**CLAUDIA P. OSTERTAG**

TY and Margaret Lin Chair of Engineering

Vice-Chair of CEE Department

Department of Civil & Environmental Engineering

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EDUCATION

1985 Ph.D Materials Science & Engineering, University of California, Berkeley

1981 M.S. Materials Science & Engineering, Technical University of Stuttgart, Germany

EMPLOYMENT HISTORY

2012-present Vice-Chair, CEE Department, UC Berkeley

2017-2020 Group Leader of SEMM

2007-present Professor, CEE Department, UC Berkeley

1994- 2007 Assistant/Associate Professor, CEE Department, UC Berkeley

1986- 1994 Staff Scientist, NIST, Gaithersburg, MD

1977- 1980 Researcher, Max-Planck-Institut (PML), Stuttgart, Germany

RESEARCH INTERESTS

* Development of Hybrid Fiber Reinforced Concrete (HyFRC) for Durability and Structural Applications
* Nano- and Microstructural Engineering of Cement based materials
* Durability Design for Concrete and Reinforced Concrete Structures
* Impact Resistance of Concrete
* Nondestructive Evaluation of Damage and Cracking in Concrete
* Sequestration of CO2 in cementitious materials
* Sustainable and low carbon foot print concrete for Highway Structures and Energy Efficient Buildings

AWARDS AND HONORS

* IAAM Scientist Medal Award, 2023
* T.Y. and Margaret Lin Chair of Engineering, 2016-present
* Nominated for Sharon Keillor ASEE Award, Feb. 2015
* UC Berkeley Chancellor’s Unsung Hero Award, 2005
* Outstanding Faculty Member Award, 2005
* Outstanding Journal Paper Award, Forensic Studies of a large Cover-Plate Steel Moment-Resisting Connection, The Structural Design of Tall Buildings Journal, 2002
* UC Berkeley Faculty Research Award, 1998
* Nominated to participate in the National Academy of Engineering’s Third Annual Symposium on Frontiers of Engineering, 1997
* CAREER National Science Foundation Award 1996
* Office of Industrial Technology, DOE Research Award,1991
* NIST Director's Research Award, 1990
* IMSE Director’s Innovation Award, 1989
* Rotary Foundation International Fellowship, 1981-82
* Best M.S. Thesis award of academic year 1980-81, Technical University of Stuttgart

PATENT

* “Colloidal Processing Method for Coating Ceramic Reinforcing Agents”, U.S. Patent Num­ber 5,039,550

**PUBLICATIONS**

**Archival Journal Publications**

1. Gust, W., Ostertag, C.P., Predel, B.,  Roll, U., Lodding, A., and Odelius, H., “SIMS Analysis of the Impurity Diffusion of In in Cu”, Phil. Mag. A, 47 [3] pp. 395-406, 1983.
2. Ostertag, C.P., “Technique for Measuring Stresses which occur during Sintering of Fiber Reinforced Ceramic Composites”, J. Am. Cer. Soc., 70 [12] pp. C355-C357, 1987.
3. Ostertag, C.P., Charalambides, P.G., and Evans, A.G., “Observations and Analysis of Sinter­ing Damage”, Acta Metall., 37 [7] pp. 2077-2084, 1989.
4. Monteiro, P.J.M., and Ostertag, C.P., “Analysis of the Aggregate- Cement Paste Interface using Grazing Incidence X-ray Scattering”, Cem.Concr. Res. 19, pp. 987-988, 1989.
5. Choi, C.S., Prask, H.J., and Ostertag, C.P., “Texture Study of the Magnetically Aligned YBa2Cu3O7 type materials by Neutron Diffraction”, J. of Crystal Growth, 22, pp. 465-469, 1989.
6. Ostertag, C.P., Robins. L.H., and Cook L.P., “Cathodoluminescence Measurements of Strained Alumina Single Crystals”, J. Europ. Cer. Soc., 7, pp. 109-116, 1991.
7. Wiederhorn, S.M., Gettings, R.J., Roberts, D.E., Ostertag, C.P., Petrovic, J.J., “Tensile Creep of Silicide Composites”, J. of Mat. Sci. and Eng., A 165, pp. 209-215, 1992.
8. Ostertag, C.P., “Processing and Fracture Toughness of Sintered Fiber Reinforced Ceramic Matrix Composites”, J. of Particulate Science and Technology,10, pp.133-142, 1992.
9. Xu, H., Ostertag, C.P., Braun, L.M., and Lloyd, I., “Effects of Fiber Volume Fraction on Mechanical Properties of SiC Fiber Si3N4 Matrix Composites”, J. Am. Cer. Soc., V77, pp. 1897-1900, 1994.
10. Xu, H., Ostertag, C.P., Braun, L.M., and .Lloyd, I., “Short Crack Mechanical Properties and Failure Mechanisms of Si3N4 Matrix SiC Fiber Composites”, J. Am. Cer.Soc.,77, pp.1889-1896, 1994.
11. Xu, H., Ostertag, C.P., and Krause, R.F., “Effect of Temperature of Toughness Curves in Alumina”, J. Am. Cer. Soc., 78, pp.260-262, 1995.
12. Xu, H., Ostertag, C.P., Braun, L.M., Krause R.F., and Lloyd, I., “Failure Modes of SiC Fiber/ Si3N4 Matrix Composites at Elevated Temperature”, J. Am. Cer. Soc., 78, pp.388-394, 1995.
13. Xu, H., Ostertag, C.P., Fuller E.R., and Braun, L.M., “Fracture Resistance of SiC Fiber Reinforced Si3N4 Composites at Ambient and Elevated Temperatures”, J. Am. Cer. Soc., 78, pp. 698-704, 1995.
14. Ostertag, C.P., “In-Situ Crack Propagation in Pressureless Sintered Fiber Reinforced Composites, “Composites Eng., 5, pp. 1317-1329, 1996.
15. Ostertag, C.P., “Experimental Evidence of Crack Tip Shielding Mechanisms in Quasi-Brittle Materials”, J. Mat. Sci., 32, pp. 4011-4017, 1997.
16. Ostertag, C.P., “Influence of Fiber and Grain Bridging on Crack Profiles in SiC Fiber Rein­forced Alumia Matrix Composites”, J. Mat. Sci. and Eng., 4, pp. 124-131, 1999.
17. Ostertag, C.P., and Drescher-Krasicka, E., “Novel Residual Stress Measurement Techniques to Measure Residual Stresses in Fiber Reinforced Composites”, J. Mat. Sci., 33, pp.557-563, 1999.
18. Xu, H.**,** and Ostertag, C.P., “Crack Closure Stresses in Fiber Reinforced Brittle Matrix Composites”, J. Europ. Cer. Soc. ,19, pp. 591-599, 1999.
19. Ostertag, C.P.,  “Microstructure Characterization of Fractured Steel Beam-to- Column Con­nections”, J. of Materials Science , 34, pp. 3883-3891, 1999.
20. Drescher-Krasicka, E. and Ostertag, C.P., “ Residual Stress Measurements in Steel Beam- to-Column Connections by Acoustic Microscopy”, J. of Materials Science, J. Mat. Sci., 34, pp. 4173-4179, 1999.
21. Ostertag, C.P., and Yi, CK., “Quasi-Brittle Behavior of Cementitious Matrix Composites,” Materials Sci. and Eng., A278, pp.88-95, 2000.
22. Yi, CK. and Ostertag, C.P., “Strengthening and Toughening Mechanisms in microfiber reinforced cementitious composites”, J. Mat. Sci., 36, pp.1513-1522, 2001.
23. Monteiro, P.J.M., Ostertag, C.P., Nielson, U., Cohen, J.,  “Fatigue Susceptibility of Marble,”  Materials and Design Journal, 22, pp.393-398, 2001.
24. Turanli, L., Shomglin, K., Ostertag, C.P., and Monteiro, P.J.M., “Reduction in alkali-silica expansion due to steel microfibers”, Cement and Concrete Research, 31, pp.825-827, 2001.
25. Ostertag, C.P., and Yi, CK.**,** “Tensile strength enhancement in interground fiber cement composites,” Cem. and Conc. Comp., 23,  pp. 419-425, 2001.
26. Celestino, T., Piltner, R., Monteiro, P.J.M., Ostertag, C.P., “Fracture Mechanics of Marble,” Journal of Mat. in Civil Eng., 13, pp. 407-411, 2001.
27. M.C.Garci Juenger and C.P. Ostertag, “ Effect of selective positioning of steel microfibers on alkali-silica expansion,” Concrete Science and Engineering, 4, pp. 91-97, 2002
28. Whittaker, A., Gilani, A., Takhirov, S., Ostertag, C.P., “Forensic Studies of a large Cover-Plate Steel Moment-Resisting Connection”, The Structural Design of Tall Buildings Journal, 11, pp. 265-283, 2002.
29. M.C. Garci Juenger and C.P. Ostertag, “Alkali-silica reactivity of large silica fume- derived particles, “Cement and Concrete Research, pp. 876-881, 2004.
30. CK. Yi and C.P. Ostertag, “Mechanical Approach in Mitigating Alkali Silica Reaction,” Cement and Concrete Research, 35, pp. 67-75, 2005
31. M.C. Garci Juenger and C.P. Ostertag, “Influence of synthetic aggregates on expansion due to alkali-silica reaction,” Magazine of Concrete Research, pp. 103-111, 2005.
32. F. Bektas, L. Turanli, and C.P. Ostertag, “New Approach in mitigating damage caused by alkali-silica reaction, J. Mat. Sci., 41, pp. 5760-5763, 2006.
33. N. Segre, C.P. Ostertag and P. J. Monteiro, “Effect of Tire Rubber Particles on Crack Propagation in Cement Paste,” Materials Research, 9, [3], pp. 311-320, 2006.
34. C.P. Ostertag and CK.Yi, “Crack/Fiber interaction and crack growth resistance behavior in microfiber reinforced mortar specimens, Materials and Structures, 40, pp. 679-691, 2007.
35. F.Vossoughi, C.P. Ostertag, P.J.M. Monteiro, G.C. Johnson, “Resistance of Concrete Protected by Fabric to Projectile Impact,” Cem. and Concr. Research, 37, pp. 96-106, 2007.
36. C.P. Ostertag, CK. Yi, P.J.M. Monteiro, “Effect of Confinement on the Properties and Characteristics of the Alkali-Silica Reaction Gel,” ACI Mat. J., 104, pp. 276-282, 2007.
37. F. Vossoughi, P.J.M. Monteiro, and C.P. Ostertag, “Characterization of Damage in Concrete Panels due to Impact Loading by motionless X-ray laminography”, J. Mat. Sci., 42, pp. 3280-3285, 2007
38. J. Grupp, C.P. Ostertag, T. Devine, “Effect of Crack control on Corrosion”, Cem. and Concr. Research, 37, pp. 1115-1126, 2007.
39. H. Song, K. Cheng, C.P. Ostertag, “Influence of matrix properties on alkali silica reaction rates,” Materials and Structures, 41, pp. 47-57, 2008.
40. K. Wakimoto, J. Blunt, C. Carlos, P. Monteiro, C.P. Ostertag, R. Albert, “ Digital laminography assessment of the damage in concrete exposed to freezing temperatures,” Cem. and Con. Research, Vol. 38, pp. 1232-1245, 2008.
41. F. Rosien and C.P. Ostertag, “Low cycle fatigue behavior of constraint connections, Part I: Influence of constraint severity”, Materials and Structures, vol.42, pp. 161-170, 2009.
42. F. Rosien and C.P. Ostertag, “Low cycle fatigue behavior of constraint connections. Part II: Influence of material parameters”, Materials and Structures, Vol 42, pp. 171-182, 2009.
43. J Blunt and C.P. Ostertag, “Deflection Hardening and Workability of Hybrid Fiber Composites”, ACI Mat. J., 106, pp. 265-272, 2009.
44. J. Blunt and C.P. Ostertag, “A Performance Based Approach for the Design of a Deflection Hardened Hybrid Fiber Reinforced Concrete,” ASCE Journal of Engineering Mechanics, 135, pp. 978-986, 2009.
45. H. M. Bottinger, C.P. Ostertag, “Fabric Reinforcement for improved Toughness of Adobe Block Wall Systems”, Key Engineering Materials, 600, pp. 156-165, 2014
46. D. Moreno, W. Trono, G. Jen, C. Ostertag, and S. Billington, “Tension stiffening in Reinforced high performance fiber reinforced cement based composites”, Cement and Concrete Composites, 50, pp. 36-46, 2014
47. M. Panagiotou, W. Trono, G. Jen, P. Kumar, C.P. Ostertag, Experimental Response of HyFRC Bridge Columns with Novel Longitudinal Reinforcement Detailing, ASCE J. of Bridge Eng., [http://dx.doi.org/10.1061/(ASCE)BE.1943-5592.0000684](http://dx.doi.org/10.1061/%28ASCE%29BE.1943-5592.0000684), 2014
48. W. Trono, G. Jen, M. Pamagiotou, M. Schoettler, and C.P. Ostertag, “Shake-Table Response of a Low-Damage Recentering Post-Tensioned HyFRC Bridge Column”, ASCE  J. of Bridge Eng., 2015. 20 (7): 04014096
49. Hay, R., Ostertag, C.P. "Development and Application of High Performance Green Hybrid Fiber-Reinforced Concrete (HP-G-HyFRC) for Sustainable and Energy-Efficient Buildings", Key Engineering Materials, 2014, Vols. 629-630, pp. 299-305
50. Blunt, J., Jen, G., and Ostertag, C.P., “Enhancing Corrosion Resistance of Reinforced Concrete Structures with Hybrid Fiber Reinforced Concrete,” Corrosion Science*,*2015, Vol. 92, pp. 182-191.
51. Gursel, A. P., Maryman, H., and Ostertag, C.P., “A Life-Cycle Approach to Environmental, Mechanical, and Durability Properties of “Green” Concrete Mixes with Rice Husk Ash”, Journal of Cleaner Production, 2015 <http://dx.doi.org/10.1016/j.jclepro.2015.06.029>.
52. Miller, S., Monteiro, P. J., Horvath, A., and Ostertag, C.P. “Reduction in Green House Gas Emission of Concrete using age as a design factor”, Environmental Research Letter, 2015, Vol. 10, 114017
53. Jen, G., Trono, W., and Ostertag, C.P., “Self-consolidating HyFRC: Processing, Properties &Applications”, Construction and Building Materials, Feb. 2016, Vol. 104, pp. 63-71.
54. Jen, G. and Ostertag, C.P., “Experimental Observations of Self-consolidated Hybrid Fiber Reinforced Concrete (SC-HyFRC) on Corrosion Damage Reduction”, Construction and Building Materials, Feb. 2016, Vol. 105, pp. 262-268.
55. Gursel, P. and Ostertag, C.P., “Impact of Singapore's Importers on Life-Cycle Assessment of Concrete”, Journal of Cleaner Production, April 2016, Vol. 118, pp. 140-150.
56. Miller, S., Monteiro, P. J., Ostertag, C.P., and Horvath, A., “Comparison Indices for Design of Concrete taking Environmental Impacts into Account” Cement and Concrete Composites, April 2016, Vol. 68, pp.131-143.
57. Gursel, P. and Ostertag, C.P., “Comparative Life-Cycle Impact Assessment of Concrete Manufacturing in Singapore”, International Journal of Life Cycle Assessment, Feb. 2017, Vol. 22, pp. 237–255.
58. Nguyen, W., Duncan, J., Monteiro, P.M. and Ostertag, C.P., “Multi-scale Characterization of Corrosion Initiation of Preloaded Hybrid Fiber-Reinforced Concrete Composites”, Key Engineering Materials, 2016, Vol. 711, pp. 195-202.
59. Miller, S., Monteiro, P. J., Ostertag, C.P., and Horvath, A., “Concrete Mix Proportioning for Desired Strength and Reduced Global Warming Potential”, Construction and Building Materials, Dec. 2016, Vol. 128, pp. 410-421.
60. Nguyen, W., Trono, W., and Ostertag, C.P. “Seismic response of a rocking bridge column using a precast hybrid fiber-reinforced concrete (HyFRC) tube,” Composite Structures, 174 Aug. 2017, Vol. 174, pp. 252-262.
61. Nguyen, W., Duncan, J.F., Devine, T.M., and Ostertag, C.P., “Electrochemical polarization and impedance of reinforced concrete and hybrid fiber-reinforced concrete under cracked matrix conditions” Electrochimica Acta, March 2018, Vol. 271, pp. 319-336.
62. Nguyen, W., Duncan, J.F., Jen, G., and Ostertag, C.P., “Influence of matrix cracking and hybrid fiber reinforcement on the corrosion initiation and propagation behaviors of reinforced concrete”, Corrosion Science, June 2018, Vol. 140, pp. 168-181
63. Chanthabouala, K., Teng, S., Chandra, J., Tan, K.-H. and Ostertag, C.P., “Punching Tests of Double-Hooked-End Fiber Reinforced Concrete Slabs”, ACI Structural Journal, in press, May 2018
64. Hay, R., and Ostertag,C.P., "Life cycle assessment of double-skin façade (DSF) system produced with fiber-reinforced concrete for sustainable and energy-efficient buildings in the tropics," Building & Environment, June 2018, Vol. 142, pp. 327-341,
65. Teng, S., Afroughsabet, V., Ostertag, C., “Flexural behavior and durability properties of high performance hybrid-fiber-reinforced concrete,” Journal of Construction and Building Materials, June 2018, Vol. 182, pp. 504-515.
66. Aghdasi, P., I. Williams, B. Salazar, N.    Panditi, H. Taylor, and C.P. Ostertag, “An Octet-Truss Engineered Concrete (OTEC) for Lightweight Structures,” Composite Structures, 2018, Vol. 207, pp. 373-384.
67. Aghdasi, P. and Ostertag, C.P., “Green Ultra-High Performance Fiber-Reinforced Concrete (G-UHP-FRC),” Construction and Building Materials, 2018, Vol. 190, pp. 246-254.
68. Jen, G., Hay, R., and Ostertag, C.P., “Multi-scale Evaluation of HyFRC Restraint on Alkali Silica Expansion”, *Journal of Construction and Building Materials*, 2019, Vol. 211, pp. 1117-1126. <https://doi.org/10.1016/j.conbuildmat.2019.03.102>
69. Gursel, P. and Ostertag, C.P., “Copper Slag, a Sustainable Solution for Sand Substitution in Concrete”, *Advances in Civil Engineering*, 2019,<https://doi.org/10.1155/2019/6815348>
70. Nguyen, W., M.J. Bandelt, W. Trono, , S.L. Billington, and C.P. Ostertag, “Mechanics and failure characteristics of hybrid fiber-reinforced concrete (HyFRC) composites with longitudinal steel reinforcement”, *Engineering Structures*, 2019, Vol. 183, pp. 247-254.  <https://doi.org/10.1016/j.engstruct.2018.12.087>
71. Hay, R. and Ostertag, C.P., “On the utilization and mechanisms of waste aluminium in mitigating alkali-silica reaction in concrete”, *Journal of Cleaner Production*, 2019, Vol 212, pp. 864-879. <https://doi.org/10.1016/j.jclepro.2018.11.288>
72. Hay, R. and Ostertag, C.P. “Influence of transverse cracks and interfacial damage on corrosion of steel in concrete with and without fibre hybridization”, *Corrosion Science*, 2019, Vol. 153, pp. 213-224.   <https://doi.org/10.1016/j.corsci.2019.03.020>
73. Afroughsabet, V., A. Lin, C.P. Ostertag, L. Biolzi, G. Geng, and P.M. Monteiro, “The Influence of Expansive Cement on the Mechanical, Physical, and Microstructural Properties of Hybrid-Fiber-Reinforced Concrete,” *Cement and Concrete Composites*, 2019, Vol. 96, pp. 21-32. <https://doi.org/10.1016/j.cemconcomp.2018.11.012>
74. Hay, R. and Ostertag, C.P., “Acidification at steel-concrete interface under accelerated corrosion test in chloride environment” *Cement and Concrete Composites*, 2020, Vol. 110 103573. <https://doi.org/10.1016/j.cemconcomp.2020.103573>
75. Lowke, D., Talke, D., Dressler, I., Weger, D., Gehlen, C., Rael R., Ostertag,   C.P. “Particle-bed 3D-printing by selective cement activation – Applications, material and process technology”, *Cement and Concrete Research*, 2020, Vol. 134, 106077. <https://doi.org/10.1016/j.cemconres.2020.106077>
76. Maier, M., Javadian, A., Saeidi, N., Inluer, C., Taylor, H., Ostertag, C.P., “Mechanical Properties and Flexural Behavior of Sustainable Bamboo Fiber-Reinforced Mortar”, *Applied Sciences*, Sept. 2020, Vol. 10, 6587.  <https://doi.org/10.3390/app10186587>
77. Aghdasi, P. and Ostertag, C.P., “Tensile fracture characteristics of Green Ultra-High Performance Fiber-Reinforced Concrete (G-UHP-FRC) with longitudinal steel reinforcement” *Cement and Concrete Composites*, 2020, Vol. 114, 103749. <https://doi.org/10.1016/j.cemconcomp.2020.103749>
78. Salazar, B., Aghdasi, P., Williams, I., Ostertag, C.P., Taylor, H., “Polymer lattice-reinforcement for enhanced ductility of concrete”, *Materials and Design*, 2020, Vol. 196, 109184.  <https://doi.org/10.1016/j.matdes.2020.109184>
79. Will Nguyen, Daniela Martinez Lopez, Gabriel Jen and C. P. Ostertag; "Interaction between global warming potential, durability, and structural properties of fiber-reinforced concrete with high waste materials inclusion" *Resources, Conservation & Recycling*, 2021, Vol. 169, 105453. <https://doi.org/10.1016/j.resconrec.2021.105453>
80. Hay, R. and Ostertag, C.P., “New insights into the role of fly ash in mitigating alkali-silica reaction (ASR) in concrete”, *Cement and Concrete Research*, 2021, Vol. 144, 106440.     <https://doi.org/10.1016/j.cemconres.2021.106440>
81. Lin, A., and Ostertag, C.P., “Interaction between High Performance Fiber reinforced Cement-based composites and Steel Reinforcement”, *Engineering Structures*, 247, (2021), 113173. <https://doi.org/10.1016/j.engstruct.2021.113173>
82. Maier, M., Salazar, B., Aghdasi, P., Unluer, C., Taylor, H., Ostertag, C.P., “Thermal and mechanical performance of a novel 3D printed lattice macro-encapsulation method for phase change materials”, *Journal of Building Engineering,*43 (2021), 103124.
83. Shao, Yi, Nguyen, W., Bandelt, M., Ostertag, C.P., Billington, S., “Seismic Performance of High-performance Fiber-reinforced Cement-based Composite (HPFRCC) Structural Members: A Review,” *Journal of Structural Engineering.,* 148 (2022) 03122004 [https://doi.org/10.1061/(ASCE)ST.1943-541X.0003428](https://doi.org/10.1061/%28ASCE%29ST.1943-541X.0003428)
84. Williams, I., Arteta, C., Shao, Y., Ostertag, C.P., “Hybrid Fiber reinforced Concrete Special Shear Wall Boundary Element in Compression”, *Engineering Structures,*252 (2022) 113726*.* <https://doi.org/10.1016/j.engstruct.2021.113726>
85. Shao, Y., Parks, A., Ostertag, C.P.,  “Lightweight concrete façade with multiple air gaps for sustainable and energy-efficient buildings in Singapore”, *Building and Environment*, 223, 2022, 109463. <https://doi.org/10.1016/j.buildenv.2022.109463>
86. Shao, Y., and Ostertag, C.P., “Bond-slip behavior of steel reinforced UHPC under flexure: Experiment and prediction” Cement and Concrete Composites, 133 (2022) 104734. <https://doi.org/10.1016/j.cemconcomp.2022.104724>
87. Shao, Y., and Ostertag, C.P., “Carbon Footprint between Steel-reinforced Concrete and UHPC beams, J. Stre. Eng., 149 (3),(2023) 06023001. <https://doi.org/10.1061/JSENDH.STENG-11449>
88. Shao, Y., and Ostertag, C.P., “LEGO-Inspired and digitally-fabricated steel reinforcement case for ultra-high performance concrete (UHPC) beams, Engineering structures, 279 (2023) 115617. <https://doi.org/10.1016/j.engstruct.2023.115617>
89. Salazar, B., Aghdasi, P., Ostertag, C.P., Taylor, H., “Highly compressible concrete: the effect of reinforcement design on concrete’s compressive behavior at high strains”, Materials and Design, 230 (2023) 111942. <https://doi.org/10.1016/j.matdes.2023.111942>

**Refereed Conference Proceedings**

1. Gust, W., A Lodding, H. Odelius, C.P. Ostertag B. Predel, and U. Roll, "Potentialities of SIMS in the Delineation of Volume Diffusion: Cu-In System," in *Diffusions in Metals and Alloys,* Diffusion and Defects Monograph Series, No. 7, ed. by F.J. Kadres and D.L. Beke, Trans Tech Publications, Switzerland, 1983, pp. 503-506.
2. Ostertag, C.P., "Sintering of Fiber Reinforced Composites," *Ceramic Engineering and Science Proceedings*, 8[7-8], 1987, pp. 860.
3. Nair, S.N., K. Jacus, and C.P. Ostertag, "Role of Glassy Interfaces in High Temperature Crack Growth in SiC Fiber Reinforced Alumina," *Ceramic Engineering and Science Proceedings*, 9[7-8], 1988, pp. 681-686.
4. Ostertag, C.P., F. Beech and E.R. Fuller, "Chemical Modification of the Orthorhombic Superconductor Ba2YCu3O7-x," *Ceramic Transactions,* Vol. 1, ed. by G.L. Messing, Am. Cer. Soc., Westerville, Ohio, 1988, pp. 501-510.
5. Ostertag, C.P., "Differential Sintering," *Science of Sintering, New Directions for Materials Processing and Microstructural Control*, ed. by D.P. Uskokovic et al., Plenum Press, New York, 1989, pp. 453-459.
6. Ostertag, C.P., "Reduction in Sintering Damage of Fiber Reinforced Composites," *Ceramic Transactions, Sintering of Advanced Ceramics*, ed. by C.N. Handwerker, J.E. Blendell, W.A. Kaysser, 7, 1989, pp. 745-752.
7. Ostertag, C.P., P.G. Charalambides and A.G. Evans, "Sintering Damage in MgO," *Ceramic Transactions, Sintering of Advanced Ceramics*, ed. by C.N. Handwerker, J.E. Blendell, W.A. Kaysser, 7, 1989, pp. 1012.
8. Ostertag, C.P., and S. Malghan, "Stress Relaxation in Sintering of Fiber-Reinforced Composites through Fiber Coating," *Ceramic Engineering and Science Proceedings, 13th Annual Conference on Composites and Advanced Ceramic Materials*, 10[7-8], 1989, pp. 730.
9. Ostertag, C.P., "Influence of Local Material Properties on Fracture of Welded Steel Beam Column Connections," *Proceeding of Third US-Japan Workshop on Steel Fracture Issues,*Tokyo, 1998, pp. 247-254.
10. Malghan, S.G., D. Minor, P.S. Wang, and C.P. Ostertag, "Coating of Fibers by Colloidal Techniques in Ceramic Composites," *Ceramic Engineering and Science Proceedings, 14th Annual Conference on Composites and Advanced Ceramic Materials*, 11[9-10], 1990, pp. 1674-1684.
11. Ostertag, C.P., "A Transition from Brittle to Quasi-Brittle Behavior in Fiber Reinforced Brittle Matrix Composites," *Materials for the Millennium, Proceedings of the 4th Materials Engineering Conference*, Washington, D.C., ed. By Yen P. Chong, V.2 pp. 1219-1227, 1996.
12. Piltner, R. and Ostertag, C.P., "Experimental and Numerical Analysis on the Influence of Local Stress Concentrations on Crack Initiation in Welded Steel Beam Column Connections", *Proceeding of the 12th ASCE Engineering Mechanics Conference,* La Folla, Eds. H. Huratami and F.E. Luco, pp. 62-65; 1998.
13. Ostertag, C.P. and Vondran, G., "Fibar Cement for Extensibility," *Proceedings of Second International Conference on Engineering*, San Jose, CA, 2001, pp. 301-312.
14. Meyer, P., Ho, N., Myers, M. and Ostertag, C.P., "Burlap Reinforcement for Improved Toughness of Low-Cost Adobe Residential Structures," *Proceedings of Eco-building Conference,* San Rafael, CA, July 5-9, 2001, pp. 345-351.
15. **Ideker, J.H.**, M.G. Juenger and C.P. Ostertag, "The Participation of Silica Fume Agglomerates in ASR Expansion," *Advances in Cement and Concrete, Proceedings of ECI conference*, Copper Mountain, CO, 2003, pp. 377-382.
16. Ostertag, C.P., "Effect of Steel Microfibers on Alkali-Silica Reaction," *Advances in Cement and Concrete, Proceedings of ECI Conference*, Copper Mountain, CO, 2003, pp. 249-255.
17. Garci-Juenger, M.C. and C.P. Ostertag, "Do Silica Fume Agglomerates Cause ASR-related Expansion?," *Proceedings of Canmet Conference*, Las Vegas, Nevada, 2004, pp. 421-424.
18. Ostertag, C.P. and **C.K. Yi**, "Mitigation of expansive Alkali Silica Reaction with Microfibers," *FRAMCOS Conference*, Vail, CO, 2004, pp. 201-204.
19. Ostertag, C.P., "Alkali silica reaction: effect of cracks on gel formation," *Proceedings of the International RILEM-JCI Seminar on Concrete Durability and Service Life Planning*, Ein-Bokek, Dead Sea, Isreal, March 2006, pp. 112-118.
20. Ostertag, C. P. and **C.K. Yi**, "Mitigation of Alkali Silica Reaction: A Mechanical Approach," *Transport Properties and Concrete Quality, Material Science of Concrete*, September 2006.
21. Ostertag, C.P., J. Blunt and J. Grubb, "Mitigating of expansive Deterioration Processes through Crack Control," *Proceedings of the Fracture Mechanics of Concrete and Concrete Structures, High Performance Concrete, Carpinter et al (edi.)*, 2007, Vol. 3, pp. 1843-1849.
22. Blunt, J. and C.P. Ostertag, "Hybrid Fiber Reinforced Concrete for Use in Bridge Approach Slabs," *Proceedings, The International Workshop on Cement Based Materials and Civil Infrastructure*, July 2007, Karachi, Pakistan, pp. 415-422.
23. Ostertag, C.P., "Damage Resistance of Reinforced Concrete Structures that utilize High Performance hybrid Fiber Reinforced Concrete (HyFRC) Composites," *Proceedings of the 2nd International RILEM Conference on Strain Hardening Cementitious Composites*, 2011, RILEM publication, Rio de Janeiro, Brazil, pp. 289-315.
 <http://demo.webdefy.com/rilem-new/wp-content/uploads/2016/10/81a4aba99448d745e05f4d2fb378e38d.pdf>
24. Moreno, D.H., W. Trono, G. Jen, C.P. Ostertag and S.L. Billington, "Tension-Stiffening in Reinforced High Performance Fiber-Reinforced Cement-based Composites under Direct Tension," *High Performance Fiber Reinforced Cementitious Composites 6*, Parra-Montesinos GJ, Reinhardt HW, Naaman AE (eds.), Springer Netherlands, 2012, Vol. 2, pp 263-270, doi: 10.1007/978-94-007-2436-5\_32.
 <https://link.springer.com/chapter/10.1007/978-94-007-2436-5_32>
25. Trono, W., G. Jen, , D. Moreno and S. L. Billington, C.P. Ostertag, "Confinement and Tension Stiffening Effects in High Performance Self-Consolidated Hybrid Fiber Reinforced Concrete Composites," Chapter 31 in High Performance Fiber Reinforced Cementitious Composites 6 Parra-Montesinos GJ, Reinhardt HW, Naaman AE, (eds.), Springer, 2012, Vol. 2, pp. 255-262, doi: 10.1007/978-94-007-2436-5.
<https://dx.doi.org/10.1007/978-94-007-2436-5>
26. Jen, G. and C.P. Ostertag, "Resistance of Corrosion Induced Cracking in Self Consolidating Hybrid Fiber Reinforced Concrete," Chapter 20 in High Performance Fiber Reinforced Cementitious Composites 6, Parra-Montesinos GJ, Reinhardt HW, Naaman AE, (eds.), Springer, 2012, Vol. 2, pp. 163-170, doi: 10.1007/978-94-007-2436-5\_20.
<http://link.springer.com/chapter/10.1007/978-94-007-2436-5_20>
27. Boettger, H.M. and C.P. Ostertag, “Fabric Reinforcement for improved Toughness of Adobe Brick Wall Systems”, 11th International Conference on the Study and Conservation of Earthen Architecture Heritage, Terra 2012, Lima, Peru, pp. 457-468, 2012.
28. Hay, R. and C.P. Ostertag, "Innovative Double-Skin Facade System for Sustainable and Energy-Efficient Buildings in the Tropics," *Proceedings, 6th International Conference of Asian Concrete Federation*, Seoul, Korea, September 2014, pp. 645-659.
 <https://drive.google.com/file/d/1osQ0_yCkEgFqwzbwxu4St-LmEdv07BdC/view?usp=sharing>
29. Nguyen, W., W. Trono and C.P. Ostertag, "Hybrid Fiber-Reinforced Concrete Composites for Accelerated Bridge Column Construction," *Proceedings, Accelerated Bridge Construction Conference*, Florida, December 2014, pp. 372-387.
<https://drive.google.com/file/d/1PC9AIWMuGAOD9a7INNPhHnFEDFmU1EhH/view?usp=sharing>
30. Hay, R. and C.P. Ostertag, "Innovative Double Skin Facade (DSF) with High Performance Green Hybrid Fiber-Reinforced Concrete (HP-G-HyFRC) for Resilient and Sustainable Buildings," *Proceedings, AEI Technical Proceedings*, Milwaukee, Wisconsin, March 2015, pp. 120-133, doi: 10.1061/9780784479070.011.
 https://ascelibrary.org/doi/pdf/10.1061/9780784479070.011
31. Nguyen, W., G. Jen, W. Trono, D. Moreno, S.L. Billington and C.P. Ostertag, "Tension Stiffening Effect of Reinforced High Performance Fiber-Reinforced Cementitious Composites," in High Performance Fiber Reinforced Cementitious Composites 7, Fraunhofer IRB, June 2015, pp. 417-424.
 <https://drive.google.com/file/d/1P_qni_4yN5Vz4-MI5x8ehv06Mk_Gxm4_/view?usp=sharing>
32. Jen, G., W. Nguyen and C.P. Ostertag, "Influence of HPFRCC on Corrosion Initiation and Corrosion Propagation," in High Performance Fiber Reinforced Cementitious Composites 7, Fraunhofer IRB, June 2015, pp. 497-504.
 <http://demo.webdefy.com/rilem-new/wp-content/uploads/2016/10/c18f7d12293828b3cef673aa78fe5c67.pdf>
33. Nguyen, W., G. Jen, J. Duncan and C.P. Ostertag, "Effect of Hybrid Fiber Reinforcement on Corrosion-Induced Damage of Reinforced Concrete," *9th International Conference on Fracture Mechanics of Concrete and Concrete Structures*, June 2016, doi: 10.21012/FC9.181.
<http://framcos.org/FraMCoS-9/Full-Papers/181.pdf>
34. Nguyen, W., D. Hernandez-Cruz, K. Celik, J. Duncan, P.J. Monteiro and C.P. Ostertag, "In-Situ Tensile and Corrosion Damage Characterization of Fiber-Reinforced Cementitious Composites Using X-Ray Micro-Computed Tomography," *9th International Conference on Fracture Mechanics of Concrete and Concrete Structures*, May 2016, doi: 10.21012/FC9.180.
<https://www.researchgate.net/publication/303514102_In-Situ_Tensile_and_Corrosion_Damage_Characterization_of_Fiber-Reinforced_Cementitious_Composites_using_X-ray_Micro-Computed_Tomography>
35. Nguyen, W., R. Hay, G. Jen and C.P. Ostertag, "Long-Term Infrastructure Durability Enhancement of Hybrid Fiber-Reinforced Concrete Under Corrosive Environments," *Fourth International Conference on Sustainable Construction Materials and Technologies*, August 2016, Las Vegas, Nevada.
<http://www.claisse.info/2016%20papers/D174.pdf>
36. G. Jen and C.P. Ostertag, “Reduction of Corrosion Damage through High Performance Fiber Reinforced Composites”, RILEM International Symposia on Fiber Reinforced Concrete (BEFIB), September 2016, Vancouver, Canada.
37. Williams, I., C.A. Arteta and C.P. Ostertag, "Experimental Response of a HyFRC Boundary Element Under Pure Compression," *16th World Conference on Earthquake Engineering (16WCEE)*, January 2017, Santiago, Chile.
38. Duncan, J., W. Nguyen and C.P. Ostertag, "Effect of Hybrid Fiber Reinforcement on Corrosion Induced Degradation of Reinforced Concrete Columns," *14th International Conference on Durability of Building Materials and Components (DBMC)*, May 2017, Brussels, Belgium.
39. Jen, G. and C.P. Ostertag, "Performance Enhancement of Concrete Structures Through Multi-scale Crack Control," *International Conference on Strain-Hardening Cement-Based Composites*, September 2017, RILEM, Vol. 15, pp. 681-689, doi: 10.1007/978-94-024-1194-2\_78.
<https://doi.org/10.1007/978-94-024-1194-2_78>
40. Lin, A. and C.P. Ostertag, "Multi-scale Pull-Out Resistance of Steel Reinforcing Bar embedded in Hybrid Fiber Reinforced Concrete (HyFRC)," *IOP Conference Series: Materials Science and Engineering*, 2017, doi: 10.1088/1757-899X/246/1/012022.
<https://doi.org/10.1088/1757-899X/246/1/012022>
41. Williams, I., C.A. Arteta and C.P. Ostertag, "Computational Buckling Response of Reinforcing Bars Embedded in Hybrid Fiber Reinforced Concrete (HyFRC)," *Computational Modelling of Concrete Structures*, March 2018, Austria.
42. Salazar, B., I. Williams, P. Aghdasi, C.P. Ostertag and H. Taylor, "Bending and Crack Characteristics of Polymer Lattice-Reinforced Mortar," *International Congress on Polymers in Concrete (ICPIC 2018)*, April 2018, pp. 261-266, doi: 10.1007/978-3-319-78175-4\_32.
<https://doi.org/10.1007/978-3-319-78175-4_32>

**Non-Refereed Publications**

   **Technical Reports**

1. Ostertag, C.P. and S. Malghan, *Sintering of Fiber/Whisker reinforced Ceramic Composites,* NISTIR 89-4148 Report, U.S. Department of Commerce, National Institute of Standards and Technology, 1990.
2. Rosien, F. and C.P. Ostertag, *Effect of Material Parameters on Performance of Welded Steel Moment Frame Connections,* NSF Research Report, 2002, pp.1-280.
3. Ostertag, C.P. and J. Blunt, *Use of Fiber Reinforced Concrete in Bridge Approach Slabs,* Final Report CA09-0632, Caltrans, June 2008, pp. 79.
<http://www.dot.ca.gov/research/researchreports/reports/2008/09-0632.pdf>
4. Kumar, P., G. Jen, W. Trono, M. Panagiotou and C.P. Ostertag, *Self Compacting Hybrid Fiber Reinforced Concrete Composites for Bridge Columns,* PEER report 2011/106, Pacific Earthquake Engineering Research Center, September 2011, pp. 110.
<https://drive.google.com/file/d/1Xc5vcDghua9uMYNC4rSY3LecLKPYKT6R/view?usp=sharing>
5. Trono W., G. Jen, C.P. Ostertag and M. Panagiotou, *Shake-table Test Response of a Rocking Post-tensioned HyFRC Bridge Column,* Report No. UCB/SEMM-2013/02, Department of Civil and Environmental Engineering, University of California, Berkeley, USA, February 2013, pp. 11.
 <https://drive.google.com/file/d/1wP6xXB7KcHS8g-Wp6yn8hUy9pNOec8dx/view?usp=sharing>
6. Nguyen. W., W. Trono, M. Panagiotou and C.P. Ostertag, *Seismic Response of a Hybrid Fiber-Reinforced Concrete Bridge Column Detailed for Accelerated Bridge Construction,* PEER report 2014/19, Pacific Earthquake Engineering Research Center, December 2014, pp. 50.
 <https://peer.berkeley.edu/sites/default/files/webpeer-2014-19-wilson_nguyen_william_trono_marios_panagiotou_and_claudia_p._ostertag.pdf>
7. Jen, G., W. Nguyen and C.P. Ostertag, *Service Life Enhancement and Reduction in Carbon Footprint of Highway Structures,* FHWA Report, June 2015, pp. 173.
<https://drive.google.com/file/d/10UT3OalZ4prDIUMvp2SylPGAyfjP3FbR/view?usp=sharing>

**Non-Refereed Conference Proceedings**

1. Ostertag, C.P., R. Shull, M. Vaudin, J. Blendell, L. Stearns and E.R. Fuller, "Alignment of Superconducting Grains by Magnetic Casting," *Ceramic Superconductors II,* ed. by M.F. Yan, Am. Cer. Soc., Westerville, Ohio, 1988, pp. 332-342.
(Contribution: 80%)
2. Stearns, L., M. Vaudin, J. Blendell, C.P. Ostertag and E.R. Fuller, "Texture Development in Ba2YCu3O6+X Through Sinter-Forging," *Ceramic Superconductors II,* ed. by M.F. Yan, Am. Cer. Soc., Westerville, Ohio, 1988, pp. 315-322.
(Contribution: 40%)
3. Ostertag, C.P., "Effect of Residual Stresses on steel beam column connection performance," *US-Japan Workshop on Seismic Fracture Issues*, San Francisco, CA, Feb. 28, 2000.  Ref-journal no. 20 was derived from this publication.
4. Ostertag, C.P., "Influence of Material Properties on Performance of Welded Steel Connections," *US-Japan cooperative research in Urban Earthquake Disaster Mitigation conference*, Berkeley, CA, March 2000.
5. Ostertag, C.P., "Interface characteristics necessary for confinement of expansive reactions," *Proceeding of NSF sponsored workshop on Interface Problems in Cement Based Materials*, Vail, CO, 2004, pp. 25-28.
6. Trono, W., G. Jen, C.P. Ostertag and M. Panagiotou, "Seismic Response of a Rocking, Post-Tensioned HyFRC Bridge Column," *Proceedings, 10th International Conference on Urban Earthquake Engineering*, Tokyo, Japan, March 2013, pp. 1-10.
<https://drive.google.com/file/d/1WLMfmUk4Dyx74HCWkK0tMTxsi3AHE1WH/view?usp=sharing>
7. Trono, W., G. Jen, C.P. Ostertag and M. Panagiotou, "Tested and Modeled Seismic Response of a Rocking, Post-tensioned HyFRC Bridge Column," *Proceedings, 7th National Seismic Conference on Bridges and Highways*, Oakland, California, May 2013, pp. 1-12.
ftp://mceer.buffalo.edu/OConnor/ftp/7NSC%20papers/Oral%20Papers/140%20Trono.docx

**Articles in Nonarchival Magazines or Journals**

Ostertag, C.P., "Microstructure characteristics of Failed Steel Moment Resisting Beam Column Connections," EERC, 1997.

PROFESSIONAL ACTIVITIES

1. **Service to *National* Educational and Government Agencies (*by invitation only*)**
* Member of Center for Advanced Technology in Bridges and Infrastructure (CATBI) to promote widespread implementation of innovation in bridges and civil infrastructure; 2010-present
* Member of the Federal Highway Administration (FHWA) ASR technical working group (TWG); The ASR TWG consists of technical experts from State DOTs, industry, research organizations, academia, FHWA and other government agencies. The TWG is currently the most significant and important initiative related to the ASR program and will help FHWA shape the direction of the ASR program, 2006-2013.
* Invited participant to NSF workshop on Bridges of the Future-Widespead Implementation of Innovation. An International Workshop to Develop Action Plans, Las Vegas, 2011.
* Member of the National Academy of Science (NAS) Panel to evaluate the Research Program on Building and Fire Research at the National Institute of Science and Technology (NIST), 2010
* Member of the Transportation Research Board (TRB) of the National Academies, Task Force on Nanotechnology-Based Concrete Materials, AFN15T. TRB is a division of the National Research Council, which serves the National Academy of Sciences and the National Academy of Engineering, 2007-2011.
* Member of NSF review panel on “Buildings and Sustainable Materials”, April 2009
* Member of review panel for proposals for the UW-Milwaukee’s Research Growth Initiative, 2007
* Invited participant to NSF Workshop on “Nanomodification of Cementitious Materials” Gainesville, Florida, 2006
* Member of NSF review panel on “Nanotechnology”, 2004.
* Reviewer for proposals for research funded by METRANS (National Center for Metropolitan Transportation Research), March 2001
* Evaluator of Undergraduate Science and Engineering Curriculum for NSF Center for Science & Technology of Advanced Cement Based Materials; 1995-1999.
* Coalition member of Undergraduate Faculty Enhancement program at NSF Center for Science & Technology of Advanced Cement Based Materials, 1995-1999.
* Member of NSF review panel on “Composites and Hybrid Structures”, 1997
* Short course instructor for Continuing Education Committee of the National Institute of Ceramic Engineers (NICE): “Processing and Mechanical Behavior of Composites”, 1995
* Member of DOE review panel, evaluating research programs that are funded by DOE in the area of structural materials, 1994
* Short course instructor for Continuing Education Committee of the National Institute of Ceramic Engineers (NICE); “Sintering of Ceramics”, 1987-92.

**2) Service to *International* Educational and Government Agencies (*by invitation only*)**

* Proposal and Project reviewer for the National Science Centre Poland, March 2021
* Member of the Berkeley Education Alliance for Research in Singapore (BEARS), 2011-present.
* Member of RILEM (Reunion Internationale des Laboratoires et Experts des Materiauz, Systemes de Construction et Ouverages) Technical Committee FDS: A framework for durability design of fibre-reinforced strain hardening cement-based composites (SHCC) (RILEM serves an analogous role in Europe to ASTM and ACI in the United States (2011-2016)
* Chair of RILEM Technical Subcommittee on Corrosion of Committee HFC: High Performance Fiber Reinforced Cement Composites, 2016-present.
* Invitation to participate in the 1st Tongji-Berkeley Alliance Conference. Development of Action plan for exchange of faculty, researchers and graduate students, 2011
* Proposal reviewer for “Hertha Firnberg-Program, Austria, by the Austrian Science Fund (a research promotion organization such as the US NSF or research councils in Great Britain), 2010.
* Proposal and Project reviewer for the National Science Agency of Saudi Arabia to advise the King Abdullah City for Science and Technology (KACST), June 2010
* Invited participant to NSF-US workshop on “Advancing the Structural use of Earth Based Bricks” in Dar-es-Salam, Tanzania, 2009
* Member of International PhD symposium in Civil Engineering organized by the International Association of Concrete (FIB –CEB), 2008-2012.
* Invited participant to review panel for Kuwait Foundation for the Advancement of Sciences (KFAS) Feb. 2007
* Review of Research programs for the Kuwait Foundation for the Advancement of Sciences (KFAS), 2007

**3) Member of Advisory Boards**

* + Nominated by Board of Director of Fracture Mechanics of Concrete and Concrete Structures (FraMCoS) to serve on Advisory Board for FraMCoS, 2007-2010.
	+ Invited Member of Technical Advisory Board, CalStar Cement, Newark, CA, 2007–2011

**4) Co-organizer and Member of International Scientific Committees of International Conferences**

* + Member of International Scientific Advisory Committee of 2nd International Symposium on Ultra High Performance Concrete (UHPC), June 2019, Albany, New York
	+ Member of International Scientific Committee of 9th Fracture Mechanics of Concrete and Concrete Structures (Framcos), Berkeley, USA, 2016.
	+ Member of International Scientific Committee of 8th Fracture Mechanics of Concrete and Concrete Structures (Framcos), Spain, 2013.
* Member of International Scientific Committee of the 1st International Interactive Symposium on Ultra-High Performance Concrete (UHPC), Storrs Campus at the University of Connecticut, 2015
* Member of International Scientific Committee of International Conference on high performance fiber reinforced composites, Stuttgart, Germany, 2015.
	+ Member of International Scientific Committee of 8th Fracture Mechanics of Concrete and Concrete Structures (Framcos), Toledo, Spain, 2013.
* Member of International Scientific Committee of International Conference on high performance fiber reinforced composites, Ann Arbor, Michigan, 2011.
* Co-organizer of 7th International Conference on Fracture Mechanics of Concrete and Concrete Structures, Korea, 2010;
* Member of International Scientific Committee of 1st International Conference on Nanotechnology based cement and Concrete, Irvine CA, 2010;
* Member of International Scientific Committee of 7th RILEM International Symposium on Fiber Reinforced Concrete, Design and Application, Chennai, India, 2008;
* Member of International Scientific Committee for International Workshop on Ultra High Performance Fiber Reinforced Concrete (UHPFRC); Designing and Building with UHPFRC: State of the Art and Development, Marseille, France, 2009.
* Co-Chair of International RILEM –JCI Seminar on Concrete Durability and Service Life Planning, 2006.
* Member of organizing committee member of the Ductile Fiber Reinforced Cement-based Composites (DFRCC) workshop in Japan, 2003
* Co-organized and hosted the Faculty Enhancement Workshop funded by the National Science Foundation Center for Science and Technology of Advanced Cement based Materials; “Teaching the Materials Science, Engineering, and Field Aspects of Concrete”, Berkeley, CA. July 12-15, 1998.
* Co-organizer of Short course: “Processing and Mechanical Behavior of Composites”, for the Continuing Education Committee of the National Institute of Ceramic Engineers (NICE); 1995
* Teaching of “NICE” short course “Sintering of Ceramics”, 1987-92, organized by the Continuing Education Committee of the National Institute of Ceramic Engineers (NICE); 1987-92

**5) Consulting Services**

* Consultant for Siemens TTB Group, Berkeley, CA on cracking in brittle and polymeric materials, 2011.
* Consultant to CalStar Cement, on fabrication of low CO2 cements, Newark, CA, 2007-2011.
* State of Louisiana, Board of Regents, Baton Rouge, Louisiana, evaluated proposals for Board of Regents’ research and development (R&D) program, 2009.
* Consultant for Swinerton & Walberg on failure analysis of Post-Northridge fractured steel connections, 2002.

**6) Service to Editorial Boards of Scholarly Journals**

* Journal of Composites Eng., Journal of the American Ceramic Society, ASCE Engineering Mechanics Journal, ASCE Materials Journal, Journal of Materials Science, Engineering Fracture Mechanics, Corrosion Science, Journal of Cement and Concrete Composites, Journal of Cement and Concrete Research

 **7) Professional Affiliations**

* Member of ASEE, ACI, EERI, RILEM, CUREE

**KEYNOTE, PLENARY, AND INVITED LECTURES**

* “High Performance Fiber reinforced cement based composites for durability and structural performance”, AMC conference, Orlando, Florida, April 2023 (*keynote lecture*)
* “Pathway to a sustainable and durable Infrastructure”, 8th International Materials Specialty Conference & Annual Conference of the Canadian Society of Civil Engineering (CSCE 2021), (virtual conference), May 2021 (*keynote lecture).*
* “Multi-scale evaluation of hybrid fiber restraint of alkali-silica reaction expansion in concrete” 9th Global Conference on Materials Science and Engineering, (online, virtual conference), Nov. 2020 (*invited talk*)
* “Durability Enhancement through Multi-Scale Crack Control” 15 International Conference on Durability of Building Materials and Components ((DBMC), online, virtual conference, Oct. 2020, (*keynote lecture*)
* “Nanotechnology in Concrete”, 3rd International Webinar on Material Science & Nanotechnology, Oct. 2020 (*invited talk*)
* “Octet- Truss Engineered Composites” 3rd International Conference on Advanced Structures and Functional Materials, Lisbon, August 2020 (*invited talk* but Conference was cancelled due to COVID)
* “Synergy between HyFRC and Reinforcing Bars” University of Buffalo, NY, April 2019 (*invited Seminar speaker*)
* “Mechanical Approach for Mitigating Expansive Deterioration Processes” UC Davis, Feb. 2019 (*invited Seminar speaker*)
* “Innovations in Civil Engineering”, 2nd International Conference on Innovative Building Materials, Cairo, Egypt, Dec. 2018 (*keynote lecture*).
* “Multi-Functional Façade Systems”, SinBerBest Annual Meeting, Aug. 2018 (*invited talk*)
* Hybrid Simulation and Seismic Testing of Environmentally Damaged Bridges”, PEER annual meeting, Berkeley, Jan. 2018 (*invited talk*)
* “Performance Enhancement of Concrete Structures through Multi-Scale Crack Control”, SHCC4, Dresden, Germany, Sept 2017 (*keynote lecture*)
* “Reduction of Corrosion Damage through High Performance Fiber Reinforced Composites”, 9th Rilem International Conference on Fibre Reinforced Concrete, Vancouver, Canada, Sept 2016 (*plenary Lecture*)
* “Deterioration Reduction of Concrete Structures through Crack Control”, Fracture Mechanics of Concrete and Concrete Structures (FramCos), Berkeley, June 2016 (*opening keynote lecture)*
* “Concrete Technology”, DNV (Det Norske Veritas) UC Berkeley Top Tech Program, Haas Business School, UC Berkeley, March 2015 *(plenary lecture)*
* “Durability of High Performance Fiber Reinforced Concrete Composites”, International Workshop on Fiber Reinforced Concrete: Material Properties, Design and Applications, Stanford, CA, Nov 2014 *(keynote lecture)*
* “Advances in Concrete”, DNV (Det Norske Veritas) UC Berkeley Top Tech Program, Haas Business School, UC Berkeley, April 2014 *(invited lecture)*
* “Innovative Materials to enhance Damage Resistance of Bridge Structures during Seismic Events”, Kwang-Hua Forum, Tongji University, Shanghai, China, Dec. 2014 (*invited talk*).
* “Innovative Façade System for Sustainable and Energy-Efficient Buildings”, 3rd SinBerBest Annual Meeting, Singapore, Jan, 2014 (*invited talk)*
* “Deterioration Reduction through Multi-Scale Crack Control”, FHWA workshop on Advances in Concrete Research, Washington D.C. Dec. 2013 *(invited talk)*
* “High Performance Hybrid Fiber Reinforced Concrete Composites for Durable and Sustainable Structures”, 10th International Conference on Durability of Composite Systems, Duracosys, Brussels, Belgium, Sept 2012 *(plenary lecture)*
* “High Performance Hybrid Fiber Reinforced Concrete Composites for Damage Resistant and Sustainable Structures”, National University of Singapore, Singapore, May 2012 *(invited lecture)*
* “Fabric Reinforcement for improved Toughness of Adobe Brick Wall Systems”, XIth International Conference on the Study and Conservation of Earthen Architectural Heritage, Lima, Peru, 2012 *(invited talk)*
* “Hybrid Fiber concrete Materials for Sustainable Infrastructure”, International Workshop on Innovation and Design of Next Generation Sustainable Transportation Infrastructure, Stanford University, Stanford, April 2012 *(invited talk)*
* “HyFRC for structural applications”, Kwang-Hua Forum, Tongji University, Shanghai, China, Dec. 2012 (*invited talk*).
* “Effect of steel microfibers on corrosion of steel reinforcing bars”, Montreal international Eng. Forum, Quebec, Canada, 2012 (*invited talk*)
* “Mitigating Alkali-Silica Reaction through Crack Control”, ACI Spring 2012 Convention, Dallas, Texas, March 2012 *(invited talk)*
* “Damage Resistance of Reinforced Concrete Structures that utilize High Performance hybrid Fiber Reinforced Concrete (HyFRC) Composites” 2nd International RILEM Conference on Strain Hardening Cementitious Composites, Rio de Janeiro, pp. 289-315, Dec. 2011 (*invited talk*)
* “High Performance Fiber Reinforced cement based Composites” PEER Annual Meeting, Berkeley, CA, Sept 2011, *(plenary lecture)*
* “Durable and Damage Resistant High Performance Fiber Reinforced Bridge Structures”, PEER Annual Meeting, Berkeley, CA, Sept 2011, *(invited talk)*
* “Service Life Enhancement and Reduction in Carbon Footprint of Highway Structures”, FHWA workshop, Turner Fairbank Highway Research Center, 2011 *(invited talk)*
* “Deterioration Reduction through Multi-scale Crack control (DRMC Approach) Case Study: ASR”, International Workshop on Expansive Reactions in Cement-Based Materials, Corvallis, Oregon, July 2011 *(plenary lecture)*
* “Enhancing Service Life & Damage Resistance of Concrete Structures”, Tongji University, Shanghai, June 2011 *(invited talk)*
* “Materials Research at UC Berkeley”, 1st Tongji-Berkeley Alliance Conference, Shanghai, May 2011 *(invited talk)*
* “Service Life Enhancement and Reduction in Carbon Footprint of Highway Structures”, EARP Meeting, Richmond Field Station, CA, April 2011 *(invited talk)*
* “High Performance Fiber Reinforced Concrete Composites for Bridge Columns”, NEES and PEER Quake Summit Meeting, San Francisco, CA, 2010 *(invited talk)*
* “A Holistic Approach to Durability of Concrete Structures,” Federal Highway Administration (FHWA), Highway Research Center, Turner Fairbank, VA, April 2009, (*invited talk)*.
* “Effect of Crack Control in HyFRC Composites on Mechanical Performance and Durability,” Caltrans, Sacramento, CA, June 2008, *(invited talk)*
* “High Performance Structural Materials”, SEMM Seminar, Sept. 2008 (*invited talk*)
* “Earthquake resistant design of Adobe Structures”, International workshop on Developing Norms and Standards for Clay Based Construction, San Juan del Sur, Nicaragua, March 2007 *(invited talk).*
* “Enhancing Durability of Concrete Structures through Crack Control”, International Conference on Advances in Cement Based Materials and Applications in Civil Infrastructure (ACBM-ACI), Lahore, Pakistan, Dec 2007 *(keynote lecture)*
* “Hybrid fiber reinforced Concrete for use in Bridge Approach Slabs”, International Conference on Advances in Cement Based Materials and Applications in Civil Infrastructure (ACBM-ACI), Karachi, Pakistan, Dec 2007 (*keynote lecture*)
* “Nanofiber reinforced Cementitious Composites”, NSF workshop on Nanotechnology and Nanomodifications of Cementitious Materials ”, Gainesville, Florida, August 2006 *(invited talk)*
* “Effect of Crack Control on Durability”, 1st International Conference on Construction Materials, Monterrey, Mexico, Dec 2006 *(keynote lecture)*
* “Interface characteristics necessary for confinement of expansive reactions”, SF sponsored workshop on Interface Problems in Cement based Materials, Vail, CO., April 2004 *(invited talk)*
* “Durability Enhancement through micro-fibers”, Symposium on the Materials and Mechanics Issues for Infrastructural Development, San Diego, 2001, *(invited talk)*
* “Effect of Residual Stresses on steel beam column connection performance”, US-Japan Workshop on Seismic Fracture Issues, San Francisco, Feb, 2000, *(invited talk)*
* “A study of Interground Fiber Cement”, Advanced Cement based Materials Technology Transfer Conference on Fiber Applications for Concrete, Evanston, Illinois, 2000 *(invited talk)*
* “Structures on a Micro-Scale”, UCB Faculty research seminar, Berkeley, 2000 *(invited talk).*
* “Effect of Material Parameters on Performance of Welded Steel Moment Frame Connections,” US-Japan Earthquake Disaster Mitigation conference, Berkeley, March 2000, *(invited talk).*
* “New Developments in Civil Engineering Materials Research” SWE Conference, Berkeley, 1999 *(invited talk)*
* “Influence of local materials properties on fracture of steel beam column connections”, Third US-Japan Workshop on Steel Issues, Tokyo, Japan, 1998 *(invited talk)*
* “Measurement of Residual Stresses in Steel Beam Column Connections by Acoustic Microscopy”, International Workshop on Residual Stresses, Washington, D.C., 1998 *(invited talk)*
* “Residual Stress Measurement by Cathodoluminescence: Applications to Composite Materials International Conference on Composites Engineering, ICCE“, Hawaii, 1997 *(plenary lecture)*
* ”A new type of Hybrid Fiber reinforced cementitious composite”, NSF /CERF Workshop Washington, DC. October 20-21, 1997 *(invited talk)*
* “Failure Transitions in Civil Engineering Materials”, Industrial Liaison Program Conference, UC Berkeley, 1997, *(invited talk)*
* “In situ Crack Propagation in reinforced brittle matrix composites”, Materials Science and Mineral Engineering Department, UC Berkeley, 1996 *(invited talk)*
* “Toughening Mechanisms in Brittle Matrix Composites”, NSF Center for Science and Technology, Advanced Cement Based Materials, Northwestern University, Civil Engineering Department, 1995 *(invited talk)*
* “In Situ Crack Propagation in Fiber Reinforced Composites”, First International Conference on Composites Engineering, ICCE, New Orleans, 1994 *(invited talk).*
* “Processing and Fracture Toughness of Continuous Fiber Reinforced Ceramic Matrix Composites”, Fine Particle Society Meeting, Las Vegas, 1992 *(invited talk)*
* “Processing and Properties of Sintered Fiber Reinforced Composites”, 15th Annual Conference of Composites and Advanced Ceramics, Cocoa Beach, 1991 *(invited talk)*
* “Alignment of Superconducting Grains by Magnetic Casting”, Third Annual International Superconductor Applications Convention, “SC GLOBAL 90”, San Diego, CA., 1990 *(invited talk)*
* “Sintering of Ceramic Composites”, WE Heraeus Seminar on “Modeling of Sintering Processes”, Bad Honnef, Germany, 1990 *(plenary lecture)*
* “Novel Ideas in Processing of Composites”, Gordon Research Conference, Solid State Studies in Ceramics, New London, NH, 1989 *(keynote lecture)*
* “Processing and Properties of Structural Ceramics” International Symposium on Advanced Structural Materials, Vancouver, Canada, 1988 *(plenary lecture)*
* “Viscoelastic Stresses and Sintering Damage in Inhomogeneous Powder Compacts”, MRS Meeting, Boston, 1985 *(keynote lecture)*