni-Co-Yttria Powder Synthesized by an Organic-Inorganic Solution Route (PVA) at Low Temperature," Choong-Hwan Jung, Young Min Han, Waltraud Kriven and Jinsung Jang. Presented at the MS&T '12 Conference, Pittsburgh, PA held in Oct 7th -11th (2012).

360. "Phase Transformations in $YTaO_4$ and the Effect of Zr-ion doping," P. Sarin,* Z. D. Apostolov, D. R. Lowry, W. M. Kriven, S. Shian and D. R. Clarke. Presented at 37th International Conference and Exposition on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 27th – Feb 1st (2013)

361. "Characterization of Structural Behavior under Re-entry Type Transformations in Ln_6WO_{12} (Ln = Y, Ho, Er, Yb), Z. Apostolov,* P. Sarin, W. M. Kriven. Presented at 37th International Conference and Exposition on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 27th – Feb 1st(2013)

362. "Novel Approach to Produce Spherical, Porous, Multilayer and Hollow Ceramic Beads," C. J. Espinoza Santos*, B. Walusiak, S. Hayes, E. K. Mendoza and W. M. Kriven. Presented at 37th International Conference and Exposition on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 27th – Feb 1st (2013)

363. "Use of Brazilian Disk Test to Determine the Mechanical Strength of Laminated-Ceramic Composites," C. J. Espinoza Santos,* J. Lambros and W. M. Kriven. Presented at 37th International Conference and Exposition on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 27th – Feb 1s (2013).

364. "Influence of Porosity on the Mechaniucal Behavior of Alumina/Porous Alumina Laminates," P. Sellappan,* J. Lambros and W. M. Kriven. Presented at 37th International Conference and Exposition on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 27th – Feb 1st (2013)

365. "Optimization of Gas Adsorption Porosimetry for Geopolymer Analysis," B. E. Glad* and W. M. Kriven. Presented at 37th International Conference and

Exposition on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 27th – Feb 1st (2013)

366. "Mechanical Properties and Microstructure of Potassium-based Geopolymer with Chamotte Particulate Reinforcement," S. S. Musil* and W. M. Kriven. Presented at 37th International Conference and Exposition on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 27th – Feb 1st (2013)

367. "Optimized Cesium Substituion in Potassium-based Geopolymers for Enhanced Mechanical Properties," A. J. Stevenson* and W. M. Kriven. Presented at 37th International Conference and Exposition on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 27th – Feb 1st (2013)

368. "Geopolymer-bonded Alumina Microplatelets for Refractory Applications," G. P. Kutyla* and W. M. Kriven. Presented at 37th International Conference and Exposition on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 27th – Feb 1st (2013)

369. "Static and Dynamic Properties of Potassium-based Geopolymer as Measured by Different Techniques," Shinhu Cho* and W. M. Kriven. Presented at 37th International Conference and Exposition on Advanced Ceramics and Composites, held at Daytona Beach, FL, USA Jan 27th – Feb 1st (2013).

370. "Development of a Gas-Fed Capillary Source for Pulsed High-Density Plasma Applications," Francis Stefani, Michael V. Pachuilo, Laxminarayan L. Raja, Roger D. Bengtson, Graeme A. Henkelman, A. Cuneyt Tas, Waltraud M. Kriven. Presented at IEEE Pulsed Power and Plasma Science Conference (PPPS 2013), held in San Francisco, CA, June 16th -21st (2013)

371. "Development of a Gas-Fed Capillary Source for Pulsed High-Density Plasma Applications," Michael V. Pachuilo, Laxminarayan L. Raja, Francis Sefani, Roger D. Bengtson, Graeme A. Henkelman,A. Cuneyt Tas, Waltraud M. Kriven. Presented at 44th American Institute of Aeronautics and Astronautics (AIAA), Plasma Dynamics and Lasers Conference, San Diego, CA, June 26th (2013).

372. "Mitigation of Dehydration Cracking and Thermal Shrinkage in Geopolymer Systems by the Addition of Alumina Platelet Reinforcement," G.P. Kutyla and W. M. Kriven. Presented at the 4th Advances in Cement-based Materials: Characterization, Processing, Modeling and Sensing, held at the University of Illinois at Urbana- Champaign, July 8-10th 2013.

373. "Geopolymer Densification Using Functional Alkoxysilanes", B. E. Glad* and W. M. Kriven. Presented at the 4th Advances in Cement-based Materials: Characterization, Processing, Modeling and Sensing, held at the University of Illinois at Urbana- Champaign, July 8-10th 2013.

374. "Spark Plasma Sintering of Alumina and Silicon Carbide for Numerical Simulation Verification and Development of Super Ceramic Materials," T. A. Carlson*, C. Marsh, R. Welch and W. M. Kriven. Presented at 2013 NanoTechnology for Defense Conference, held in Tucson Arizona, Nov 4th - 7th 2013.

376. "The Potential of Geopolymer Composites as Castable Refractory Materials," G. P. Kutyla* and W. M. Kriven. Presented at 38th Int. Conf. and Exposition of Advanced Ceramics and Ceramic Composites, held in Daytona Beach, Florida, Jan 26th -31st 2014

377. "Rice Husk Ash as a Silica Source in Geopolymer Formulation," Un Heo, Kaushik* Sankar and W. M. Kriven. Presented at 38th Int. Conf. and Exposition of Advanced Ceramics and Ceramic Composites, held in Daytona Beach, Florida, Jan 26th -31st 2014.

378. "Characterization of Tetragonal-Monoclinic, Ferroelastic Transformation and Domain Boundaries in Zirconia-Alloyed Yttrium Tantalate," Samuel Shian*, Pankaj Sarin, Mary Gurak, Mor Baram, Waltraud M. Kriven and David R. Clarke, held at the Microscopy and Microanalysis Meeting, Aug 3rd – 7th Hartford, CT.

379. "Phase Transformations in Ceramics: the Present and the Future," Ivar Reimanis*, Waltraud Kriven and Pankaj Sarin. Presented at MS&T 14, Oct 12-16th in Pittsburgh, PA.

380. "Characterization of Thermal Expansion and Phase Transformations in the Ln_2TiO_5 System via in situ Synchrotron X-ray Diffraction (Ln= Dy, Y, Er) up to 1500 °C," K. C. Seymour*, R. W. Hughes and W. M. Kriven. Presented at MS&T 14, Oct 12-16th in Pittsburgh, PA.

381. "Use of Diatomite as Fumed Silica Alternative in a Geopolymer Formulation," Cengiz Bagci* and W. M. Kriven. Presented at 39th Annual Conference and Exposition on Advanced Ceramics and Ceramic Composites, held in Daytona Beach, Florida, Jan 25th (2015).

382. "Microstrucrures, Mechanical Properties and Electrical and Thermal Conductivities of Graphene Nanoplatelet-Reinforced, Potassium Geopolymer," Shinhu Cho*, T. A. Carlson, C. Marsh and W. M. Kriven. Presented at 39th Annual Conference and Exposition on Advanced Ceramics and Ceramic Composites, held in Daytona Beach, Florida, Jan 25th (2015).

383. "Ceramic Felt Reinforced Geopolymer Composites," E. C. Koehler* and W. M. Kriven. Presented at 39th Annual Conference and Exposition on Advanced Ceramics and Ceramic Composites, held in Daytona Beach, Florida, Jan 25th (2015).

384. "Green Composite: Potassium Geopolymer Reinforced with Curua Fibers," K. Sankar* and W. M. Kriven. Presented at 39th Annual Conference and Exposition on Advanced Ceramics and Ceramic Composites, held in Daytona Beach, Florida, Jan 25th (2015).

385. "Green Composite: Sodium Geopolymer Reinforced with Malva Fibers," K. Sankar*, W. M. Kriven and R. K. Vieira. Presented at 39th Annual Conference and Exposition on Advanced Ceramics and Ceramic Composites, held in Daytona Beach, Florida, Jan 25th (2015).

386. "Sodium Geopolyer reinforced with Cordgrass Fibers," D. S. Roper*, K. Sankar, J. Crawford, D. K. Lee and W. M. Kriven. Presented at 39th Annual Conference and Exposition on Advanced Ceramics and Ceramic Composites, held in Daytona Beach, Florida, Jan 25th (2015).

387. "Flash Sintering of Geopolymer Composites," F. Trombin, T. Dietz, S. P. Letourneau, P. F. Keane*, G.P. Kutyla, S. K. Jha, R. Raj and W. M. Kriven. Poster Presented at 39th Annual Conference and Exposition on Advanced Ceramics and Ceramic Composites, held in Daytona Beach, Florida, Jan 25th (2015).

388. "Developing Damage Resistant Ceramics by Mimicking Natural Materials," P. Sellappan and W. M. Kriven*. Poster Presented at 39th Annual Conference and Exposition on Advanced Ceramics and Ceramic Composites, held in Daytona Beach, Florida, Jan 25th (2015).

389. "Effect of Curing Conditions Crystalline Phase Development of Heat-treated K/Cs Geopolymer," A. J. Steveson and Waltraud M. Kriven*. Presented at ECI Engineering Conference International on Geopolymers: Route to Eliminate Waste and Emissions in Ceramic and Cement Manufacturing," held in Hernstein, Austria, May 24th -29th (2015).

390. "Basalt Chopped Fiber, Felt and Weave Reinforced Geopolymer Composites," Daniel R. Ribero*, E. Koehler, G.P. Kutyla, S. S. Musil; and W. M. Kriven. Presented at ECI Engineering Conference International on Geopolymers: Route to Eliminate Waste and Emissions in Ceramic and Cement Manufacturing," held in Hernstein, Austria, May 24th -29th (2015).

391. "Short Carbon Fiber-reinforced Potassium Geopolymer Composites," Shinhu Cho, R. D. Schmidt, E. D. Case and W. M. Kriven*. Presented at ECI Engineering Conference International on Geopolymers: Route to Eliminate Waste and Emissions in Ceramic and Cement Manufacturing," held in Hernstein, Austria, May 24th -29th (2015).

392. Lignocellulosic Fibers as Reinforcements in Geopolymers," Kaushik Sankar and Waltraud M. Kriven*. Presented at ECI Engineering Conference International on

Geopolymers: Route to Eliminate Waste and Emissions in Ceramic and Cement Manufacturing," held in Hernstein, Austria, May 24th -29th (2015).

393. "Mica Platelet-reinforced Geopolymer Composites, P. F. Keane*, G. P. Kutyla and W. M. Kriven. Presented at ECI Engineering Conference International on Geopolymers: Route to Eliminate Waste and Emissions in Ceramic and Cement Manufacturing," held in Hernstein, Austria, May 24th -29th (2015).

394. "Low Cost Synthesis of SiAlON Type Ceramic Powders from Na, K, or Cs Geopolymer," Cengiz Bagci, G. P. Kutyla and W. M. Kriven*. Presented at ECI Engineering Conference International on Geopolymers: Route to Eliminate Waste and Emissions in Ceramic and Cement Manufacturing," held in Hernstein, Austria, May 24th -29th (2015).

395. "High Temperature Mechanical Properties of Mullite and Alumina Fiber Reinforced Geopolymer Composites," S. S. Musil, A. A. Kolchin, S. T. Mileiko and W. M. Kriven*. Presented at ECI Engineering Conference International on Geopolymers: Route to Eliminate Waste and Emissions in Ceramic and Cement Manufacturing," held in Hernstein, Austria, May 24th -29th (2015).

396. "Potassium Geopolymer Reinforced with Granite Powder," Daniel Roper and W. M. Kriven*. Presented at ECI Engineering Conference International on Geopolymers: Route to Eliminate Waste and Emissions in Ceramic and Cement Manufacturing," held in Hernstein, Austria, May 24th -29th (2015).

397. "Geopolymer Beads and their Applications in Granular Media," Shinhu Cho*, Alexander Vakakis, Donald McFarland and W. M. Kriven. Presented at 11th Int. Conf. on Ceramic Materials and Components for Energy and Environmental Applications, held in Vancouver, Canada, June 14th – 19th (2015).

398. "Properties of Basalt Woven, Fabric-reinforced Geopolymer Composites," Daniel R. Ribero* and W. M. Kriven. Presented at 11th Int. Conf. on Ceramic Materials and Components for Energy and Environmental Applications, held in Vancouver, Canada, June 14th – 19th (2015).

399. "Geopolymers Reinforced with Natural Fibers," Kaushik Sankar and W. M. Kriven.* Presented at 11th Int. Conf. on Ceramic Materials and Components for Energy and Environmental Applications, held in Vancouver, Canada, June 14th – 19th (2015).

400. "Potassium Geopolymer Reiforced with Granite Powder," Daniel Roper and W. M. Kriven.* Presented at 11th Int. Conf. on Ceramic Materials and Components for Energy and Environmental Applications, held in Vancouver, Canada, June 14th – 19th (2015).

401. "Novel Synthesis and Electrochemical Characterization of $LiFePO_4$ and $NaFePO_4$

Cathode Materials," Daniel R. Ribero* and W. M. Kriven. Presented at 11th Int. Conf. on Ceramic Materials and Components for Energy and Environmental Applications, held in Vancouver, Canada, June 14th – 19th (2015).

401. "The Conversion of Na, K or Cs Geopolymers to Nitride Nano-powders by Carbothermal Reduction and Nitridation," Cengiz Bagci*, Greg P. Kutyla and Waltraud M. Kriven. Presented at 11th Nanoscience and Nanotechnology Conference (NanoTR'11) held in METU Ankara, Turkey on June 22-25 (2015).

402. "The Characterization of the Orthorhombic to Hexagonal Phase Transformation in Dy_2TiO_5" Kevin C. Seymour*, Daniel Ribero Rodriguez and Waltraud M. Kriven. International Conference on Solid-Solid Phase Transformations in Inorganic Materials (PTM2015) held in Whistler, BC, Canada, June 28th – July 3rd 2015.

403. "An In-situ Method to Identify Lattice Correspondences for High Temperature Ceramic Phase Transformations," W. M. Kriven*, P. Sarin, R. P. Haggerty, Z. A. Jones, Z. D. Apostolov. International Conference on Solid-Solid Phase Transformations in Inorganic Materials (PTM2015) held in Whistler, BC, Canada, June 28th – July 3rd (2015).

404. "In situ High Temperature Synchrotron Studies of Ceramics," Waltraud M. Kriven*, Pankaj Sarin, Ryan P. Haggerty, Zlatomir D. Apostolov, Robert W. Hughes, Zachary A. Jones, Joachim Angelkort, Steven P. Letourneau, Patrick E. Driemeyer, Kevin C. Seymour. International Conference on Solid-Solid Phase Transformations in Inorganic Materials (PTM2015) held in Whistler, BC, Canada, June 28th – July 3rd (2015).

405. "Mechanical Properties of Short, Carbon Fiber-reinforced, Potassium Geopolymer Composite," Shinhu Cho, Robert D. Schmidt, Eldon D. Case and Waltraud M. Kriven. Presented at the 11th International Pacific Rim Conference of Ceramic Societies (PACRIM 11) Aug. 30th – Sept 4th (2015) in Jeju, Korea.

406. "Mechanical Reinforcements and Electrical and Thermal Conductivities in Graphene Nanoplatelet-reinforced, Potassium Geopolymer," Shinhu Cho, Thomas A. Carlson, Charles Marsh, Waltraud M. Kriven. Presented at the 11th International Pacific Rim Conference of Ceramic Societies (PACRIM 11) Aug. 30th – Sept 4th (2015) in Jeju, Korea.

407. "Novel Architecture of Geopolymer Composites for Mechanical Energy Absorption," Shinhu Cho and Waltraud Kriven. Presented at the 11th International Pacific Rim Conference of Ceramic Societies (PACRIM 11) Aug. 30th – Sept 4th (2015) in Jeju, Korea.

408. "Mica Platelet-reinforced Geopolymer Composites," Patrick F. Keane and Waltraud M. Kriven*, presented at "Composites at Lake Louise Conference 2015 in Nov 8th -12th 2015 in Lake Louise, Canada.

409. Strength Improvements in Clay-based Ceramic Reinforced with Discontinuous Basalt Fiber," G. P. Kutyla, P. F. Keane*, C. P. Marsh and W. M. Kriven. To be presented at the 40th International Conference and Exposition on Advanced Ceramics and Composites (ICACC 2016) in Jan 25th – 29th (2016).

410. "Dolomite ($CaMg(CO_3)_2$) Particulate-reinforced Geopolymer Composite," P. F. Keane* and W. M. Kriven. To be presented at the 40th International Conference and Exposition on Advanced Ceramics and Composites (ICACC 2016) in Jan 25th – 29th (2016).

411. "Mica Platelet-reinforced Geopolymer Composites," P. F. Keane, J. Wight, W. Rickard and W. M. Kriven*. To be presented at the 40th International Conference and Exposition on Advanced Ceramics and Composites (ICACC 2016) in Jan 25th – 29th (2016).

412. "Bone Ash Reinforced Geopolymer: A Route to Enhance Microstructural Integrity and Mechanical Properties in Geopolymer Composites," Abdul W. Bhuiya and Waltraud M. Kriven. To be presented at the 40th International Conference and Exposition on Advanced Ceramics and Composites (ICACC 2016) in Jan 25th – 29th (2016).

413. "Potassium-based Geopolymer Reinforced with Bamboo Fibers," Ruy Sa Ribeiro, Marilene Sa Ribeiro, Kaushik Sankar and Waltraud M. Kriven. To be presented at the 40th International Conference and Exposition on Advanced Ceramics and Composites (ICACC 2016) in Jan 25th – 29th (2016).

414. "Mixed Alkali Regional Metakaolin-based Geopolymer," Ruy Sa Ribeiro, Marilene Sa Ribeiro, Kaushik Sankar and Waltraud M. Kriven. To be presented at the 40th International Conference and Exposition on Advanced Ceramics and Composites (ICACC 2016) in Jan 25th – 29th (2016).

415. "Sodium Geopolymer Reinforced with Cork and Abaca Banana Chopped Fibers," Daniel Roper and Waltraud M. Kriven. To be presented at the 40th International Conference and Exposition on Advanced Ceramics and Composites (ICACC 2016) in Jan 25th – 29th (2016).

416. "Synthesis and Characterization of Phosphate Cathode Materials Prepared by a Polymeric Steric Entrapment Precursor Route," D. Ribero and W. M. Kriven. To be presented by D. Ribero at the 40th International Conference and Exposition on Advanced Ceramics and Composites (ICACC 2016) in Jan 25th – 29th (2016).

TEACHING EXPERIENCE:

1967 -1971 inclusive:

Concurrently with undergraduate studies, completed (part time) 3 years of a 4-year course for a Diploma of Teaching (Dip. T.) from Adelaide Teachers College. Also fulfilled all the practice teaching requirements to become a high school science teacher.

1971-1974 inclusive:

Resident Tutor in Chemistry at Aquinas College, affiliated to the University of Adelaide, South Australia.

1971-1976:

Graduate teaching assistant for one day per week in the Dept. of Physical and Inorganic Chemistry, University of Adelaide, South Australia.

Sept. 1976 - April 1977:

Post-doctoral Teaching (and Research Fellow) in the Department of Chemistry at the University of Western Ontario, London, Ontario, Canada. Tutored and demonstrated first year chemistry laboratories for two and a half days per week for the Canadian academic year.

Fall Quarter 1977-1979, inclusive:

Lecturer in the Dept. of Materials Science and Mineral Engineering, University of California, Berkeley.
Gave a 4-unit course on Phase Equilibria and Transformations (phase diagrams) to Juniors and Seniors. It was a main-stream course required for a ceramics major and by six engineering departments. Instruction was supported by two teaching assistants. Set up demonstration labs and a full laboratory course to complement the lecture course.
Student evaluations in the first year gave a rating of 5.3 out of 7 which was the next highest score in the whole department (compared to 5.7 obtained by a senior, experienced instructor).

1984 -1990, inclusive :

As a faculty member at the University of Illinois, developed a new, 1 unit graduate course on “Electron Microscopy in Physical Sciences”, which included both scanning and transmission electron microscopy. In parallel to the lectures, a comprehensive laboratory course was established and teaching assistants were personally trained. Two 1” thick laboratory manuals were written and compiled to document techniques not yet in text

books. Since there was a waiting list of students from several Engineering Departments, as well as from the Geology, Chemistry and Physics Departments, the course was taught every semester for six years. Currently, discussions are in progress to have the course taught campus-wide by myself through the Graduate College of the University.

1989-1990:

Also as a faculty member at the University of Illinois, have taught a main stream ceramics course on Phase Equilibria to Juniors and Seniors in the Materials Science and Engineering Department. Student numbers have increased from 30 to 50 during this time.

Spring semester 1992:

Developed a new senior Ceramic Elective course (Cer Eng 331) on "Ceramic Microstructures and Their Characterization," which includes a laboratory course. Techniques taught include optical microscopy, microindentation and scanning electron microscopy.

Fall semester 1994:
Developed a new course on "Mechanical Properties of Materials" (MatSE 306) for Juniors and Seniors, with an assciated Laboratory course. It covered properties of metals, ceramics, polymers and composites.

Fall semester 1996:
Learnt a course on "Refractory Technology" MatSE 324 for Juniors and Seniors, covering refractory ceramic engineering.

Fall semester 1997
Taught a course on "Ceramic Processing and Microstructure Development " to Junior and Seniors in Materials Science and Engineering and in Ceramic Engineering

Spring semester 1998
Taught a course on "Electron Microscopy and Diffraction Theory" (transmission electron microscopy) to seniors and graduate students.

1996-1998 inclusive: GE Scholar, completed Teaching College - Faculty Development Program

Continuing Education Instruction

1993 - present:
State-wide review instructor of Materials Science and of Chemistry in preparation for the National Examination for the credential of Professional

Engineer (P.E.), organized by the Illinois Society of Professional Engineers. Also instructor on campus within the Engineering College.

Aug. 1991:

Invited Lecturer for a Tutorial Session in Materials Science sponsored by the Inorganic Chemistry Division of the American Chemical Society. The sessions accompanied the Annual Meeting of the Society held in New York, NY, on Aug 25th-30th (1991). Lectured on "SEM and TEM in Materials Science."

1985 and 1986:

Participating lecturer in two day, short courses on Transmission Electron Microscopy, offered through the Center for Electron Microscopy of the University of Illinois. The course was designed for training of research and technical personnel in industrial laboratories.

Aug. 1982:

Invited speaker at Summer Course accompanying the International Conf. on Martensitic Transformations (ICOMAT), held in Leuven, Belgium, August 1982. Lectured on "Lattice-Deformational Transformations in Non-Metals."

1996-1998 inclusive: GE Scholar, completed Teaching College - Faculty Development Program

Feb 4th 1984 – 1986:
Visiting Research Professor, Associate Professor and full Professor, University of Illinois at Urbana-Champaign, Department of Materials Science and Engineering.

Feb 1984 – present:
Full time faculty member in the Department of Ceramic Engineering, which subsequently changed to become the Department of Materials Science and Engineering at the University of Illinois at Urbana-Champaign.