

SCHOLARLY AND CREATIVE CONTRIBUTIONS

PATENTS

Loutfallah Georges Chedid, Makhlouf M. Makhlouf, Richard D. Sisson, Jr., "Real-Time Carbon Sensor for Measuring Concentration Profiles in Carburized Steel", Patent No. US 7,068,054 B2, June 27, 2006.

Qigui Wang, Bowang Xiao, Gang Wang, Richard D. Sisson, Kevin Rong, "Systems and Methods for Predicting Heat Transfer Coefficients During Quenching", Patent No U.S. 8437991, May 7, 2013.

PAPERS IN JOURNALS AND OTHER PUBLICATIONS

1. R. D. Sisson, Jr. and M. A. Dayananda, "Diffusion Structures in Multiphase Cu-Ni-Zn Couples", Metallurgical Transactions, 3, p. 647, 1972.
2. D. R. Petrak, D. T. Rankin, R. Ruh and R. D. Sisson, Jr., "Effect of Porosity on the Elastic Moduli of CoO, CoO-MgO Solid Solutions and CoAl₂O₄", Journal of the American Ceramic Society, 58, p. 78, 1975.
3. P. A. Makohon, R. D. Sisson, Jr., and J. E. Sheehan, "A Contained Scanning Scientific Electron Microscope for the Examination of Radioactive Materials", Review of Scientific Instruments, 46, p. 889, 1975.
4. Sisson, R.D., McDonnell, W.R., "Effect of helium bubbles at grain boundaries on the fracture characteristics of high-density plutonium-238 dioxide", Report: Savannah RiverLab.(DP-MS-75-93), 19 pp, 1976.
5. R. D. Sisson, Jr. and M. A. Dayananda, "Diffusional and Thermo-dynamic Interactions in the Cu-Ni-Zn System at 775 C", Metallurgical Transactions, 8A, p. 1849, 1977.
6. D. T. Rankin, G. A. Burney, P. K. Smith, and R. D. Sisson, Jr., "Characterization of Oxalate-Based 237NpO₂ Powder", Ceramic Bulletin, 56, p. 478, 1977.
7. W. R. McDonnell, J. E. Sheehan and R. D. Sisson, Jr., "Helium Bubbles at Grain Boundaries of High Density 238PuO₂ Shards," American Nuclear Society Transactions, 22, p. 214, 1975.
8. P. K. Smith, G. A. Burney, D. T. Rankin, D. F. Bickford, and R. D. Sisson, Jr., "Effect of Precipitation Conditions on the Development of PuO₂ Microstructures",Proceedings of the Sixth International Materials Symposium, 76, p. 223, 1978.
9. G. J. Thomas and R. D. Sisson, Jr., "Tritium and Helium-3 Release Data from 304L and 21-6-9 Stainless Steels", Tritium Technology in Fission, Fusion and Isotopic Applications, p. 85, 1980.
10. R. D. Sisson, Jr., T. A. Alder, J. H. Wilson, R. P. McNitt and M. R. Louthan, Jr., "Hydrogen Suppression of Ductile Processes", Scripta Metallurgica, p. 1207, 1980.
11. M. R. Louthan, Jr., R. D. Sisson, Jr., R. P. McNitt, and P. E. Smith, "Stress State Thickness Effects on Delayed Failure", Hydrogen Effects in Metals, p. 829, 1980.
12. R. P. McNitt, R. D. Sisson, Jr., M. R. Louthan, Jr., B. A. Lewis, J. Murali, and J. A. Wagner, "Hydrogen Effects on Biaxially Stressed AISI 1015 Steel", Hydrogen Effects in Metals, p. 785, 1980.
13. H. Ocken, R. R. Biederman and R. D. Sisson, Jr., "Growth of Oxide and Oxygen Stabilized Alpha Layers in Steam Oxidized Zircaloy", Journal of Nuclear Materials, 97, p. 265, 1981.

14. R. D. Sisson, Jr., R. P. McNitt and M. R. Louthan, Jr., "Hydrogen Effects on Materials in Energy Systems", International Conference on Energy and the Environment, January 5-9, 1981, Manila, Philippines, published in the Proceedings.
15. R. R. Biederman, H. Ocken and R. D. Sisson, Jr., "Materials Performance in Light Water Reactors", International Conference on Energy and the Environment, January 5-9, 1981, Manila, Philippines, published in the Proceedings.
16. B. A. Lewis, M. R. Louthan, Jr., R. D. Sisson, Jr., J. Wagner and R. P. McNitt, "The Effect of Surface Finish and Strain Rate on the Deformation Characteristics of 1015 Steel at 25°C", International Symposium on Metal-Hydrogen Systems, April 13-15, 1981, Miami, FL., published in the Proceedings.
17. G. R. Caskey and R. D. Sisson, Jr., "Hydrogen Solubility in Austenitic Steels," Scripta Metallurgica, 15, p. 1187, 1981.
18. M. R. Louthan, Jr., R. P. McNitt and R. D. Sisson, Jr., "Importance of Stress State on Hydrogen Embrittlement", Advanced Techniques for Characterization of Hydrogen in Metals, p. 25, 1982.
19. R. P. McNitt, D. E. Rawl, Jr., N. C. Mack, M. R. Louthan, Jr. and R. D. Sisson, Jr., "The Effects of Post-Welds in HP-9-4-20 Steel", Environmental Degradation of Engineering Materials in Hydrogen, p. 231, 1982.
20. J. Murali, M. R. Louthan, Jr., R. P. McNitt, R. D. Sisson, Jr., "Influence of Externally Imposed Constraint on the Hydrogen Embrittlement of Steels", Current Solutions to Hydrogen Problems in Steels, November 1-5, 1982 in Washington, DC, published in the Proceedings.
21. R. D. Sisson, Jr. and R. R. Biederman, "Application of High Resolution Electron Microscopy to PVD and VP NiCrAlY Coatings", presented at the NATO Advance Study Institute on Surface Engineering July 3-15, 1983 in Les Arcs, France and published in the Proceedings, Surface Engineering, p 482, 1984.
22. S. M. Myers, G. R. Caskey, Jr., R. E. Rawl, Jr. and R. D. Sisson, Jr., " Ion Beam Profiling of 3He in Tritium Exposed 304L and 21-6-9 Stainless Steel ", Metallurgical Transactions, 14A, p. 2261, 1983.
23. B. J. Edwards, M. R. Louthan, Jr. and R. D. Sisson, Jr., "Hydrogen Embrittlement of ZIMALLOY-A Cobalt-Chromium-Molybdenum Orthopedic Implant Alloy, ASTM-STP-859", Corrosion and Degradation of Implant Materials, p. 11, 1983.
24. M. M. Morra, R. D. Sisson, Jr., and R. R. Biederman, "Microstructural Characterization of Metallic Overlay Coatings by High Resolution Analytical Electron Microscopy", presented at the Eleventh International Conference on Metallurgical Coatings held April 9-13, 1984 in San Diego, CA and published in Thin Solid Films, 119, p. 383, 1984.
25. Morra, M. M., Sisson, R. D. Jr., Biederman, R. R, MICROSTRUCTURAL STUDY OF MCrAlY COATINGS", Proceedings of Surface Engineering: Surface Modification of Materials, Les Arc, France, No. 85, pp. 482-495, 1984.
26. J. K. Jones, R. D. Sisson, Jr., and R. R. Biederman, "The Effect of Steam Oxidation on the Mechanical Behavior of Zircaloy-4", presented at the Ninth International Congress on Metallic Corrosion, held June, 1984 in Toronto, Canada, published in the Proceedings, Volume 3, p. 298, 1984.
27. R. R. Biederman and R. D. Sisson, Jr., "The Steam Oxidation of Zircaloy-4 During Temperature Transients", presented at the Symposium on High Temperature Corrosion in Energy Systems held

September 17-19, 1984 at the AIME Fall Meeting in Detroit, MI and published in the Proceedings, p. 659, 1985.

28. Ichiro Sone, R. D. Sisson, Jr., and R. R. Biederman, "Quantitative Phase Analysis of Partially Stabilized Zirconia - 8.5% Yttrium by a Random Fitting Least Chi-squared Method", Journal of Vacuum Science and Technology, A, Vol. 3, pp. 2501-2502, 1985.
29. M. R. Fishkis, R. D. Sisson, Jr., and R. R. Biederman, "A Transmission Electron Microscopy Study of R.F. and D.C. Magnetron-Sputtered Thin Film Chromium and Chromium-Platinum Coatings," Journal of Vacuum Science and Technology, A, Vol. 3, pp. 2012-2026, 1985.
30. J. A. Wagner, M. R. Louthan, Jr., and R. D. Sisson, Jr., "Hydrogen Effects on the Age Hardening Behavior of 2014 Aluminum," Scripta Metallurgica, 20, pp. 957-60, 1986.
31. R. R. Hagglund, R. F. Bourgault, R. R. Biederman and R. D. Sisson, Jr., "Failure Analysis, Metallography and the Expert Witness", presented at the International Metallographic Society's Symposium on Metallography, Fractography and Failure Analysis and published in the Proceedings, p. X-1, 1986.
32. J. M. Oparowski, R. D. Sisson, Jr. and R. R. Biederman, "The Effects of Processing Parameters on the Microstructure and Properties of Sputter Deposited TiW Thin Film Diffusion Barriers", Thin Solid Films, Volume 153, pp. 313-328, 1987.
33. E. Y. Lee, D. M. Chartier, R. R. Biederman and R. D. Sisson, Jr., "Modeling the Microstructural Evolution and Degradation of MCrAlY Coatings during High Temperature Oxidation", Surface and Coatings Technology, Volume 32, pp. 19-39, 1987.
34. Megan Y. M. Hughes and R. D. Sisson, Jr., "Crevice Corrosion of Implant Alloys", Environmental Degradation of Engineering Materials III, edited by M. R. Louthan, Jr., R. P. McNitt and R. D. Sisson, Jr., pp. 683-691, 1987.
35. M. M. Makhlof and R. D. Sisson, Jr., "Hydrogen Permeation through 4340 Steel", Environmental Degradation of Engineering Materials III, edited by M. R. Louthan, Jr., R. P. McNitt and R. D. Sisson, Jr., pp. 683-691, 1987.
36. Sisson, R.D., "Role of Microstructure in the High Temperature Oxidation Resistance of Coatings", Proceedings of the First Int. Symposium on High Temperature Corrosion of Materials and Coatings for Energy Systems and Turboengines – Part II, Materials Science and Engineering, Marseilles, FR, Vol. 88, pp. 349-350, 1987.
37. M. M. Morra, R. R. Biederman, and R. D. Sisson, Jr., "Characterization of High Temperature Oxidation Resistant Coatings", Microstructural Science, Volume 16, pp. 363-378, 1988.
38. J. M. Oparowski, D. F. Quaranta, R. R. Biederman and R. D. Sisson, Jr., "The Characterization of TiW Thin Film Diffusion Barriers," Microstructural Science, Volume 16, pp. 379-394, 1988.
39. M. M. Makhlof and R. D. Sisson, Jr., "A Limited Mass Transfer Model for the Effects of Water Vapor on Hydrogen Permeation in Stainless Steel", Scripta Metallurgica, Volume 22, pp. 1645-1649, 1989.
40. J. L. Burger, B. F. Hantz IV, R. R. Biederman and R. D. Sisson, Jr., "Computer Predicted Microstructures of Carburized and Quenched Steels", Heat Treatment and Surface Engineering, Edited by G. Krauss, an ASM International Publication, pp. 119-124, 1988.

41. G. A. Rossetti, J. L. Burger, W. R. Moser and R. D. Sisson, Jr., "Characterization of Mixed Cobalt-Molybdenum Oxides Prepared by Evaporative Decomposition of Solutions", Journal of the American Ceramic Society, 72, pp. 1811-15, 1989.
42. M. M. Makhlof and R. D. Sisson, Jr., "The Effects of Microstructure and Surface Condition on Hydrogen Permeation in AISI 4340 Steel", Microstructural Science, 17, pp. 515-526, 1989.
43. E. Y. Lee, R. R. Biederman and R. D. Sisson, Jr., "The Effects of Thermal Cycling on the Microstructure of Ceria Stabilized Zirconia Thermal Barrier Coatings", Microstructural Science, 17, pp. 505-513, 1989.
44. R. R. Biederman, Y. H. Ma and R. D. Sisson, Jr., "Microstructural Observations of Defects in Inorganic Membranes", Microstructural Science, 17, pp. 425-432, 1989.
45. E. Y. Lee, R. R. Biederman and R. D. Sisson, Jr., "The Microstructural Characterization of Plasma Sprayed and Physical Vapor Deposited Partially Stabilized Zirconia Thermal Barrier Coatings", presented at the First International Conference on Plasma Surface Engineering, held September 19-23, 1988 in Garmisch-Partenkirchen, West Germany, Plasma Surface Engineering, Volume 1, pp. 365-372, 1989.
46. R. Darolia, D. F. Lahrman, R. D. Field and R. D. Sisson, Jr., "Formation of Topologically Closed Packed Phases in Nickel Based Single Crystal Superalloys", Superalloys-1988, Edited by D. N. Duhal, G. Maurer, S. Antolovich, C. Lund and S. Reichman, The Metallurgical Society, pp. 255-264, 1988.
47. E. Y. Lee, R. R. Biederman and R. D. Sisson, Jr., "The Effects of Temperature and Oxygen Partial Pressure on the Interfacial Reactions between Partially Stabilized Zirconia Thermal Barrier Coatings and NiCrAlY Bond Coatings", Materials Science and Engineering, A121, pp. 467-473, 1989.
48. K. A. Macchiarola, R. R. Biederman and R.D. Sisson, Jr., "Corrosion of Metallized Aluminum Nitride", presented at the 22nd Annual Convention of the International Metallographic Society, held July 23-26, 1989 in Charlotte, NC and published in Microstructural Science.
49. P. A. Kestin, Y. A. Ma, R. R. Biederman and R. D. Sisson, Jr., "Microstructural Analysis of Anodized Aluminum", presented at the 22nd Annual Convention of the International Metallographic Society held July 23-26, 1989 in Charlotte, NC and published in Microstructural Science
50. P. A. Kestin, R. R. Biederman, Y. H. Ma and R. D. Sisson, Jr., "The Effects of Anodizing Parameters on Alumina Membrane Synthesis", Proceedings of the First International Conference on Inorganic Membranes, Louis Cot and Jean Charpin, Editors, held July 3-6, 1989, Montpellier, France, pp. 387-390, 1989.
51. E. Y. Lee, R. R. Biederman and R. D. Sisson, Jr., "Characterization of the Interface Between Partially Stabilized Zirconia Thermal Barrier Coatings and the MCrAlY Bond Coat," published in Proceedings of Seventh CIMTEC - World Ceramics Congress, Montecatini Terme, Italy, June 25-30, 1990.
52. E. Y. Lee and R. D. Sisson, Jr., "Diffusional Interactions Between Partially Stabilized Zirconia and the MCrAlY Bond Coat", Fourth International Conference on Surface Modification Technologies Meeting, presented November 6-9, 1990 in Paris, France and published in the Proceedings.
53. M. M. Makhlof and R. D. Sisson, Jr., "Modeling Surface Effects in Hydrogen Permeation in Metals", Metallurgical Transactions, A, p.p. 1001-1005, April 1991.

54. M. M. Makhlof and R. D. Sisson, Jr., "Hydrogen Uptake During Cadmium Electroplating", published in the Proceedings of the Fourth International Conference on Hydrogen Effects on Material Behavior, Neville R. Moody and Anthony W. Thompson, eds., pp. 211-221, held in Moran, Wyoming, September 12-15, 1989.
55. D. N. Zwiap and R. D. Sisson, Jr., "WPI's Innovative Approach to Manufacturing Education Involving Industry, Government, and Academia", published in the Proceedings of Factory Automation and Information Management '91, held March 13-15, 1991 in Limerick, Ireland.
56. K. A. Macchiarola, R. R. Biederman and R. D. Sisson, Jr. "Corrosion of Metallized Alumina Nitride for Electronic Applications", Proceedings of the First International Symposium on Corrosion of Electronic Materials and Devices, J.D. Sinclair, editor, pp. 397-406, 1991.
57. E. Y. Lee, R. R. Biederman and R. D. Sisson, Jr., "Modeling the Lifetimes of Thermal Barrier Coatings Based on the β -NiAl Phase Life in the Bond Coat", published in the Proceedings of DOE - 1990 Coatings For Advanced Heat Engines Workshop, Castine, Maine, August 6-9, 1990.
58. M. M. Makhlof, E. Y. Lee, R. R. Biederman and R. D. Sisson, Jr., "Experimental Verification of Finite Difference Models of Diffusion in Solids", Unification of Finite Element Methods Through Parallelism in Analysis and Experimentation, published in the Proceedings of the 10th International Invitational UFEM Symposium, Worcester, MA, pp. 293-315. July 18-19, 1991.
59. M. M. Makhlof and R. D. Sisson, Jr., "Reducing Hydrogen Uptake by High Strength Steel Fasteners During Cadmium Electroplating, The American Fastener Journal, Volume 8, No. 2, pp. 23-26, April-May 1991.
60. E. Y. Lee, R. R. Biederman and R. D. Sisson, Jr., "Le developement de produits de reaction a l'interface zircone partiellement stabilisee/sous-couche MCrAlY dans les barrieres thermiques, Memoires et etudes Scientifiques Revue de Metallurgie, pp. 307-311, Mai, 1991.
61. R. D. Sisson, Jr., R. K. Heinzmann, M. M. Makhlof, J. J. Bausch, "Intelligent Carburization Heat Treatment", Advanced Sensing, Modelling, and Control of Materials Processing, E. F. Matthys and B. Kushner, eds., pp. 223-229, 1991.
62. J. J. Bausch, D. C. Zenger, D. C. Brown, R. Ludwig and R. D. Sisson, Jr., "Integrated Design and Manufacturing Strategies for Powder Processing Applications", published in Proceedings, University Programs in Computer-Aided Engineering Design and Manufacturing (UPCAEDM'92), Tennessee Technological University, August, 1992.
63. Bausch, J., Zenger, D.C., Brown, D.C., Ludwig, R. Sisson, Jr., R.D., "Intelligent Carburization Heat Treatment, Advanced Sensing, Modeling, and Control of Materials Processing", Proceedings, University Programs in Computer-Aided Engineering Design and Manufacturing (UPCAEDM'92), Tennessee Technological University, 1992.
64. R. D. Sisson, Jr., Y. H. Sohn, E. Y. Lee, "Life Prediction and Life Extension of Thermal Barrier Coatings for Gas Turbine Engines", published in The 1992 Coatings for Advanced Heat Engine Workshop, Monterey, CA, 1992.
65. Victor, S. K., D. C. Brown, J. J. Bausch, D. C. Zenger, R. Ludwig and R. D. Sisson, Jr. "Using Multiple Expert Systems with Distinct Roles in a Concurrent Engineering System for Powder Ceramic Components," in Applications of AI in Engineering VIII, Vol. 1, Design, Methods and Techniques, and in Proceedings, AIENG'93, Toulouse, France, June 1993.

66. E. Y. Lee and R. D. Sisson, Jr., "The Effects of Bond Coat Oxidation on the Failure of Thermal Barrier Coatings", presented at the 1994 National Thermal Spray Conference, Boston, MA, June 20-24, 1994, and published in the Proceedings.
67. Y. H. Sohn, R. R. Biederman and R. D. Sisson, Jr., "Microstructural Development in Physical Vapor Deposited Partially Stabilized Zirconia Thermal Barrier Coatings", Thin Solid Films, Vol. 250, pp 1-7, 1994.
68. Y. H. Sohn, R. R. Biederman and R. D. Sisson, Jr., "Isothermal Oxidation of Physical Vapor Deposited Partially Stabilized Zirconia Thermal Barrier Coatings," Journal of Materials Engineering and Performance, Vol. 3, pp 55-60, 1994.
69. J. J. Bausch III, D. C. Zenger, D. C. Brown and R. D. Sisson, Jr., "Interactive Integrated, Intelligent Design and Process Planning for Powder Ceramic Components (I3D)," accepted for presentation and publication in the Proceedings of 1994 NSF Design and Manufacturing Grantees Conference, January 5-7, 1995.
70. J. C. O'Shaughnessy and R. D. Sisson, Jr., "Introducing Pollution Prevention/Waste Minimization in the University and Professional Curriculum: Success and Failures," 48th Annual Purdue University Industrial Waste Conference, May 10-12, 1993.
71. Sharon A. Johnson, J. C. O'Shaughnessy and R. D. Sisson, Jr., "Using Integrated Case Studies to Teach Environmentally Conscious Manufacturing," published in the 1994 Annual Meeting of the Northeast Decision Sciences Institute, April 7-8, published in the Proceedings, Portsmouth, MA, 1994.
72. Y. H. Sohn, E. Y. Lee, R. R. Biederman and R. D. Sisson, Jr., "Life Production for Thermal Barrier Coatings during Thermal Fatigue," Proceedings of the International Invitational UACEM Symposium, Ryszard J. Pryputniewicz, Editor, pp 300-308, 1993.
73. Y. H. Sohn, S. Katsonis, J. Buggiaglia, M. Hoekstra, R. D. Sisson, Jr. and M. N. Noori, "Effect of Vibratory Casting on the Physical and Mechanical Properties of Castable Refractories", Twenty-third Midwestern Mechanics Conference, University of Nebraska-Lincoln, October 10-13, 1993, published in the Proceedings.
74. D. C. Zenger, D. B. Brown, J. J. Bausch III, R. D. Sisson, Jr. and R. Ludwig, "Interactive Design for Manufacture and Inspection for Powder Processing Application," presented at and published in the proceedings of 1993 International Forum on Design for Manufacture and Assembly, Newport, RI, June 14-15, 1993.
75. D. C. Zenger, D. C. Brown, J. J. Bausch III, R. Ludwig, "An Interactive Design and Manufacturing Methodology for the Conceptual Design Phase," presented and published in the Proceedings at CMSE's Seventh Conference with Industry, Lehigh University, Bethlehem, PA, May 25-26, 1993.
76. P. J. Gaeta, R. D. Sisson, Jr., M. Singh and J. I. Eldridge, "Interfacial Properties of Si (SCS-6) Fiber Reinforced Reaction-Formed SiC Matrix Composites", presented at the American Ceramic Society Annual Meeting", Indianapolis, IN, and published in the Proceedings, April, 1994.
77. Sohn, Y.H., Cho, K., Lee, E.Y., Biederman, R., Sisson, R.D. Jr., "Phase analysis of physical vapor deposited ZrO₂-8WT.% Y₂O₃ thermal barrier coatings", Proceedings of the 1994 Conference on Materials for Advanced Power Engineering. Part 2 (of 2), pp. 1345, Liege, Belgium, Oct. 3-6, 1994.
78. P. J. Gaeta, R. D. Sisson, Jr., M. Singh and J. I. Eldridge, "Interfacial Properties of As Received and Coated SiC (SCS-6) Fiber Reinforced Reaction Formed SiC Matrix Composites", presented at the

Materials Research Society - Ceramic Matrix Composites Advanced High Temperature Structural Materials, November 28 - December 2, 1994, Boston, MA and published in the Proceedings, 1994.

79. J. J. Bausch, III, D. C. Brown, D. C. Zenger and R. D. Sisson, Jr., "An Interactive Integrated and Intelligent System for Powder Materials Design and Process Planning", Knowledge-Based Applications in Materials Science and Engineering, TMS, pp. 85-98, 1994.
80. J. J. Bausch, L.G. Chedid, and R.D. Sisson, Jr., "The design of a fully automated control system for gas carburization", Carburizing and Nitriding with Atmospheres, the Proceedings of the 2nd International Conference on Carburizing and Nitriding with Atmospheres, December 6-8, 1995, pp. 23-28
81. J.C. Sardinas, K.H. Kraus, R.D. Sisson, Jr., "Comparison of the holding power of 3.5mm cortical versus 4.0mm cancellous orthopedic screws in the pelvis of immature dogs (cadavers)" American Journal of Veterinary Research 1995, vol. 56, issue 2, pp. 248-251.
82. J. J. Bausch, V. Moreno, F. Gold and R. D. Sisson, Jr., "Education within the Learning Factory at Pratt and Whitney and WPI", International Conference on Education in Manufacturing, published in the Proceedings, 1996.
83. Richard D. Sisson, Jr. And Natalie Mello Acuña, "The Results of the "Gaps Analysis in Undergraduate Engineering Education" by the Industrial Advisory Board to the REALIZATION Consortium: An Analysis", 1996 ASEE Annual Conference, Educating Manufacturing Professionals for the 21st Century, published in the Proceedings, 1996.
84. Richard D. Sisson, Jr., Pradosh K. Ray, Natalie Mello Acuña, Keith Bankwitz, Albert R. George, Eui Park, "Integrating the Product Realization Process into Engineering Curriculum: Challenges and Opportunities", presented at the International Conference on Education in Manufacturing, "Preparing World Class Professionals", San Diego, CA, March 13 -15, 1996, and published in the Proceedings.
85. Bridget M. Smyser, Jane F. Connelly, Richard D. Sisson, Jr. and Virgil Provenzano, "Heat Treatment of Nanocrystalline $Al_2O_3 - ZrO_2$ ", Nanophase and Nanocomposite Materials II, S. Komarneni, J.C.Parker and H. J. Woolenberger, Eds., Materials Research Society Fall Meeting, Boston , MA, December, 1996.
86. Bridget M. Smyser, Jane F. Connelly, Richard D. Sisson, Jr. And Virgil Provenzano, " Grain Size Control and Phase Transformations in Nanophase $Al_2O_3 - ZrO_2$ ", presented at the American Ceramic Society Annual Meeting, Cocoa Beach, FL and published in the Proceedings, January, 1997.
87. B. M. Smyser and R. D. Sisson, Jr., "Novel Synthesis Methods for Nanocomposite $ZrO_2-Al_2O_3$ ", published in the Proceedings of the Fourth International Conference on Composites Engineering, Big Island, HI, ICCE, 1997.
88. Richard D. Sisson, Jr., Natalie Mello Acuña, The Results of the "Gaps Analysis in Undergraduate Engineering Education" by the Industrial Advisory Board to the REALIZATION Consortium: An Analysis, 1996 ASEE Annual Conference, Educating Manufacturing Professionals for the 21st Century, Sponsor: ASEE Manufacturing Division, Washington DC, June 23, 1996.
89. Bridget M. Smyser and Richard D. Sisson, Jr., "Optimizing Microstructure in Nanocrystalline $ZrO_2 - Al_2O_3$ ", presented at The 1998 TMS Annual Meeting and Exposition, San Antonio, Texas, February 15-19, 1998, published in the Proceedings.
90. Y.H. Sohn, E.Y. Lee, B.A. Nagaraj, R.R. Biederman and R.D. Sisson, Jr. "Microstructural Characterization of Thermal Barrier Coatings on High Pressure Turbine Blades", Surface and Coatings Technology, vol. 146-147, pp. 132-139, 2001.

91. P. Holmes, R.D. Sisson, Jr. and M. Singh, "Dissolution, Reactions and Diffusion in the SiC/C/TiB₂ and SiC/C/TiN + Liquid Silicon Systems at 1450 C", presented at the 23rd Annual Cocoa Beach Conference & Exposition, January 24-29, 1999 in Cocoa Beach, FL and published in the Proceedings.
92. Bridget M. Smyser and Richard D. Sisson, Jr., "Effects of Ultrasonic Agitation on Microstructure and Phase Transformations in Nanocrystalline ZrO₂ - Al₂O₃", Nanostructured Materials, Vol. 10, Issue 5, pp. 829-835, July 1998.
93. Svetlana G. Ivanova, Frederic S. Cohen, Ronald R. Biederman, Richard D. Sisson, Jr., "Role of microstructure in the mean stress dependence of fatigue strength in Ti-6Al-4V alloy", Proceedings of an International Symposium, TMS Fall Meeting 1998, Oct. 11, 1998, pp 39-46, Chicago, IL.
94. B.M. Smyser, R.D. Sisson, Jr., "Effect of Al₂O₃ phase transformations on grain growth in ZrO₂-Al₂O₃ nanocomposites", Ceramic Engineering and Science Proceedings 1998 vol.19, issue 4, pp.445-452
95. Bradley Klotz, Kyu Cho, Robert J. Dowding, Richard D. Sisson, Jr., "Characterization of boron carbide consolidated by the plasma pressure compaction (P2C) method in air," presented at 25th Annual Conference on Composites, Advanced Ceramics, Materials, and Structures: B, 2001, pp. 27-34, 2001.
96. R.D. Sisson, Jr., "Hydrogen Embrittlement and Electroplating", Fastener Technology International, August 2001.
97. M. Maniruzzaman and R.D. Sisson, Jr., "Bubble Dynamics in Quenching Heat Treatment of Steel", Proceedings of the 21st Heat Treating Society Conference, Indianapolis, Indiana, Nov. 5-8, 2001.
98. J.C. Chaves, M. Maniruzzaman and R.D. Sisson, Jr., "A New Quench Characterization System for Steels", ASM International, Proceedings of the 21st Heat Treating Society Conference, Indianapolis, Indiana, Nov. 5-8, 2001.
99. R.D. Sisson, Jr., J.C. Chaves and M. Maniruzzaman, "The Effect of Surface Finish on the Quenching Behavior of 4140 Steel Mineral Oils", Proceedings of the 21st Heat Treating Society Conference, Indianapolis, Indiana, Nov. 5-8, 2001.
100. J.R. Barnett, R. R. Biederman and R.D. Sisson, Jr., "An Initial Microstructural Analysis of A36 Steel from WTC Building 7, Journal of Metals, pp. 18, December 2001.
101. J.R. Barnett, R. R. Biederman and R.D. Sisson, Jr., FEMA Report: World Trade Center Building Performance Study: Data Collection, Preliminary Observations and Recommendations – Appendix C: Limited Metallurgical Examination, April 2002.
102. J.S. Bernier, M. Fontecchio, M. Maniruzzaman, R.D. Sisson, Jr., "Microstructural Evolution of EB-PVD TBC's on Cylindrical Surfaces", presented at the 26th Annual International Conference on Advanced Ceramics and Composites (Symposium II), Cocoa Beach, FL. Jan 13-18, 2002, published in the Ceramic Engineering and Science Proceedings, Volume 23, Issue 4, 2002, pp. 333-340.
103. J.S. Bernier, W.C.S. Weir, R.D. Sisson, Jr., S. Bose, "Deposition Rates of EB-PVD TBC's on Cylindrical Surfaces", presented at the 26th Annual International Conference on Advanced Ceramics and Composites (Symposium II) , Cocoa Beach, FL. Jan. 13-18, 2002, published in the Ceramic Engineering and Science Proceedings, Volume 23, Issue 4, 2002, pp. 361-369.

104. M. Maniruzzaman and R.D. Sisson, Jr., 2002, "Investigation of Bubble Nucleation Site Density During Quenching Heat Treatment Process Using Video Imaging", presented at the TMS Annual Meeting, Seattle, WA. Feb. 17-21, 2002, and published in the Proceedings.
105. Svetlana Ivanova, R.R. Biederman and R.D. Sisson, Jr. "Investigation of Fatigue Crack Initiation in Ti-6AL-4V During Tensile-Tensile Fatigue", published in the Journal of Materials Engineering and Performance, Vol. 11, No. 2, pp. 226-231, April 2002.
106. J.S. Bernier, Md. Maniruzzaman, R.D. Sisson, Jr., G. Levan and S. Bose, "Crystallographic Texture of EB-PVD TBC's Deposited on Stationary Flat Surfaces in a Multiple Ingot Coating Chamber as a Function of Chamber Position", presented at the 2002 International Conference On Metallurgical Coatings and Thin Films, April 22-26, 2002, San Diego, CA, published in Surface and Coating Technology 163-164, pp 95-99, 2002.
107. E. Y. Lee, Y.H. Sohn, S. Jha, H.W. Holmes and R. D. Sisson, Jr., "Phase Transformations in Ceria Stabilized Zirconia Thermal Barrier Coatings", Journal of the American Ceramic Society, 2002. pp. 2065-2071.
108. M. Maniruzzaman, J.C. Chaves, C. McGee, S. Ma and R.D. Sisson, Jr., 2002, "CHTE Quench Probe System – A New Quench Characterization System", presented and published in the proceedings at the 5th International Conference on Frontiers of Design and Manufacturing, ICFDM 2002, pp 187-192, Dalian, China, July 10-12, 2002.
109. R.D. Sisson, Jr., "Heat Treatment", Encyclopedia of Materials: Science and Technology, pp. 3736-3741, 2001.
110. M. Fontecchio, Md. Maniruzzaman, R.D. Sisson, Jr., "Effect of Bath Temperature and Agitation Rate on the Quench Severity of 6061 Aluminum Quenched in Distilled Water", 13th Annual International Federation for Heat Treatment & Surface Engineering (IFHTSE) Congress, Columbus, Ohio, 2002, published in the proceedings, pp. 449-456.
111. M. Fontecchio, Md. Maniruzzaman, R.D. Sisson, Jr., "Quench Factor Analysis and Heat Transfer Coefficient Calculations for 6061 Aluminum Alloy Probed Quenched in Distilled Water", to be submitted to Journal of Materials Processing Technology.
112. A.S. Varde, M. Takahashi, M. Maniruzzaman and R.D. Sisson, Jr., "Web-Based Data Mining For Quenching Analysis", presented at the 13th Congress of the International Federation for Heat Treatment and Surface Engineering (IFHTSE) and ASM International Surface Engineering Congress, Columbus, Ohio, October 7-10, 2002, and published in the Proceedings.
113. S. Ma, M. Maniruzzaman and R.D. Sisson, "Characterization Of Mineral Oil Based Quenchants Using Chte Quench Probe System", presented at the 13th Congress of the International Federation for Heat Treatment and Surface Engineering (IFHTSE) and ASM International Surface Engineering Congress, Columbus, Ohio, October 7-10, 2002, published in the Proceedings, pp. 281-289.
114. C. McGee, J. McHugh, M. Maniruzzaman and R.D. Sisson Jr., "Gas Quenching Of Steels: An Analysis Of The Effects Of Gas Composition And Of Steel Types – 4140 And 304", presented at the 13th Congress of the International Federation for Heat Treatment and Surface Engineering (IFHTSE) and ASM International Surface Engineering Congress, Columbus, Ohio, October 7-10, 2002, published in the Proceedings, pp. 457-463.
115. M. Maniruzzaman and R.D. Sisson, Jr., "Heat Transfer Coefficients for Quenching Process Simulation", submitted to the 2nd International Conference on Thermal Process Modeling and Computer Simulation, Société Française de Métallurgie et de Matériaux, Nancy, France, March 31 – April 2, 2003.

116. Maniruzzaman, Marco Fontecchio and Richard D. Sisson, Jr., "Optimization of an Aluminum Alloy Quenching Process in Poly-Oxethylene Glycol Polymer Solutions using Taguchi Methods, presented at the 22nd ASM Heat Treating Conference & Exposition, and published in the Proceedings, pp 52-55, 15-18 September 2003, Indianapolis, Indiana.
117. D. K. Rondeau, Md. Maniruzzaman and R. D. Sisson, Jr., B. Proshchitskiy and B. Liscic, The Effects of Part Orientation on Heat Transfer during Quenching, presented at the 22nd ASM Heat Treating Conference & Exposition, and published in the Proceedings, 15-18 September 2003, Indianapolis, Indiana.
118. Aparna S. Varde, Mohammed Maniruzzaman and Richard D. Sisson Jr., The QuenchMiner Expert System for Quenching and Distortion Control, presented at the 22nd ASM Heat Treating Conference & Exposition, and published in the Proceedings, pp 174-183, 15-18 September 2003, Indianapolis, Indiana.
119. R. D. Sisson, Jr., J. E. Morral, T. K. Rong and H. Brody, "An Integrated Model for Aluminum Castings", presented at the MPMD Fourth Global Innovations Symposium: Energy Efficient Manufacturing Processes: Advances in Thermal Processing and published in the Proceedings, at the 132nd TMS Annual Meeting, March 2-6, 2003, San Diego, CA.
120. Matthew M. Diem, Stephen J. Mashl and Richard D. Sisson Jr., "A Combination HIP + Heat Treat Process" published in Heat Treat Progress, pp. 52, 55, Jun/Jul 2003.
121. J. Yuan, J. Kang, Y. Rong and R. D. Sisson, Jr., "Computer Modeling and Simulation of Metal Induction Hardening Processes", Journal of Materials Processing Technology, 53 18 pp 18, 2001.
122. R. R. Biederman, Erin Sullivan, G. VanderVoort and R. D. Sisson, Jr., "Microstructural Analysis of the Steels from Buildings 7, 1 and 2 from the World Trade Center", International Metallographic Society Meeting, August 3 – 7, 2003, San Antonio, TX and published in Materials Characterization.
123. Md. Maniruzzaman, Shuhui Ma, K. Bradshaw, L. Costesso, G. Holmes and R. D. Sisson, Jr., "The Effects of Process Parameters on the Quenching Performance of 2024 Aluminum Alloy in Aqueous Solutions of PAG Polymers", presented at the 2003 ASM Materials Solutions Conference, 13-16 October 2003, Pittsburg, Pennsylvania and published in the Proceedings.
124. R. D. Sisson, Jr. "Computer Simulations and Database Needs for Energy Savings, Zero Environmental Impact and Quality Improvements for the Heat Treating Industry", in NISTIR 6927 Data Bases for Computational Thermodynamics and Diffusion Modeling – Workshop Report, November, 2002.
125. W. S. Weir, S. Bose and R. D. Sisson, Jr., "A Rules Based Software System for the Design and Fabrication of Contoured Thermal Barrier Coatings" presented at The 27th Annual CoCoa Beach Conference and Exposition on Advanced Ceramics and Composites, January 26 – 31, 2003 and published in the Proceedings, Volume 24, Issue 4, pp. 517-522.
126. W. C. S. Weir, S. Bose and R. D. Sisson, Jr., "Specifying EB-PVD Process Parameters for Coating of a PW4000 Second Stage Turbine Blade using an Experimentally Verified CAD Model of the Process", presented at the 2003 ASME International Mechanical Engineering Congress & Exposition, November 16 – 21, 2003, published in the Proceedings, Vol. 24, Issue 4, pp 517-522
127. R. D. Sisson, Jr., W. C. S. Weir and J. C. O'Shaughnessy, "Teaching and Learning Green Engineering in a Multidisciplinary Seminar", presented at the 2003 ASME International Mechanical Engineering Congress & Exposition, November 16 – 21, 2003 and published in the Proceedings.

128. A. Varde, M. Takasashi, E. Rundensteiner, M. Ward, Md. Maniruzzaman and R. D. Sisson, Jr., "QuenchMiner: Decision Support for Optimization of Heat Treating Processes" presented at the IICAI-03: IEEE Systems Man and Cybernetics Society's 1st Indian International Conference on Artificial Intelligence, December 18-20, 2003, Hyderabad, India and published in the Proceedings.
129. J. Yuan, J. Kang, Y. Rong, and R. Sisson, Jr., "Finite Element Analysis of Induction Hardening Process of Steel", presented and published in the Proceedings of the 22nd Heat Treating Society Conference and the 2nd International Surface Engineering Congress, 15-17 September 2003, Indianapolis, IN.
130. R. D. Sisson, Jr., J. E. Morral, T. K. Rong and H. Brody, "An Integrated Model for Aluminum Castings", presented at the MPMD Fourth Global Innovations Symposium: Energy Efficient Manufacturing Processes: Advances in Thermal Processing and published in the Proceedings, at the 132nd TMS Annual Meeting, March 2-6, 2003, San Diego, CA.
131. M. Maniruzzaman and R.D. Sisson, Jr., "Heat Transfer Coefficients for Quenching Process Simulation", published in the Proceeding of the 2nd International Conference on Thermal Process Modelling and Computer Simulation, Société Française de Métallurgie et de Matériaux, Nancy, France, March 31st-April 2nd, 2003.
132. Shuhui Ma, Aparna S. Varde, Makiko Takahashi, Darrell K. Rondeau, Md. Maniruzzaman and Richard D. Sisson Jr. , "Quenching - Understanding, Controlling and Optimizing the Process" published in The Proceedings of ASM's International Conference on Quenching and Control of Distortion -03, Beijing, China, 20-23 May, 20
133. J. Yuan, J. Kang, Y. Rong and R. Sisson, "Computer Modeling of Metal Induction Hardening Processes", Proceeding of the Fourth International Conference on Quenching and Distortion Control, May 20 – 23, 2003, Beijing, China.
134. Aparna S. Varde, Elke A. Rundensteiner, Mohammed Maniruzzaman and Richard D. Sisson Jr. --- The QuenchMiner Expert System for Quenching and Distortion Control --- In Proceedings of ASM's HTS-03, Indianapolis, Indiana, USA, 15-18 September, 2003, pp 174 - 183.
135. J. Yuan, J. Kang, Y. Rong and R. D. Sisson, Jr. "FEM Modeling of Induction Hardening Processes in Steel", Journal of Materials Engineering and Performance, Volume 12(5) October 2003, pages 589 – 596.
136. Md. Maniruzzaman, Michael B. Stratton, Thomas A. Rogers, Lee P. Barber and Richard D. Sisson, Jr., "Effect of Agitation on the Quenching Performance of a Quench Oil using CHTE Quench Probe System", Proceedings of the MS&T 2003 Conference, Chicago Nov. 9-12, 2003.
137. Makiko Takahashi, Md Maniruzzaman, Richard D. Sisson, Jr., "Visualizing the Evolutions of Microstructure through Quenching Process", Proceedings of the MS&T 2003 Conference, Chicago Nov. 9-12, 2003.
138. Jiankun Yuan, Jinwu Kang, Yiming Rong and Richard D. Sisson, Jr., "Development of a Computer Model for Induction Hardening of Steel", Proceedings of IMEECE'03, the 2003 ASME International Mechanical Engineering Congress and Exposition, Washington DC, November 16, 21, 2003.
139. Aparna S. Varde, Makiko Takahashi, Elke A. Rundensteiner, Matthew O. Ward, Mohammed Maniruzzaman and Richard D. Sisson Jr. --- QuenchMiner: Decision Support for Optimization of Heat Treating Processes --- In Proceedings of IEEE's IICAI-03, Hyderabad, India, 18-20 December 2003, pp 993-1003.

140. Richard Sisson Jr. and Aparna Varde ,” Data Mining: Promoting E-Business in Heat Treating “, published in Heat Treating Progress, March / April 2004.
141. Virendra S. Warke, Jack Yuan, Md. Maniruzzaman, Makhlof Makhlof and Richard D. Sisson, Jr., “Modeling the Heat Treatment of Powder Metallurgy Steels”, Proceedings of the 2004 International Conference on Powder Metallurgy & Particulate Materials, Chicago, IL, June 13-17, 2004, Part 1, pages 39-53.
142. Richard D. Sisson, Jr., Md. Maniruzzaman, Shuhui Ma, Virendra Warke, and Makhlof M. Makhlof, “Quenching Powder Metallurgy Products”, Proceedings of the 2004 International Conference on Powder Metallurgy & Particulate Materials, Chicago, IL, June 13-17, 2004, Part 6, pages 1-11.
143. Aparna Varde, Elke Rundensteiner, Murali Mani, Mohammed Maniruzzaman and Richard D. Sisson Jr., "Semantic Extensions to Domain Specific Markup Languages", IEEE Computer Society's CCCT-04, Austin, Texas, USA, 14-17 August 2004, pgs. 55- 60.
- 143a. M.Maniruzzaman, R.D. Sisson, Jr., “Heat Transfer coefficients for quenching process simulation”, J.Phys. IV France 120 (2004) pp 521-528.
144. A.S.Varde, Makiko Takahashi, Elke Rundensteiner, Mathew Ward, Md. Maniruzzaman and Richard D. Sisson, Jr., “Apriori Algorithm and game-of-life for Predictive Analysis in Materials Science” International Journal of Knowledge-Based and Intelligent Engineering Systems. IOS Press, KES International, Netherlands, 2004, Volume 8, No. 4, pp 213-228, Special Issue on “Soft Computing and Its Applications to E-Business”.
145. Aparna Varde, Elke Rundensteiner, Carolina Ruiz, Mohammed Maniruzzaman and Richard Sisson Jr., "Data Mining over Graphical Results of Experiments with Domain Semantics", Proceedings of ACM SIGART'S ICICIS-05, pp 603-611, Cairo, Egypt, March 2005.
146. Sisson, Richard D., Jr., “Failure Analysis and the Need for Enhancing Communications”, Journal of Failure Analysis and Prevention, Vol. 5(1), pp. 18-23, February 2005.
147. Ma., Shuhui, Maniruzzaman, Md., Sisson, R.D., Jr., “Application of Jominy End Quench Approach for the Development of Quench Factor Analysis and Microstructure Prediction of Cast Al-Si-Mg Alloys”, presented at Solid-Solid Phase Transformations in Inorganic Materials 2005 and published in the Proceedings (TMS), Phoenix, AZ, May 29-June 3, 2005.
148. V.S. Warke, R.D. Sisson, Jr., and M.M. Makhlof, “Effect of Porosity on the Transformation Kinetics of P/M Steels”, 2005 International Conference on Powder Metallurgy & Particulate Materials, Montreal Canada, published in the Proceedings, June 19-23, 2005.
149. Aparna Varde, Elke Rundensteiner, Mohammed Maniruzzaman and Richard D. Sisson Jr., “Estimating Heat Transfer Coefficients as a Function of Temperature by Data Mining”, ASM's HTS-05, Pittsburg, PA, USA, Proceedings of ASM's HTS-05, Pittsburgh, PA, September 26-28, 2005.
150. Shuhui Ma, M. Maniruzzaman, Juan Chaves and R. D. Sisson, Jr., “The effects of surface oxides on the quenching rates of 4140 steel in commercial mineral oils”, presented at the 23rd Heat Treating Society Conference, Pittsburgh, PA, Proceedings of ASM's HTS-05, pp.296-303, Sept. 25-28, 2005.
151. Aparna S. Varde, Elke A. Rundensteiner, Carolina Ruiz, Mohammed Maniruzzaman and Richard D. Sisson, Jr., “Learning Semantics-Preserving Distance Metrics for Clustering Graphical Data”, The Eleventh ACM SIGKDD International Conference on Knowledge Discovery and Data Mining,

Proceedings of MDM/KDD2005, pp. 107-112, The Sixth International Workshop on Multimedia Data Mining, "Mining Integrated Media and Complex Data", Chicago, IL, August 21-24, 2005.

152. Aparna S. Varde, Elke A. Rundensteiner, Carolina Ruiz, Mohammed Maniruzzaman and Richard D. Sisson Jr. , "LearnMet: Learning Domain-Specific Distance Metrics for Plots of Scientific Functions ", published International Journal of Multimedia Technology and Applications, Springer Publishers, Special Issue on "Multimedia Data Mining",2007, Vol. 35, no 1, pp. 29-53.
153. Shuhui Ma, M. Maniruzzaman and R. D. Sisson, Jr., "Model Development of Quench Factor Analysis and Microstructure Prediction of Cast Al-Si-Mg Alloys", presented at the 23rd Heat Treating Society Conference, Pittsburgh, PA, published in the Proceedings, Sept. 25-28, 2005.
154. Randy J. Boudrieau, DVM, DACVS; Robert J. McCarthy, DVM, MS, DACVS; Richard D. Sisson, Jr., PhD, "Sarcoma of the proximal portion of the tibia in a dog 5.5 years after tibial plateau leveling osteotomy", presented at the 32nd Annual Conference of the Veterinary Orthopedic Society, Snowmass, Colorado, March 2005. Published in JAVMA, Vol. 227, No. 10, Scientific Reports: Clinical Report, pp 1613-1617, Nov. 15, 2005
- 155a. Karabelchtchikova, O., Sisson, R.D., Jr., "Carburization and Carbon Diffusion in Steels – a Numerical Analysis based on Direct Integration of the Flux", TMS Letters, 3 (1): 21-22, 2006.
- 155b. O. Karabelchtchikova, O. and R.D. Sisson, "Carbon Diffusion in Steels – a Numerical Analysis based on Direct Integration of the Flux", presented at the symposium: Multicomponent-Multiphase Diffusion Symposium in Honor of Mysore A. Dayananda (TMS), San Antonio, TX, March 12-16, 2006, published in the Journal of Phase Equilibria and Difusión, Vol. 27. No. 6 pp. 598-604, December, 2006.
156. R. D. Sisson, Jr., Shuhui Ma and M. Maniruzzaman, "Modeling the heat treatment of age-hardenable cast Al-Si-Mg alloys", presented at the symposium: Simulation of Aluminum Shape Casting Processing: From Alloy Design to Mechanical Properties(TMS), San Antonio, TX, March 12-16, 2006.
157. Richard D. Sisson, Jr, Aparna Varde, "Data Mining in Heat Treatment", Heat Treating Progress, March/April 2006, pp. 18-20.
158. Richard D. Sisson, Jr., Shuhui Ma, and Mohammed Maniruzzaman, "Experimental Measurements of Quenching Heat Transfer Coefficients", the International Conference on Processing & Manufacturing of Advanced Materials, published in the Proceedings, THERMEC'2006, Vancouver, Canada, July 4-8, 2006.
159. Md. Maniruzzaman, Aparna Varde and Richard D. Sisson, Jr., "Estimation of surface heat transfer coefficients for quenching process simulation", presented at Materials Science and Technology Conference and Exhibition, October 15-19, 2006, Cincinnati, OH., published in Proceedings MS&T' 2006, pp. 387-394, 2006.
160. Karabelchtchikova, Olga, Md. Maniruzzaman, Sisson R.D., Jr. "Carburization Process Modeling and Sensitivity Analysis Using Numerical Simulation", presented at Materials Science and Technology Conference, published in Proceedings MS&T' 2006, Cincinnati, OH, pp. 375-386, October 15-19, 2006,.
161. Md. Maniruzzaman and R.D. Sisson, Jr., "Gas Quenching – An Environment Friendly Heat Treatment Process", presented at Materials Science and Technology conference, and published in Proceedings MS & T' 2006, October 15-19, 2006, Cincinnati, OH.
162. Shuhui Ma, Md. Maniruzzaman, D.S. MacKenzie, and R. D. Sisson, Jr., "A Methodology to Predict the Effects of Quench Rates on Mechanical Properties of Cast Aluminum Alloys", Metallurgical and Materials Transactions B, Vol. 38B, No. 4, August 2007, pp. 583-589.

163. Shuhui Ma, M. Maniruzzaman, Juan Chaves, and R. D. Sisson, Jr., "The effects of surface oxides on the quenching performance of AISI 4140 steel in commercial mineral oils", accepted Metallurgical and Materials Transactions B, 2008.
164. R.D. Sisson, Jr., R.R. Biederman, "Metal Removal via Slag Attack of the Steel from Building 7 of the World Trade Center some Observations", Journal of Failure Analysis and Prevention, ASM International, Vol. 6, issue 5, pp. 17-19, October 2006.
165. A. Varde, E. Rundensteiner, C. Ruiz, D. Brown, M. Maniruzzaman and Richard D. Sisson, Jr., "Designing Semantics-Preserving Cluster Representatives for Scientific Input Conditions", (Association of Computing Machinery's 15th Conference on Information and Knowledge Management) CIKM-2006, pp. 708-717, Arlington, VA, Nov. 2006.
166. A. Varde, J. Liang, E. Rundensteiner and R. Sisson, Jr., "Mining Images of Material Nanostructure Data", (International Conference on Distributed Computing and Internet Technology), ICDCIT 2006, pp. 403-413, Bhubaneswar, India, December 2006.
167. A. Varde, S. Ma, M. Maniruzzaman, D. Brown, E. Rundensteiner and R. Sisson, Jr., "Comparing Mathematical and Heuristic Approaches for Scientific Data Analysis", published in the Journal of Artificial Intelligence for Engineering Design, Analysis and Manufacturing (AIEDAM-07), Cambridge University Press, 2008, pp. 53-69.
168. V. Warke, R.D. Sisson, Jr., and M.M. Makhlof, "Predicting the Effects of Heat Treatment on Powder Metallurgy Components", Heat Treating Progress, pp. 10-11, May/June 2007.
169. Daniel H Herring, Richard D. Sisson, Jr., "What is Heat Treating and Why Do We do It?" published in Fastener Technology International , August/September 2007, pp 22-23.
170. M. Maniruzzaman, E. Wallhagen, R.D. Sisson, Jr., "Evaluation of Aging Response of Al-Cu-Mg-Si Based Cast Aluminum alloy and its Effect on Tensile Property", presented and published in Proceedings MS & T/HTS' 2007, Detroit, Michigan, Sept. 16-20, 2007.
171. X. Wang, M. Maniruzzaman, Y. Rong, R.D. Sisson, Jr., "The Role of Cleaning in Heat Treatment Process", presented and published in Proceedings MS & T/HTS' 2007, Detroit, Michigan, Sept. 16-20, 2007.
172. M. Maniruzzaman, C. Nowill, R.D. Sisson, Jr, "The Aging Behavior of AA7136 Wrought Aluminum Alloy", presented and published in Proceedings MS & T/HTS' 2007, Detroit, Michigan, Sept. 16-20, 2007.
173. O. Karabelchtchikova, R.D. Sisson, Jr., Worcester Polytechnic Institute, Worcester, MA, S.A. Johnston, H. DaCosta, Caterpillar, Inc. Mossville, IL, "Thermodynamic and Kinetic Aspects of Endothermic Carburizing Atmosphere with Natural Gas Enrichment", presented and published in Proceedings MS & T/HTS' 2007, Detroit, Michigan, Sept. 16-20, 2007.
174. Olga Karabelchtchikova, R.D. Sisson, Jr., "Calculation of Gas Carburizing Kinetics from Carbon Concentration Profiles based on Direct Flux Integration", Diffusion and Defect Data. Pt Defect and Diffusion Forum Vol. 266, pp. 171-180, 2007 (Symposium TMS 136th Annual Meeting).
175. Richard D. Sisson, Jr., Daniel H. Herring, "Fundamental Principles of Heat Treating Steels", published in Fastener Technology International , October/November 2007, pp 42-45.
176. Richard D. Sisson, Jr., "Hydrogen Embrittlement of Spring Steel", published in Wire Forming Technology International/Fall 2007, pp 20-22.

177. Rick Sisson, Diran Apelian, WPI; Shawn Allan, Morgana Fall, Holly Shulman, Ceralink Inc; "Microwave Heating Technologies", Heat Treating Progress, November/December 2007, pp. 18-19.
178. Daniel H. Herring and Richard D. Sisson, Jr., "The Heat Treatment of Fasteners Practice", Fastener Technology International/December 2007/January 2008, pp. 24-25.
179. Aparna Varde, Elke Rundensteiner and Richard Sisson, Jr., "AutoDomainMine: A Graphical Data Mining System for Process Optimization", Proceedings of ACM SIGMOD, 2007.
180. Olga Karabelchtchikova, Md. Maniruzzaman, Richard Sisson, "Optimization of Gas Carburizing Process in Batch Furnaces with Endothermic Carburizing Atmosphere", Proceedings of 2008 TMS Annual Meeting, New Orleans, LA, March 9-13, 2008.
181. Daniel H. Herring, Richard D. Sisson, Jr., "The Heat Treatment of Fasteners – Materials & Metallurgy", Fastener Technology International, April/May 2008, pp. 36-39.
182. Daniel H. Herring and Richard D. Sisson, Jr., "Heat Treating Fasteners – Part 1: Tips of the Trade", Fastener Technology International, June /July 2008.
183. O. Karabelchtchikova, S.M. Hsiang and R.D. Sisson, Jr., "Multi-objective optimization of gas carburizing process in batch furnaces with endothermic carburizing atmosphere", Surface Engineering, 2009, vol.25, No.1, pp. 43-49.
184. Olga Karabelchtchikova, Christopher A. Brown, Richard D. Sisson, Jr., "The Effect of Surface Roughness on the Kinetics of Mass Transfer during Gas Carburizing", presented and published in Heat Treating and Surface Engineering, January 2008.
185. Daniel H. Herring and Richard D. Sisson, Jr., "Heat Treatment of Fasteners – Part 6: Tips For Operation", Fastener Technology International/August 2008/September, p 28-29.
186. Aparna Varde, Stephen Bique, Elke Rundensteiner, David Brown, Jianyu Liang, Richard Sisson, Ehsan Sheybani, and Brian Sayre, "Component Selection to Optimize Distance Function Learning in Complex Scientific Data Sets", Springer-Verlag Berlin Heidelberg 2008, pp 269-282.
187. Olga Karabelchtchikova, Gang Wang, and Richard D. Sisson, Jr., "New Carburizing Calculation Tool for Gas and Low-Pressure Carburizing", Heat Treating Progress, March/April 2008, pp 18.
188. V. Warke, R.D. Sisson, Jr. and M.M. Makhlof, "The Effect of Porosity on the Austenite to Bainite Transformation in Powder Metallurgy Steels", published by Journal of Materials Research, Vol. 24, Issue 10, 2009, pp 3213-3219
189. Mohammed Maniruzzaman, Eric Wallhagen, and Richard D. Sisson, Jr., "Effect of Aging on Tensile Properties of Cast Al Alloy", Heat Treating Progress, October 2008, pp. 46-49.
190. Makhlof Makhlof, Virendra Warke, and Richard Sisson, Jr., "A Model for Converting Dilatometric Strain Measurements to the Fraction of Phase Formed during the Transformation of Austenite to Martensite in Powder Metallurgy Steels", Metallurgical and Materials Transactions, vol.40 A, no. 2, pp. 569-572, March 2009.
191. Md. Maniruzzaman, Richard D. Sisson, Jr., Stephen R. Crosby, and Charlie Gure , "Failure in Steel Forging", Failure Analysis of Heat Treated Steel Components, 2008, pp133-149.

192. Virendra S. Warke, Richard D. Sisson, Jr., and Makhlof M. Makhlof, "Predicting the Effects of Heat Treatment on Pressed and Sintered Steel Parts," Proceedings of the 2008 International Congress on Power Metallurgy and Particulate Materials, pp. 42-51, Washington DC, June 2008.
193. O. Karabelchtchikova, Chr. A. Brown, R.D. Sisson, Jr., "Effect of surface roughness on the kinetics of mass transfer during gas carburizing", HTM Journal of Heat Treatment and Materials, 63 (2008) 5, (formerly HTM Z. Werkst, Warmebeh, Fertigung), pp. 257-264.
194. Daniel H. Herring and Richard D. Sisson, Jr., "The Heat Treatment of Fasteners – Embrittlement Issues-" (Part 7), published in Fastener Technology International/ December 2008/January 2009, pp. 32-34.
195. M. Maniruzzaman, M. Fontecchio and R.D. Sisson, Jr., "The Effect of Agitation and Quenchant Temperature on the Heat Transfer Coefficients for 6061 Aluminum Alloy Quenched in Distilled Water", published in Journal of ASTM International (2010), pp. 104-112
196. Shuhui Ma, Md. Maniruzzaman and Richard D. Sisson, Jr., 2008, Quench Performance Analysis of an Aqueous Polymer Solution for Cast Aluminum Alloy, submitted to Journal of Materials Engineering and Performance.
197. Aparna Varde, Mohammed Maniruzzaman and Richard D. Sisson Jr., QuenchML: A Semantics-Preserving Markup Language for Knowledge Representation in Quenching published in AIEDAM Journal, Cambridge University Press, 2012, Volume 27, pp. 65 - 82.
198. O. Karabelchtchikova, R.D. Sisson, Jr., "Effect of Alloy Composition on Carburizing Performance of Steel", published in Journal of Phase Equilibria and Diffusion, Vol. 30 No.3 (2009), pp. 235-241
199. Daniel H. Herring and Richard D. Sisson, Jr., "Furnace Atmosphere Considerations for Fasteners", Fastener Technology International, April/May 2009, pp. 46-49.
200. Daniel H. Herring and Richard D. Sisson, Jr., "What is Heat Treating & Why Do We Do it?", Wire Forming Technology International, 2009.
201. Daniel H. Herring and Richard D. Sisson, Jr., "What is Heat Treating & Why Do We Do it?", Fastener World, May/June 2009, pp. 294-297.
202. Daniel H. Herring and Richard D. Sisson, Jr., "How Heat Treatment Contributes to Fastener Failures & Methods of Prevention", Fastener Technology International, August 2009.
203. Daniel H. Herring and Richard D. Sisson, Jr., "Fundamental Principles of Heat-Treating Steels", Fastener Technology International, October/November 2007, pp. 22-23.
204. O. Karabelchtchikova, R.D. Sisson, Jr., Gas Consumption and Cost Model Optimization of the Gas Carburizing 'Boost' Stage (waiting on final CAT approval of the manuscript), then will submit to Metallurgical Transactions together with Part 1.
205. Virendra S. Warke, Richard D. Sisson, Jr., Makhlof M. Makhlof; "FEA A Model for Predicting the Response of Powder Metallurgy Steel Components to Heat Treatment", Materials Science & Engineering A, 518 (2009) pp7-15.
206. G. Wang, M. Maniruzzaman, R.D. Sisson, Jr., "Development of a Simulation Tool for Prediction and Optimization on Carburizing Processes", presented and published in Proceedings ASM HTS' 2009, Indianapolis, IN, Sept. 14-17, 2009, pp 91-95.

207. X. Dai, M. Maniruzzaman, R.D. Sisson, Jr., "The Effects of Quench Starting Temperature on Cooling Rates and Heat Transfer during Oil Quenching", presented and published in Proceedings ASM HTS' 2009, Indianapolis, IN, Sept. 14-17, 2009.
208. Daniel H. Herring and Richard D. Sisson, Jr., "Testing of Heat-Treated Fasteners", Fastener Technology International, February 2010
209. Daniel H. Herring and Richard D. Sisson, Jr., "Annealing of Wire Products: Atmospheres", Wire Forming Technology International/Winter 2010.
210. Bowang Xiao, Yiming Rong, Qigui Wang, Gang Wang, Mohammed Maniruzzaman, Richard D. Sisson Jr., "An Experimental Study of Heat Transfer during Forced Air Convection," Journal of Materials Engineering and Performance, DOI: 10.1007/s11665-010-9745-7, 2010
211. Bowang Xiao, Yiming Rong, Qigui Wang, Gang Wang, Mohammed Maniruzzaman, Richard D. Sisson Jr., "An Experimental Study of Heat Transfer during Forced Air Convection," Journal of Materials Engineering and Performance, DOI: 10.1007/s11665-010-9745-7, 2010.
212. Bowang Xiao, Qigui Wang, Gang Wang, Richard D. Sisson, Jr., Yiming Rong, "A New Method to Accurately Determine Heat Transfer Coefficient Distribution during Air and Gas Convection," Applied Thermal Engineering, Volume 30, issue 17, pp 2815-2821, 2010.
213. Bowang Xiao, Gang Wang, Richard D. Sisson, Jr., and Yiming Rong, "Influencing Factors of Heat Transfer Coefficient in Air and Gas Quenching", Proceedings of 18th International Federation for Heat Treatment and Surface Engineering Congress, Rio de Janeiro, Brazil, (2010)
214. M. Yang, D. Belsito, R.D. Sisson, Jr.(Center for Heat Treating Excellence, WPI,) B. Yao, Y.H. Sohn (Advanced Materials Processing and Analysis Center and Department of Mechanical, Materials and Aerospace Engineering, Univ. of Central FL) , "Intelligent Heat Treating: Simulation of the Ferritic Nitriding Process – Database Development", presented and published in Proceedings MS&T 2010, Houston, TX, October 17-21, 2010.
215. M. Maniruzzaman, M. Fontecchio, R.D. Sisson, Jr., "The Effect of Agitation and Quenchant Temperature on the Heat Transfer Coefficients for 6061 Aluminum Alloy Quenched in Distilled Water", STP1523, Quenching and Cooling, Residual Stress and Distortion Control, ASTM International, September 2010.
216. Gang Wang, Yiming Rong, Richard D. Sisson, Jr., "Heating and Heat Flow Simulation, Modeling and Simulation: Processing of Metallic Materials", ASM Handbook Volume 22, Article 13A, (2009), pp.459-474.
217. Bowang Xiao, Gang Wang, Yiming Rong, Richard Sisson, Jr., "Influencing Factors of Heat Transfer Coefficient in Air and Gas Quenching", Journal of ASTM International, accepted.
218. B. Xiao, Q. Wang, G. Wang, R. Sisson, Y. Rong, "Robust methodology for determination of heat transfer coefficient distribution in convection", Applied Thermal Engineering, Vol. 30, No. 17, pp. 2815-2821, 2010
219. M. Yang, B. Yao, Y.H. Sohn, R.D. Sisson, Jr., "Simulation of the Ferritic Nitriding Process", International Heat Treatment and Surface Engineering, Vol.5, No3, 2011, pp122-126.220.
220. X. Wang, Z. Zurecki and R.D. Sisson, "Development of low-cost, rapid case hardening treatments for austenitic stainless steels", Proceedings of the 26th ASM Heat Treating Conference and Exposition, Cincinnati, Ohio, Oct. 2011, pp285.

221. X. Wang, Z. Zurecki and R.D. Sisson, "Evaluation of process control methods for nitrogen-hydrocarbon atmospheres, Proceedings of the 26th ASM Heat Treating Conference and Exposition, Indianapolis, Oct.2011, pp.1.
222. Aparna S. Varde, Mohammed Maniruzzaman & Richard D. Sisson, Jr., "QuenchML: A Semantics-Preserving Markup Language for Knowledge Representation in Quenching, AIEDAM: Artificial Intelligence for Engineering Design, Analysis and Manufacturing", Cambridge University Press, 2012.
223. Yingying Wei, R.D. Sisson, Jr., *Center for Heat Treating Excellence, WPI*, "Intelligent Heat Treating: Simulation of Carburization Process", Proceedings of 26th ASM Heat Treating Society Conference and Exposition, Cincinnati, Ohio, Oct. 31 –November 2, 2011, pp.91.
224. Yingying Wei, Zbigniew. Zurecki, Richard D. Sisson, Jr., "Evaluation of Phase Transformations in Subcritical Austenitic Nitriding, Proceedings of Materials Science & Technology 2012, Pittsburg, PA, Oct. 2012, pp. 180-187.
225. "Application of Computational Thermodynamics and Precipitation Kinetics to Light Weight Al Alloy Design", Proceedings of 13th International Conference on Aluminum Alloys (ICAA13) Symposium: 13th International Conference on Aluminum Alloys (ICAA13), Pittsburgh, PA, June 2012.
226. Liang He, Yuan Xu and Richard D. Sisson, Jr., "Modeling the Carbonitriding of Steel", submitted to Journal of ASTM International, 2011.
227. M. Yang, R.D. Sisson Jr., B.Yao, Y.H. Sohn, "Simulation of the Ferritic Nitriding Process", International Heat Treatment and Surface Engineering, vol.5 No.3, 2011, pp. 122-126
228. Yingying Wei, Lei Zhang, Richard D. Sisson, Jr., et al., Modeling of carbon distribution during atmosphere and low pressure carburizing processes, Journal of Materials Engineering and Performance, 2012, 22(1).
229. M. Yang, R.D. Sisson Jr., "Modeling the Nitriding of Steel by Compound Layer Growth Model", Journal of ASTM International, September 2012, 1(1).
230. M. Yang, C. Zimmerman, D. Donahue, and R.D. Sisson Jr., "Modeling the Gas Nitriding Process of Low Alloy Steels", Journal of Materials Engineering and Performance, DOI 10.1007/s11665-012-0368-z, 2012.
231. M. Yang, and R.D. Sisson Jr., "Modeling the Nitriding Process of Steels", *Advanced Materials & Processes*, 2012. 170(7): p. 33-36.
232. Y. Wei, Z. Zurecki, R.D. Sisson, Jr., "Thermodynamic Model-Assisted Analysis of Phase Transformations in Subcritical Austenitic Nitriding", Surface Engineering, Inzynieria Powierzchni NR 2-2013., Poznan, May 6, 2013. pp 56 – 62.
233. Yang, M., Zimmerman, C., Donahue, D., and Sisson, Jr., R.D, "Modeling the Gas Nitriding Process of Low Alloy Steels," Journal of Materials Engineering and Performance, Vol. 22 Issue 7, pp. 1892-1898, 2013.
234. D. Belsito, B. McNally, L. Bassett, V. Champagne, Jr., R.D. Sisson, Jr., "Through-process Modeling for Cold Spray Alloy Optimization," Proceedings MS&T 2013, Montreal, Quebec, Canada. (Oct. 2013)

235. Mohammed Maniruzzaman, Caterpillar Inc., Xiaolan Wang and Richard D. Sisson, Jr., Worcester Polytechnic Institute, "Cleaning of Steel for Heat Treatment," ASM Handbook, Volume 4A, Steel Heat Treating Fundamentals and Processes, 2013, pp 265-274.
236. Yang, M. and Sisson, Jr., R.D, "Gaseous Nitriding Process Control: Application of Customized Lehrer Diagrams," International Heat Treatment and Surface Engineering, accepted 2013.
237. Lei Zhang, Dr. Mei Yang, Dr. Yingying Wei, Richard D. Sisson, Jr., "The Effects of Tempering on the Hardness Profiles in Carburized Steels," Proceedings of 28th ASM Heat Treating Society Conference & Exposition, Indianapolis, September 16-18, 2013.
238. Xiaolan Wang, Mei Yang, Yingying Wei, Lei Zhang, Richard D. Sisson, Jr., "Modeling Gas and Low Pressure Carburizing of Steel", Proceedings of 28th ASM Heat Treating Society Conference & Exposition, Indianapolis, September 16-18, 2013.
239. Mei Yang, Xiaolan Wang, Richard D. Sisson, Jr., "Modeling the Gas Nitriding Process for Steels", Proceedings of 28th ASM Heat Treating Society Conference & Exposition, Indianapolis, September 16-18, 2013.
240. Xiaolan Wang, Mei Yang, R. D. Sisson, Jr., "Modeling the Carbonitriding of Steels", Proceedings of 28th ASM Heat Treating Society Conference & Exposition, Indianapolis, September 16-18, 2013.

PRESENTATIONS

1. R. D. Sisson, Jr., and M. A. Dayananda, "Multiphase Diffusion in the Cu-Ni-Zn System", Spring Meeting of the AIME, May 1971, Atlanta, GA.
2. R. D. Sisson, Jr., and M. A. Dayananda, "Multiphase Diffusion in Cu-Ni-Zn Alloys", Fall Meeting of the AIME, October 1974, Detroit, MI.
3. R. D. Sisson, Jr., "Scanning Electron Microscopy of Radioactive Materials", Third Annual Metallurgical Engineering Conference, Virginia Polytechnic Institute, October 1975, Blacksburg, VA.
4. R. D. Sisson, Jr., "Technology for Encapsulation of Radioisotopic Heat Sources," University of South Carolina Engineering Seminar, December 1975, Columbia, SC.
5. R. D. Sisson, Jr., and W. R. McDonell, "Effect of Helium Bubbles at Grain Boundaries on the Fracture Characteristics of High Density $^{238}\text{PuO}_2$ ", AIME Annual Meeting as part of the Symposium on Materials for Heat Sources of Radioisotopic Power Systems, February 1976, Las Vegas, NV.
6. R. D. Sisson, Jr. and J. R. Toran, "Hydrogen Blister Formation in Aluminum Alloys", presented at the Conference on Environmental Degradation of Engineering Materials, October 1977, Blacksburg, VA.
7. R. D. Sisson, Jr., R. R. Biederman and W. G. Dobson, "Oxide Development During Steam Oxidation of Zircaloy-4", ElectroChemical Society Annual Meeting, May 21-26, 1978, Seattle, WA.
8. M. R. Louthan, Jr., R. P. McNitt and R. D. Sisson, Jr., "Materials Degradation in Space Environments", AIAA 12th Fluid and Plasma Dynamics Conference, July 23-25, 1979, Williamsburg, VA.

9. R. D. Sisson, Jr., J. Murali, S. M. Milkovich, R. P. McNitt and M. R. Louthan, Jr., "The Solubility and Diffusivity of Gaseous and Electrolytic Hydrogen in 1015 Steel at 25{SYMBOL 176 \f "Symbol"}C", Miami International Symposium on Metal-Hydrogen Systems, April 13-15, 1981, Miami, FL.
10. R. D. Sisson, Jr., R. B. Jenket, R. R. Biederman and H. Ocken, "The Effect of Sample Heating Technique on the Steam Oxidation Kinetics of Zircaloy-4", ASTM G-1 Symposium, Industrial Methods for Testing in High Temperature Environments, May 12, 1981, Phoenix, AZ.
11. J. A. Wagner, R. D. Sisson, Jr., H. H. Mabie, J. H. Wilson, M. R. Louthan, Jr., "Humidity and Hydrogen Effects on Fatigue and Age Hardening of 6061 and 2024 Aluminum", presented at the Fall Meeting of the AIME, October 1981, Louisville, KY.
12. R. D. Sisson, Jr., "The Effects of the State of Stress on Hydrogen Embrittlement of Steel", presented at the Exxon Chemical Research Committee's Corrosion Symposium, March 1982.
13. R. D. Sisson, Jr., R. P. McNitt and M. R. Louthan, Jr., "The Effects of Stress State on Hydrogen Embrittlement", presented at the Electrochemical Society Annual Meeting, Montreal, Canada, May 1982.

14. R. D. Sisson, Jr., "Hydrogen Embrittlement of Metals", Worcester Polytechnic Institute, American Society for Metals, Student Chapter Meeting, April 1983.
15. R. D. Sisson, Jr., "The Steam Oxidation of Zircaloy-4 During a Loss of Coolant Accident", presented at the Rensselaer Polytechnic Institute, Materials Engineering Seminar, October 26, 1983.
16. R. D. Sisson, Jr., "Characterization of MCrAlY Coatings by High Resolution Analytical Electron Microscopy", presented at Army Materials and Mechanics Research Center, Materials Characterization Division Seminar, February 13, 1984.
17. R. D. Sisson, Jr., "Corrosion Due to Acid Rain", presented at the Greater Boston Section of the National Association of Corrosion Engineers, Newton, MA, September 26, 1984.
18. S. A. Blair and R. D. Sisson, Jr., "Corrosion Due to Acid Rain", presented at the Society for Engineering Science, Annual Meeting, October 15-17, 1984 in Blacksburg, VA.
19. R. D. Sisson, Jr., R. R. Biederman and J. A. Nesbitt, "The Role of Active Elements in the Oxidation Behavior of MCrAlY Alloys", presented at the S. R. Shatynski Memorial Symposium on Surfaces and Interfaces at the Annual AIME Meeting in New York, NY, February 14-28, 1985.
20. M. M. Morra, R. R. Biederman and R. D. Sisson, Jr., "Applications of Analytical Electron Microscopy to Metallurgical Coatings", presented at Symposium on Surface Coating and Alloy Design I: Analysis and Characterization, ASM Metals Congress, Detroit, MI, September 17-21, 1984.
21. R. D. Sisson, Jr., Ichiro Sone and R. R. Biederman, "The Role of Microstructure and Phase Distribution in the Failure Mechanism and Life Prediction Model for PSZ Coatings", presented at the NASA-Lewis Research Center Workshop on Thermal Barrier Coatings, May 21-22, 1985, Cleveland, OH and published in the Abstracts and Figures of the Conference.
22. R. D. Sisson, Jr., "Partially Stabilized Zirconia Thermal Barrier Coatings", American Ceramic Society, New England Section, Topical Meeting on Materials Research at New England Universities, October 9, 1985, Natick, MA.
23. R. D. Sisson, Jr. and R. R. Biederman, "The Role of Active Elements in the Cyclic Oxidation Behavior of MCrAl Alloys", International Conference on Surface Modifications and Coatings, October 12-17, 1985, Toronto, Ontario, Canada.
24. R. D. Sisson, Jr. and D. M. Chartier, "Application of a Mass Transfer Coefficient to Hydrogen Permeation in High Strength Steels", Tri-Service Corrosion Conference, December 2-5, 1985, Orlando, FL.
25. R. D. Sisson, Jr., A. E. Emanuel, S. A. Blair, D. E. Johnston and S. R. Jackson, "Corrosion of Copper and Aluminum Alloys in Acid Rain", 22nd National Technical Meeting of the Society for Engineering Science, October 7-9, 1986, The Pennsylvania State University, University Park, PA.
26. G. Jablonski, M. Allen, L. Cody, R. Gately, A. Sacco, R. R. Biederman and R. D. Sisson, Jr., "A Transmission Electron Microscopy Study of Evaporated and Sputtered Thin Films of Fe, Ni, Co and their Alloys", 13th International Conference on Metallurgical Coatings, April 1-11, 1986, San Diego, CA.

27. (Invited-Conference Plenary Lecture) D. M. Chartier, E. Y. Lee, R. R. Biederman and R. D. Sisson, Jr., "The Role of Micro-structure in the High Temperature Oxidation Resistance of Coatings", International Symposium on High Temperature Corrosion, July 7-11, 1986, University De Provence, Marseille, France
28. R. D. Sisson, Jr., J. K. Steele, R. D. Field, D. F. Lahnard and R. Darolia, "The Development of Topologically Close Packed Phases in Nickel-Base Turbine Alloys", presented at the COST-50 and COST-501 Conference on "High Temperature Alloys for Gas Turbine and other Applications," October 6-9, 1986 in Leige, Belgium.
29. Creseda Douglas, R. R. Biederman and R. D. Sisson, Jr., "Characterization of Partially Stabilized Zirconia Thermal Barrier Coatings", presented at the 1987 Annual Convention of the International Metallographic Society, Monterey, CA, July 17-30, 1987.
30. R. D. Sisson, Jr., "Partially Stabilized Zirconia in Heat Engine Applications", presented at the Annual Joint Meeting of the Boston Section of the Electrochemical Society and the Metallurgical Society of the American Institute of Mining Metallurgical and Petroleum Engineers, held March 8, 1988, Boston, MA.
31. R. D. Sisson, Jr., "Partially Stabilized Zirconia in Heat Engine Applications", presented in the 1987-88 Faculty Lecture Series sponsored by the WPI Chapter of Sigma Xi, April 4, 1988.
32. R. D. Sisson, Jr., "Phase Transformations in Ceria Stabilized Zirconia", presented at Norton Company's Advanced Ceramic Division's Seminar Series, April 6, 1988.
33. G. L. Leatherman, R. R. Biederman and R. D. Sisson, Jr., "Microstructural Analysis of Zirconia-Based Ceramics", presented at the WASM - World Materials Congress - Session on Metallography of Composite, Ceramic and Advanced Materials, held September 26-30, 1988 in Chicago, IL.
34. M. M. Makhlof and R. D. Sisson, Jr., "Hydrogen Uptake During Cadmium Electroplating", presented at the Annual Meeting of the Electrochemical Society held October 9-14, 1988 in Chicago, IL.
35. K. A. Macchiarola, K. R. Pierce, C. A. Murray, R. R. Biederman and R. D. Sisson, Jr., "Mathematical Modeling and Process Control for the Carburization of Steel", presented at the 1989 International Conference on Carburizing: Processing and Performance, held July 12-14, 1989 in Golden, CO.
36. E. Y. Lee, R. R. Biederman and R. D. Sisson, Jr., "Diffusional Interactions and Reactions Between Partially Stabilized Zirconia Thermal Barrier Coatings and the MCrAlY Bond Coat", presented at the 16th International Conference on Metallurgical Coatings, held April 17-21, 1989, in San Diego, CA.
37. (Invited Presentation) R. D. Sisson, Jr., "The Development of Manufacturing Engineering at Worcester Polytechnic Institute", presented at Manufacturing International 90, held March 25-28, 1990 in Atlanta, GA.
38. R. D. Sisson, Jr., "Manufacturing Engineering at WPI", presented at the Society for Manufacturing Engineers, Monthly Meeting, November 27, 1989, Worcester, MA.
39. R. D. Sisson, Jr., "Corrosion Due to Acid Rain", Rhode Island Chapter of the ASM International and the Boston Chapter of the National Association for Corrosion Engineers, Joint Meeting, March 7, 1990, Seekonk, MA.

40. R. D. Sisson, Jr., "Modeling Gas Carburization of Steel", presented at the AIME-TMS Symposium on Modeling of Diffusional Processing, held in Detroit, MI, September/October, 1990.
41. K. A. Macchiarola and R. D. Sisson, Jr., "Steam Autoclave Testing of Metallized Aluminum Nitride for Electronic Device Applications", NACE Meeting, Fall '90, Newport, RI.
42. R. D. Sisson, Jr., "Modeling the Carburization of Steel", seminar at Pratt & Whitney Aircraft, East Hartford, CT., August 11, 1989.
43. E. Y. Lee, R. R. Biederman and R. D. Sisson, Jr., "Interactions, Reactions and Bonding Between Partially Stabilized Zirconia Thermal Barrier Coatings and the NiCrAlY Bond Coat Alloy", presented by E. Y. Lee at the 1st European East-West Symposium on Materials and Processes - MatTech '90, held June 10-18, 1990 in Helsinki, Finland.
44. R. D. Sisson, Jr., "The Development of Manufacturing Engineering at Worcester Polytechnic Institute", Manufacturing International '90, March 25-28, 1990, in Atlanta, GA.
45. M. M. Makhlof, K. A. Macchiarola, K. R. Pierce, C. A. Murray, R. K. Heinzmann and R. D. Sisson, Jr., "Modeling the Gas Carburization of Steel", AIME -TMS Symposium on Modeling of Diffusional Processes, held in Detroit, MI, September, 1990, to be summarized in the Journal of Metals.
46. K. A. Macchiarola and R. D. Sisson, Jr., "Steam Autoclave Testing of Metallized Alumina Nitride for Electronic Device Applications", National Association for Corrosion Engineers Regional Conference, presented by K. Macchiarola, October 3-5, 1990, Newport, RI.
47. K. A. Macchiarola, R. R. Biederman and R. D. Sisson, Jr., "A Comparison of Accelerated Corrosion Test Methods for Metallized Aluminum Nitride", IBM Conference on Connector Technology and Corrosion, held February 11-13, 1991, in Austin, Texas.
48. R. D. Sisson, Jr., E. Y. Lee, Y. H. Sohn and R. R. Biederman, "Characterization of Partially Stabilized Zirconia Thermal Barrier Coatings", Materials for Advanced Technology Applications, Irish Materials Forum Conference, IMF7, held September 4-6, 1991, University of Limerick, Ireland.
49. R. D. Sisson, Jr., J. C. Davis, E. C. Hunt and K. D. Lundin, "The Attributes of an Excellent Engineering Teacher and the Teaching Evaluation Instrument", Frontiers in Education 1991, held September 22-24, 1991, Purdue University, West Lafayette, IN.
50. M. M. Makhlof, R. K. Heinzmann, J. J. Bausch III and R. D. Sisson, Jr., "Finite Difference Computer Models for Two Stage Vacuum and Gas Carburization Treatments", 13th Heat Treating Conference, held October 21-24, 1991, Cincinnati, OH.
51. E. Y. Lee, R. R. Biederman and R. D. Sisson, Jr., "Life Prediction and Failure Mechanisms for Thermal Barrier Coatings", Advanced Surface Engineering and Technology, 1991 Materials Congress, held October 21-24, 1991, Cincinnati, OH.
52. R. D. Sisson, Jr. and M. M. Makhlof, "Hydrogen Embrittlement of Electroplated Fasteners", International Fastener Exposition and Conference 1991, held November 5-7, 1991, Atlanta, GA.

53. E. Y. Lee, R. R. Biederman and R. D. Sisson, Jr., "Failure Mechanisms and Life Prediction of Thermal Barrier Coatings", 3rd International Symposium on High Temperature Corrosion and Protection of Materials, held May 25-29, 1992, Les Embiez, France.
54. R. D. Sisson, Jr., "Life Prediction and Life Extension of Thermal Barrier Coatings in Gas Turbine Engines", 1992 Coatings for Advanced Heat Engines Workshop, Monterey, CA, August 3-6, 1992, to be published in the Proceedings of the 1992 Coatings for Advanced Heat Engine Workshop.
55. R. D. Sisson, Jr., D. C. Zenger, J. J. Bausch, D. C. Brown, J. C. O'Shaughnessy, "Simultaneous Engineering, Interactive Design, Materials Processing and Green Engineering", Concurrent Engineering, TMS Fall meeting, November 1-5, 1992, Chicago, IL.
56. D. C. Zenger, J.J. Bausch, D.C. Brown, R.D.Sisson and R. Ludwig, "Interactive Design, Intelligent Process Planning, and Automated Control for Powder Metallurgy Components," 1993 Powder Metallurgy World Congress, Kyoto, Japan, July 12-15, 1993.
57. D. C. Zenger, J. J. Bausch III, D. C. Brown, R. D. Sisson, Jr. and R. Ludwig, "Interactive Design, Intelligent Process Planning and Automated Control for Powder Metallurgy Components," 1993 Powder Metallurgy World Congress, Kyoto, Japan, July 12-15, 1993.
58. Victor, D. C. Brown, J. J. Bausch III, D. C. Zenger, R. Ludwig, R. D. Sisson, Jr., "Using Multiple Experts with Distinct Roles in a Concurrent Engineering System for Powder Ceramic Components," AI in Engineering '93, Toulouse, France, June 29-July 1, 1993.
59. R. D. Sisson, Jr. D. C. Zenger, J. J. Bausch III and M. M. Makhoulf, "Intelligent Carburization Heat Treatment," presented at the 14th Heat Treating Conference and Exposition, March 16-18, 1993, in Indianapolis, Indiana.
60. R. D. Sisson, Jr. "Hydrogen Embrittlement of Fasteners" International Fastener Exposition, March 23-25, 1993, Atlanta, Georgia.
61. R. D. Sisson, Jr. "Design and Materials" Tufts University School of Veterinary Medicine, Phi Zeta/Alpha Beta Chapter Honor Society, Initiation Ceremony, guest speaker, May 7, 1993.
62. Y. H. Sohn, R. R. Biederman and R. D. Sisson, Jr., "The Effect of Interdiffusion and Reactions on the Life of Partially Stabilized Zirconia Thermal Barrier Coatings," presented at Aero Mat '1993, June 7-10, 1993 in Anaheim, California.
63. J. J. Bausch III, G. Chedid, R. D. Sisson, Jr., "Intelligent Process Control for Carburization Heat Treatment and Quenching," accepted for presentation at the Advanced Process Control Session of the 1994 TMS-AIME Annual Meeting, February 28, 1994.
64. J. J. Bausch, D. C. Brown, D. C. Zenger and R. D. Sisson, Jr., "Interactive Integrated, Intelligent Design and Process Planning for Powder Ceramic Components (I3D)", Paper and Poster Presentation, 1994 NSF Design and Manufacturing Grantees Conference, 5-7 January 1994.
65. R. D. Sisson, Jr., J. J. Bausch III, G. Chedid, Intelligent Process Control for Carburization Heat Treatment and Quenching," presented at the Advanced Process Control Session of the 1994 TMS-AIME Annual Meeting, February 28, 1994.
66. R. D. Sisson, Jr., "Integrated Product Development" Rapid Materials Forming Technologies Conference, October 20-21, 1994, Worcester, MA.

67. R. D. Sisson, Jr., "Coatings and Surface Treatment for Corrosion Protection" in ASM International - Materials Week, October 2-6, 1994, Rosemont, Illinois.
68. Yong-Ho Sohn, Kyu Cho and R. D. Sisson, Jr., "The Role of Diffusion, Oxidation and Interfacial Reactions in the Failure of Thermal Barrier Coatings", in the Symposium on High Temperature Coating at ASM International - Materials Week, October 2-6, 1994, Rosemont, Illinois.
69. L. Colananni and R. D. Sisson, Jr., "Corrosion of a Die Cast Aluminum/Silica Carbide particulate Metal Matrix Composite" presented at the Symposium on Diffusion and Reaction in Composites, R. D. Sisson, Jr. M. Uz, J. E. Morral, organizers at ASM International - Materials Week, October 2-6, 1994.
70. L. Swan and R. D. Sisson, Jr., "Mechanical Properties of a Die Cast Aluminum Alloy/Silicon Carbide particulate Metal Matrix Composite" presented at the Symposium on Diffusion and Reaction in Composites, R. D. Sisson, Jr., M. Uz, J. E. Morral, organizers at ASM International - Materials Week, October 2-6, 1994, Rosemont, Illinois.
71. P. J. Gaeta and R. D. Sisson, Jr., "Interfacial Properties of As - Received and Coated SiC (SCS-6) Fiber, Reinforced Reaction Formed SiC Matrix Composites, presented at the Symposium on Diffusion and Reaction in Composites, R. D. Sisson, Jr., M. Uz, J. E. Morral, organizers at ASM International - Materials Week, October 2-6, 1994, Rosemont, Illinois.
72. R. D. Sisson, Jr. - Plenary Lecture - Hydrogen Embrittlement of Electroplated Fasteners - Physical Metallurgy and Mitigation Methods", 48th Meeting of the Mechanical Failures Prevention Group - Advanced Materials and Process Technology for Mechanical Failure Prevention - Wakefield, MA, April, 1994.
73. R. D. Sisson, Jr., "The Product REALIZATION Consortium", TRP Conference, Boston, MA, March 31, 1994.
74. R. D. Sisson, Jr., "Intelligent Carburization Heat Treatment - What's new for the future", University of Connecticut, 1 Day Symposium on What's New in Carburizing Steel", March 23, 1994.
75. R. D. Sisson, Jr., "Hydrogen Embrittlement II: The Sequel" Hartford Branch, American Electroplaters and Surface Finishers Society, West Hartford, CT, January 19, 1994.
76. R. D. Sisson, Jr., "The Product REALIZATION Consortium" Special TRP Symposium ASEE Annual Meeting, Edmonton, Alberta, Canada, June, 1994.
77. E. Y. Lee, B. M. Banks and R. D. Sisson, Jr., "Phase Transformations in the Ceria Stabilized Zirconia Coatings Deposited by Plasma Spray", presented at the '94 PTM Solid → Solid Phase Transformations Conference, TMS, July 17-22, 1994, Nemacon Woodlands, Farmington, PA.
78. R. D. Sisson, Jr., "Internet Applications in Manufacturing", The Second Technical Conference on Telecommunications R&D in Massachusetts, presented at the University of Massachusetts at Lowell, March 12, 1996.
79. Natalie Mello Acuna, Richard D. Sisson, Jr, and Fredric M. Gold, "Theoretical Foundations for Design in Project Based Learning within the REALIZATION Consortium", presented at the 1996 NSF Design and Manufacturing Grantees Conference, Albuquerque, NH, January 3-5, 1996.

80. Natalie Mello Acuna, Kevin O'Connor and Richard D. Sisson, Jr. "Realizing the Redesign of the Engineering Curriculum", Presented at the NSF Design and Manufacturing Grantees Conference, Seattle, WA, January 6-8, 1997.
81. Richard D. Sisson, Jr., "The Fundamental Chemistry a Materials Scientist Needs to Know", presented at the General Chemistry and Materials Science: The Interrelationships", Worcester Polytechnic Institute Department of Chemistry Conference for High School and University Teachers of Chemistry, October 14, 1995.
82. Richard D. Sisson, Jr. "Failure Mechanisms, Life Prediction and Life Extension for Partially Stabilized Zirconia Thermal Barrier Coatings in Heat Engine Applications" presented at the Eastern New York Chapter of ASM International and the Hudson-Mohawk Section of TME, March 15, 1995.
83. Richard D. Sisson, Jr., "Failure Mechanisms and life predictions for Partially Stabilized Thermal Barrier Coatings" 1995 Gordon Research Conference on High Temperature Corrosion, Colby Sawyer College, July 16-21, 1995.
84. P. J. Holmes and R. D. Sisson, Jr., "Dissolution and Reactions in the SiC/C/TiB₂/C+ Liquid Si System at 1430 C - Theoretical Predictions" Diffusion and Phase Transformations in Multicomponent Systems, TME Fall Meeting, Cleveland, Ohio, October 30 - November 2, 1995.
85. Bridget Smyser and Richard D. Sisson, Jr., "Novel Synthesis Methods for Nanocomposite ZrO₂-Al₂O₃" to be presented at the Fourth International Conference on Composites Engineering, July 6-12, 1997, Big Island of Hawaii.
86. B.M.Smyser, J.F.Connolly, R.D.Sisson, Jr. and V. Provezano, "Grain Size Control and Phase Transformations in Nanophase Al₂O₃-ZrO₂", in the 21st Annual Cocoa Beach Conference and Expositions on Composites, Advanced Ceramics, Materials and Structures, J.P.Singh. Ed. (Cocoa Beach, FL, The American Ceramic Society, 1997).
87. Richard D. Sisson, Jr., Natalie Mello Acuña, Albert R. George, Eui Park, Pradosh K. Ray, Keith Bankwitz, "Integrating the Product Realization Process in Engineering Curriculum: Challenges and Opportunities" International Conference on Education in Manufacturing , "Preparing World Class Manufacturing Professionals", San Diego, CA March 13-15, 1996.
88. Natalie Mello Acuña, Richard D. Sisson, Jr., Fredric M. Gold, Theoretical Foundations for Design in Project Based Learning Within the Product Manufacturing Grantees Conference, Albuquerque, NM, January 3-5, 1996.
89. Richard D. Sisson, Jr., invited presentation, "Hydrogen Embrittlement", The International Fastener and Precision Formed Parts Manufacturing Exposition, 1997 Conference, Chicago, Illinois, June 2-5, 1997.
90. Kevin O'Connor, Natalie Mello Acuña, Richard D. Sisson, Jr. , Chrysanthe D. Terwilliger, Engineering Education as Apprenticeship: A Guided Participation Model of Learning, presented at the Second Davis Educational Conference - Educational Productivity: An Oxymoron?, Worcester Polytechnic Institute, May 30, 1996.

91. J.J. Bausch, Gold, F.M., Moreno, V. and R.D. Sisson, "Education within a Learning Factory between Pratt & Whitney and WPI". Paper presented at the International Conference on Education in Manufacturing, "Preparing World Class Manufacturing Professionals", San Diego, CA, March 13-15, 1996.
92. Natalie Mello Acuña, Richard D. Sisson, Jr., Gains made in the Redesign of the Manufacturing Engineering Curriculum, Engineering Education Innovators and TRP/MET Grantees Conference, National Science Foundation, Arlington, VA, April 7-8, 1997.
93. Richard D. Sisson, Jr. "The Product Realization Process Product Realization Teams for Agile Product and Process Development", Invited Plenary Session Speaker, International Conference on Agile Manufacturing, Lafayette, LA February 23-25, 1997.
94. Richard D. Sisson, Jr., invited panel member and presenter, "College and Industry: Lessons in Cooperation", 1997 Manufacturing Education Congress, Society of Manufacturing Engineers, Washington, DC, June 19, 1997.
95. R. D. Sisson, Jr., "HCF of Titanium Alloys-Mean Stress Sensitivity", presented at AFOSR Structural Metals Workshop, August 22-24, 1996, Bar Harbor, ME.
96. F.Cohen, S. Ivanova, R. Biederman, R.Sisson, Jr., "Mean-Stress Effects on HCF" presented at Air Force Science & Technology High Cycle Fatigue Program Kick-Off, February 24-25, 1997, Berkeley, CA.
97. S. Ivanova, F.Cohen, R.R.Biederman, R.D.Sisson, Jr. High Cycle Fatigue Properties of Ti-6Al-4V Alloys with Equiaxed Microstructure, Abstract accepted for Microstructure-Property Relationships in Alpha-Beta Titanium Alloys Symposium at 1997 TMS Materials Week in Indianapolis, IN, September 14-18, 1997.
98. R. D. Sisson, Jr., R. R. Biederman and M. M. Makhlof, "An Historical Overview of the Modeling and Prediction of Concentration and Hardness Profiles in Carburized Steels", presented at the 1997 Heat Treating Society Conference and Exposition, September 15 - 18, 1997, Indianapolis, Indiana.
99. Svetlana G. Ivanova, Frederick S. Cohen, Ronald R. Biederman, and Richard D. Sisson, Jr., "High Cycle Fatigue of Ti-6Al-4V Alloys with Equiaxed Microstructures", Presented at Materials Week '97, September 14 - 18, 1997, Indianapolis, Indiana.
100. (invited) R. D. Sisson, Jr. "The Application of the Fundamentals of Materials Science to the Development of Materials and Processes for Thermal Barrier Coatings" Materials Science & Engineering Department Seminar, Andong National University, Andong, Korea, October 7, 1997.
101. (invited) R. D. Sisson, Jr., "Nanophase Ceramics for Thermal Barrier Coatings", Gas turbine Workshop, Korean Electric Power Research Institute, Taejon, Korea, October 16, 1997.
102. (invited) R. D. Sisson, Jr., "The Product Realization Process for Engineering Education", Mechanical Engineering Department Seminar, Andong National University, Andong, Korea, October 29, 1997.
103. (invited) R. D. Sisson, Jr., "Recent Developments in Materials for Thermal Barrier Coatings - Microstructure and Manufacturing Processes", Korea Institute of Machinery * Materials, Changwon, Korea, October 30, 1997.

104. (invited) R. D. Sisson, Jr. "Preparing for ABET 2000", University Materials Council (Material Engineer Department Heads), Boston, MA, November 30, 1997.
105. R. D. Sisson, Jr., "Preparing for ABET 2000", College of Engineering, University of South Carolina, January 12, 1998.
106. (invited) R. D. Sisson, Jr., "Nanophase Ceramics for Thermal Barrier Coatings", U. S. Army Laboratory, Aberdeen, MD. February, 1998.
107. B.M. Smyser and R. D. Sisson, Jr., "Effect of Al₂O₃ Phase on Grain Growth in ZrO₂ - Al₂O₃ Nanocomposites, Presented at 22nd Annual Cocoa Beach Conference and Exposition on Composites, Advanced Ceramics, Materials and Structures, Cocoa Beach, FL, January 20-24, 1998 and published in the Proceedings.
108. Bridget M. Smyser and Richard D. Sisson, Jr., "Optimizing Microstructure in Nanocrystalline ZrO₂ - Al₂O₃", presented at The 1998 TMS Annual Meeting and Exposition, San Antonio, Texas, February 15-19, 1998 and published in the Proceedings.
109. (invited)R. D. Sisson, Jr., "Preparing for ABET 2000", College of Engineering, Penn State University, March 10, 1998.
110. Richard D. Sisson, Jr., "Hydrogen Embrittlement and Stress Corrosion Cracking of High Strength Steels - Physical Metallurgy, Failure Mechanisms, Mitigation Methods and Performance", presented at 52nd Society for Machinery Failure Prevention Technology, Virginia Beach, Virginia, March 30 - April 3, 1998.
111. Richard D. Sisson, Jr. And N. Mello Acuña, "Inserting the Product Realization Process into the Undergraduate Curriculum - Lessons Learned", ASEE New England Section Conference, University of Massachusetts Amherst, April 24 - 25, 1998.
112. (invited) M.M. Makhlof, J. Powell and R.D. Sisson, Jr., "Machine Autopsies-Hydrogen Embrittlement and stress Corrosion Cracking" presented at Society for Machinery Failure Prevention Technology, Virginia Beach, Virginia. April 19-22, 1999.
113. (invited) Richard D. Sisson, Jr., "Hydrogen Embrittlement in Fasteners and Formed Parts" International Fastener Exposition (IFE), Rosemont, Illinois. May 24-27, 1999.
114. (invited) Richard D. Sisson, Jr. "Overview of Ferrous Heat Treating Terminology, Communications and Economics:, in Failure Analysis of Heat Treated Parts – October 14, 1998, ASM International – Materials Solutions, Rosemont, Illinois.
115. (invited) Richard D. Sisson, Jr., "Discovery! Creativity! Innovation! – The Real Lives of Engineers" The 2001 Worcester Polytechnic Institute Lecture Series – ENGINEERING THE FUTURE, Boston Museum of Science, Boston, MA January 17, 2001.
116. B.R. Klotz, K.C. Cho and R.J. Dowding, U.S. Army Research Laboratory, Aberdeen Proving Ground, MD; R.D. Sisson, Jr. "Characterization of Boron Carbide consolidated by the plasma pressure compaction (P²C) Method", presented at the 25th Annual International Conference on Advanced Ceramics, Cocoa Beach, FL, January, 2001, published in the Proceedings.

117. Richard D. Sisson, Jr., W.C.S. Weir, S. Bose, "Modeling the Deposition Rate and Microstructural Features of EB-PVD TBC's as a function of position in the Coating Chamber", presented at the 25th Annual International Conference on Advanced Ceramics, Cocoa Beach, FL, January 2001.
118. William C.S. Weir and Richard D. Sisson, Jr., Sudhangshu Bose, "Microstructural Characterization and Deposition Rates for Electron Beam – Physical Vapor Deposition of Thermal Barrier Coatings (EB-PVD TBCs) on Curved Surfaces as a Function of Position in the Coating Chamber", presented at the International Conference on Metallurgical Coatings, published in the Proceedings, April, 2001, San Diego, CA.
119. Y.H. Sohn, E.Y. Lee, B.A. Nagaraj, R.R. Biederman and R.D. Sisson, Jr., "Microstructural Characterization of Thermal Barrier Coatings on High Pressure Turbine Blades", presented at the International Conference on Metallurgical Coatings, published in the proceedings, April, 2001, San Diego, CA.
120. Richard D. Sisson, Jr., "Five Years Experience at the United Technologies Pratt & Whitney/Worcester Polytechnic Learning Factory: An Industrial Active Learning Project Experience for Undergraduate and Graduate Students", SEFI Annual Conference 2001, Copenhagen, Denmark, September 12-14, 2001.
121. E.Y. Lee, Y.H. Sohn, S. Jha, J.W. Holmes and R.D. Sisson, Jr., "Phase Transformations in Ceria Stabilized Zirconia Thermal Barrier Coatings", presented at the 26th Annual International Conference on Advanced Ceramics and Composites, Jan. 13-18, 2002 Cocoa Beach, FL.
122. M. Maniruzzaman and R.D. Sisson, Jr., 2002, Investigation of bubble nucleation site density during quenching heat treatment process using video imaging, presented at the TMS Annual Meeting 2002, Feb. 17-21, Seattle, WA and published on the TMS web.
123. R.D. Sisson, Jr., "Failure Analysis Overview", presented at The Fifty-Sixth meeting of the Society of Machinery Prevention Technology, April 15-19, 2002, Virginia Beach, VA.
124. R.D. Sisson, Jr., "Failure Analysis of a Helical Spring", presented at the Fifty-Sixth Meeting of the Society for Machinery Prevention Technology, April 15-19, 2002, Virginia Beach, VA.
125. R.D. Sisson, Jr. and S. Bose. "A Physical Simulation of the EB-PVD Coating Process", presented R at The 27th Annual CoCoo Beach Conference and Exposition on Advanced Ceramics and Composites, January 26 – 31, 2003.
126. R. D. Sisson, Jr., "Green Engineering for the Development and Manufacturing of Ceramic Products", presented at The 27th Annual CoCoo Beach Conference and Exposition on Advanced Ceramics and Composites, January 26 – 31, 2003
127. Richard D. Sisson, Jr., Md. Maniruzzaman and Shuhui Ma, Strategies for Quenching Sensors and Control, presented at the 132nd TMS Annual Meeting, March 2-6, 2003, San Diego, CA.
128. M. Maniruzzaman and R.D. Sisson, Jr., "Heat Transfer Coefficients for Quenching Process Simulation", presented at the 2nd International Conference on Thermal Process Modelling and Computer Simulation, Société Française de Métallurgie et de Matériaux, Nancy, France, March 31st-April 2nd, 2003.
129. (Invited) Richard D. Sisson, Jr., "Hydrogen Embrittlement", Industrial Fastener & Forming International Exhibition & Conference, June 1 – 5, 2003, Rosemont, Illinois.
130. Richard D. Sisson, Jr., Md. Maniruzzaman and Shuhui Ma, "Strategies for Quenching Sensors and Control", Presented at the 132nd TMS Annual Meeting, March 2-6, 2003, San Diego, CA.

131. D. K. Rondeau, Md. Maniruzzaman and R. D. Sisson, Jr., B. Proshchitskiy and B. Liscic, "The Effects of Part Orientation on Heat Transfer during Quenching", presented at the 22nd ASM Heat Treating Conference & Exposition, 15-18 September 2003, Indianapolis, Indiana.
132. Mohammed Maniruzzaman and Richard D. Sisson, Jr., "Multiphase Flow Modeling of Quenching Heat Treatment Process", presented at the Multiphase Phenomena in Materials Processing in 2004 TMS Annual Meeting, Charlotte, North Carolina, March 14-18, 2004.
133. Mohammed Maniruzzaman, Jack Yuan and Richard D. Sisson, Jr., "Effect of non-uniform surface heat extraction on dimensional stability of a quenched part", accepted for presentation at the Modeling and Computer Applications in Metal Casting, Shaping & Forming Processes in MS&T 2004, New Orleans, Louisiana, September 26-29, 2004
134. Richard D. Sisson, Jr., Heat Treating Roundtable Session Moderator, Industrial Heating Equipment Association 75th Annual Meeting, Coral Gables, Florida, April 14 – 17, 2004.
135. Richard D. Sisson, Jr., Quenching: Understanding, Controlling and Optimizing the Process" Worcester Chapter of the ASM, National Speaker's Night, April 14, 2004.
136. Mohammed Maniruzzaman, Mike Stratton and Richard D. Sisson, Jr., "Computer simulation of high pressure gas quenching process", presented at the Modeling and Computer Applications in Metal Casting, Shaping & Forming Processes in MS&T 2004, New Orleans, Louisiana, September 26-29, 2004
137. Darrell Rondeau, Mohammed Maniruzzaman, Mike Stratton and Richard D. Sisson, Jr., "Effect of immersion orientation and non-uniform fluid flow on a quenched part during liquid quenching", presented at the General session of MS&T 2004 Conference, New Orleans, Louisiana, September 26-29, 2004
138. Mohammed Maniruzzaman, Jack Yuan and Richard D. Sisson, Jr., "Effect of non-uniform surface heat extraction on dimensional stability of a quenched part", presented at the Modeling and Computer Applications in Metal Casting, Shaping & Forming Processes in MS&T 2004, New Orleans, Louisiana, September 26-29, 2004
139. A.S. Varde, E.A. Rundensteiner, M. Maniruzzaman and R. D. Sisson Jr., "Computational Estimation of Heat Transfer Curves for Microstructure Prediction and Decision Support", presented at TMS's MS & T Symposium on Computational Microstructure Evolution in Steel, New Orleans, Louisiana, USA, 26-29 September 2004.
140. A. Varde, E. Rundensteiner, M. Mani, M. Maniruzzaman and R. Sisson Jr. , "Augmenting MatML with Heat Treating Semantics", presented at the ASM's Web-Based Material Property Databases Symposium, Columbus, Ohio, USA, 18-21 October 2004.
141. R.D. Sisson, Jr., S. Ma, Md. Maniruzzaman, "Quenching: Understanding, Controlling and Optimizing the Process," presented at the ASM Materials Solutions Conference and Exposition, Columbus, Ohio, October 18-21, 2004.
142. Richard D. Sisson, Jr., J. O'Shaughnessy, W. Weir, "Teaching and Learning Green Engineering," presented at the ASM Materials Solutions Conference and Exposition, Columbus, Ohio, October 18-21, 2004.
143. Richard D. Sisson, Jr., "Carburization Process Modeling," presented at the TMS 2005 134th Annual Meeting & Exhibition, San Francisco, CA, February 13-17, 2005.

144. Jeremy Bernier, G. Levan, Sudha Bose, Md. Maniruzzaman, Richard D. Sisson, Jr., "Crystallographic Texture of EB-PBD TBCs on Stationary Flat Surfaces in a Multiple Ingot Chamber," presented at the TMS 2005 134th Annual Meeting & Exhibition, San Francisco, CA, February 13-17, 2005.
145. R.D. Sisson, Jr., O. Karabelchtchikova, Md. Maniruzzaman, "Modeling Carburization Heat Treatments", presented at the ASM Heat Treating Society conference and Exposition, Pittsburgh, PA, September 26-28, 2005.
146. S. Ma, Md. Maniruzzaman, Juan Chaves and R.D. Sisson, Jr., "Effects of Surface Oxides on the Quenching Behavior of 4140 Steel in Commercial Mineral Oils", presented at the ASM Heat Treating Society Conference and Exposition, Pittsburgh, PA, September 26-28, 2005.
147. Lin Lee, Md. Maniruzzaman, Richard D. Sisson, Jr., "The Effect of flow Rate and Droplet Distribution on Spray Quenching Performance of 4140 Steel and IVF Probe in Water", presented at ASM Heat Treating Society Conference and Exposition, Pittsburgh, PA, September 26-28, 2005.
148. M. Maniruzzaman and R. D. Sisson, Jr., "Computational simulation of high pressure gas quenching process", presented at the 23rd Heat Treating Society Conference, Pittsburgh, PA, September 26-28, 2005.
149. M. Maniruzzaman, Y. Rong, R.D. Sisson, Jr., "Optimization of solution treatment process for lost foam casting A356 aluminum alloy engine heads", presented at the 23rd Heat Treating Society Conference, Pittsburgh, PA, September 26-28, 2005.
150. Aparna S. Varde, Elke A. Rundensteiner, Carolina Ruiz, Mohammed Maniruzzaman and Richard D. Sisson Jr., "AutoDomainMine: Automating Domain-Specific Data Mining for Computational Estimation in Materials Science", GRAD2006 Symposium, WPI, March 2006.
151. Aparna S. Varde, Elke A. Rundensteiner, Carolina Ruiz, David C. Brown, Mohammed Maniruzzaman and Richard D. Sisson Jr., "Effectiveness of Domain-Specific Cluster Representatives for Graphical Plots", ACM SIGMOD's IQIS-06, Chicago, Illinois, June 2006.
152. Aparna S. Varde, Elke A. Rundensteiner, Carolina Ruiz, David C. Brown, Mohammed Maniruzzaman and Richard D. Sisson Jr."Integrating Clustering and Classification for Estimating Process Variables in Materials Science. AAAI-06", Poster Track, Boston, Massachusetts, July 2006.
153. Olga Karabelchtchikova, Christopher A. Brown, Richard D. Sisson, Jr., "The Effect of Surface Roughness on the Kinetics of Mass Transfer during Gas Carburizing", presented at a special Bodycote Symposium.
154. Richard D. Sisson, Jr., (INVITED), "Green Ceramic Processing", American Ceramic Society's 31st International Cocoa Beach Conference and Exposition on Advanced Ceramics and Composites, January 21-26, 2007, Daytona Beach FL.
155. Olga Karabelchtchikova and Richard Sisson, "Calculation of Carburization Kinetic Parameters from the Carbon Concentration Profiles Based on the Direct Integration of the Flux" presented at TMS 2007, 137th Annual Meeting and Exposition, Orlando, FL, February 25 – March 1, 2007.
156. Olga Karabelchtchikova, Christopher Brown and Richard Sisson, "The Effect of Surface Preparation on the Rate of Mass Transfer in Gas Carburizing", presented at TMS 2007, 137th Annual Meeting and Exposition, Orlando, FL, February 25 – March 1, 2007.

157. Richard D. Sisson, Jr. and Olga Karabelchtchikova (INVITED), "Gas Consumption and Cost Model Optimization of Gas Carburizing, the Bodycote/AGA Symposium of Carburizing and Nitriding of Metals", Stenugsund, Sweden, June, 2007.
158. O. Karabelchtchikova, S. Johnston, W. DaCosta, R.D. Sisson, "Thermodynamic and Kinetic Aspects of Endothermic Carburizing Atmospheres with Natural Gas Enrichment", presented at the ASM Heat Treating Society Conference and Exposition, September 17-19, 2007, Detroit, MI.
159. M. Maniruzzaman, E. Wallhagen, R.D. Sisson, Jr., "Evaluation of Aging Response of Al-Cu-Mg-Si Based Cast Aluminum alloy and its Effect on Tensile Property", presented at the ASM Heat Treating Society Conference and Exposition, Detroit, Michigan, Sept. 16-20, 2007.
160. X. Wang, M. Maniruzzaman, Y. Rong, R.D. Sisson, Jr., "The Role of Cleaning in Heat Treatment Process", presented the ASM Heat Treating Society Conference and Exposition, Detroit, Michigan, Sept. 16-20, 2007.
161. M. Maniruzzaman, C. Nowill, R.D. Sisson, Jr, "The Aging Behavior of AA7136 Wrought Aluminum Alloy", presented at the ASM Heat Treating Society Conference and Exposition, Detroit, Michigan, Sept. 16-20, 2007.
162. O. Karabelchtchikova, R.D. Sisson, Jr., "Effect of Steel Alloying on Gas Carburizing Performance", presented at the ASM Heat Treating Society Conference and Exposition, Detroit, Michigan, Sept. 16-20, 2007.
163. Richard D. Sisson, Jr., (Invited) "The Fundamental Aspects of Hydrogen Effects on Steels and other Alloys: A Review", presented at Materials Innovation in an Emerging Hydrogen Economy Conference, American Ceramic Society, Cocoa Beach, FL, Feb. 24-27, 2008.
164. M.Maniruzzaman, Boquan Li and Richard Sisson, Jr., "Prediction of Mechanical Strength Evolution during aging Heat Treatment of Al-Si-MgCu based Cast Aluminum Alloy" presented at TMS 2008 137th Annual Meeting & Exhibition, New Orleans, LA, March 9-13, 2008
165. Courtney Nowill, Mohammed Maniruzzaman, Satya Shivkumar and R.D. Sisson, Jr., "Study of the effects of heating rate on 7000 series aluminum alloys", presented at TMS Annual Meeting and Exhibition 2008, New Orleans, LA, March 9-13, 2008
166. R.D. Sisson, J.O'Shaughnessy, J.A. Bergendahl, "Teaching and Learning Green Engineering and Environmental Sustainability", presented at MS & T'08, Pittsburgh, PA, Oct. 5-9, 2008.
167. Richard D. Sisson, Jr., Xiolan Wang, Wendi Liu and Md. Maniruzzaman, "Classification, Detection and Cleaning of Surface Contaminants", presented at MS & T'08, Pittsburgh, PA, Oct. 5-9, 2008.
168. G. Wang, M. Maniruzzaman, Y. K. Rong and R. D. Sisson, Jr., Gas Carburized/Oil Quench or Low Pressure Carburized/High Pressure Gas Quench: A Model Comparison of Distortion and Residual Stresses, presented at MS&T 2008, Pittsburgh, PA, Oct 5-9, 2008
169. Xiaolan Wang, Wendi Liu, Md. Maniruzzaman and Richard D. Sisson, Jr., Effects of Contamination on Carburization and Nitriding, presented at ASM Cleaning symposium, WPI, Worcester, MA, Oct. 29-30, 2008
170. R.D. Sisson, J. O'Shaughnessy, K. Rong, J. Bergendahl, D. Apelian, "Teaching and Learning the Design, Development and Evaluation of Sustainable Materials Selection and Processes", presented at the 33rd International Conference and Exposition on Advanced Ceramics and Composites, Daytona Beach, FL, January 18-23, 2009.

171. Gang Wang, Mohammed Maniruzzaman and Richard D. Sisson, Jr., "A Comparison of Gas and Low Pressure Carburization of 9310 and 8620 Steels - a Numerical Simulation Study", presented at the TMS 2009 138th Annual Meeting & Exhibition, February 15-19, 2009.
172. Richard D. Sisson, Diran Apelian, "A New Graduate Degree in Materials Processing Engineering", presented at MS&T 09, Pittsburgh, PA, Oct. 25-29, 2009.
173. Richard D. Sisson, James. C. O'Shaughnessy, John D. Bergendahl, Diran Apelian, "Incorporating Green Engineering and Sustainability into the Engineering Curriculum", presented MS&T 09, Pittsburgh, PA, Oct. 25-29, 2009.
174. Richard D. Sisson, "Fundamentals of Gas and Vacuum Carburization Heat Treatments", presented MS & T 09, Pittsburgh, PA, Oct. 25-29, 2009.
175. Richard D. Sisson, Mechanical Engineering Education Transformation: Transitional Stages and Early Career Moments Expandable Curricular and Co-curricular Activities, Engagement, Mentoring and Connection, presented ASME International Mechanical Engineering Congress & Exposition, Lake Buena Vista, FL, Nov. 13-19, 2009.
176. M. Yang, H. Duan, J. Liang, R. Datta, R.D. Sisson, "Fabrication of Porous Ceramics by Anodization of Titanium and Zirconium", presented at Advanced Ceramics and Composites, Daytona Beach, FL, Jan 24-29, 2010.
177. Richard D. Sisson, Jr., Chair, Hydrogen Symposium, Session Title: "Processing and Applications for Hydrogen Storage:", Materials Challenges in Alternative & Renewable Energy (Energy 2010) conference, Cocoa Beach, FL, Feb. 21-24, 2010.
178. Richard D. Sisson, speaker (Aerospace, Civil, Environmental, Mechanical, Materials Science), Symposium on Information Technology in Support of Materials Education, held at Stevens Institute of Technology, Hoboken, NJ, March 20, 2010.
179. Richard D. Sisson, Jr., organizer, "Fundamental Issues in the Simulation of Carburizing, Carbonitriding and Ferritic Nitriding of Low Alloy Steels", presented at International Symposium on Surface Hardening of Corrosion Resistant Alloys Conference, Case Western Reserve University, Cleveland, OH, May 25-26, 2010.
180. Richard D. Sisson, Jr., "System Engineering for Materials and Manufacturing Engineers – Creating Enabling Technologies", presented at 47th Sagamore Army Materials Research Conference On Advanced Lightweight Metals Technology, St. Michaels, MD, June 14-17, 2010.
181. Y. Wei, G. Wang, R.D. Sisson, Jr., *Center for Heat Treating Excellence, WPI*, B. Bernard, R. Poor, *Surface Combustion, Inc., Maumme, OH*, A. Goldsteinas, *Ipsen Inc., Cherry Valley, IL*, "Intelligent Heat Treating: Simulation of Carburization Process", presented at MS&T Conference, Houston, TX, Oct. 18, 2010.
182. Richard D. Sisson, Jr., (invited speaker) "Modeling Heat Treatment Processes", Tsinghua University, P.R. China, November 8, 2010.
183. Richard D. Sisson, Jr., (Invited Speaker) "Project Based Learning and Teaching", presented at International Symposium on Innovations in Engineering Education, Beijing Jiaotong University, Beijing, P.R. China, November 9, 2010.
184. Richard D. Sisson, Jr., (Invited Speaker), "Modeling Heat Treatment Processes", Shanghai Jiaotong University, Shanghai, P.R. China, November 11, 2010.

185. R.D. Sisson, Jr., "Need for Green Materials Selection and Manufacturing Education and Research", presented at 35th International Conference and Exposition on Advanced Ceramics and Composites, Daytona Beach, FL, Jan. 23–28, 2011.
186. Mei Yang, Danielle Belsito, Richard Sisson, Jr., "Modeling the Microstructural Development during the Nitriding of Low Alloy Steels", presented at TMS 2011 140th Annual Meeting & Exhibition, San Diego, CA, March 1, 2011.
187. Danielle Belsito, O.K. Rowan, Y. Wei, Y. Xu, M. Yang, Le. He, G. Wang, Y.K. Rong, M.M. Makhlof, D. Apelian, R.D. Sisson, Jr., "Modeling Surface Treatment Processes: Carburizing, Carbonitriding & Ferritic Nitriding", Advanced Aerospace Materials and Processes Conference and Exposition (Aeromat) 2011, May 23 – May 26, 2011, Long Beach, CA.
188. M. Yang, R.D. Sisson, Jr., *Center for Heat Treating Excellence, WPI*, "Modeling the Nitriding of Quenched and Tempered Steels", presented at IFHTSE 19th Congress, Glasgow, Scotland, October 17-20, 2011.
189. Yuan Xu, R.D. Sisson, Jr., *Center for Heat Treating Excellence, WPI*, "Integrated Computational Materials Engineering: Modeling and Simulation Applied to Metals Processing", presented at MS&T'11 Conference, Columbus, Ohio, Oct. 20, 2011.
190. Mohammed Maniruzzaman, Richard D. Sisson, Jr., Boquan Li, *Center for Heat Treating Excellence, WPI*, "Precipitation evolution and strength prediction of Al alloys", presented at 26th ASM Heat Treating Society Conference and Exposition, Cincinnati, Ohio, Oct. 31 –November 2, 2011.
191. Y. Xu, D. Belsito, L. He, M. Yang, R. D. Sisson, Jr., *Center for Heat Treating Excellence, WPI*, "A Process Model for Carbonitriding of Steel", presented at 26th ASM Heat Treating Society Conference and Exposition, Cincinnati, Ohio, Oct. 31 –November 2, 2011.
192. Mei Yang, R.D. Sisson, Jr., *Center for Heat Treating Excellence, WPI*, "Modeling of Microstructural Development During the Nitriding of Low Alloy Steels", presented at 26th ASM Heat Treating Society Conference and Exposition, Cincinnati, Ohio, Oct. 31 – November 2, 2011.
193. W. Liu, C.M. Chou, Z. Jin, E. Khzouz, L. Zhang, R.D. Sisson, Jr., *Center for Heat Treating Excellence, WPI*, "Austenite Grain Growth Kinetics", presented at 26th ASM Heat Treating Society Conference and Exposition, Cincinnati, Ohio, Oct. 31 –November 2, 2011.
194. R. D. Sisson, Jr., "Incorporating Global Issues, Green Manufacturing and Innovation into Materials Processing Education", presented 36th International Conference & Exposition on Advanced Ceramics & Composites (ICACC), Daytona Beach, FL, January 22-27, 2012.
195. M. Yang, R.D. Sisson Jr., "Modeling of Low Alloy Steel Gaseous Nitriding Process", TMS 2012 – 141st Annual Meeting & Exhibition Meeting, Orlando, FL, March 2012
196. Yuan Xu, Liang He and Richard D. Sisson, Jr., "CarbonitridingTool© - Modeling the Carbonitriding Process", abstract submitted TMS 2012 - 141st Annual Meeting & Exhibition, Orlando, Florida, March 2012.
197. Morgan Guardino; Soraya Benitez; Liang He; Richard D.Sisson, Jr., "Determination of Heat Transfer Coefficient Distribution at Part Surface during Press Quenching Process Using CFD", abstract submitted TMS 2012 -141st Annual Meeting & Exhibition, Orlando, Florida, March 2012.

198. M. Yang, R.D. Sisson Jr., "Gaseous Nitriding Process Control: Application of Customized Lehrer Diagrams", poster to be presented at *TMS 2012 – 141st Annual Meeting & Exhibition Meeting*, Orlando, FL, March 2012
199. D. Belsito, R. Sisson, "Application of Computational Thermodynamics and Precipitation Kinetics to Light Weight Al Alloy Design", poster to be presented at *TMS 2012 – 141st Annual Meeting & Exhibition Meeting*, Orlando, FL, March 2012.
200. L. Zhang, R.D. Sisson, Jr. "Intelligent Heat Treating: Simulation of Carburization Process", poster to be presented at *TMS 2012 – 141st Annual Meeting & Exhibition Meeting*, Orlando, FL, March 2012.
201. P. Rivera, L Zhang, M. Yang, R.D. Sisson, "A Systems Engineering View of Distortion, Control in Heat Treated Parts", presented at 6th International Quenching and Control of Distortion Conference, Chicago, IL, September 9-13, 2012.
202. M. Maniruzzaman, X. Dai, R.D. Sisson, "Effect of Quench Start Temperature on Surface heat Transfer Coefficients" presented at 6th International Quenching and Control of Distortion Conference, Chicago, IL, September 9-13, 2012.
203. R. D. Sisson, "Simulating the Surface Treatment Process on Steels", presented at 6th International Quenching and Control of Distortion Conference, Chicago, IL, September 9-13, 2012.
204. R.D. Sisson, "Applications of Computational Thermodynamics to Phase Development during the Surface Treating of Steel", presented at 6th International Quenching and Control of Distortion Conference, Chicago, IL, September 9-13, 2012.
205. Mei Yang, Danielle Belsito and Richard D. Sisson, Jr., "Modeling the Nitriding Process of Steels", presented at *Materials Science & Technology 2012 Conference & Exhibition*, Pittsburg, PA, October 7-11, 2012.
206. Mei Yang, Richard D. Sisson, Jr., "Simulation of Ferritic Nitriding Processes", presented at *Furnaces North America 2012*, Nashville, TN, October 6-8, 2012.
207. Mei Yang and Richard D. Sisson, Jr., "Gas Nitriding Process Simulation for Steels", presented at the 20th Congress of International Federation for Heat Treatment and Surface Engineering, Beijing, China, October 23-25, 2012.
208. Richard D. Sisson, Jr., "Integrated Computational Heat Treating", keynote speech, presented at the 20th Congress of International Federation for Heat Treatment and Surface Engineering, Beijing, China, October 23-25, 2012.
209. Yingying Wei and Richard D. Sisson, Jr., "Phase Transformations in Subcritical Temperature Nitrided and Cryogenically Treated Low Alloy Steels", presented at the 20th Congress of International Federation for Heat Treatment and Surface Engineering, Beijing, China, October 23-25, 2012.
210. D. Belsito, B. McNally, V. Champagne, Jr., R.D. Sisson, Jr., "Thermodynamic and Kinetic Model-Based Processing of Light Weight Al Alloys," *The Minerals Metals and Materials Society 2013 Annual Meeting & Exhibition*, San Antonio, TX, March 3-7, 2013.
211. Mei Yang, and R. D. Sisson Jr, "Modeling the Nitriding Process," *The Minerals Metals and Materials Society 2013 Annual Meeting & Exhibition*, San Antonio, TX, March 3-7, 2013

212. D. Belsito, B. McNally, V. Champagne Jr., R.D. Sisson, Jr., "Thermodynamic and Kinetic Model-Based Processing of Light Weight Al Alloys," Invited speaker at 2013 North American Cold Spray Conference, Bellevue, WA, April 2-5, 2013.
213. R. D. Sisson Jr, Lei Zhang and Mei Yang, "The Effects of Tempering Temperature, Time and Carbon Concentration on the Hardness of Alloy Steels," 2 MEDITERRANEAN CONFERENCE & NEW CHALLENGES ON HEAT TREATMENT AND SURFACE ENGINEERING, Dubrovnik - Cavtat, Croatia, June 11-14, 2013
214. B. McNally, D. Belsito, V. Champagne Jr. "Microstructural Analysis of Cold Sprayed Al Alloys," Cold Spray Action Team Annual Meeting, Worcester, MA, June 18-19, 2013.
215. Lei Zhang, Dr. Mei Yang, Dr. Yingying Wei, Richard D. Sisson, Jr., "The Effects of Tempering on the Hardness Profiles in Carburized Steels," ASM Heat Treating Society Conference & Exposition, Indiana Convention Center, Indianapolis, September 16-18, 2013.
217. Xiaolan Wang, Mei Yang, Yingying Wei, Lei Zhang, Richard D. Sisson, Jr., "Modeling Gas and Low Pressure Carburizing of Steel", ASM Heat Treating Society Conference & Exposition, Indiana Convention Center, Indianapolis, September 16-18, 2013.
218. Mei Yang, Xiaolan Wang, Richard D. Sisson, Jr., "Modeling the Gas Nitriding Process for Steels", ASM Heat Treating Society Conference & Exposition, Indiana Convention Center, Indianapolis, September 16-18, 2013.
219. Xiaolan Wang, Mei Yang, R. D. Sisson, Jr., "Modeling the Carbonitriding of Steels", ASM Heat Treating Society Conference & Exposition, Indiana Convention Center, Indianapolis, September 16-18, 2013.
220. D. Belsito, B. McNally, V. Champagne, R.D. Sisson, Jr., "Through-Process Modeling of Cold Spray Alloy Optimization," Materials Science & Technology Conference 2013, Montreal, Canada, October 27-31, 2013.
221. Richard D. Sisson Jr., Mei Yang, Yingying Wei, Danielle Belsito, Lei Zhang, "Simulation of Surface Treating Processes," Materials Science & Technology Conference 2013, Montreal, Canada, October 27-31, 2013.
222. B. McNally, D. Belsito, V. Champagne, R.D. Sisson, Jr., "Analysis of Thermal Powder Pre-Processing for Cold Spray Consolidation," Materials Science & Technology Conference 2013, Montreal, Canada, October 27-31, 2013.
223. Mei Yang, Xiaolan Wang, Richard D. Sisson Jr., "Gas Nitriding Process Simulation by NitrideTool[®]," Materials Science & Technology Conference 2013, Montreal, Canada, October 27-31, 2013.
224. Mei Yang, Xiaolan Wang, Richard D. Sisson Jr. "Simulation of the Ferritic Nitriding Process by NitrideTool[®]," Nitriding Symposium 2013, Las Vegas, NV, November 14-15, 2013.