

CURRICULUM VITAE

KENNETH W. WHITE

EDUCATION:

Ph.D. UNIV. of WASHINGTON, Dept. of Mat. Sci.& Eng., Seattle, WA
1987 Materials Science and Engineering
M.S. U.C. BERKELEY, L.B.L. and Mat. Sci. & Min Eng., Berkeley, CA
1978 Materials Science and Engineering
B.S. U.C. DAVIS, Dept. of Mechanical Engineering, Davis, CA
1976 Mechanical Engineering/Materials Science & Engineering

PROFESSIONAL EXPERIENCE:

99 to present UNIVERSITY OF HOUSTON, Houston, TX
Professor, Dept. of Mechanical Engineering.
93 to 99 UNIVERSITY OF HOUSTON, Houston, TX
Associate Professor, Dept. of Mechanical Engineering.
87 to 93 UNIVERSITY OF HOUSTON, Houston, TX
Assistant Professor, Dept. of Mechanical Engineering.
84 to 87 UNIV. of WASHINGTON, Mat. Sci.& Eng., Seattle, WA, Research Assoc.
82 to 85 SUNDSTRAND DATA CONTROL, Inc., Redmond, WA
Senior Materials Engineer:
78 to 82 BOEING Co., Materials Technology, Renton, WA
Senior Engineer:

TEACHING:

MECE 3445 Honors, Introduction to Materials Science (New Course, Jr.)
MECE 5339, Introduction to Engineering Alloys (Sr. & Grad.)
MECE 7374, Mechanical Behavior of Ceramic Materials - New Course (Grad)
MECE 7370, Flow and Fracture of Solids (Grad)
MECE 5307, Fracture of Structural Materials (Sr & Grad) (Major Course Revision)
MECE 6361, Mechanical Behavior of Materials (Grad) (Major Course Revision)

STUDENTS GRADUATED / Completed Projects:

R. Grimes: M.S. Fracture Mechanisms in Structural Carbon/Carbon Composites at Elevated Temperatures (1989)
G. Kelkar: M.S. Fracture Mechanisms in Monolithic Refractory Ceramics (1989).
L. Guazzone: M.S. Interface Effects on Fracture Properties of SiC Whisker/Al₂O₃ (1990)
S. Senet: M.S. Interfacial Studies of Structural Refractory Composites. (1990)
F. Yeh: M.S. Mechanical Behavior of 1-2-3 Superconducting Ceramic Materials (1990)
A. Lucchesi: M.S. Oxidation Inhibited Carbon/Carbon Composites: Interface Studies (1992)
J. Hay: M.S. Microstructural Model for Toughening of Monolithic Ceramics. (1992)
L. Yeou: M.S. Toughness Improvements of 1-2-3 Superconducting Ceramic (1992)
D. Rogers: M.S. Microstructural Control of 1-2-3 Superconductors for Improved Magnetic Levitation and Mechanical Behavior (1992)
C. Ortiz: M.S. Thermal Shock and Fracture of Porous Ceramic Insulators.(1993)
B. Chandraker M.S. Modeling of the Peritectic Reaction in YBCO Superconductors (1994)

J. Hay:	Ph.D.	Crack Growth Phenomena in Monolithic Ceramics (1995)
Z. Xu	M.S.	Damage Development in In Situ Reinforced CMC's (1995)
J. Hay:	Post-Doc:	Fatigue Micromechanisms in Alumina(1996)
F. Yu	Ph.D.	Microstructural Studies in Processing of In-Situ Reinforced Ceramics (1998)
K. Patel	M.S.	Microstructural Characterization of Wake Processes in Ceramics (1998)
N. Nandakumar	M.S.	Processing for Microstructural Control of Si ₃ N ₄ -BAS Ceramics.(1998)
L. Olasz	M.S.	Small Crack Behavior and Near-Tip Mechanisms in Ceramics (1998)
L. Phillips	Sr. Honors:	Resolution Limits of Laser Displacement Measurement Methods (1998)
D. Anooshiravani	M.S.	Cryogenic Treatment of Stainless Steels for Dental Applications(1999)
R. Geraghty	M.S.	Fatigue Micromechanisms in the Near-Tip Region of Ceramics (1999)
T. Shinogaya:	Visiting Scientist	Interfacial Effects of Discontinuous CMC's (1991)
C. Ortiz:	Ph.D.	High Temperature Fatigue and Fracture of Monolithic Ceramics (2000)
L. Deneuville	M.S.	Interface Damage in Ceramic Coatings (With K. Ravi-Chandar) (2000)
T. Fossier	M.S.	Damage Mechanisms in Thermal Barrier Coatings (2000)
M. Doan	M.S.	Design of Ceramic Components (With L. Wheeler) (2000)
Y. Fang	Ph.D.	Wake Studies of Strength-Critical Damage.(2001)
J. Schalen	M.S.	Design Criteria for Ceramics (With L. Wheeler)(2001)
B. Sidle	Undergraduate Project:	Fretting of Electrical Contacts (2001)
M. Boudrare	M.S.	Fatigue Mechanisms in Ceramic Materials (2001)
Y. Huang	M.S.	Surface Crack Behavior in a Functionally Graded Si ₃ N ₄ – BAS Ceramic (2002)
N. du Souich	M.S.	Modeling of Refractory Oxide Composites (2003)
M. Chelf	Hon.	Damage Development in Oxide Composites (2003)
M. Flores	Hon.	Fracture Process Zone Characterization in ZrO ₂ polycrystals (2003)
R. Longo	M.S.	High Temperature Microstructure-scale Fracture Process Zone Studies in Oxide CMC's (2004)
D. Liu	Ph.D.	Domain nucleation in ferroelectric thin films (2005)
M. Chelf	M.S.	Stress-induced Domain Motion in Ferroelectric Thin Films(2005)
M. Flores	M.S.	Mechanical Behavior of Nanostructured Materials. (2005)
J. Claydon	Hon.	Nano-composites characterization. (2006)
D. Liu	Postdoctoral Res. Assoc.:	Ferroelectric Materials

SUPERVISION OF GRADUATE STUDENTS / PROJECTS:

J. Sun	Ph.D.	Nanostructure materials and composites
AK Avadhanula	MS	Methods for characterization of films at the nano-scale.

CENTER ACTIVITIES:

August 96 through Present: Director of the CENTER FOR RELIABILITY OF CERAMICS

The charter of this center stipulates the development of the science and technology necessary for the advancement of engineering structures comprised of ceramic materials. It involves faculty from U of H and other universities, and researchers from National Labs, and from private industries.

PATENTS:

1. "Titanium Alloy (15V-3Cr-3Sn-3Al) For Aircraft Data Recorder", No. 4,600,449. (With W.F.Spurr); 1986

2. "Titanium Alloy (10V-2Fe-3Al) For Aircraft Flight Data Recorder", No. 572,221 (With W.F.Spurr); 1984.
3. "Bimodal Silicon Nitride - BAS Ceramic Matrix Composites", Patent #6,184,164 B1, issued 6 Feb. 01, with F. Yu.
4. "Bimodal Silicon Nitride - BAS Ceramic Matrix Composites", Patent #6,291,376 B1 issued 18 Sept. 01, with F. Yu.
5. "Method for the Determination of Coating Bond Strength", Patent #6,581,446 B1, 24 June 03, with K. Ravi-Chandar, L Deneuille.

PUBLICATIONS:

Refereed Journals and Books:

- 1) J. C. Jiang, Z. Yuan, J. Liu, J. Weaver, C. L. Chen, B. Lin and V. Giurgiutiu, R.Y.Guo, A.S.Bhalla, D. Liu and K. W. White, "Orientation Preferred Structures in BaTiO₃ Thin Films on Ni Substrates," J. of Nano Research V1, 59-63 (2008)
- 2) D. Liu, M. Chelf, and K. W. White, "Indentation plasticity of barium titanate single crystals: dislocation influence on ferroelectric domain walls", Acta Materialia, 54, 4525-31, 2006.
- 3) Book Chapter: K.W. White, F. Yu, Y. Fang, "In Situ Reinforced Silicon Nitride – Barium Aluminosilicate Composite", in: Handbook of Ceramic Composites, N. P. Bansal, ed., Kluwer Academic Pub, 251-275 (2005).
- 4) Fracture Mechanics of Ceramics vol.14, Active materials, Nanoscale Materials, Composites, Glass and Fundamentals, eds. K.W. White, M. Sakai, R.C. Bradt and D. Munz, Springer (2005).
- 5) D. Liu, K. W. White, "Mechanical aspects of epitaxial ferroelectric Pb(Zr_{0.5}Ti_{0.5})O₃ films investigated by nanoindentation methods and piezoresponse force microscopy", Applied Physics Letters, 85[16], 3459-61, 2004.
- 6) Y.Fang, T.Fossier and K.W.White, "Crack path simulation and identification in polycrystalline alumina", *Scripta Mater.* **50**[1] 127-30 (2004)
- 7) J. Ohgi, M.T. Kokaly, A.S. Kobayashi, K.W. White, "Optimum Grain size Based on a Grain Pullout Model of Polycrystalline Alumina," in: Inverse Problems in Engineering Mechanics IV, M.Tanaka, ed., 343-51, 2003.
- 8) M.T. Kokaly, A.S. Kobayashi and K.W. White, "Fatigue Crack Growth Mechanisms in Alumina at High Temperature," Fatigue and Fracture Mechanics, 33rd Volume, ASTM STP 1417, W.G. Reuter and R.S. Piascik, Eds., American Testing a Materials, West Conshohocken, PA. (2002).

- 9) J. Ohgi, M.T. Kokaly, A.S. Kobayashi and K.W. White, "Modeling of Grain Pullout in Polycrystalline Alumina WL-DCB Specimen," Advances in Computational Engineering and Sciences 2002, eds. S. N. Atluri and D. W. Pepper, Tech Science Press, 2002
- 10) Y. Fang, F. Yu and K. W. White, "Microstructural Modification to Improve Mechanical Properties of a 70% Si₃N₄ Barium Aluminum Silicate (BAS) Ceramic Composite," *J. Mater. Sci.* **37** 1-7, (2002)
- 11) D.K. Tran, A.S. Kobayashi and K.W. White, "Crack Growth in Alumina at High Temperature," Engin. Frac. Mech., 68 [2] 149-161, (2001)
- 12) Y. Fang, K. Ravi-Chandar, K. W. White, "Influence Of Surface Residual Stress State On Crack Path Evolution In Polycrystalline Alumina", *J. Am. Ceram. Soc.* **85**[7]1783-87 (2002)
- 13) F. Yu and K. W. White, "Relationship Between Microstructure and Mechanical Performance of a 70%Si₃N₄-30%BAS Self-Reinforced Ceramic Composite," *J. Am. Ceram. Soc.* **84** [1] 5-12 (2001)
- 14) Feng Yu, Nandakumar Nagarajan, Yi Fang, K. W. White, "Microstructural Control a 70% Si₃N₄ Barium Aluminum Silicate (BAS) Self-Reinforced Composite," *J. Am. Ceram. Soc.* **84** [1] 13-22, (2001)
- 15) T. Fett, D. Munz, R. D. Geraghty, K. W. White, "Bridging stress determination by evaluation of the R-curve," *European Ceramic Society*, **20** (2000) 2143-48.
- 16) T. Fett, D. Munz, D. X. Dai, and K. W. White "Bridging Stress Relation from a Combined Evaluation of the R-curve and Post-fracture Tensile Tests," *Int. J. of Fracture*, **104**, 375-85 (2000)
- 17) Y. Fang, F. Yu and K. W. White, "Bimodal Microstructure in Si₃N₄-BAS Ceramic Matrix Composite by Pressureless Sintering," *J. Am. Ceram. Soc.* **83**[7] 1828-1830(2000)
- 18) T. Fett, D. Munz, R. D. Geraghty, K. W. White, "Influence of specimen geometry and relative crack size on the R-curve," *Eng. Fract. Mech.* **66**, [4], 375-386 July 2000,
- 19) M. Lu, C. Lupu, M.J. Styve, S.M. Lee, J. W. Rabalais, F. Yu and K. W. White, "Radiation Enhanced Diffusion of Ti in MgO," *J. Appl. Phys.* (2000)
- 20) M. T. Kokaly, D.K. Tran, A.S. Kobayashi, X. Dai, K. Patel, K.W. White, "Modeling of Grain Pullout Forces in Polycrystalline Alumina", Materials Science and Engineering – A285, 151-57 (2000).
- 21) Y. Fang, F. Yu and K. W. White, "Microstructural Influence on the R-Curve Behavior of a 70% Si₃N₄- 30% Barium Aluminum Silicate Self-Reinforced Composite," *J. Mater. Sci.* **35** 2695-2699(2000)
- 22) R. Geraghty, Hay, J.C., White, K.W. "Fatigue Degradation of Grain Bridging Elements in a Monolithic Alumina," Acta Metallurgica et Materialia , **47** [4], 1345-53, (1999)

- 23) D.K. Tran, A.S. Kobayashi, K.W. White, "Process Zone of Polycrystalline Alumina", Experimental Mechanics, **39** [1], 20-24, (1999)
- 24) F. Yu, C. Ortiz, D. L. Hunn and K.W. White, "The Microstructural Characterization of a BAS Ceramic Matrix Composite," J. Matl. Sci., **34**, 2821-35, (1999).
- 25) Z.K. Guo, A.S. Kobayashi, J. Hay and K.W. White, "Fracture Process Zone of Monolithic Al₂O₃," Engin. Frac. Mech., 63, [2] 115-29,(1999).
- 26) C.M. Nygard, K.W. White, K. Ravi-Chandar, "Strength of HVOF Coating-Substrate Interfaces," Thin Solid Films, 332 pp 185-188, (1998).
- 27) C. Ortiz, R. Dasgupta, C. Vipulanandan and K.W. White, " The Microstructural Mechanisms Affecting the Strain-Softening Behavior of Mortar," Cement and Concrete Research **28** [10], 1429-1444 (1998).
- 28) Hay, J.C., White, K.W. "Microstructural Interaction in the Wake Cohesive Zone for Small Crack-Opening Displacements," Acta Metallurgica et Materialia, **45** [9], pp3625-33, (1997).
- 29) Hay, J.C., White, K.W. "The Stiffness of Grain Bridging Elements in a Monolithic Alumina," J. Amer. Ceram. Soc., **80**[5] 1293-97, (1997).
- 30) F. Yu, K.W. White and R. Meng, "Mechanical Characterization of Top-Seeded Melt-Textured YBa₂Cu₃O_{7-δ}," Physica C, **276**, 295-308, (1996).
- 31) Hay, J.C., White, K.W. "Grain Boundary Phases and Wake Zone Characterization in Monolithic Alumina," J. Amer. Ceram. Soc., **78**[4] 1025-32 (1995).
- 32) K.W. White and J. Hay, "Thermoelastic Effects on the R-curve Behavior of Monolithic Alumina," J. Amer. Ceram. Soc., **77**[9] 2283-88 (1994)
- 33) C. Ortiz and K.W. White, "Elevated Temperature Fracture Characterization of Advanced Fibrous Ceramic Thermal Insulators," J. Amer. Ceram. Soc., **77**[10] 2703-11 (1994).
- 34) J. Hay and K.W. White, "Grain-Bridging Mechanisms in Monolithic Alumina and Magnesium Aluminate Spinel," J. Amer. Ceram. Soc., **76**[7] 1849-54 (1993).
- 35) A. Lucchesi, J. Hay, K.W. White, "Direct Characterization of the Wake Zone Traction in a Two-Dimensional, Oxidation Inhibited C/C Composite," Composites Sci. and Tech., **49**, 315-29 (1993).
- 36) D. Rodgers, K. White, V. Selvamanickam, A. McGuire and K. Salama, "Plastic Deformation of Melt-Textured Y₁Ba₂Cu₃O_{7-x} Superconductor at Elevated Temperatures", Superconducting Science and Technology, **5**, 640-44 (1992).
- 37) K.W. White, G. Kelkar, "Fracture Mechanisms of a Coarse Grained, Transparent MgAl₂O₄ at Elevated Temperatures", J. Amer. Ceram. Soc., **75**[12] 3440-44 (1992).
- 38) Lucchesi, J. Hay, K.W. White, "The Influence of Oxidation Inhibitors On The Elevated Temperature Fracture Resistance of C/C Composites," J. Mater. Res., **7** [7] 1795-1804 (1992).

- 39) J. Hay, K.W. White, "Crack Face Bridging Mechanisms in Monolithic MgAl₂O₄ Spinel Microstructures," Acta Metallurgica et Materialia, **40** [11], 3017-25 (1992).
- 40) L. Yeou, K. W. White, "The Development of High Fracture Toughness YBa₂Cu₃O_{7-X}/Ag Composites," J. Mater. Res., **7**, [1] 1-4 (1992).
- 41) S. Senet, R.E. Grimes, D.L. Hunn, K.W. White, "Microstructure Effects on the Mechanisms of Fracture of 2-D Carbon/Carbon Composites", J. Mat. Science, **28** 2049-60 (1993).
- 42) F.Yeh, K.W.White, "Fracture Toughness Behavior of the YBa₂Cu₃O_{7-X} Superconducting Ceramic With Silver Additions," J. App. Phys., **70** 9, Nov. 1991.
- 43) G. Kelkar, K.W. White, "Evaluation of the Crack Face Bridging Mechanism in a MgAl₂O₄ Spinel," J. Amer. Ceram. Soc., **74**, [7], 1732-34, (1991).
- 44) K.W. White, L.Guazzone, "Elevated Temperature Fracture Mechanisms in a SiC_w/ Al₂O₃ Composite," J. Amer. Ceram. Soc., **74**, [9], 2280-85, (1991).
- 45) R.E. Grimes, S. Senet, D.L. Hunn, K.W. White, "Elevated Temperature Fracture Behavior of a 2-D Discontinuous Fiber Reinforced Carbon/Carbon Composite", Carbon, **29** no.7, 1039-49 (1991)
- 46) A.Ghosh, K.W. White, M.G. Jenkins, A.S. Kobayashi. and R.C. Bradt, "Fracture Resistance Of A Transparent MgAl₂O₄," J. Amer. Ceram. Soc., **74**,[7],1624-30, (1991).
- 47) R.E. Grimes, G.P. Kelkar, L.Guazzone, K.W. White, "Elevated Temperature R-curve Behavior of a Polycrystalline Monolithic Alumina," J.Amer. Ceram. Soc., **73**,[5], 1399-1404 (1990).
- 48) Ghosh, M.G. Jenkins, K.W. White, A.S. Kobayashi and R.C. Bradt, "Elevated Temperature Fracture Resistance of a Sintered Alpha Silicon Carbide," J.Amer. Ceram. Soc., **72**,[2],242-47 (1989).
- 49) M.G. Jenkins, A.S. Kobayashi, K.W. White, R.C. Bradt, "Elevated Temperature Fracture Resistance of a SiC Whisker Reinforced/ Polycrystalline Al₂O₃ Matrix Composite," Engin. Fracture Mech. **30** [4], pp.505-15,(1988).
- 50) M.G. Jenkins, A.S. Kobayashi, M. Sakai, K.W. White, R.C. Bradt, "Fracture Toughness Testing of Ceramics Using a Laser Interferometric Strain Gage," Amer. Ceram. Soc.Bul. **66** [12] 1734-8,1987.
- 51) M.G. Jenkins, A.S. Kobayashi, K.W. White, R.C. Bradt, "A 3-D Finite Element Analysis of The Chevron-Notched, Three-Point Bend Fracture Specimen", Int. J. of Fracture, **34**, 281-95,1987.
- 52) M.G.Jenkins, A.S. Kobayashi, K.W. White, R.C. Bradt, "Crack Initiation and Arrest in a SiC Whisker/Al₂O₃ Matrix Composite," J.Amer. Ceram. Soc., **70**,[6],393-95 (1987).

Refereed Proceedings:

1. "Room and Elevated Temperature Fracture Process Zone Behavior of Strong-Interface Oxide/Oxide Composites," Rafael A. Longoria, Nicolas Du Souich, Michael S. Chelf and K. W. White, Int Conference on Advances in Mech Engin & Mechanics, Hammamet, Tunisa, Dec. 12 – 19, 2006
2. "Room Temperature Post-Fracture Tensile Study of Two Fiber-Reinforced Ceramic Matrix Composites with a Strong Fiber/Matrix Interface," R.A. Longoria, N. Du Souich and K.W. White, in: Fracture Mechanics of Ceramics 14, eds. K.W. White, M. Sakai, R.C. Bradt and D. Munz, Springer, 307-17, 2005.
3. "A FE Model of Carbon/Carbon Composite Fracture," J. Ohgi, J.H. Jackson, A.S. Kobayashi and K.W. White, in: Fracture Mechanics of Ceramics 14, eds. K.W. White, M. Sakai, R.C. Bradt and D. Munz, Springer, 317-26, 2005.
4. "Crack Bridging Force in Mulite/Alumina Composites," P. Stegawski, M. Suetsugu, A.S. Kobayashi and K.W. White, 2004 SEM X International Congress and Exposition in Experimental and Applied Mechanics, June 2004.
5. "Modeling of Grain Pullout in Fatigued Polycrystalline Alumina," M.T. Kokaly, A.S. Kobayashi and K.W. White, Inverse Problems in Engineering Mechanics, eds. M. Tanaka and G.S. Dulikravich, Elsevier 2002, pp. 145-152.
6. Also in CIMTEC 2002, 3RD Forum on New Materials, 2nd International Conference on Computational Modeling and Simulation of Materials, eds. P. Vincenzini and A. Lami, Techna Sri 2003, pp 181-188.
7. "Optimum Grain Size for Polycrystalline Alumina," J. Ohgi, M.T.Kokaly. A.S. Kobayashi and K..W. White, to be published in Inverse Problems in Engineering Mechanics IV, eds. M. Tanaka and G.S. Dulikravich, Elsevier.
8. Asa Kassman Rudolphi, Olof Vingsbo, Ken White, Loic Denuville, J-P celis, P. Kapsa, S. Hannel, S. Fouvry, D. Klafke, P. van Dijk, J. Horn, I. Buresch, G. Ide, F. Paelinck, P. Rehbein, J. Schoefer, B. Blomberg, G. Liraut, "Fretting Testing of Electrical Contacts at Small Displacement Amplitudes – Experience from a BriteEuram Project," ICEC 2000, Stockholm, Sweden, June 2000.
9. F. Yu, G. Himmler and K. W. White, "Improving the Reliability of Pressureless-Sintered Si_3N_4 /BAS Composite by Microstructural Modification," *Advances in Ceramic Matrix Composites VI* 151-161(2000).
10. "Micro-mechanical Modeling of the Fracture Process zone of Alumina," M. Kokaly, D. Tran, A.S. Kobayashi, & K.W. White, in: Proceedings of ECM 99, Urumqi, China, Sept. 12-24, 1999.
11. F. Yu, Y. Fang and K. W. White, "Microstructural Modification to Improve High Temperature Properties of Si_3N_4 /BAS Ceramic Matrix Composite," *Ceramic Transactions* **103** 169-179(2000)
12. Y. Fang, F. Yu and K. W. White, "Strength of Silicon Nitride Based Alumino-Silicate Composite at Room Temperature," *Ceramic Transactions* **103** 157-167(2000)

13. N. Nagarajan, F. Yu, Y. Fang and K. W. White, "Densification Studies on the Si₃N₄/BAS Ceramic Matrix Composite," *Ceramic Transactions* **103** 145-155(2000)
14. C.M. Nygard, K.W. White, K. Ravi-Chandar, "Strength of HVOF Coating-Substrate Interfaces," Accepted in: Proceedings of the 25th International Conference on Metallurgical Coatings and Thin Films ICMCTF 98.
15. N. Nagarajan, F. Yu, Y. Fang and K. W. White, "The Effect of Reduced Liquid Phase Content on the Microstructural Development of the Silicon Nitride-BAS Ceramic Matrix Composite," *Ceramic Transactions* **96** 257-268(1999)
16. F. Yu and K. W. White, "Microstructural Modification of 70% Si₃N₄-30% BAS Ceramic Matrix Composite by Varying the Particle Size Distribution of Si₃N₄ Starting Powders," *Advances in Ceramic Matrix Composites IV* 245-256(1999)
17. F. Yu, N. Nagarajan, Y. Fang and K. W. White, "The Development of the Silicon Nitride/BAS Ceramic Matrix Composite," *Ceramic Transactions* **85**, 381-92 (1998)
18. "Degradation of Interfaces Under Static and Cyclic Loading of Ceramics," in: Proceedings of Damage and Fracture of Interfaces-I, ed. Rossmann, pp 171-178, Vienna, Austria; (1997).
19. "Process Zone Modeling of Polycrystalline Ceramics," D. Tran, A.S. Kobayashi, & K.W. White, in: Advanced Technology in Experimental Mechanics'97, JSME, pp. 245-248, Wakayama, Japan, July 25-26, 1997.
20. "A Method for the Determination of Cohesive Zone Traction," J.C. Hay and K.W. White, Accepted: 9th International Conference On Fracture, eds. R. Ritchie, et al., Perg. Press, Oxford, 1997.
21. F. Yu, C. Ortiz-Longo and K. W. White, "Microstructural Characterization of an *In Situ* Grown Si₃N₄ Whisker-Reinforced BAS Glass-Ceramic Matrix Composite," *Ceram Trans.*, **74**, 203-14 (1996).
22. "Process Zone Modeling of Polycrystalline Alumina," D.K. Tran, C-T. Yu, A.S. Kobayashi, J.C. Hay and K.W. White, in: Fracture Mechanics of Ceramics, v.11, pp. 29-38, eds. R.C.Bradt, et al., Plenum, 1996.
23. "Wake Process Zone Characterization in a Structural Ceramic," J.C. Hay and K.W. White, in: Fracture Mechanics of Ceramics, v.11, pp. 75-94, eds. R.C.Bradt, et al., Plenum, 1996.
24. "Crack Face Bridging Traction in Monolithic Spinel," J.C. Hay and K.W. White, in: Fracture Mechanics of Ceramics, v. 9, pp. 265-276, eds. R.C.Bradt, et al., Plenum, 1992.
25. "Fracture Toughening Mechanisms in the SiC_w/Al₂O₃ Composite System", L. Guazzone, K.W. White, in: Fracture Mechanics of Ceramics, V. 9, pp. 147-164, eds. R.C.Bradt, et al., Plenum, 1992.

26. "Elevated Temperature Toughening Mechanisms in a SiC_w/Al₂O₃ Composite", L. Guazzone, K.W. White, Proceedings of the ASME Winter Meeting, Atlanta, GA, Dec. 1991.
27. "Effect of Fiber Architecture on High Temperature Fracture Behavior of 2-D Carbon/Carbon Composites," K.W. White, R.E.Grimes, Mechanics and Mechanisms of Damage in Composites and Multi-materials, ed: D. Baptiste, Mechanical Engineering Publications, pp 33-44, 1991.
28. "Laser Interferometric Strain Measurement of Ceramic Fracture at Elevated Temperatures," M.G.Jenkins, A.S. Kobayashi, M. Sakai, K.W. White and R.C. Bradt, pp 32 -50, Proc. Adv. Mat. Tech. Cer. Wksp. #2, Char. of Ceram. and Dev. of Intl Stand., pub. by JFCC, Nagoya, Japan (1990)
29. "The Influence of Ag Additions on the Fracture Behavior of 1-2-3 Superconducting Ceramics", F.Yeh, L. Yeou, K.W.White, Proceedings of the ASME Annual Meeting, Dallas, TX, Nov.17,1990.
30. "R-curve Behavior of Cubic and Non-Cubic Monolithic Ceramics," K.W. White and G.P. Kelkar, Proceedings of 1990 SEM Spring Conference, Albuquerque, NM, June 4-6,1990., pp 696-701, Soc. for Exper. Mechanics.
31. "R-curve Behavior of Cubic and Non-Cubic Monolithic Ceramics," K.W. White and G.P. Kelkar, Proceedings of 1990 SEM Spring Conference, Albuquerque, NM, June 4-6,1990., pp 696-701, Soc. for Exper. Mechanics.
32. "Fracture Mechanisms in a Continuous SiC Fiber/CVI-SiC Matrix Composite," K.W. White, R.C. Bradt and A.S. Kobayashi, Proceedings of 7th International Conference on Fracture, Houston, TX, March, 1989, eds: K. Salama, K. Ravi-Chandar, D.M.R. Taplin, P. Rama Rao, Vol. 4, pp 2895-2903, Pergamon Press, Oxford.
33. "The Fracture Resistance of a Sintered Silicon Carbide Using the Chevron-Notch Bend Specimen," M.G. Jenkins, A. Ghosh, K.W. White, A.S. Kobayashi and R.C. Bradt, Silicon Carbide 87, Ceramic Transactions, Vol. 2, pp. 241251, 1989.
34. "The Chevron-Notched Bend Bar Technique For Fracture Resistance Measurements of Ceramics", A. Ghosh, M.G. Jenkins, K.W. White, A.S. Kobayashi and R.C. Bradt, Third Int.Symp.,Ceram. Mat. and Comp. for Engines, Nov. 27, 1988, V.J. Tennery, ed., pp 592-604, Amer. Ceram. Soc.
35. "The R-curve Behavior of a SiC Whisker/Polycrystalline Alumina Matrix Composite to 1400 °C," K.W. White, M.G. Jenkins, A.Ghosh, A.S. Kobayashi. and R.C. Bradt, (ORNL/ASM SiC Whiskers Symposium Proceedings) June, 1988.
36. "Improved Methods for Measuring the Fracture Resistance of Structural Ceramics," R.C. Bradt, A.S. Kobayashi, K.W. White, M.G.Jenkins, Post Conference Proceedings for the 1986 Twenty-Fourth Automotive Technology Development/ Contractors Coordinating Meeting (ATD/CCM), Detroit, Mi., October 27-30, 1986.

Invited Presentations:

“Research Overview,” Fulbright Program at Borj Cedria Technopark, Borj Cedria-TUNISIA, November 12, 2007

“Advances in Ceramics,” Fulbright Program at Borj Cedria Technopark, Borj Cedria-TUNISIA, November 13, 2007

“Ferroelectric Ceramics: Role of Defects,” Fulbright Program at Borj Cedria Technopark, Borj Cedria-TUNISIA, November 14, 2007

“Applications of Ceramics to Energy,” Fulbright Program at Borj Cedria Technopark, Borj Cedria-TUNISIA, November 15, 2007

“Advanced Ceramics for Elevated Temperature Structures,” Fulbright Seminar at Ecole Polytechnique de Tunisie -TUNISIA, November 16, 2007

“Advanced Ceramic Composites,” Fulbright Seminar at *Ecole Nationale d’Ingénieurs de Monastir* -TUNISIA, November 19, 2007

“Advanced Ceramic Composite Microstructures,” Fulbright Seminar at Ecole Nationale d’Ingénieurs de Sfax -TUNISIA, November 20, 2007

“Nanostructured Materials,” Fulbright Program at Borj Cedria Technopark, Borj Cedria-TUNISIA, November 21, 2007

“Nanoscale Mechanical and Electrical Behaviors of Ferroelectric Materials”, (MCMAT2007-30693) A.S. Kobayashi Symposium, ASME Applied Mechanics and Materials Conference, Austin, TX, June 3-7, 2007

"Development of Si₃N₄/BAS ceramic matrix composite for Engineering Applications"(AM-S20-47-2003), with Y. Fang, F. Yu, 105th American Ceramic Society Annual Meeting, Nashville, TN, April 27 - 30, 2003 “Surface Residual Stress Estimation in Polycrystalline Ceramics” With: Y. Fang, Institute for Materials Science and Geophysical Studies, Technical University, Darmstadt, Germany, June 17, 2002.

“Surface Residual Stress Estimation in Polycrystalline Ceramics” With: Y. Fang, Institute for Materials Science and Geophysical Studies, Technical University, Darmstadt, Germany, June 17, 2002.

“Surface Residual Stress Estimation in Polycrystalline Ceramics” With: Y. Fang, Forschungszentrum Juelich, Institut für Werkstoffe und Verfahren der Energietechnik (IWV 2), Juelich, Germany, W. Germany, June 21, 2002. “Determination Of Microstructural Parameters For Modeling Of Fatigue Behavior Of Ceramics.”With: M. Boudrare, R. D. Geraghty, C. Ortiz, 10th International Conf. On Fracture, Honolulu, HI, Dec. 2001.

"Microstructural Mechanisms of Cyclic Degradation in Structural Ceramics," (IzfP) Fraunhofer Institute, Saarbrücken, Germany, Feb. 2000.

"Fatigue Resistance Mechanisms at Elevated Temperatures in Structural Ceramics", with R. Geraghty and C. Ortiz, Int. Conf. on Fracture Mechanics of Ceramics, Moscow, Russia, July 20, 1999.

"The Influence of Damage Evolution on the Mechanical Hysteresis of Grain Interfaces," Visiting Seminar, Forschungszentrum Juelich, Institut Fur Werkstoffe der Energietechnik, Germany, July 1998.

"Microstructural Approach to Reliability", Workshop on Reliability and Life Prediction, Albuquerque, NM, Nov. 18, 1997.

"Crack Interface Degradation Under Cyclic Loading of Ceramics", Visiting Seminar, Dept. of Mechanical Engineering, U. of Ljubljana, Ljubljana, Slovenia, Sept. 27, 1997.

"The Role of Microstructures in Reliability of Ceramics", IMM Young Investigators Workshop, GE Research Center, Schenectady, NY, Aug. 20-22, 1997.

" Microstructural Scale in Damage Development in Ceramics", Workshop on the Role of Microstructures in Reliability of Ceramics, Center for Reliability of Ceramics, U of H, Houston, TX , Feb. 18-19, 1997.

"Cohesive Zone Issues in Monolithic Ceramics", Visiting Seminar, Dept. of Materials Science, University of Utah, May 17, 1996.

"Microstructural Response in the Fracture Process Zone of Monolithic Ceramics", Visiting Seminar, Ceramics Division, ORNL, Oak Ridge, TN, May 3, 1996.

"Critical Issues on Crack Face Bridging in Monolithic Ceramics", Visiting Seminar Series, Dept. of Mechanical Engineering, Texas A & M University, Nov. 21, 1995.

"R-curve Mechanisms in Non-Transforming Ceramics" PCRM Meeting of the American Ceramic Society, Los Angeles, CA, Nov. 19-22, 1994.

"Elevated Temperature Mechanical Behavior of Fibrous Ceramic Thermal Insulators" PAC RIM Meeting of the American Ceramic Society, Honolulu, HI, Nov. 7-10, 1993.

"Crack Face Bridging Mechanisms in Non-Transforming Monolithic Ceramics" 95th Annual Meeting of the American Ceramic Society, Cincinnati, OH, April 18-22, 1993.

"Influences of Crystal Growth on the Mechanical Behavior of $YBa_2Cu_3O_{7-x}$ and its Composites", ISTE/MRS International Workshop on Superconductivity, Honolulu, HI, June 23-6, 1992.

"R-curve Methods for the Determination of Fracture Mechanisms," Institut fur Reaktorwerkstoffe (KFA), Julich, W. Germany, 15 May, 1990.

"The Effect of Whisker Additions on the Elevated Temperature Fracture Behavior of Non-Cubic Ceramics" Max Planck Institute, Stuttgart, W. Germany, Nov. 21, 1989.

"Elevated Temperature Fracture Behavior of Structural Ceramics" (IzFP) Fraunhofer Institute, Saarbrucken, W. Germany, Nov. 20, 1989.

"Mechanisms of Fracture in Monolithic and Composite Refractory Materials" Dow Chemical Co., Central Research, Midland, MI. Nov. 22, 1988.

Technical Meeting Presentations:

1. "Fracture Process Zone Behavior of Strong-Interface Oxide/Oxide Composites," R.A. Longoria, N. Du Souich, M. S. Chelf and K. W. White, Int Conference on Advances in Mech Engin & Mechanics, Hammamet, Tunisia, Dec.19, 2006
2. D. Liu, K. W. White, "Mechanical properties of ferroelectric PZT films investigated with nanoindentation methods and piezoresponse force microscopy", The 106th Annual Meeting & Exposition of The American Ceramic Society, Indianapolis, Indiana, April 2004. Oral Presentation.
3. M.Chelf, R. Longoria, N. DuSouich, K. W. White, "Fracture Process Zone Fatigue Degradation of a Strong-Interfaced Oxide/Oxide Composite", The 106th Annual Meeting & Exposition of The American Ceramic Society, Indianapolis, Indiana, April 2004. Oral Presentation.
4. D. Liu, K.W.White, "Electromechanical Behaviors of Ferroelectric Thin Films" Gordon Conference, Ceramics, Solid State Studies, New London, NH, August 10-15, 2003
5. K.W. White, A.S. Kobayashi, R. Longo, "Modeling of Damage Micromechanisms in Structural Ceramic Matrix Composites under Static and Cyclic Loading at Elevated Temperatures", AFOSR Mechanics of Materials & Devices conference, Wintergreen, VA, 18 Aug. 2004.
6. D. Liu*, A. Ignatiev, K. White, Characterization of Ferroelectric Thin Films Using Nanoindentation and Atomic Force Microscopy, (AM-S15-13-2003) 105th American Ceramic Society Annual Meeting, Nashville, TN, April 27 - 30, 2003
7. N. Du Souich*, K. White, Fracture Energy Dissipation in Oxide-Oxide Ceramic Composites with Strong Interface (AM-S20-50-2003), 105th American Ceramic Society Annual Meeting, Nashville, TN, April 27 - 30, 2003
8. N. DuSouich, F. Zok, and K.W. White, "Wake Process Zone Characterizations in Oxide/Oxide Composites," FMC8, Houston, TX Feb. 27, 2003
9. Y.Fang, K.W.White, "Residual Stress Estimation in Polycrystalline Ceramics" FMC8, Houston, TX Feb. 26, 2003
10. K.W. White, A.S. Kobayashi, Fracture Process Zone Modeling Of Small Cracks In Structural Ceramics Under Static And Cyclic Loading, AFOSR Program Seminar, Arlington, VA, Sept. 25, 2002.
11. Y.Fang, K.Ravi-Chandar, K.W.White, "Residual stress and crack propagation simulation in monolithic ceramics", Paper No. AMD.3-B-10-2002, 104th American Ceramic Society Annual Meeting, St.Louis, Missouri, April 28 - May 1, 2002
12. N.Du Souich, K.Shinozuka, Y.Fang, K.W.White, "Crack propagation and post fracture behavior study in a porous-matrix, all-oxide ceramic matrix composite", Paper No. AMB.2-D-02-2002, 104th American Ceramic Society Annual Meeting, St.Louis, Missouri, April 28 - May 1, 2002.

13. Yu and K. W. White, "Microstructural Design to Improve the Reliability of Pressureless Sintered Si_3N_4 /BAS Composites," Paper No. S2-017-01 25th Annual International Conference on Advanced Ceramics and Composites, January 21-26, 2001, Cocoa Beach, FL
14. T. Fossier, Y. Fang, K. Ravi-Chandar, KW White, "Measurement of Microstructural Scale Strains in Ceramics using DIC," Paper BSD3B-03-2001, 103rd Annual Meeting of the American Ceramic Society, April 22-May 25, 2001, Indianapolis, IN.
15. M. Boudrare, KW White, "Determination of COD-Traction profile for the Small Crack Regime," paper: BSD3D-04-2001, 103rd Annual Meeting of the American Ceramic Society, April 22-May 25, 2001, Indianapolis, IN.
16. Y. Fang, K Ravi-Chandar, KW White, "Simulation of Residuals Stresses in Monolithic Ceramics," Paper: DID-06-2001, 103rd Annual Meeting of the American Ceramic Society, April 22-May 25, 2001, Indianapolis, IN.
17. F. Yu, G. Himmler, L. Wheeler and K. W. White, Reliability and Commercialization of Low-Cost Si_3N_4 /BAS Composite, 103rd Annual Meeting of the American Ceramic Society, April 22-May 25, 2001, Indianapolis, IN.
18. Y. Fang, K. Ravi-Chandar, KW White, "Residual Stress Estimate in Polycrystalline Ceramics," CTCMS Workshop, NIST, June 2001.
19. F. Yu, G. Himmler and K. W. White, "Improved Reliability of Pressureless-Sintered Si_3N_4 /BAS Composite by Microstructural Modification," Paper No. B2-029-00, 102nd Annual Meeting of the American Ceramic Society, April 30-May 3, 2000, St. Louis, MO.
20. F. Yu, Y. Fang, K. Ravi-Chandar and K. W. White, "Thermal Fatigue Test of Si_3N_4 /BAS Composite," Paper N. B2P-013-00, 102nd Annual Meeting of the American Ceramic Society, April 30-May 3, 2000, St. Louis, MO.
21. "Evaluation of the Microstructure-Interfacial Phenomena Relationship in the Fatigue Behavior of Monolithic Ceramics", C.R. Ortiz-Longo, K.W. White, 102nd Annual Meeting of the American Ceramic Society, St. Louis, MO, April 30-May 2, 2000.
22. "Interfacial Issues in Fatigue of Monolithic Ceramics," R. Garaghty, K.W. White, 102nd Annual Meeting of the American Ceramic Society, St. Louis, MO, April 30-May 2, 2000.
23. "Residual Stress Estimation in Alumina, Y. Feng, K. Ravi-Chandar, K.W. White, 102nd Annual Meeting of the American Ceramic Society, St. Louis, MO, April 30-May 2, 2000.
24. "Effective Parameter in Load Transmission in Ceramic Structures," M. Doan, L. Wheeler, K.W. White, 102nd Annual Meeting of the American Ceramic Society, St. Louis, MO, April 30-May 2, 2000.
25. "Interfacial Phenomena in the Fatigue Crack Growth Behavior of Monolithic Ceramics", C.R. Ortiz-Longo, R. Geraghty, L. Olasz, and K.W. White, 51st Pacific Coast Regional Meeting (PCRM) and the ACerS Basic Science and Electronics Divisions Meeting, Bellevue, WA, Oct. 27-29, 1999.

26. "Microstructural Modification to Improve High Temperature Properties of Si₃N₄/BAS Ceramic Matrix Composite," F. Yu, Y. Fang and K. W. White, Paper No. S-L-049-99, 101st Annual Meeting of the American Ceramic Society, Indianapolis, IN, April 25-28, 1999
27. "Strength of Silicon Nitride Based Alumino-Silicate Composite at Room Temperature," Y. Fang, F. Yu and K. W. White, Paper No. S-L-048-99, 101st Annual Meeting of the American Ceramic Society, April 25-28, 1999, Indianapolis, IN.
28. "Microstructural Modification to Improve the Mechanical Behavior of Si₃N₄/BAS Ceramic Matrix Composite," Y. Fang, F. Yu and K. W. White, Paper No. BS5-019-99, 101st Annual Meeting of the American Ceramic Society, April 25-28, 1999, Indianapolis, IN
29. "Densification Studies on the Si₃N₄/BAS Ceramic Matrix Composite," N. Nagarajan, F. Yu, Y. Fang and K. W. White, Paper No. S-L-047-99, 101st Annual Meeting of the American Ceramic Society, April 25-28, 1999, Indianapolis, IN.
30. "Hysteretic Behavior of Wake Zone Elements in Monolithic Ceramics", L. Olasz, K.W. White, 101st annual meeting of the American Ceramics Society, April 25-28, 1999, Indianapolis, IN.
31. Mai Doan, L. Wheeler, K. Ravi-Chandar, and K. White, "Reliability Methods for Brittle Materials," ACS Pacific Coast Meeting, Bellevue, Washington, 10/99.
32. "Reliability Of High Strength, High Toughness Ceramic" Mai Doan, Alexander Hague, K. Ravi-Chandar, L. Wheeler, and K. W. White, (C-009-99), 101th Annual Meeting of the ACS, Indianapolis, Indiana, 4/25-28, 1999
33. "Study of Fatigue Damage Accumulation Mechanisms in Monolithic Ceramics", R. D. Geraghty, C. R. Ortiz-Longo, K. W. White, (BS5-004-99), 101th Annual Meeting of the ACS, Indianapolis, Indiana, 4/25-28, 1999
34. "Microstructure Modification Of 70% Si₃N₄-30% BAS ceramic composites by varying the particle size distribution of starting Si₃N₄ powders," F. Yu, K.W.White, (SIIP-022-98), 100th Annual Meeting of the ACS, Cincinnati, Ohio, 5/3-6, 1998
35. "Fatigue Degradation of the Crack Wake Zone in Monolithic Ceramics", R. D. Geraghty, K. W. White, 50th Annual Meeting of the Pacific Coast Region and Basic Science Division of the ACS, Irvine, California, 10/21-23, 1998
36. "The Effect of Reduced Liquid Phase Content on the Microstructural Development of the Silicon Nitride-BAS Ceramic Matrix Composite," N.Nagarajan, F.Yu, Y.Fang, K.W.White, (SXVP-011-98), 100th Annual Meeting of the ACS, Cincinnati, Ohio, 5/3-6, 1998
37. "Microstructure Development of 70% Si₃N₄-30%BAS Ceramic matrix Composite," F.Yu, K.W.White, (SXV-026-98), 100th Annual Meeting of ACS, Cincinnati, Ohio, 5/3-6, 1998.

38. "Fatigue Degradation of Crack Wake Zone in Monolithic Ceramics," R.Geraghty, L.Olasz, K.W.White, (SXVII-015-98), 100th Annual Meeting of ACS, Cincinnati, Ohio, 5/3-6, 1998.
39. "The Effect of Thermoelastic Anisotropy (TEA) on the Fatigue Degradation of Wake Zone Processes in Monolithic Ceramics", L. Olasz, R. Geraghty, K.W. White, (SXVII-017-98) 100th annual meeting of the ACS, Cincinnati, OH, May 3-6, 1998.
40. "Microstructure effects on fracture toughness and R-Curve behavior of Si₃N₄-BAS ceramic matrix composites," Y.Fang, F.Yu, K.W.White, (SXVIII-029-98), 100th Annual Meeting of the ACS, Cincinnati, Ohio, 5/3-6, 1998
41. "The Microstructure Influence on the Crack Resistance Behavior of Polycrystalline Alumina," X.Dai, K.W.White, D.K.Tran," M.T.Kokaly, A.S.Kobayashi, (SXVII-049-98) , 100th Annual Meeting of the ACS, Cincinnati, Ohio, 5/3-6, 1998
42. "Modeling of fracture process zone " D.K.Tran, M.T.Kokaly, A.S.Kobayashi, K.T.Patel, K.W.White, (SXVII-050-98) 100th Annual Meeting of the ACS, Cincinnati, Ohio, 5/3-6, 1998
43. C.M. Nygard, K.W. White, K. Ravi-Chandar,"Strength of HVOF coating-substrate interfaces," Session: F1/E4 Mechanical Characterization, The 25th International Conference on Metallurgical Coatings and Thin Films ICMCTF, San Diego, CA, 1998.
44. "Mechanical Properties of the Silicon Nitride-BAS CMC with Varying Volume Fractions of the BAS Phase," N. Nagarajan, F. Yu, Y. Fang and K. W. White, Paper No. SIII-054a-98, 100th Annual Meeting of the American Ceramic Society, May 3-6, 1998, Cincinnati, OH
45. Spherical indentation of thermally sprayed HVOF-coatings," M.C.Nygards, K.Ravi-chandar, K.W.White, (BS08-007-98) 100th Annual Meeting of the ACS, Cincinnati, Ohio, 5/3-6, 1998
46. "Modeling of the Fracture Process Zone," A.S. Kobayashi, M. T. Kokaly, D. Tran, K. Patel & K.W. White, 100th Annual Meeting of the ACS, Cincinnati, Ohio, 5/3-6, 1998.
47. "Fracture Process Zone Studies in Monolithic Alumina," A.S. Kobayashi, M. T. Kokaly, D. Tran & K.W. White, ASME Inter. Mech. Engin. Congress & Expo., Dallas, TX, 11/16-21, 1997.
48. "Degradation of Interfaces Under Cyclic Loading of Structural Ceramics," Damage and Fracture of Interfaces-I, Vienna, Austria; Sept. 23, 1997.
49. "Process Zone of Alumina," D. Tran, A.S. Kobayashi, K. Patel & K.W. White, 99th Annual Meeting of the American Ceramic Society, Cincinnati, Ohio, May 4-6, 1997.

50. "Fatigue Degradation Mechanisms of Monolithic Ceramics," Lorant Olasz, J. Hay, & K.W. White, 99th Annual Meeting of the American Ceramic Society, Cincinnati, Ohio, May 4-6, 1997.
51. "The Fracture Behavior Characterization of Si₃N₄/BAS Ceramic Matrix Composite," Feng Yu, Yi Fang, N. Nandakumar and K. W. White, (C-038-97) 99th Annual Meeting of the American Ceramic Society, Cincinnati, Ohio, May 4-6, 1997.
52. "The Development of Si₃N₄/BAS Ceramic Matrix Composite by Pressureless Sintering," Feng Yu, N. Nandankumar, Yi Fang and K. W. White, (SVIIP-049-97) 99th Annual Meeting of the American Ceramic Society, Cincinnati, Ohio, May 4-6, 1997.
53. "The Geometric Dependence of the Crack Growth Resistance Behavior," X.Dai, L.Olasz and K.W.White, 99th Annual Meeting of Amer. Ceramic Society, Cincinnati, Ohio, May 4-6, 1997.
54. "R-Curve behavior of High Strength Si₃N₄/BAS," Y.Fang, F.Yu, K.W.White, (SXVI-012-97) 99th Annual Meeting of the American Ceramic Soc., Cincinnati, OH, May 4-6, 1997.
55. "The Microstructure-Creep Relationship of Si₃N₄/Barium Aluminum Silicate (BAS) Ceramic Matrix Composite," C.R. Ortiz-Longo, F. Yu, N. Nagarajan & KW White, (SXVI-049a-97) 99th Annual Meeting of the American Ceramic Society, Cincinnati, Ohio, May 4-6, 1997.
56. "Process Zone Studies in Non-Transforming Ceramic Microstructures," J. Hay and K.W. White, Gordon Research Conference on Solid State Studies In Ceramics: Complex Ceramic Microstructures, Meriden, NH, Aug. 4-9, 1996.
57. "Microstructural Development of *In Situ* Grown Si₃N₄ / BAS," F. Yu, C. Ortiz, D. L. Hunn and K.W. White, (SI-14-96), 98th Annual Meeting of the ACS, Indianapolis, IN, 4/14-17, 1996.
58. "Mechanical Characterization of the In Situ Grown Si₃N₄ Whisker-Reinforced BAS Ceramic Matrix Composite," F. Yu and K. W. White, Paper No. B-15-96F, The Fall Meeting of the American Ceramic Society,
59. October 30 - November 1, 1996, San Antonio, TX "The Microstructural Mechanisms Affecting the Strain-Softening Behavior of Mortar," F. Yu, C. Ortiz, R. Dasgupta and K.W. White, (T-40-96), 98th Annual Meeting of ACS, Ind., IN, 4/14-17, 1996.
60. "Cyclic Loading and Fracture Process zone Degradation in Monolithic Ceramics, J.C. Hay and K.W. White, (SVIII-19-96)," 98th Annual Meeting of the American Ceramic Society, Indianapolis, IN, April 14-17, 1996.
61. "Strain Softening Behavior of Cement Mortar Under Monotonic Loading," R. Dasgupta and K.W. White, 7th Annual Texas Fracture Discussion Group, San Antonio, TX, March 1, 1996

62. "Cyclic Loading and Fracture Process Zone Degradation in Ceramics," J.C. Hay and K.W. White, 7th Annual Texas Fracture Discussion Group, San Antonio, TX, March 1, 1996
63. "Microstructural Issues Controlling the Mechanical Properties of Top-Seeded Melt Textured YBCO," K.W. White and F. Yu, PCRM Meeting of the American Ceramic Society, Seattle, WA, Nov. 1-3, 1995.
64. "Effects of Cyclic Loading on the Fracture Process Zone Degradation in Monolithic Ceramics," K.W. White and J. Hay, PCRM Meeting of the American Ceramic Society, Seattle, WA, Nov. 1-3, 1995.
65. "Further Studies on the Fracture Process Zone Modeling of Alumina Fracture Specimens," D. Tran, A.S. Kobayashi, J. Hay and K.W. White, PCRM Meeting of the ACS Seattle, WA, Nov. 1-3, 1995.
66. "Microstructural Characterization of In Situ Whisker-Reinforced Si₃N₄/BAS Composite," F. Yu, C. R. Ortiz-Longo and K. W. White, Paper No. 23-BP-95F, International Symposiums on Manufacturing Practices and Technologies and the Joint Fall Meeting of the Basic Science, Electronics, Glass & Optical Materials and Nuclear & Environmental Technologies Division, Nov. 5-8,
67. 1995, New Orleans, LA "Critical Issues on the Nature of Crack Face Bridging in Monolithic Ceramics", J. Hay and K.W. White, 97th Annual Meeting of the American Ceramic Society, Cincinnati, Ohio, April 29-30, 1995.
68. "Hexacelsian to Celsian Phase Transformation in the BAS/Si₃N₄ Composite", F. Yu, C. Ortiz and K.W. White, (SXV-25-95), 97th Annual Meeting of the American Ceramic Society, Cincinnati, Ohio, April 29-30, 1995.
69. "Mechanical Behavior of BAS/Si₃N₄ *In Situ* Whisker Reinforced Composite at High Temperatures", Z. Xu, F. Yu, and K.W. White, 97th Annual Meeting of the American Ceramic Society, Cincinnati, Ohio, April 29-30, 1995.
70. "Fracture Process Zone Modeling of Monolithic Alumina", D. Tran, A.S. Kobayashi, J. Hay and K.W. White, 97th Annual Meeting of the American Ceram. Soc., Cincinnati, Ohio, April 29-30, 1995.
71. "Elevated Temperature Mechanical Characterization of an in Situ Reinforced Ceramic Matrix Composite: Si₃N₄ whisker reinforced BAS Glass Ceramic," K. W. White, Z. Xu, C.R. Ortiz-Longo, 96th Annual Meeting of the American Ceramic Society, Paper SXIP-47-94, Indianapolis, IN., April 1994
72. "Temperature Effects on Crack Face Bridging Mechanisms in Non-Transforming Ceramic Microstructures," J. Hay & K.W. White, Gordon Res. Conf. on Solid State Studies In Ceramics: Architectural Design of Ceramic Microstructures, New Hampton, NH, Aug. 14-19, 1994.

73. "Thermoelastic and Elastic Effects on Elevated Temperature Crack Face Bridging Mechanisms" J. Hay and K.W. White, 96th Annual Meeting; Amer. Ceram. Soc., Indianapolis, IN, April 18-22, 1994.
74. "Elevated Temperature Mechanical Behavior of Fibrous Ceramic Thermal Insulators" C. Ortiz and K.W. White, PAC RIM Meeting of the American Ceramic Society, Honolulu, HI, Nov. 7-10, 1993.
75. "Thermal Shock Behavior of Low Density Fibrous Ceramic Insulators," C. Ortiz and K.W. White, PAC RIM Meeting of the American Ceramic Society, Honolulu, HI, Nov. 7-10, 1993.
76. "Deformation and Fracture Mechanisms in Porous Microstructures," C. Ortiz and K.W. White, South Texas Fracture Group, College Station, TX, Feb. 18-19, 1993.
77. "Thermal Shock Behavior of $YBa_2Cu_3O_{7-x}$ and its Composites," B. Chandrakar and K.W. White, 95th Annual Meeting of the Amer. Ceram. Soc., Cincinnati, OH, April 18-22, 1993
78. "Crack Face Bridging Mechanisms in Monolithic Ceramic Microstructures," J. Hay and K.W. White, Gordon Research Conference on Solid State Studies In Ceramics: Fundamentals of Ceramic Microstructural Design, Tilton, NH, Aug. 2-7, 1992.
79. "The Influence of Oxidation Inhibitors on the Elevated Temperature Fracture of Carbon/Carbon Composites," K.W. White, A. Lucchesi, J.C. Hay, 16th Conference on Composites and Advanced Ceramics, Cocoa Beach, FL, Jan. 16, 1992.
80. "The Determination of Crack Face Tractions in Monolithic Ceramic Materials" K.W. White and J.C. Hay, South Texas Fracture Group, Austin, TX, Oct. 3-4, 1991.
81. "Improved Fracture Resistant Microstructures in The YBCO Superconductor System," (III-C) K.W. White, L. Yeou, D. Rogers, DARPA Symposium, Seattle, WA Sept. 29-Oct.2, 1991.
82. "Development of Improved Fracture Behavior in YBCO" K.W. White and L. Yeou and D. Rogers, TCSUH/MCC, Austin, TX, Aug. 1-2, 1991.
83. "Wake Zone Tractions in Monolithic Ceramic Materials", K.W. White and J. C. Hay, paper B-06, International Conference on Fracture of Ceramics, July 15-17, 1991, Nagoya, Japan.
84. "Fracture Mechanisms of Monolithic and Composite Structural Ceramics." K.W. White, G.P. Kelkar, SEM Annual Meeting, Albuquerque, NM, June, 4-7, 1990.
85. "R-curve Behavior of SiC-Whisker Reinforced Alumina at Elevated Temperatures", L. Guazzone, K.W. White, Paper 113-SIV-90, 92nd Annual Meeting of the Amer. Ceram. Soc., Dallas, TX, April 23-26, 1990
86. "Toughness Behavior of 1-2-3 Superconducting Ceramic With Silver Oxide Additions," F.Yeh, K.W. White, Paper 124-SIII-90, 92nd Annual Meeting of the Amer. Ceram. Soc., Dallas, TX, April 23-26, 1990

87. "Effect of Microstructure on R-curve Behavior of Monolithic Ceramics Using DCB Specimens, G.P. Kelkar, K.W. White, Paper 2-BP-90, 92nd Annual Meeting of the Amer. Ceram. Soc., Dallas, TX, April 23-26, 1990
88. "Effect of Fiber Architecture on Elevated Temperature Fracture Behavior of a 2-D C/C Composite," S. Senet, R.E. Grimes, K.W. White, Paper 12-SIV-90, 92nd Annual Meeting of the Amer. Ceram. Soc., Dallas, TX, April 23-26, 1990
89. "Elevated Temperature Fracture of Carbon/Carbon Composites," K.W. White, R.E. Grimes, A. Lucchesi, 14th Conf. on Composites and Adv. Ceramics, Cocoa Beach, FL, Jan. 14-17, 1990.
90. "Damage Resistance of a Self-Reinforced Si₃N₄ at Elevated Temperatures," K.W. White, A. Pyzik, 14th Conf. on Composites and Advanced Ceramics, Cocoa Beach, FL, Jan. 14-17, 1990.
91. "Linear Elastic Fracture Mechanics Application to Carbon/Carbon Composites at Elevated Temperatures," K.W. White, R.E. Grimes, 4th Int. MECAMAT Conf.-Mechanics and Mechanisms of Damage in Composites and Multimaterials, St. Etienne, France, Nov. 15, 1989.
92. "Fracture Mechanisms in a Continuous SiC Fiber/CVI-SiC Matrix Composite," K.W. White, R.C. Bradt and A.S. Kobayashi, # 72, 7th Int'l Conf. on Fracture, Houston, TX, March, 1989.
93. "The Effect of the Following Wake Region on the Fracture Behavior of SiC Reinforced Ceramic Composites," K.W. White, R.C. Bradt, A.S. Kobayashi, 12th Conference on Composites Materials and Structures, Cocoa Beach, FL, Jan 20-22, 1988.
94. "Elevated Temperature Fracture Resistance of Silicon Carbide," K.W. White, A. Ghosh, R.C. Bradt, M.G. Jenkins, A.S. Kobayashi, Int'l Silicon Carbide Symposium, Ohio State University, Aug. 1987.
95. "Fracture Behavior of SiC Whisker/Al₂O₃ Matrix Composite", K.W. White, R.C. Bradt, M.G. Jenkins, A.S. Kobayashi, #29-MP-86P, 39th PCRM of the Amer. Ceram. Soc., Seattle, WA, 10/22/86.
96. "Toughness of SiC Fiber Reinforced Alumina," R.C. Bradt, K.W. White, M.G. Jenkins, A.S. Kobayashi, Paper 3-C-86, 89th Annual Meeting, Amer. Ceram. Soc., Chicago, Ill., 4/28-5/2, 1986.
97. "LISG Fracture Toughness Testing of Alumina," M.G. Jenkins, M. Sakai, K.W. White, A.S. Kobayashi, R.C. Bradt, 12-JIII-86, 89th Amer. Ceram. Soc. Meeting, Chicago, Ill., 4/28-5/2, 1986.
98. "Use of LISG for Fracture Toughness Testing of Ceramics," A.S. Kobayashi, R.C. Bradt, M. Sakai, K.W. White, M.G. Jenkins, Paper 2-B-85P, 38th PCRM of the Amer. Ceram. Soc., Irvine, CA, 1985.

99. "The Role of a High Strength Matrix in SiC/Al Metal Matrix Composites," K.W. White, G.H. Narayanan, W.E. Quist, 3rd Ann. Metal Matrix Composite Conf., Boulder, CO, Jan. 1981.

FUNDED RESEARCH:

Elevated Temperature Fracture Mechanisms in Refractory Composite Materials

Source: General Dynamics, Fort Worth, TX, (AFWAL/MLBC)

Dates: 1/89-10/90 Amount: \$180,400

Wake Contribution to Toughening In Aligned Whisker Ceramic Matrix Composites.

Source: Toyo Engineering, Corp., Research Center, Japan

Dates: 5/89-9/90 Amount: \$15,000 + supported visiting scientist (Net)

Mechanical Behavior of Bulk Ceramic Superconductors.

Source: State of Texas: Superconductivity.

Dates: 8/89-9/90 Amount: \$209,000. (All Direct Funds)

(With: K. Salama, K. Ravi-Chandar, C. Vipulanandan, W. Anderson)

Mechanical Behavior of Bulk Ceramic Superconductors.

Source: State of Texas: Superconductivity.

Dates: 8/90-9/91 Amount: \$300,000. (All Direct Funds)

(With: K. Salama, K. Ravi-Chandar, C. Vipulanandan)

Mechanical Behavior of Bulk Ceramic Superconductors.

Source: State of Texas: Superconductivity.

Dates: 8/91-9/92 Amount: \$298,000. (All Direct Funds)

(With: K. Salama, K. Ravi-Chandar, C. Vipulanandan)

Mechanical Behavior of Bulk Ceramic Superconductors.

Source: DARPA.

Dates: 6/90-12/92 Amount: \$280,000. (All Direct Funds)

(With: K. Salama, K. Ravi-Chandar, C. Vipulanandan)

The Behavior of Strength-Limiting Flaws in Monolithic Structural Ceramics.

Source: PREF (Research Initiation Grant)

Dates: 6/92-5/93 Amount: \$7,500. (All Direct Funds)

Mechanical Behavior of Bulk Ceramic Superconductors.

Source: Texas Center for Superconductivity, University of Houston.

Dates: 9/92-8/93 Amount: \$40,000. (All Direct Funds)

Fracture Process Zone Studies of High Temperature Structural Ceramics

Source: Air Force Office of Sponsored Research

Dates: 3/93- 2/96 Amount: \$458,973. (Extended to 9/96)

AASERT: Fracture Process Zone Studies of High Temperature Structural Ceramics

Source: Air Force Office of Sponsored Research

Dates: 5/93- 4/96 Amount: \$120,000.

(Attached to AFOSR Ceramics program)

Fracture Process Zone Studies of a Self-Reinforced Si₃N₄/BAS Ceramic Composite

Source: Energy Laboratory, University of Houston.
 Dates: 1/93-11/93 Amount: \$7,700. (All Direct Funds)

Development of an In Situ Whisker-Reinforced Ceramic Composite for Advanced Technology Applications

Source: Texas Advanced Technology Program (With G.Pharr, Rice U.)
 Dates: 1/94-09/96 Amount: \$257,000 (Includes Direct and In-kind)
 \$217,000 Total Direct Funds,
 U of H Funds: \$91,000 (All Direct Funds)

Mechanical Behavior of Bulk Ceramic Superconductors.

Source: Texas Center for Superconductivity, University of Houston.
 Dates: 9/93-8/94 Amount: \$30,000. (All Direct Funds)

Mechanical Behavior of Bulk Ceramic Superconductors.

Source: Texas Center for Superconductivity, University of Houston.
 Dates: 9/94-8/95 Amount: \$30,000. (All Direct Funds)

Development of an In Situ Whisker-Reinforced Ceramic Composite for Advanced Technology Applications

Source: Texas Advanced Technology Program
 Dates: 1/96-08/98 Amount: \$186,940 (Including In-kind and direct)
 Amount to U of H: \$146,940 (All Direct funds)

Mechanical Behavior of Bulk Ceramic Superconductors.

Source: Texas Center for Superconductivity, University of Houston.
 Dates: 9/95-8/96 Amount: \$15,000. (All Direct Funds)

Fracture Process Zone Studies of High Temperature Ceramics under Cyclic Loading

Source: Air Force Office of Sponsored Research
 Dates: 9/96- 3/00 Amount: \$467,628.

Direct Evaluation of Crack Bridging Mechanisms in Non-Transforming Ceramics

Source: Dept. of Energy
 Dates: 9/96- 8/2000 Amount: \$331,543.

Mechanical Properties of Ceramic Coatings

Source: Valvtechnologies, Inc (Houston) (Donation)
 Dates: 9/96- 8/99 Amount: \$60,000 (All Direct Funds)

Commercialization of Self-Reinforced Ceramic Composite for Advanced Chemical and Aerospace Applications (w/ 3 TX Corporations)

Source: Texas Advanced Technology Program, TD&T (w/ Wheeler, Ravi)
 Dates: 1/98-08/00 Amount: \$320,000 (Includes Direct and In-kind)
 U of H amount: \$180,000 (All Direct funds)

Wear of Electrical Contacts

Source: Uppsala University (subcontract to European Consortium)

Dates: 9/97- 6/01 Amount: \$170,000

Acquisition of Surface Characterization Equipment

Source: Air Force Office of Sponsored Res. (w/ K. Ravi-Chandar, J. Wolfe)
 Dates: 1/98-12/98 Amount: \$349,000 (All Direct Funds)

AASERT: Fracture Process Zone Studies of High Temperature Ceramics under Cyclic Loading F49620-98-1-0429

Source: Air Force Office of Sponsored Research
 Dates: 04/98-03/01 Amount: \$147,019.
 (Attached to AFOSR Ceramics program)

Commercialization of Self-Reinforced Ceramic Composite for Advanced Chemical and Aerospace Applications (w/ 2 TX Corporations)

Source: Texas Advanced Technology Program, TD&T (w/ L. Wheeler)
 Dates: 1/00-08/02 Amount: \$740,000 (Includes Direct and In-kind)
 U of H amount: \$390,000 (All Direct funds)

Microstructural Mechanisms Controlling the Fatigue Resistance of Non-Transforming Ceramics and Ceramic Composites

Source: Dept. of Energy
 Dates: 9/00 - 9/04 Amount: \$339,494

Fracture Process Zone Studies of High Temperature Ceramic Composites under Cyclic Loading (w/ A.S. Kobayashi, UW.)

Source: Air Force Office of Sponsored Research
 Dates: 01/01- 07/04 Amount: \$398,000.

Development of a High-Reliability Ceramic Matrix Composite

Source: Lockheed Martin IR&D
 Dates: 03/01- 12/05 Amount: \$45,000.

PROFESSIONAL SOCIETIES: American Ceramic Society
 ASM, Int'l., Materials Research Society

SERVICE ACTIVITIES AND AWARDS:

Fulbright Senior Scholar Award: June 07.

Fulbright Senior Scholar Visit: Nov 10-24, 2007, Borj Cedria Technopark, Borj Cedria-TUNISIA

ASM-International Fellow Nomination: November 2007

Sabbatical Leave (6/02 – 8/02) funded in part by: Institute for Materials Science and Geophysical Studies, Technical University, Darmstadt, Germany.

Young Faculty Research Award: College of Engineering, University of Houston, 1995

Editorial/Organizing Committee Member: Fracture Mechanics of Ceramics (Since July 1995)

Chair Editorial/Organizing Committee: Fracture Mechanics of Ceramics 8, Feb. 03.

Center for Reliability of Ceramics: Workshop organization and development of research support.

American Ceramic Society and Technical Society Activities:

Organizational Committee: Fall Basic Sciences Meeting '96

Symposium Organizer: Annual Meeting, since 1997

Basic Sciences Committee

Symposium Organizer: International Conference on Fracture 10

UH Service: Director of Undergraduate Counseling, (Dept.)1/88 - 10/90

Undergraduate Affairs Committee, Dept.) 1988 - 1995

Graduate Affairs Committee, (Dept.) 1995 – 2000

Promotion and Tenure Committee (College), 1999, 2001

Supervisor of Shop Personnel, (Dept.) 2000 – 2005

Chair: Faculty search committee, (Dept.), 2001-3, 06-07

Promotion and Tenure Committee, University: 2004-7

Director of Graduate Admissions, ME: 2004 – present.

ASM / Materials Advantage Student Faculty Advisor: 1989-present.

Technical Reviewer: J. Amer. Ceram. Soc., Int. J. of Fracture and *Carbon* Journal

Dept. of Energy, Basic Science Div., Nat. Science Foundation