

College of Engineering and Science

RESUME - Denis A. Brosnan

PERSONAL DATA

Bishop Endowed Professor
Materials Science and Engineering
School of Materials Science and Engineering
Clemson University
Clemson, SC 29634

Director
The National Brick Research Center
100 Clemson Research Blvd.
Anderson, SC 29625 USA

EDUCATION

Ph.D., Iowa State University, 1972, Ceramic Engineering
M.S., Clemson University, 1967, Ceramic Engineering
B.S., Clemson University, 1967, Ceramic Engineering

PROFESSIONAL REGISTRATION

Professional Engineer, South Carolina, 1991, No. 13888
Certified Brick Masonry Technologist, 1990, Brick Institute of
America
Certified Construction Documents Technologist, 1990, The
Construction Specifications Institute

PROFESSIONAL EXPERIENCE

Clemson University, 2008, Bishop Endowed Professor of Engineering

Clemson University, 1996, Professor of Ceramic and Materials
Engineering

Clemson University, Associate Professor of Ceramic Engineering, 1989-

The National Brick Research Center, Clemson University, 1990- , Director

E-Tech Technology Division, Erico Products, 1986-89, General
Manager

Materials Innovators Technology, Inc., 1985-86, President

Material Innovators, 1983-1985, Vice President

Riverside Clay Company, 1981-83, Director of Research

University of Tennessee Space Institute, 1979-81, Supervisor of the Materials Group

The J.E. Baker Company, 1976-79, Director of Research

General Refractories Company, 1975-76, Manager of Applied Research

General Education Division, Horry Georgetown Technical College, 1973-75, Director

General Refractories, 1971-73, Research Scientist/Research Petrographer

MEMBERSHIPS

Member RF, SCP, The American Ceramic Society, ACerS (1963-)

Member, Southeastern Section, The American Ceramic Society, ACerS (1989-)

Member, Southwestern Section, The American Ceramic Society, ACerS (1990-)

Member, American Society for Testing and Materials, ASTM (1997-)

Member, The Institute of Materials (UK), IOM (1999-)

PROFESSIONAL ACTIVITIES

53rd Clemson Brick Forum, Program Chairman, (2007)

52nd International Forum for Brick Plant Operators, Program Chairman, (2006)

51st International Brick Plant Operator's Forum, Program Chairman, (2005)

50th International Brick Plant Operator's Forum, Program
Chairman, (2004)

49th International Brick Plant Operator's Forum, Program
Chairman, (2003)

Hauck e-Solutions Seminar, (2002)

Bulletin of The American Ceramic Society, Contributing Editor,
(2002-2004)

Brick Industry Association, Member, Crystalline Silica Committee,
(2002)

Brick Industry Association, Member, Air Emissions Technical
Committee, (2002)

American Society for Testing and Materials, Member, ASTM Committee
C 15.02 on Manufactured Masonry Units, (2002-)

American Society for Testing and Materials, Member, ASTM Task
Group C15.02.08 on Initial Rate of Absorption, (2002-)

The American Ceramic Society, Member, Legislative and Public
Affairs Committee, (2001-2)

The American Ceramic Society Bulletin, Contributing Editor (2001-2004)

American Society for Testing and Materials, Chair, ASTM Task
Group C 15.02.08 on Initial Rate of Absorption, (1998-2004)

American Society for Testing and Materials, Incoming Chair, ASTM
Task Group C 15.02.01 on Methods of Test, (2002-2004)

American Society for Testing and Materials, Member, ASTM Task
Group, C 15.02.07 on Durability, (1998-)

The Brick Industry Association, Member, Environmental Health and
Safety Committee, (1999-2004)

The Brick Industry Association, Member, Air Emissions Committee,
(1996-)

48th International Brick Plant Operator's Forum, Program
Chairman, (2002)

47th International Brick Plant Operator's Forum, Program Chairman, (2001)

Brickyard Road, The Magazine of the International Brick Plant Operator's Forum and The National Brick Research Center, Editor (2001-)

46th International Brick Plant Operator's Forum, Program Chairman, (2000)

45th International Brick Plant Operator's Forum, Program Chairman, (1999)

44th Plant Operator's Forum, Program Chairman, (1998)

43rd Plant Operator's Forum, Program Chairman, (1997)

Southern Brick Institute Meeting, Program Chairman, (1997)

42nd Plant Operator's Forum, Program Chairman, (1996)

Ceramic Tile Educational Foundation, Inc., Director, (1995-2000)

The American Ceramic Society, Session Chair, Environmental Session, (1994)

The American Ceramic Society, Executive Committee Member, Refractories Division, (1994-)

The American Ceramic Society, Program Committee, Refractories Division, (1994-5)

Research Committee on Municipal and Industrial Wastes, Member, (1992-1993)

North Carolina Air Quality Group, Brick Association of NC (1992-)

The American Ceramic Society, Chairman, Rules Committee, Structural Clay Products, (1992-3)

Ceramic Industry Magazine, Associate Editor, (1992-1998)

The American Ceramic Society, Session Chair, Refractories Meeting, (1994)

The American Ceramic Society, Session Chair, Refractories Division, (1992)
The American Ceramic Society, Editorial Advisory Board, (1996-2004)
Journal of the American Ceramic Society, Reviewer, (1989-)

PUBLICATIONS

Books, Chapters, and Monographs

Brosnan, D.A. and Sanders, J.P., "Whitewares," A Chapter in Industrial Minerals and Rocks, 7th Edition (2006).

Brosnan, D.A. and Borchelt, J.G., "Structural Clay Products," A Chapter in Industrial Minerals and Rocks, 7th Edition (2006).

Brosnan, D.A., "Corrosion of Refractories," *Refractories Handbook*, Wiley, New York, ISBN 0-8247-5654-1, 39-78 (2004).

Brosnan, D.A., "Alumina-Silica Refractories," *Refractories Handbook*, Wiley, New York, ISBN 0-8247-5656-1, 79-108 (2004).

Brosnan, D.A., "CPI Drives Refractory Advances," *Plant Operation and Maintenance*, Chemical Engineering Series, New York (2004).

Robinson, G.C. and Brosnan, D.A., Introduction to Drying of Ceramics, The American Ceramic Society, ISBN 2-7625-3899-9 (2003).

Brosnan, D.A., "Refractories for Incinerators," *Microstructure and Properties of Refractories*, (1993), Trans Tech Publications (ISBN 0-87849-664-5).

Brosnan, D.A., "Brick and Ceramic Manufacturing," *Air Pollution Engineering Manual*, 2nd Edition, (1999), Air & Waste Management Association.

Refereed Journal Publications

Sanders, J.P., Brosnan, D.A., and Cobbleddick, B.S., "Rapid Freeze/Thaw Durability Testing of Clay Bricks," 2nd Canadian Conference on Effective Design of Structures, McMaster University, Hamilton, Ontario (in press).

J. P. Sanders and D. A. Brosnan, "Kinetic Modeling of Silica Conversions in Clay Ceramic Products," pp. 108-119, *ZI Annual 2008*.

J. P. Sanders and D. A. Brosnan, "The Effect of Void Area on Brick Masonry Performance," *Journal of ASTM International*, August 2006.

Brosnan, D.A., "Creative Clay," *Clay Technology* (UK), 4-6, February/March 2006.

Brosnan, D.A. and Sanders, J.P., "Pyrite and Metal Staining in Clay Brick," *Ziegelindustrie International*, 10 25-31 (2005).

Brosnan, D.A., and Sanders, J.P., "Evaluation of Scrubber Reagent Efficiency for Dry Lime Scrubbers," *Ziegelindustrie Annual 2003*, 47-57, (2003).

Brosnan, D.A., "The Air Pollution Potential for Brick Making Materials and Additives," *Ziegelindustrie International* (2002).

Brosnan, D.A., "Evaluation of Scrubber Reagent Efficiency for Dry Lime Absorbers and Dry Lime Scrubbers," *Ziegelindustrie International*, (2002).

Seaverson, E., Brosnan, D., Frederic, J. and Sanders, J., "Predicting Freeze Thaw Durability Using an Index Based on Residual Expansion," *ASTM Symposium on Masonry Opportunities for the 21st Century*, Salt Lake City (2002).

Brosnan, D.A., "An International Opportunity," (Editorial) *Ziegelindustrie International*, **9**, 1 (September, 2001).

Brosnan, D.A., "Globalisierung und der Umwelt," (Editorial), *The American Ceramic Society Bulletin*, **80**, 7, 24 (August, 2001).

Brosnan, D.A., and Sanders, J.P., "The Air Pollution Potential for Brick Making Materials and Additives," *Ziegelindustrie International*, (2001).

Brosnan, D.A., "Expansion Phenomena During Freezing of Saturated Bricks and Implications on Frost Resistance," *Ziegelindustrie International*, **54**, 4, 12-19 (2001).

Brosnan, D.A. and Sanders, J.P., "Overview of Drying of Traditional Ceramics With Comments On Microwave Drying," *Ceramic Engineering and Science Proceedings* (2000).

Brosnan, D.A., "Drying Fundamentals: Evaluating Dryer Performance," *Ceramic Engineering and Science Proceedings*, **20**, 2, 167-173 (1999).

Brosnan, D.A. and Frederic, J.C., "Fatigue Properties of Traditional Ceramic Products," *British Ceramic Proceedings*, **2**, 60, 361-362 (1999).

Brosnan, D.A., "Strength Tests on Brick: New Perspectives," *The Journal of the Canadian Ceramic Society*, **70**, 11-16 (2001).

Brosnan, D.A., "Effect of Firing Schedule and Process Variables on Hydrogen Fluoride Emissions from Structural Clay Products," *The Journal of the Canadian Ceramic Society*, **66**, 4, 278-280 (1997).

Rettberg, H.C. and Brosnan, D.A., "Strengthening Structural Clay Products by Infiltration of Porosity with Aluminum," *Journal of the Canadian Ceramic Society*, **66**, 2, 142-145 (1997).

Sereno-Gomez, E. and Brosnan, D.A., "Oxidation Resistance of Magnesia-Graphite Refractories Containing SiC," *The Journal of the Canadian Ceramic Society*, (1997).

Brosnan, D.A., "Hydroxyapatite Composites Designed for Antibiotic Drug Delivery and Bone Reconstruction," *International Orthopedics*, (1997).

Brosnan, D.A. and Knowles, Shawn D., "Composition and Properties of Glass-Ceramics Produced From Incinerator Residuals," *Journal of The Canadian Ceramic Society*, **64**, 4, 3-6 (1995).

Brosnan, D.A., "Recycling Electronic Ceramic Residuals in Traditional Ceramic Host Compositions," *Journal of the Canadian Ceramic Society*, **64**, 3, 181-186 (1995).

Brosnan, D.A. and Leigh, H.D., "Rehydration of Castable Refractories," *Journal of the Canadian Ceramic Society*, **64**, 2, 122-126 (1995).

Brosnan, D.A. and Sanders, J.P., "Hydrogen Fluoride Emissions in Ceramic Manufacturing," *Journal of the Canadian Ceramic Society*, **63**, 4, 4-9 (1994).

Brosnan, D.A., "Examination of Medical Waste Incinerator Slags and Implications on Refractory Performance," *Journal of the Canadian Ceramic Society*, **63**, 2, 123-127 (1994).

Rogers, J., Brosnan, D., Barefoot, S., and LaBerge, M., "Tribasic Calcium Phosphate Drug Delivery System for Bone Reconstruction: A Structural and Pharmacokinetic Study," *The Journal of Applied Biomaterials*, (1994).

Brosnan, D.A., "Implications of Toughening of Clay Brick on Performance," *Journal of the Canadian Ceramic Society*, **62**, 2, 134-138 (1993).

Brosnan, D.A., "Additions of Oxidized Sewage Sludge in Brick Manufacturing as a Means of Revenue Generation," *Journal of The Canadian Ceramic Society*, **61**, 2, 128-134 (1992).

Brosnan, D.A. and Sanders, J.P., "Drying Brick With Microwave Technology," *Ceramic Industry*, **11**, 11-15 (2001).

Brosnan, D.A., "Life Cycle Analysis and Sustainability of Modern Building Cladding Materials," *Brick News*, **14**, 6, 22-23 (2001).

Brosnan, D.A., "Globalization und de Umwelt," *The American Ceramic Society Bulletin*, **80**, 7, 24 (2001).

Brosnan, D.A., "An International Opportunity," *Ziegelindustrie International*, (2001).

Brosnan, D.A. and Sanders, J.P., "Chips, Cracks, and Durability," *Masonry Construction*, **35** (2001).

Brosnan, D.A., "Industry-University Partnerships Between Brick, Tile, and Clemson," *Ceramic Engineering and Science Proceedings*, Presented at *Science of Whitewares* (2000).

Brosnan, D.A., "America's Brick and Tile Partnership", *Ziegelindustrie International*, **3**, 42-50 (2000).

Brosnan, D.A., "The Environmental Impact of Building Materials: A First Look," *brickandtile.org*, **4**, 2, 4-5 (2000).

Brosnan, D.A., "Drying Fundamentals: Evaluating Dryer Performance," *Ceramic Engineering and Science Proceedings* (1999).

Brosnan, D.A., "How to Select Solid Reagents for Acid Gas Scrubbers," *Ceramic Bulletin*, **78**, 2, 51-54 (1999).

Brosnan, D.A., "Effect of MACT on the Ceramic Industries," *Ceramic Bulletin*, **77**, 10, 47-50, (1998).

Brosnan, D.A., "Drying Fundamentals: Evaluating Dryer Performance," *Ceramic Engineering and Science Proceedings*, Presented at CMC (1998).

Brosnan, D.A., Crowley, M.S. and Johnson, R.C., "CPI Drive Refractory Advances," *Chemical Engineering*, **105**, 11, 110-120, (1998).

Brosnan, D.A., "SO_x Emissions in Firing Ceramics," *The American Ceramic Society Bulletin*, **76**, 3, 53-33 (1997).

Brosnan, D.A., "HF Emissions In Manufacturing Traditional Ceramics," *The American Ceramic Society Bulletin*, **76**, 1, 59 - 61 (1997).
McGinley, W.M., and Brosnan, D.A., "Water Penetration of Single Wythe Residential Load Bearing Clay Masonry Wall Systems," *Masonry: Esthetics, Engineering, and Economy*, ASTM STP 1246, American Society for Testing and Materials (1996).

Brosnan, D.A., "Monitoring For Hydrogen Fluoride Emissions In Ceramic Manufacturing," *Ceramic Industry Magazine*, **143**, 1, 38 - 40 (1994).

Brosnan, D.A., "Technology and Regulatory Consequences of Fluorine Emissions in Ceramic Manufacturing," *The American Ceramic Society Bulletin*, **71**, 12, 1798-1802 (1992).

Brosnan, D.A., "The VerTech Aqueous Phase Oxidation Process," *Water, Environment, and Technology*, **3**, 11, 64-68 (1991).

Brosnan, D.A., "USA Dolomite Brick Practices In Steel Ladles," *Interceram*, **27**, 266-268 (1978).

Brosnan, D.A., "Kinetics of the Reaction Between MgO and Chromia," *Reactivity of Solids*, LC 70-77597, Wiley (1969).

Conference Proceedings (Reviewed)

Sanders, J.P. and Brosnan, D.A., "Rapid Freeze/Thaw Durability Testing of Clay Bricks," 2nd Canadian Conference on Effective Design of Structures, McMaster University, Hamilton, Ontario (in press).

Sanders, J.P. and Brosnan, D.A., "Modeling of the Thermal Decomposition of Asbestos Minerals," for *SKT 2003*, Bad Orb, Germany (2003).

Brosnan, D.A., "Use of Thermal Analysis in Identification of Air Pollutants in Manufacturing of Traditional Ceramic Products," *Proceedings of SKT 2000* (2000).

Brosnan, D.A., Dominguez, R., and Frederic, J., "Fatigue Properties of Clay Brick," *Proceedings of the 8th North American Masonry Conference*, (1999).

Brosnan, D.A., "Environmental Regulations and Their Effect On Ceramic Manufacturing In North America," V World Congress On Ceramic Tile

Quality (*Qualicer '98*), Castellon, Spain; General Conferences and Communications, G.1 - 215 - G.1-223 (1998).

Sereno-Gomez, E., and Brosnan, D.A., "The Effect of Organic Fiber Additions on the Mechanical Properties of MgO-C Bricks" *UNITCER '97, Unified Technical Conference on Refractories*, 5th Biennial Worldwide Congress, New Orleans (1997).

Bradt, R.C., Brosnan, D.A., Crowley, M.S., Landy, R.A., Rigaud, M.A., and Semler, Jr., C.E., "Refractories Education by Short Course Seminars," *UNITCER '97, Unified Technical Conference on Refractories*, 5th Biennial Worldwide Congress, (1997).

Brosnan, D.A., "The American Approach of Raw Material Producers and Manufacturers of Traditional Ceramics," Proceedings: "*Les Matieres Premieres Adaptees aux Nouvelles Techniques de Fabrication Ceramique*," (Raw Materials Adapted to New Ceramic Technology), Ester Technopole, Limoges, France, (1996).

Knowles, S. and Brosnan, D.A., "Recrystallization of Incinerator Residuals to Produce Environmentally Safe Construction Materials," *Ceramic Transactions Environmental and Waste Management Issues in the Ceramic Industry*, 45, 91-114 (1994).

Brosnan, D.A., "Survey of Air Emissions Potentials in Refractories Manufacturing," *Memoria* (Proceedings), XXIII Congress ALAFAR, Puerto Vallarta, 628-636 (November, 1994).

Brosnan, D.A., "Product Safety as Indicated by Aquatic Toxicology of Fired Brick Containing Chrome Ore and Other Metal Oxides," *Memoria* (Proceedings), XXIII Congress ALAFAR, Puerto Vallarta, 419-426 (November, 1994).

Brosnan, D.A., "Solution Release of Lead from Incinerator Slags - State of the Art," *Ceramic Engineering and Science Proceedings*, 14 (1-2) 431-441 (1993).

Brosnan, D.A. and Sanders, J.P., "Expansion Reactions on Heating Alumina-Silica Refractories and Alkali," Proceedings of the Third Biannual Worldwide Conference On Refractories, *United International Technical Conference On Refractories* (UNITCER), San Paulo, 931-938 (1993).

Brosnan, D.A., "Corrosion of Refractories in Hazardous Waste Incinerator Slags," *Memoria* (Proceedings), XXI Congress ALAFAR, Guatemala City, (November, 1992).

Research Reports

"Economic Analysis of Silica Exposure Regulations for the Brick Industry, Phase 1, Data Collection," (January-June, 2005).

"Material and Systems Development for Near Term Commercialization of Energy Efficient Wall Claddings," DOE, United States Department of Energy (October, 2003).

O'Connor, W.K. and Turner, P.C. (Albany Research Center), Brosnan, D.A. and Mussro, Bob (Clemson University), Addison, G.W., Jackson, B., and Teester, G. (AJT Inc.), "Vitrification of Contaminated Soils From the Charleston Naval Complex," International Conference on Incineration and Thermal Treatment Technologies, Salt Lake City, UT (May 1998).

Brosnan, D.A., "Center Report and Practical Environmental Information for Financial People," Finance and Management Seminar for the Brick Industry, Williamsburg, VA (May, 1998).

Brosnan, D.A., "New Air Quality Standards as They Affect Economic Development in South Carolina," South Carolina Economic Developer's Association, Columbia, SC (April 1998).

Brosnan, D.A., "Everything you Wanted to Know About Brick Testing," Carolina's Forum for Brick Distributors (January 13-14, 1998).

Brosnan, D.A., "Dredge Material Vitrification," Annual Meeting, State of South Carolina and U.S. Army Corps of Engineers, Columbia, SC (October 31, 1997).

Brosnan, D.A., "Thirty Five Thousand EPA Employees Looking After You," 43rd Plant Operator's Forum, Clemson, SC (October 22, 1997).

Brosnan, D.A. and Frederic, Jr., J.C., "Particulate Matter and Metals Emissions in Ceramic Manufacturing," Southeastern Section, The American Ceramic Society, Lexington, KY (September 11, 1997).

Brosnan, D.A., "Progress Report: Characterizing Limestone for Dry Sorption Scrubbers," The Center for Engineering Ceramic Manufacturing (February 1, 1997).

Brosnan, D.A., "Progress Report: Research to Employ a Simple Chemical Test to Predict a Threshold for Efflorescence," The Center For Engineering Ceramic Manufacturing (February 1, 1997).

Brosnan, D.A., "Utilization of High Percentages of Fly Ash in Ceramic Construction Products," Wallace Industries, Inc. (January 3, 1997).

Brosnan, D.A., "Ceramic Center Report: Effect of Firing Schedule on HF Evolution from Shale Base Brick," The Center for Engineering Ceramic Manufacturing, (July 11, 1996).

Brosnan, D.A., "Ceramic Center Progress Report: Progress on Efflorescence Research," The Center for Engineering Ceramic Manufacturing (July 12, 1996).

Brosnan, D.A., "Recycling Strategies for Residual Materials From Manufacture of Roofing Granules," 3-M Corporation, St. Paul, MN (April 29, 1994).

Brosnan, D.A., HWMRF Annual Report and Renewal Request - Year Three, "Recrystallization of Incinerator Residuals to Produce Environmentally Safe Construction Materials," South Carolina Universities Research and Education Foundation (March 29, 1994).

Brosnan, D.A., HWMRF Annual Report and Renewal Request - Years Two and Three, "Recrystallization of Incinerator Residuals to Produce Environmentally Safe Construction Materials," South Carolina Universities Research and Education Foundation (March 9, 1993).

Brosnan, D.A., "Incorporation of Residuals From Paper Recycling in Brick Products," Kimberly Clark Corporation, Neena, WI (February 24, 1993).

Brosnan, D.A., "Recycling of Organic Contaminated Soil In Producing Clay Brick," Kercher Industries, Lebanon, PA, (October 30, 1992).

Brosnan, D.A., HWMRF Annual Report and Renewal Request, "Recrystallization of Incinerator Residuals to Produce Environmentally Safe Construction Materials," South Carolina Universities Research and Education Foundation, (January 30, 1992).

Brosnan, D.A., "Chemical and Mineralogical Investigation of MSP's Primary and Slag Aggregates," Chaffee, McCall, Phillips, Tolar, and Sarpy, New Orleans, LA (May 27, 1991).

Brosnan, D.A., "Surface Examination of Painted Face Brick for Cunningham Brick Company," Brick Association of North Carolina (October 29, 1990).

Brosnan, D.A., "Recycling of Residual From the VerTech Oxidation Process in Clay Brick," Air Products Corporation, Allentown, PA (October 1, 1990).

Brosnan, D.A., "Investigation of Used Refractory and Rebound," Chaffee, McCall, Phillips, Tolar, and Sarpy, New Orleans, LA (October 23, 1990).

Brosnan, D.A., "Chemically Bonded Ceramic Materials for Heat Storage Applications," ORNL/Sub/81-16953/1 (August, 1985).

Brosnan, D.A., "Development of Chemically Bonded Ceramic Materials for Use in Thermal Energy Storage Devices," Proceedings, DOE Physical and Chemical Energy Storage Review Meeting, DOE Conf-820827 (December, 1982).

Brosnan, D.A., "Microscopic Examination of Electrodes After AVCO's Sulfur Test Six," DOE-FE-10815-66 (December, 1981).

Other Scholarly Publications

"Clay Bricks and Roof Tiles - A Book Review", Denis A. Brosnan, *Brickyard Road*, 7 (2), July 2008.

"Future Regulatory Trends in Air Emissions", Denis A. Brosnan, *Brickyard Road*, 7 (2), July 2008.

"Extrusion in Ceramics - a Book Review", Denis Brosnan, *Brickyard Road*, 7 (1), pp. 27 (January 2008).

Brosnan, D. A., "Frost Resistance and the Maage Factor," *Brickyard Road*, Vol. 7, No. 1, 21-24 (2008).

Brosnan, D.A., "Carbon Monoxide Emissions in Brick Manufacturing," *Brickyard Road*, Vol. 6, No. 3, 22-24 (July 2007).

Brosnan, D.A., "NOx Emissions in Brick Manufacturing," *Brickyard Road*, Vol. 6, No. 3, 17-19 (July 2007).

Brosnan, D.A., "Fly Ash as a Raw Material in Manufacturing of Bricks," *Brickyard Road*, Vol. 6, No. 2, 27-28 (April 2007).

Brosnan, D.A., and Sanders, J.P., "Nitrogen Emissions From Raw Materials," *Brickyard Road*, Vol. 6, No. 2, 18-20 (April 2007).

Brosnan, D.A., "Cementitious Mortar, Part III, Masonry Cement and Mortar Cement," *Brickyard Road*, Vol. 6, No. 1, 20-22 (January 2007).

Brosnan, D.A., "Making Bricks at 340 Btu Per Pound," *Brickyard Road*, Vol. 6, No. 1, 15-16 (January 2007).

Brosnan, D.A., "US Brickmakers Tour Spanish Brick Plants Fired With Pet Coke," *Brickyard Road*, Vol. 6, No. 1, 24-25 (January 2007).

Brosnan, D.A., "Alternate Solid Fuels," *Brickyard Road*, Vol. 5, No. 3, 26-27 (July 2006).

Brosnan, D.A., "Cementitious Mortar, Part II, Portland Cement Lime Mortar and Masonry Cement Mortar," *Brickyard Road*, Vol. 5, No. 3, 16-18 (July 2006).

Brosnan, D.A., "Key Leader in Center's Development Retires," *Brickyard Road*, Vol. 5, No. 3, 5-6 (July 2006).

Brosnan, D.A., "Cementitious Mortars, Part I," *Brickyard Road*, Vol. 5, No. 2, 27 (April 2006).

Brosnan, D.A., "Fundamentals of Sand," *Brickyard Road*, Vol. 5, No. 2, 26 (April 2006).

Brosnan, D.A., "A Brickyard Road Book Review, Testing of Ceramics in Construction," *Brickyard Road*, Vol. 5, No. 1, 24 (January 2006).

Brosnan, D.A., "Dust Explosion Potential of Solid Fuels," *Brickyard Road*, Vol. 5, No. 1, 17 (January 2006).

Brosnan, D.A., "Brick Eating Bacteria," *Brickyard Road*, Vol. 4, No. 4, 28, 30 (October 2005).

Brosnan, D.A., "Book Review, Three Little Books by Dennis Dinger," *Brickyard Road*, Vol. 4, No. 4, 22 (October 2005).

Brosnan, D.A., "Brick Research Highlights, Acid Solubility of Colorants/Additives is a Measure to Avoid Complaints, 'History' Can be

Fun and Rewarding, Wall System Performance Testing – Moisture Penetration, Wall Systems Performance Testing – Bond Strength, Performance Comparison of C 216 and C 652 Brick,” *Brickyard Road*, Vol. 4, No. 4, 20-21 (October 2005).

Brosnan, D.A. and Sanders, J.P., “Retained Sulfur in Fired Brick,” *Brickyard Road*, Vol. 4, No. 4, 7-8 (October 2005).

Brosnan, D.A., “Anatomy of High IRA Bricks,” *Brickyard Road*, Vol. 4, No. 4, 5-6 (October 2005).

Brosnan, D.A., “Research in Heavy Clay Products in the USA,” *Ziegelindustrie International*, September 2005.

Brosnan, D.A., “One Eye on the Present and One Eye on the Future,” (Editorial), *Ziegelindustrie International*, September 2005.

Brosnan, D.A., “A Brickyard Road Book Review, The Great Hudson River Brick Industry,” *Brickyard Road*, Vol. 4, No. 3, 24-25 (July 2005).

Brosnan, D.A. “Unit Conversions for Plant People, Managers, and Anybody Else,” *Brickyard Road*, Vol. 4, No. 3, 18 (July 2005).

Brosnan, D.A., “Environmental Facts: What do the Numbers Mean? Calculations Based on AP-42 Emissions Factors,” *Brickyard Road*, Vol. 4, No. 3, 15 (July 2005).

Brosnan, D.A. Series: Key Leaders in Brick and Tile, “Bob Daniels Continues to Influence the Brick and Tile Industries,” *Brickyard Road*, Vol. 4, No. 3, 6-9 (July 2005).

Brosnan, D.A., “A Brickyard Road Book Review, American Civil War Fortifications, Coastal Brick and Stone Forts,” *Brickyard Road*, Vol. 4, No. 2, 25 (April 2005).

Brosnan, D.A., “Controlling Viscosity of Slurries and Engobes,” *Brickyard Road*, Vol. 4, No. 2, 18 (April 2005).

Brosnan, D.A. “Engobes 101 Brick Plant Engobes,” *Brickyard Road*, Vol. 4, No. 2, 15 (April 2005).

Brosnan, D.A., “Evolution of the Traditional Ceramic Business, Part 1: Vitrified Clay Pipe,” *Brickyard Road*, Vol. 4, No. 2, 9 (April 2005).

Brosnan, D.A., “Measuring Specific Gravity for Control of Slurries and Engobes,” *Brickyard Road*, Vol. 4, No. 1, 25 (January 2005).

Brosnan, D.A., "A *Brickyard Road* Book Review, Conservation of Brick," *Brickyard Road*, Vol. 4, No. 1, 23 (January 2005).

Brosnan, D.A., "The Relationship Between Bricks and Clemson," *Brickyard Road*, Vol. 4, No. 1, 14-19 (January 2005).

Brosnan, D.A., "50th Anniversary Brick Forum Celebrated in Clemson (USA)," *Ziegelindustrie International*, 12 (2004).

Brosnan, D.A., "Brick Industry in the United States: Strong Business and Continued Expansion," *Ziegelindustrie International*, 1 (2004).

Brosnan, D.A., "Scumming and the Quality of Bricks," *Brickyard Road*, Vol. 3, No. 4, 26 (October 2004).

Brosnan, D.A., "Clay Flow and Forces in Auger Extrusion," *Brickyard Road*, Vol. 3, No. 4, 18-19 (October 2004).

Brosnan, D.A., "Converting Batch Proportions by Volume into Weight Percentages," *Brickyard Road*, Vol. 3, No. 4, 17 (October 2004).

Brosnan, D.A., "History of the Plant Operator's Forum," *Brickyard Road*, Vol. 3, No. 4, 8-10 (October 2004).

Brosnan, D.A., "A *Brickyard Road* Book Review, Brick – A World History," *Brickyard Road*, Vol. 3, No. 3, 28 (July 2004).

Brosnan, D.A., "Chain Calculations Simplify Plant Arithmetic and Provide Quick Answers," *Brickyard Road*, Vol. 3, No. 3, 26 (July 2004).

Brosnan, D.A., "Fundamentals of Extrusion," *Brickyard Road*, Vol. 3, No. 3, 20-23 (July 2004).

Brosnan, D.A., "Flammability of Materials in the Brick Plant," *Brickyard Road*, Vol. 3, No.2, 26-27 (April 2004).

Brosnan, D.A., "Whatever Happened to Ceramic Engineering," *Brickyard Road*, Vol. 3, No. 2, 22-23 (April 2004).

Brosnan, D.A., "Fundamentals of Extrusion: Part 1," *Brickyard Road*, Vol. 3, No. 2, 15-18 (April 2004).

Brosnan, D.A., "The 'New BIA' Helps Brick Manufacturers," *Brickyard Road*, Vol. 3, No. 1, 32 (January 2004).

Brosnan, D.A., "The Face Shell Requirement for Cored Brick," *Brickyard Road*, Vol. 3, No. 1, 29 (January 2004).

Brosnan, D.A., "Weights of Materials: Density and Specific Gravity," *Brickyard Road*, Vol. 3, No. 1, 27 (January 2004).

Brosnan, D.A., "Capillarity of Brick," *Brickyard Road*, Vol. 3, No. 1, 24-26 (January 2004).

Brosnan, D.A., "Calcium Based Efflorescence," *Brickyard Road*, Vol. 3, No. 1, 23 (January 2004).

Brosnan, D.A., "Scumming: A "Newer" Look at an Old Problem," *Brickyard Road*, Vol. 3, No. 1, 18-22 (January 2004).

Brosnan, D.A., "The Brick Industry Continues to Evolve," *Brickyard Road*, Vol. 3, No. 1, 5 (January 2004).

Brosnan, D.A., "Is Measuring Compressive Strength of Facing Brick a Waste of Time?" *Brickyard Road*, Vol. 2, No. 4, 28 (October 2003).

Brosnan, D.A., "Black Coring or Black Hearts in Brick – An Old Manufacturing Problem Gets New Attention," *Brickyard Road*, Vol. 2, No. 4, 22-23 (October 2003).

Brosnan, D.A., "A Giant Decides to Retire," *Brickyard Road*, Vol. 2, No. 4, 6-8 (October 2003).

Brosnan, D.A., "The Brave New World of Building Physics or 'Who's Afraid of the Big Bad WUFI,'" *Brickyard Road*, Vol. 2, No. 3, 25-28 (July 2003).

Brosnan, D.A., "Effect of Ageing and Extrusion Additives on Plasticity of Brick Clay," *Brickyard Road*, Vol. 2, No. 3, 19-24 (July 2003).

Brosnan, D.A., "What the Big Brick Boss is Thinking," *Brickyard Road*, Vol. 2, No. 3, 7-8 (July 2003).

Brosnan, D.A., "What to Tell Your Customer About Manganese in Bricks on Their House," *Brickyard Road*, Vol. 2, No. 2, 19-21 (April 2003).

Brosnan, D.A., "Face Cracks: Advice to the Consumer and Advice to the Plant," *Brickyard Road*, Vol. 2, No. 2, 13-16 (April 2003).

Brosnan, D.A., "Vanadium Compounds Can Make You Turn Green," *Brickyard Road*, Vol. 2, No. 1, 28 (January 2003).

Brosnan, D.A., "Plasticity- Essential Facts in Making Brick," *Brickyard Road*, Vol. 2, No. 1, 24-27 (January 2003).

Brosnan, D.A., "Chipping – Something Old, Something New," *Brickyard Road*, Vol. 2, No. 1, 13-16 (January 2003).

Brosnan, D.A., "Technology of Car Deck Refractories," *Brickyard Road*, Vol. 1, No. 4, 38-40 (October 2002).

Brosnan, D.A., "A Primer on Firing, Safe Cooling rates for Brick," *Brickyard Road*, Vol. 1, No. 4, 24-27 (October 2002).

Brosnan, D.A., "What You Need to Know About IRA," *Brickyard Road*, Vol. 1, No. 4, 23 (October 2002).

Brosnan, D.A., "Mold Growth and Brick Masonry," *Brickyard Road*, Vol. 1, No. 4, 15-19 (October 2002).

Brosnan, D.A., "An Interview with Jim Tann, Executive Director, Mid East Region of BIA," *Brickyard Road*, Vol. 1, No. 4, 12-14 (October 2002).

Brosnan, D.A., "What the Big Boss is Thinking," *Brickyard Road*, Vol. 1, No. 4, 10-11 (October 2002).

Brosnan, D.A., "A Primer on Firing, Color Development in Clay and the Theory of Flashing," *Brickyard Road*, Vol. 1, No. 3, 24-28 (July 2002).

Brosnan, D.A., "Know Your Competition, Getting to Know Hardie Board is Not to Love Hardie Board," *Brickyard Road*, Vol. 1, No. 3, 17-20 (July 2002).

Brosnan, D.A., "Interivew with Brian Johnson," *Brickyard Road*, Vol. 1, No. 3, 10-11 (July 2002).

Brosnan, D.A., "A Report on the Institute of Materials (U.K.) Meeting," *Brickyard Road*, Vol. 1, No. 3, 29 (July 2002).

Brosnan, D.A., "What You Need to Know About Scrubbers if You Are Not Working With One," *Brickyard Road*, Vol. 1, No. 2, 30-35 (April 2002).

Brosnan, D.A., "A Primer on Firing, Chemical and Physical Changes in the Soak Zone of the Kiln," *Brickyard Road*, Vol. 1, No. 2, 24-29, (April 2002).

Brosnan, D.A., "Selling Brick to Architects and Building Owners Using Sustainability," *Brickyard Road*, Vol. 1, No. 2, 6-11 (April 2002).

Brosnan, D.A., "A Friend Indeed....John Grogan Left Those on Brickyard Road In Better Shape than When He Joined Them," *Brickyard Road*, Vol. 1, No. 2, 5 (April 2002).

Brosnan, D.A., "Columbus Brick's New Plant," *Brickyard Road*, Vol. 1, No. 1, 9-12 (January 2002).

Brosnan, D.A., "Umwelt und Ziegelherstellung aus amerikanischer Sicht," ("The Environment and Brick Manufacturing – An American Point of View"), Editorial for *Ziegelindustrie International*, Vol. 9, 1 (September, 2002).

Brosnan, D.A., "Drying Brick With Microwave Technology," *Ceramic Industry Magazine*, 11, 11-15 (2002).

Brosnan, D.A., "More Scrubbers Come With MACT Implementation," *Ceramic Bulletin*, 82 (2) (2002).

Brosnan, D.A., "The Brick Industry Gains in Technical Cohesion," *Ceramic Bulletin*, 82, (8) (2002).

Brosnan, D.A., "J.C. Steele & Sons Receives the Center's Highest Award," *Ceramic Bulletin*, 82 (11) (2002).

Brosnan, D.A., "Brick Business," Quarterly Column, *Bulletin of The American Ceramic Society*, Vol. 81, No. 5.

Brosnan, D.A., "More Scrubbers to Come with MACT Implementation," *Bulletin of The American Ceramic Society*, Vol. 81, No. 2.

Brosnan, D.A., "Acme Building Brands' Denton Laboratory," *Bulletin of The American Ceramic Society*, Vol. 80, No. 11.

Brosnan, D.A., "Boral Bricks Corporate Laboratories," *Bulletin of The American Ceramic Society*, Vol. 80, No. 8.

Brosnan, D.A., "Interviews With Industry Giants-Larry Myers," *Bulletin of The American Ceramic Society*, Vol. 80, No. 5.

Brosnan, D.A., "More Scrubbers to Come with MACT Implementation." *Bulletin of The American Ceramic Society*, Vol. 80, No. 2.

Brosnan, D.A., "Interviews With Industry Giants - John Koch," *Bulletin of The American Ceramic Society*, Vol. 79, No. 11 (November, 2000),

Brosnan, D.A., "Interviews With industry Giants: Joe Edwards," *Bulletin of The American Ceramic Society*, Vol. 79, No. 8 (August, 2000).

Brosnan, D.A., "Interviews With Industry Giants - Mitch Wells," *Bulletin of The American Ceramic Society*, Vol. 79, No. 5 (May, 2000).

Brosnan, D.A., "Car Deck Refractories: New Possibilities," *Bulletin of The American Ceramic Society*, Vol. 79, No. 2 (February, 2000).

Brosnan, D.A., "Microwave Drying Can Speed up Brick Manufacturing," *Bulletin of The American Ceramic Society*, Vol. 78, No. 11, 12 (October, 1999).

Brosnan, D.A., "The Robots are Coming," *Bulletin of The American Ceramic Society*, Vol. 78, No. 8, 14 (August, 1999).

Brosnan, D.A., "Brick Producer Solves Environmental Problem, US Brick Opens New Elgin Brick Plant, News from the National Brick Research Center, Structural Clay Division to meet in Atlanta," *Bulletin of The American Ceramic Society*, Vol. 78, No. 5 (May, 1999).

Brosnan, D.A., "Brick Industry News, New Brick Plants, Environmental Concerns, Plant Operator's Forum, News from the Ceramic Center," *Bulletin of The American Ceramic Society*, Vol. 78, No. 2, 12 (February, 1999).

Brosnan, D.A., "New Air Quality Standards Shouldn't Be Implemented Now," *The Greenville News* (July 16, 1997).

PRESENTATIONS

"When Times Get Tough, Sell AIR" (A Paper on Pollution and Energy Minimization in Manufacturing), Finance & Management Meeting for the Brick industry, May 19, 2008.

Brosnan, D. A., "Environmental Regulations – The Next 25 Years," Southwestern Section, American Ceramic Society (November 15, 2007).

Brosnan, D. A., "*The Four Horsemen of the NEW Apocalypse: CO₂, NO_x, CPM, and Soot*," Senior Manager's Meeting for the Brick Industry, Sea Island, GA, April 2007.

Brosnan, D.A., "Product Innovation in Traditional Ceramics – Lessons From Our Generation," (invited lecture), Canadian Ceramic Society, Toronto (February 20, 2006).

Brosnan, D.A., "Driving Innovation and Creating Success with Building Materials," (Keynote Address), The Institute of Materials, Minerals and Mining (UK), Bretby Conference Center (November 21, 2005).

Brosnan, D.A., "Lessons from the Graveyard Lead to Opportunities for the Future," Senior Manager's Meeting for the Brick Industry, Kiawah Island, (May 12, 2005).

Brosnan, D.A., "Bloating of Brick – An Old Nemesis and a New Opportunity", The American Ceramic Society Structural Clay Products Division, Charlotte (May 16, 2005).

Brosnan, D.A., "Statistical Applications in Brick Manufacturing," The Brick Manufacturer's Short Course, Anderson, SC (March 9, 2004).

Brosnan, D.A., "Characterization of Dryer Operation (Drying III)," The Brick Manufacturer's Short Course, Anderson, SC (March 9, 2004).

Brosnan, D.A., "Plasticity in Brick Manufacturing," The Brick Manufacturer's Short Course, Anderson, SC (March 8, 2004).

Brosnan, D.A., "25 Questions on Brick Manufacturing," The Brick Manufacturer's Short Course, Anderson, SC (March 8, 2004).

Brosnan, D.A., "Opps, Mommy, I Broke the House! (Technical Performance of Fiber-Cement Siding)," Fourth Annual Marketing Seminar for Brick Distributors, Destin, FL (June 30, 2004).

Brosnan, D.A. and Sanders, John P., "Characterizing Potential Air Emissions Using Bench Scale Tests," Annual Convention of The American Ceramic Society (April 20, 2004).

Brosnan, D.A., "Paradise Lost: Globalization and Traditional Ceramics," Southwestern Section of The American Ceramic Society, Tyler, TX (November, 2003).

Brosnan, D.A., "Seminars on Electronic Calculation Utilities, Emissions, and Refractories," Fuels, Combustion, and Kiln Operation Short Course, The National Brick Research Center, Anderson, SC (October 27-31, 2003).

Brosnan, D.A., "Seminar on Raw Materials in Brick Manufacturing," Midwestern Region of the Brick Industry Association, Sioux City, IA (October 19, 2003).

Brosnan, D.A., Program Director, The International Brick Plant Operator's Forum, Littlejohn Coliseum, Clemson, SC 740 attendees (October 2003).

Brosnan, D.A., "Models for Industry – Academia Partnerships," The Glass Manufacturer's Industry Council, Golden, CO (September 11, 2003).

Brosnan, D.A., "The Environmental Impact of Building Materials," Seminar for Architects and Engineers, Rocky Mountain Masonry Institute, Denver (August 26, 2003).

Brosnan, D.A., "Seminar on Alternate Fuels in Brick Manufacturing," The National Brick Research Center, Anderson, SC (August, 2003).

Brosnan, D.A., "Growth and Globalization of Forums for Ceramic/Glass and Related Materials Information Exchange," The International Brick Plant Operator's Forum – The Clemson Meeting, Nashville, TN (May 29, 2003).

Brosnan, D.A., "Seminars on Particle Size, Drying, Refractories, and Emissions," The Brick and Heavy Clay Manufacturer's Short Course, The National Brick Research Center, Anderson, SC (March 2003).

Brosnan, D.A., "Brick Association of the Carolinas Production Committee Seminar," Raleigh, NC (January 18, 2003).

Brosnan, D.A., "Southern Brick Institute Production Committee Seminar," Moncure, NC (January 26, 2003).

Brosnan, D.A., "The Brave New World of Building Physics," Invited Presentation, The Senior Manager's Forum for the Brick Industry, Sea Island, GA (May 2, 2002).

Brosnan, D.A., "My Opinion and Yours," Senior Manager's Forum for the Brick Industry, Sea Island (May, 2002).

Brosnan, D.A., "How Green are Your Building Materials?" Mason Contractors Association of America "Masonry Showcase", Phoenix, AZ (February 9, 2002).

Brosnan, D.A., NIST/ACerS Crystalline Silica Meeting, Gaithersburg (May 20-21, 2002).

Brosnan, D.A., "Life Cycle Analysis and Sustainability of Modern Building Cladding Materials," Carolina's Forum for Brick Distributors, Greensboro, NC (January, 2001).

Brosnan, D.A., "Into the Future Together," Senior Manager's Forum for the Brick Industry, Sea Island, GA (April, 2001).

Brosnan, D.A., "Environmental Considerations in Selection of Raw Materials," Southern Brick Institute Production Committee Meeting, Columbus, GA (February, 2001).

Brosnan, D.A., "Tree Huggers Should Hug Brick Houses," 46th International Brick Plant Operator's Forum, Clemson, SC (October 2, 2000).

Brosnan, D.A., "Wolfragan and a few Other Things," 46th International Brick Plant Operator's Forum, Clemson, SC, (October 4, 2000).

Brosnan, D.A. and Frederic, Jr., J.C., "Fatigue of Traditional Ceramic Products," European Ceramic Society, Brighton, England (June 23, 1999).

Brosnan, D.A., "World Class Manufacturing from a Quality Perspective," Senior Management Forum, Sea Island, GA (May 1, 1999).

Brosnan, D.A., "The Keys to Survival & Prosperity of the Clay Brick Industry in North America," The Southwestern Brick Institute, Austin, TX, (March 12, 1999).

Brosnan, D.A., "Psychrometric Charts Made Easy," Southern Brick Institute Production Committee Meeting, Montgomery, AL, (February 25, 1999).

Brosnan, D.A. and Frederic, Jr., James C., "Strength Tests on Brick What They Tell You and What They Don't," The Canadian Ceramic Society, Toronto, (February 15, 1999).

Brosnan, D.A., "Everything You Wanted To know About Absorptions," Carolina's Forum for Brick Distributors, (January 19- 20, 1999).

Brosnan, D.A., "Fact and Fiction on Crystalline Silica," Plant Operator's Forum, Clemson, SC (October 13, 1998).

Brosnan, D.A., "Approaching the Millennium: Keys to Sell New Products in the Future," 1998 Southern Brick Institute Sales Meeting, St. Simons, GA (October 5, 1998).

Brosnan, D.A., "Review of Drying Technology," Fourteenth Production Managers Meeting, Mississippi-Louisiana Brick Manufacturer's Association, Shreveport, LA, (September 15, 1998).

Brosnan, D.A., "Drying Fundamentals," The 3rd Biennial Workshop and Exposition, The American Ceramic Society - Ceramic Manufacturer's Association, Lexington, KY, (August 24, 1998).

Brosnan, D.A., "Preparing Now For The Clay Products MACT," The 3rd Biennial Workshop and Exposition, The American Ceramic Society - Ceramic Manufacturer's Association, Lexington, KY (August 24, 1998).

Brosnan, D. and Mussro, B. (Clemson University), and Addison, G. Jackson, B. and Teester, G. (AJT Inc.); "Vitrification of Contaminated Soils From The Charleston Naval Complex," by O'Connor, W. K. and Turner, P. C. Turner (Albany Research Center), International Conference on Incineration and Thermal Treatment Technologies, Salt Lake City, UT (May 11-15, 1998).

Brosnan, D.A., "Center Report and Practical Environmental Information For Financial People," Finance and Management Seminar For The Brick Industry, Williamsburg, VA (May 12, 1998).

Brosnan, D.A., "New Air Quality Standards as They Affect Economic Development in South Carolina," South Carolina Economic Developer's Association, Columbia, SC (April 22, 1998).

Brosnan, D.A., "Everything You Wanted to Know About Brick Testing," Carolina's Forum for Brick Distributors (January 13-14, 1998).

Brosnan, D.A., "Dredge Material Vitrification," Annual Meeting, State of South Carolina and U.S. Army Corps of Engineers, Columbia, SC, (October 31, 1997).

Brosnan, D.A., "Thirty Five Thousand EPA Employees Looking After You," 43rd Plant Operator's Forum, Clemson, SC (October 22, 1997).

Brosnan, D.A. and Frederic, Jr., J.C., "Particulate Matter and Metals Emissions in Ceramic Manufacturing," Southeastern Section, The American Ceramic Society, Lexington, KY, (September 11, 1997).

Brosnan, D.A., "New Air Quality Standards As they Affect Economic Development in South Carolina," South Carolina Economic Development Association, Columbia, SC, (August 21, 1997).

Brosnan, D.A. and Frederic, Jr., J.C., "Strength Tests On Brick: What They Tell You and What They Don't," Paper S-004-97F, Structural Clay Products Division, The American Ceramic Society, Ft. Worth, TX (May 20, 1997).

Brosnan, D.A., "Environmental Concerns: The Brick Industry 2000 A.D. and Beyond," Senior Management Forum, Southern Brick Institute-Brick Association of the Carolinas, Sea Island, GA (May 5, 1997).

Brosnan, D.A., "Staining Complaints: What to do Right Away," Brick Institute of America, Production Committee Meeting, Fairbury, NE (April 30, 1997).

Brosnan, D.A., "Clemson University in Partnership with the Brick Industry," The BIA-NABD National Brick Show, (April 3-April 4, 1997).

Brosnan, D.A., "Characterizing Limestone and Scrubber Recycle Materials," SBI production Committee Meeting, Macon, GA (February 27, 1997).

Brosnan, D.A., "The Ankerplast-Elbo Glue-Mortar System," Center Executive Committee Meeting (February 5, 1997).

Brosnan, D.A., "Review of Hauck's Work On Fast Firing At The German Brick Institute," Center Executive Committee Meeting (February 5, 1997).

Brosnan, D.A., "Is There a Threshold for Efflorescence Predictable From a Quick Plant Test?" Center Executive Committee Meeting (February 5, 1997).

Brosnan, D.A., "Progress Report on Characterizing Limestone for use in Scrubbers," Center Executive Committee Meeting (February 5, 1997).

Brosnan, D.A., "Effect of Firing Schedule and Process Variables on Hydrogen Fluoride Emissions From Structural Clay Products," Annual Meeting of the Canadian Ceramic Society (February 25, 1997).

Rettberg, H.C. (Champion Aviation, Liberty, SC), and Brosnan, D.A., "Strengthening Structural Clay Products By Infiltration of Porosity With Aluminum," USA. Presented at the Annual Meeting of the Canadian Ceramic Society (February 24, 1997).

Sereno-Gomez, E. (Refractarios Mexicanos, Saltillo, Mexico) Brosnan, D.A., "Oxidation Resistance of Magnesia-Graphite Refractories Containing SiC," Annual Meeting of the Canadian Ceramic Society (February 24, 1997).

Brosnan, D.A., "Isothermal Transport of Internally Generated SO₂ Through a Porous Clay Ceramic," The American Ceramic Society Annual Meeting (April, 1996).

Robinson, G. C., Brosnan, D.A., Borchelt, "Attempts to Obtain a Standard Research Brick From Commercial Production," 7th North American Masonry Conference, Notre University (June 3-5, 1996).

Brosnan, D.A., "Review of the Firing Process," in "Current Progress in Firing of Traditional and Technical Ceramics", Seminar Program, Joint Meeting of The American Ceramic Society (Southwest Section) and The Mexican Ceramic Society (North Zone), South Padre Island, TX (May 8, 1996).

Brosnan, D.A., "Sintering In The Presence of Liquid Phases," in "Current Progress in Firing of Traditional and Technical Ceramics", Seminar Program, Joint Meeting of The American Ceramic Society (Southwest Section) and The Mexican Ceramic Society (North Zone), South Padre Island, TX (May 8, 1996).

Brosnan, D.A., "Sintering of Alumina Porcelains and High Alumina Technical Ceramics," in "Current Progress in Firing of Traditional and Technical Ceramics", Seminar Program, Joint Meeting of The American Ceramic Society (Southwest Section) and The Mexican Ceramic Society (North Zone), South Padre Island, TX (May 8, 1996).

Brosnan, D.A., "Summary of Air Emissions Information on Kilns Firing Traditional Ceramics," in "Current Progress in Firing of Traditional and Technical Ceramics", Seminar Program, Joint Meeting of The American Ceramic Society (Southwest Section) and The Mexican Ceramic Society (North Zone), South Padre Island, TX (May 8, 1996).

Brosnan, D.A., "Brief Observations of Experience With the Wet Scrubber at Interstate," in Current Progress in Firing of Traditional and Technical Ceramics", Seminar Program, Joint Meeting of The American Ceramic Society (Southwest Section) and The Mexican Ceramic Society (North Zone), South Padre Island, TX (May 8, 1996).

Brosnan, D.A., and Sanders, J.P., "Isothermal Transport of Internally Generated SO₂ Through a Porous Clay Ceramic," Paper S-3-96, The American Ceramic Society, Indianapolis, IN (April 15, 1996).

Brosnan, D.A., "Firing Ceramics - A Review," Southeastern Section, The American Ceramic Society, Atlanta, GA (March 14, 1996).

Brosnan, D.A., and McGinley, W. M. (NC A&T University), "Water Penetration Testing of Single Wythe Residential Load Bearing Clay Masonry Wall Systems," ASTM Symposium on "Masonry: Esthetics, Engineering, and Economy," Norfolk, VA (December 5, 1995).

Brosnan, D.A., "What is Happening with the Ceramic Center at Clemson," The American Ceramic Society, Southeastern Section, Oak Ridge, TN (November 30, 1995).

Brosnan, D.A., "Effect of Rehydration of Castables on Physical Properties," Presented at The American Ceramic Society Annual Meeting, Cincinnati, OH (April 30 - May 4, 1995).

Brosnan, D.A., "Emissions of Sulfur Oxides and Hydrogen Chloride on Firing Clay Ceramics," Presented at The American Ceramic Society Annual Meeting, Cincinnati, OH (April 30 - May 4, 1995).

Brosnan, D.A., "Emissions of Fluorine Species in Firing Clay Ceramics Using FT-IR Detection Methods," Presented at The American Ceramic Society Annual Meeting, Cincinnati, OH (April 30 - May 4, 1995).

Brosnan, D.A., "Raw Materials and Body Preparation Prior to Extrusion," Miss-Lou Brick Association, Hot Springs, AR (April 4-5, 1995).

Brosnan, D.A., "The Three P's, Particles, Prophets, and Profits: Particle Size Control Beyond the Year 2000," Miss-Lou Brick Association, Destin, FL (May 31, 1996).

Brosnan, D.A., "Air Emissions in Firing Brick Products: Report on the Industry's Response to Requirements of the Clean Air Act," Paper 1-S-95F, Structural Clay Products Division Meeting, The American Ceramic Society, Roanoke, VA (September 25, 1995).

Brosnan, D.A., "Seven Good Ways to Utilize Technology to Make Money Beyond the Current Boom," Miss-Lou Brick Association, Destin, FL (June 10, 1995).

Brosnan, D.A., "Mixing of Clay Materials," Miss-Lou Brick Association, Production Manager's Meeting, Hot Springs, AR (April 4, 1995).

Brosnan, D.A., "Rehydration of Castable Refractories," The Canadian Ceramic Society Annual Meeting, Toronto, Canada (February 22, 1995).

Brosnan, D.A., "Recycling of Electronic Ceramic Residuals in Traditional Ceramic Host Compositions," The Canadian Ceramic Society Annual Meeting, Toronto, Canada (February 22, 1995).

Brosnan, D.A., "Composition and Properties of Recrystallized Incinerator Residuals," The Canadian Ceramic Society Annual Meeting, Toronto, Canada (February 22, 1995).

Brosnan, D.A., "Survey of Air Emissions Potentials in Refractories Manufacturing," XXIII Congress ALAFAR, Puerto Vallarta, Mexico, (November 6, 1994).

Brosnan, D.A., "Product Safety as Indicated by Aquatic Toxicology of Fired Brick Containing Chrome Ore and Other Metal Oxides," XXIII Congress ALAFAR, Puerto Vallarta, Mexico, (November 6, 1994).

Brosnan, D.A., "Status of the BIA HF Emissions Program," Plant Operator's Forum, Clemson, SC (October 24, 1994).

Brosnan, D.A., "Metals Emissions in Brick Manufacturing," Plant Operator's Forum, Clemson, SC (October 24, 1994).

Brosnan, D.A., "Recrystallization of Incinerator Residuals to Produce Environmentally Safe Construction Materials," Poster Presentation at the Third South Carolina Environmental Symposium, Annual Hazardous Waste Management Research Fund Conference, Kiawah Island, GA (September 28-29, 1994).

Brosnan, D.A., "The Relationship Between Recycling, Product Safety, and Quality in Refractories Manufacturing," Denis A. Brosnan, The Refractories Division Fall Meeting, The American Ceramic Society, Louisville, KY (September 25-28, 1994).

Brosnan, D.A., "Building A World Class Research Facility for Traditional Ceramics," The Ceramic Manufacturers and Suppliers Workshop, The American Ceramic Society, Louisville, KY (September 25-28, 1994).

Brosnan, D.A., "The Next Problem: Heavy Metal Emissions From Ceramic Kilns," Southeastern Section, The American Ceramic Society, Myrtle Beach, SC (July 20, 1994).

Brosnan, D.A., "Opportunities and Alligators in the Evolving Swamp of Environmental Regulation - How You Should Factor Regulation Into Current Business Decisions," Miss-Lou Brick Association, San Destin Beach, FL (June 17, 1994).

Brosnan, D.A. and Sanders, J.P., "Correlation of Laboratory Measurements and Field Measurements of Fluoride Emission in Ceramic Manufacturing," The American Ceramic Society Annual Meeting, Indianapolis, IN, Paper S-8-94 (April 27, 1994).

Brosnan, D.A., "Ceramic Industry Partnerships Which Facilitate Undergraduate Education," The American Ceramic Society Annual Meeting, Indianapolis, IN, Paper SXVIII-9-94 (April 25, 1994).

Figueiredo, A., Brosnan, D.A. Fain, C.C. and Leigh, H.D., Determination of Selected Properties of Magnesia Carbon Refractory Bricks After Firing at Intermediate Temperature," The American Ceramic Society Annual Meeting, Indianapolis, IN, Paper SIV-29-94 (April 27, 1994).

Brosnan, D.A., "Metals Vaporization and Stack Emissions in Brick Manufacturing," 13th Production Managers Meeting, Miss-Lou Brick Manufacturer's Association, Fort Worth, TX (April 19, 1994).

Brosnan, D.A., "Examination of Medical Waste Incinerator Slags and Implications on Refractory Performance," Canadian Ceramic Society Meeting, Canada (February 22, 1994).

Brosnan, D.A., and Sanders, J.P., "Determination of Fluorine Content Clay Raw Materials and Prediction of Hydrogen Fluoride Emissions in Ceramic Manufacturing," Canadian Ceramic Society Meeting, Canada (February 23, 1994).

Brosnan, D.A., "How our New Traveling Laboratory is Running Stack Emissions from Brick Kilns in the USA," Southeastern Section Meeting, Louisville, KY (October 28, 1993).

Brosnan, D.A., "Progress on the Fluoride Emissions Program," Plant Operator's Forum, Clemson, SC (October 27, 1993).

Brosnan, D.A., "Review of Firing Technology for Clay Brick," Miss-Lou Brick Association, Columbus, MS (September 29, 1993).

Brosnan, D.A., "Center for Ceramic Engineering Report," Miss-Lou Brick Association, San Destin Beach, FL (June 13, 1993).

Brosnan, D.A., "Environmental Considerations in Brick Manufacturing," Southeastern Brick Manufacturer's Meeting, Brunswick, GA (June 2, 1993).

Brosnan, D.A., "Recycling In Clay Brick," The American Ceramic Society, Cincinnati, OH (April, 1993).

Brosnan, D.A., "Recrystallization of Incinerator Residuals to Produce Environmentally Safe Construction Materials," 1993 Joint Conference On Hazardous Waste Reduction, Greenville, SC (October 12, 1993).

Brosnan, D.A., "Toxicology Testing in Clay Brick," The American Ceramic Society, Cincinnati, OH (April, 1993).

Brosnan, D.A., "Slag Chemistry and Refractory Wear in Hazardous Waste Incinerators - Part II," Canadian Ceramic Society, Niagara Falls, Canada (February 22, 1993).

Brosnan, D.A., "Implications of Toughening of Clay Brick on Performance," Canadian Ceramic Society, Niagara Falls, Canada (February 22, 1993).

Brosnan, D.A., "Update on Fluorine Emissions Testing," Joint SE/SW Section Meeting, Nashville, TN (November 4, 1992).

Brosnan, D.A., "Research Possibilities to Affect Brick Marketing," Miss-Lou Brick Association, San Destin Beach, FL (August, 1992).

Brosnan, D.A., "The Brick Industry's Aggressive Program on Fluorine," Southeastern Section, Corpus Christi, TX (July 16, 1992).

Brosnan, D.A., "Soluble and Insoluble Mortars for Use in Fireplace Construction," Southwest Section, Corpus Christi, TX (June 19, 1992).

Brosnan, D.A., "Evaluating Refractory Failure in Tunnel Kilns," Southeast Section, Charlotte, NC (July 19, 1992).

Brosnan, D.A., "Encapsulating Waste: A New Industry With a Growing Market," BIA-9 Production Committee, Columbia, SC (February 7, 1991).

Brosnan, D.A., "The Influence of Drying and Firing on Chip Resistance," Plant Operator's Forum, Clemson, SC (October 30, 1992).

Brosnan, D.A., "Closing The Loop - Sludge To Brick Using the VerTech Treatment System," Presented at "Sludge - 90, Conference On Industrial Sludge and Municipal Waste Effluents Management, Atlantic City, NJ (September 28, 1990).

Brosnan, D.A., "Strength Tests on Brick Beams Using Polyester Adhesives in Place of Conventional Masonry Mortars," Paper 2-S-90F, Structural Clay Products Division, Birmingham, AL (September 13, 1990).

Brosnan, D.A., "Reactions Between Penetration Inhibitors and Aluminum in Refractories," Paper 16-R-90, The American Ceramic Society Annual Meeting (April 1990).

Brosnan, D.A., "Kinetics of the In-situ Reaction Between Silicon and Carbon in Refractory Compositions," Paper 20-R-90, The American Ceramic Society Annual Meeting (April, 1990).

Brosnan, D.A., "A Laboratory Extrusion Test for Evaluating Brick Raw Materials," Paper 13-S-90, The American Ceramic Society Annual Meeting (April, 1990).

Brosnan, D.A., "Relative Performance of Brick and Frame Structures Under Hurricane Loads In Coastal South Carolina," Paper 20-S-90, The American Ceramic Society Annual Meeting (April, 1990).

Brosnan, D.A., "Understanding Crown Failures in Brick Manufacturing," BIA-9 Production Committee Meeting, Atlanta, GA (February, 1990).

Brosnan, D.A., "Use of Refractory Castables In Brick Plants," BIA-9 Production Committee Meeting, Atlanta, GA (February, 1990).

Brosnan, D.A., "Castable Olivine Refractories for use in Heat Storage Applications," Refractories Division (October, 1983).

Brosnan, D.A., "Construction and Initial Test Results of Refractories in a Coal Fired MHD Power Plant, The American Ceramic Society Annual Meeting (May, 1981).

Brosnan, D.A., "Wear Phenomena Exhibited by Electrode Metals in UTSL's 4PPS MHD Generator," IEEE Meeting on Plasma Science (May, 1981).

Brosnan, D.A., "Interaction of Design, Material Selection, and Process Parameters as Related to Open Cycle Coal Fired MHD Power Generation," AIChE 90th National Meeting (April, 1981).

Brosnan, D.A., "Microscopic Evaluation of Refractory Wear Phenomena in MHD Combustor and Near Upstream Environments," Pacific Coast Meeting (October, 1980).

Brosnan, D.A., "Recent Experiences With Dolomite Refractories in AOD Vessels," The American Ceramic Society Annual Meeting (May, 1979).

Brosnan, D.A., "Direct Bonded Dolomite Brick in AOD Vessels," AIME Electric Furnace Meeting (December, 1977).

Brosnan, D.A., "Trends In Refractories Research," Lehi Valley Section, (September, 1976).

Brosnan, D.A., "Microscopic Evaluation of Magnesite Brick After Service in AVCO's MHD Preheater Facility," AVCO Everett Research Laboratory, (January, 1976).

Brosnan, D.A., "Wear of Magnesia Chrome Brick In Electric Furnace Sidewalls," The American Ceramic Society Annual Meeting (May, 1973).

Brosnan, D.A., "Slag Chemistry and Refractory Wear in AOD Vessels," The American Ceramic Society Meeting, Bedford (October, 1973).

Brosnan, D.A., "Rotary Slag Testing of Basic Refractories," The American Ceramic Society Annual Meeting, Bedford (October, 1972).

Brosnan, D.A., "Interdiffusion in the Systems MnO-MgO and NiO-CoO," The American Ceramic Society Annual Meeting (May, 1971).

Brosnan, D.A., "Sonic Testing of Ceramics," Southeastern Section, The American Ceramic Society, Gatlinburg (May, 1967).

PATENTS

"Low Density Ceramics Produced From Paper Recycling Residuals," U.S. Patent 6,569,797, D.A. Brosnan.

"Method for Processing Clay Ceramic Materials," U.S. Patent 6,548,438, D.A. Brosnan, J.C. Frederic, Jr., and J.P. Sanders, III.

"Method for Processing Brickmaking Materials", U.S. Patent 6479131, D.A. Brosnan, J.C. Frederic, Jr., and J.P. Sanders.

"Process for Recycling Spent Pot Liner", U.S. Patent 6,471,931, D.A. Brosnan.

"Process For Separating Hazardous Metals From Waste Materials During Vitrification", U.S. Patent 6,136,063, D.A. Brosnan.

"Iron-Manganese Colorant", U.S. Patent 5,562,765, D.A. Brosnan and C.V. Brown.

"Welding Process and Mixture of Reactants For Use In Such Process, US Patent 5,062,903, D.A. Brosnan and J.E. Whetsel.

"Dental Composite Material and Process," US Patent 4,952,530, D.A. Brosnan and L.J. Colarruso.

"Exothermic Welding Apparatus and Method," US Patent 4,899,324, D.A. Brosnan.

"Exothermic Welding Apparatus Including A Baffle Cover Assembly," US Patent 4,881,677, D.A. Brosnan

“Magnesium Oxide Based Heat Storage Device,” US Patent 4,383,989, D.A. Brosnan.

HONORS AND AWARDS

The John Jeppson Award and Medal, The American Ceramic Society (2007). *The Jeppson Award recognizes distinguished scientific, technical, or engineering achievements in ceramics. It is presented annually at the national meeting of the Society.*

The Harry Ebright Award, The American Ceramic Society (2007). *This award is for outstanding service to the Southwestern Section of the American Ceramic Society.*

The Hewlitt Wilson Award, The American Ceramic Society (2004). *This award is for technical accomplishment and service to the Southeastern region of the United States.*

Fellow, The American Ceramic Society, (1992).

SPONSORED RESEARCH

“Economic Impact of the Brick Industry’s Efforts to Control Worker Exposure to Crystalline Silica (Phase 1)” ; CU Project Number 246-2004681; Amount \$36,000, Sponsor: The Brick Industry Association (2005).

“National Brick Inst Research Administration, Clemson University Foundation, \$279,841 (2004).

“National Brick Center Public Service,” Clemson University Foundation, \$94,329.00 (2005).

National Brick Center Research Project, Clemson University Foundation, \$150,773 (2004).

“Wall Systems Research, Private Donor, \$19,488.65 (2004).

“National Brick Center Research Project,” Clemson University Foundation \$70,143.54 (2004).

“National Brick Center Public Service,” Clemson University Foundation, \$25,503.22 (2004).

“NBRC Research Testing,” Private Donor, \$29,536.41 (2004).

“Bishop Research Lab,” Clemson University Research Foundation, \$36,144 (2004).

“National Brick Center Research Testing, Private Donor, \$113,895 (2004).

“National Brick Inst Research Administration, Clemson University Foundation, \$131,260 (2004).

“Sulfur and Carbon Analyzer Research Equipment Gift,” Clemson University Foundation, \$36,908 (2003-04).

“Forney Press Research Equipment,” Clemson University Foundation, \$12,331.00 (2003-04).

“NBRC CUF,” Clemson University Foundation, \$28,491.00 (2004).

“Bishop Lab,” Clemson University Foundation, \$69,426.00 (2004).

“National Brick Center Research Project, Clemson University Foundation, \$150,773.00 (2004).

“National Brick Inst Research Administration,” Clemson University Foundation, \$279,841.00 (2004).

“NBRC Research Development,” Clemson University Foundation, \$35,614.00 (2004).

“CRT Glass Open-Loop Recycling,” DOD through Concurrent Technologies Corporation, \$45,594 (2002-03).

“National Brick Center Administration,” Private Donor, \$299,353 (2002-03).

“Wall Systems Research,” Private Donor, \$2,395.00 (2002-03).

“National Brick Center Research Project,” Private Donor, \$108,171 (2002-03).

“National Brick Center Research Testing,” Private Donor, \$175,515 (2002-03).

“National Brick Center Public Service,” Private Donor. \$1,891 (2002-03).

“Gradient Furnace,” Clemson University Foundation, 11,550 (2002-03).

“X-ray Fluorescence Spectrometer,” Ceric, Inc., 68,627 (2002-03).

“NBRC Wall Systems Research,” Private Donor, \$2,935 (2002-03).

“Bishop Research Lab,” Private Donor, \$41,220 (2002-03).

“NBRC Research Testing (Invoice),” Private Donor (2002-03).

“Membership Donations for Research,” \$859,051 (2002).

“Membership Fee Sponsored by Acme,” \$680.00, (2001-02).

“Membership Fee Sponsored by Southern Brick,” \$50,862.00 (2001-02).

“Brick Manufacturing Research – Heavy Duty Vibrating Screen Sponsored by Midwestern Industries”, \$33,000 (2002).

“CRT Glass Open-Loop Recycling Sponsored by Concurrent Technologies Corporation”, \$45,908.00, (2002).

“Vitrification of Contaminated Soil From The Charleston Naval Complex,” SCUREF, Principal Investigator, No. 3-30-0908-32-6771, \$253,017.00.

“Reticulated Aggregates for Advanced Refractory Products,” (October, 1996) SCUREF/DOE, Account No. 3-30-0908-30-7333, \$41,396.00.

“Recycling of PZT and PMN Residuals,” ARPS/SMS, 5209, \$50,000 (1993-).

“Production of Environmentally Safe Construction Aggregates From Incinerator Residuals,” Hazardous Waste Research Foundation, 4780, \$90,000 (1992-).

“Hydrogen Fluoride Emissions Program,” Brick Institute of America, - Center for Engineering Ceramic Manufacturing, \$89,000, (1993-).

“Admixture of Waste into Bricks,” Waccamaw Clay Products, Center for Engineering Ceramic Manufacturing, \$47,000 (1993-).

“Recycling of Roofing Granules,” 3-M, -5265, \$15,117 (1992-3).

“Incorporation of Paper Residuals in Clay Brick,” Kimberly-Clark, 4715,

\$11,242 (1991-2).

“Admixture of Oxidized Sludge to Bricks,” Air Products, Center for Engineering Ceramic Manufacturing, \$19,000 (1990-1).

GRADUATE STUDENT ADVISING

Doctoral Graduates

Sereno, E. G. The Effect of Fully Stabilized Organic Fiber Additions on the Mechanical Properties of MgO Bricks (December, 1998).

Sanders, J. P., Transport of Internally Generated SO₂ Through Porous Clay Ceramics (December, 1995).

Masters Graduates

Joe Angel (MS) “Color Prediction of Pennsylvanian Age Shale in Extruded Face Brick” (2005)

Richard Payne, (MS) “Bloating in Clay Brick” (2005).

Strang, Chris, (MS) “A Post-tensioning System for Brick Masonry” (2003).

Lowery, H., (MS) “Efflorescence and Post Treatment Systems” (2002).

Nelson, D., (MS) “Fast Drying Systems for American Ceramic Products” (2003).

Seaverson, E., (MS) “Freezing Expansion and Durability of Brick” (2000).

Liederman, S., "Engineering Properties of brick Masonry Assemblies Produced With Thin Mortar Joints" (December, 1998).

Hill, K., “Research in Use of FT-IR to Detect Emissions on Firing Ceramics” (1995).

Lloyd, J., “Research in Additives to Control HF Emissions” (May, 1995).

Walker, M., “Research in New Masonry Wall Systems” (May, 1995).

Knowles, S., “Recrystallization of Incinerator Residuals to Produce Environmentally Safe Construction Materials,” (1994).

Hooks, A. M., "Aquatic Toxicology of Brick Products," (1994).

Figuieredo, A., "Determination of Selected Properties of Magnesia-Carbon Bricks After Firing At Intermediate Temperature," (1993).

Sanders, J., "Measurement and Control of Fluorine Emissions in Ceramic Manufacturing," (1993).

Sereno, E.G., "Oxidation Resistance of Magnesia-Graphite Refractories Containing SiC Formed By an In-situ Reaction," (1992).

Landsly, J. "A Comparative Study of Use of Organic Adhesives in Place of Traditional Cement Based Mortars," (1992).

Rettburg, H. "Dual Matrix Ceramic-Aluminum Composites Produced By Squeeze Casting," (1992).

International Visitors

Dominguez, R., "Processing of Alumina and Chromia Compositions to Produce Reticulated Aggregates"

Wölfenstein, S., "Structural Clay Products".

TEACHING

Courses Taught

CME 432, Manufacturing Process and Systems, F04, F05, F06, F07.

CME 441, Manufacturing Laboratory, F04, F05, F06, F07.

CME 433, Combustion and environmental, S06, S07, S08.

CME 210, Introduction to Material Science, S04.

MS&E 891, Research, S02, SU02, F02, S03, SU03, F03, S04, SU04, F04, S05.

CME 323, Combustion and Environmental, S03, S05.

CrE 809, High Temperature Materials, F97.

CME 490, Special Topics, F04.

CrE 490, Optical Microscopy of Ceramic Materials, F93, F92.

CrE 490, Thermal Analysis, F91.

CrE 490, Refractories and Furnace Construction, F90.

CrE 310, Engineering Materials Science," F89, S90.

CrE 308, Thermal Processing Lab, S02.

CrE 307, Thermal Processing, S91, S92, S93, S95, S96, S97, S98, S99, S00, S02.

CrE 202, Introduction to Forming of Ceramics, F00, F91, F92, F93, F95, S99.

CME 201, Introduction to Ceramic Engineering, F00, F99.

CrE 701, Special Problems in CrE," Project: Rehydration of Refractory Castables, Peter Fernstrom, F94

CrE 406, Ceramic Project, Advisor to:

Shealy, M., "Kiln Emission Factors," (1994)

Delessandro, B., "Aquatic Toxicology of Whiteware Ceramics Containing Electronic Manufacturing Residuals by the Microtox Method," (1994)

Warden, B., "Rehydration of Calcium Aluminate Cements," 1994

Lindsay, S., "Colorimetric Determination of the Fe²⁺/Fe³⁺ Ratio In Glass," (1995)

Eastman, E., "Mass Balance to Determine Volatilization of Chrome and Manganese in Structural Ceramics, (1994)

Johnson, M., "Metals Volatilization in Firing Brick," (1994)

Overman, C., "Effect of Pore Structure On Properties of Clay Brick," (1993)

Sayre, B., "Incorporation of Waste In Clay Brick," (1993)

Singletary, A., "Thermal Expansion of Alkali Doped Refractories," (1993)

Fayard, D., "Properties of Polymer Impregnated Ceramics," (1993)

Hooks, A.M., "Medical Incinerator Slags," (1992)

Ruger, L., "Calcium Phosphate Bioceramics," (1992)

Sanders, J., "Glass Compositions from Incinerator Slag," (1991)

New Course Development

CrE 450, "Safety and Environmental Concerns in Ceramic Manufacturing," F'01, F'00, F'99, F'98, F'97, F' 96, S'96, S'95, S'94, S'93, S'92

UNIVERSITY AND PUBLIC SERVICE

Continuing Education

Short Course on Building Physics, The Oak Ridge National Laboratory and Fraunhofer Institute, Seattle, WA (March 3-6, 2003).

"Use of Electronic Psychrometric Charts in Analyzing Dryer Operations", Alabama Brick Manufacturers, Selma, AL (April, 2001).

"Electronic Psychrometric Charts", Brick Association of the Carolinas Production Committee, Salisbury, NC (May, 2001).

"Drying Ceramic Products", Texas Brick Producers," Austin, TX (June, 2001).

"Thermal Processing of Ceramic Products," The Canadian Ceramic Society, Toronto, Canada (February 14, 1999).

"Drying and Firing of Ceramic Products," Course Director, The American Ceramic Society, 3rd Biennial Workshop and Exposition, Lexington, KY, (August 23, 1998).

"Air Emissions and Environmental Concerns in Ceramic Manufacturing," Course Director, The Center for Engineering Ceramic Manufacturing, (January 14-17, 1997).

"Brick and Heavy Clay Manufacturing," Course Director, The National Brick Research Center, March Two-Three Offerings Per Year (1997-).

"Current Progress in Firing of Traditional and Technical Ceramics," Seminar Program, Joint Meeting of The American Ceramic Society (Southwest Section) and The Mexican Ceramic Society (North Zone), South Padre Island (May 8, 1996).

"Air Pollution and Product Safety Issues in Ceramic Manufacturing," Southwest Section, The American Ceramic Society, Dallas (November 3, 1993).

"The Brick Manufacturer's Short Course," Continuing Engineering Education, January and May, '90; January, '91; May, '92; May, '93, August, '94, January, '95; Course Director (July 24-27, 1995).

“Refractories,” The Center For Professional Advancement, Annually since 1977, New Brunswick (1977-1989), Chicago (1990-), Houston (1990-), Los Angeles (1988-), Amsterdam (1988-99).

“Advanced Refractories,” The Center for Professional Advancement, Annually since 1988, New Brunswick (1988-1992), Chicago (1993-), Amsterdam (1988-99).

Committees

COES Tenure and Promotion Committee, Initiated 2008.

Faculty Development Committee, Chair 2007-08, RTPSL Committee, Clemson University, (2004-6).

Environmental Committee, Technical Advisor, Brick Industry Association, (2003).

Crystalline Silica Committee, Technical Advisor, Brick Industry Association (2003).

ATM Subcommittee C15.02, Chair, Task Group on Methods of Test, American Society for Testing and Materials (2003).

ASTM Subcommittee C15.02, Chair, Task Group on Initial Rate of Absorption, American Society for Testing and Materials (2003).

ASTM Committee C15.02, American Society for Testing and Materials, (1998-).

ASTM Task Group C15.02.08, American Society for Testing and Materials, Chair (1998-).

Crystalline Silica Committee, Brick Industry Association, 1999-.

Air Emissions Committee, Brick Industry Association (1999-).

Engineering and Research Committee, Brick Industry Association, 2000-.

Legislative and Public Affairs Committee, The American Ceramic Society (2001- 3).

By Laws Committee, School of Materials Science and Engineering (2001-).

McAlister Chair Search Committee, Chair (1998-99).

Chemical Hazards Subcommittee, Institutional Biosafety Committee, (1998-99).

TPR Committee, Department of Ceramic and Materials Engineering, (1996 -).

Chair (1997-).

Faculty Search Committee, Department of Ceramic and Materials Engineering, (1997).

Strategic Planning, Administration and Outreach, College of Engineering and Sciences, (1997).

Facilities Planning, Safety and Fire Prevention; University Committee (1993-96).

Faculty Manual Committee, University Committee (1992-3).

College of Engineering Environmental Scanning Team (1993).

College of Engineering Graduate Program Committee (1993-4).

Safety Officer, Ceramic Engineering (1992-4).

Other Service

Editor, *Brickyard Road Magazine*, A Publication of the International Brick Plant Operator's Forum (2000-)

Director, The National Brick Research Center (1990-).

Acting Department Head, Ceramic Engineering (December, 1993 - August 15, 1995)

At the request of the College Dean, Dr. Brosnan became Acting Department Head of Ceramic Engineering in December, 1993. The following accomplishments are noted from this service:

- * New consensus management.
- * Establishing a Departmental Vision Statement.
- * Establishing a Standing Committee Structure with Graduate/Standards, Undergraduate/Standards, and Operations Faculty Committees.
- * Performing Planning With Annual Faculty Retreats.
- * Establishment of an undergraduate computer lab in Olin Hall.

* Enlarging Departmental Information on Mosaic.

Update: 5/1/08