RESUME

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Birth Date: May 31, 1948
Birthplace: Texarkana, Arkansas

Education

BA, Chemistry, Hendrix College, Conway, Arkansas, 1971
BS, Materials Science, Columbia University, New York, New York, 1971
MS, Materials Science, Columbia University, New York, New York, 1973
Eng.Sc.D., Materials Science, Columbia University, New York, New York, 1974

Employment

1974-1976 - Post-Doctoral Researcher, Department of Metallurgy and Materials Science, University of Pennsylvania, Philadelphia, Pennsylvania
1976-1994 - Staff Metallurgist, General Electric Research and Development Center, Schenectady, New York 12301
1994-2020 - Professor, Division of Engineering, Brown University, Providence, Rhode Island 02912
2000-2017 – Otis E. Randall University Professor and Professor of Engineering, Brown University, Providence, Rhode Island 02912
2003- 2006 – Dean of Engineering, Brown University
2006- 2013– Vice President for Research, Brown University
2020 – present – Professor of Engineering, Emeritus (Retired 6/30/2020)

Honors

- Member of Columbia University Chapter of Tau Beta Pi, Honorary Engineering Society
- Winner of the 1977 Robert Lansing Hardy Gold Medal awarded by the Metallurgical Society of the American Institute of Mining, Metallurgical, and Petroleum Engineers. This award is given by TMS-AIME to a metallurgist under 30 years of age who shows exceptional promise
- Winner of the 1979 Rossiter W. Raymond Award of the American Institute of Mining, Metallurgical, and Petroleum Engineers. This award is given for the best paper written by an author under 33 years of age and published by AIME during a calendar year.
- Winner of the 1980 Alfred Noble Prize presented by the American Society of Civil Engineers, American Society of Mechanical Engineers, Institute of Electrical and Electronic Engineers, and American Institute of Mining, Metallurgical, and

Petroleum Engineers for the best paper published by these societies by a young author.

- Winner of the 1980 Geisler Award presented by the Eastern New York American Society for Metals to an outstanding young metallurgist
- Selected by Science Digest as one of the 100 Most Promising Young Scientists in America, December, 1984.
- Overseas visiting researcher, AERE Harwell, England, October-December, 1984
- Winner of the General Electric Company Coolidge Fellowship, 1985
- Overseas Fellow, Churchill College, University of Cambridge, Cambridge, England, 1987-88.
- Visiting Scientist, Hungarian Academy of Sciences, Institute for Technical Physics, Budapest, Hungary, June-August, 1991
- Fellow of ASM International, elected 1994
- Listed in Who's Who in America
- Named Otis E. Randall University Professor at Brown University, 2000
- Listed in the Highly Cited Authors in Materials Science
- Fellow of TMS, elected 2006
- National Academy of Engineering, Class of 2010

Service

- Concentration Advisor for Materials Engineering Concentrators, 2014 – present
- Faculty director for Planning the Executive Masters Degree in Science and Technology Leadership
- Vice President for Research at Brown University, 2006 – 2013.
- Dean of Engineering at Brown University, 2003-2006
- Co-chair of the Rhode Island Science and Technology Advisory Council, 2006-2013.
- Co-director of the Center for Advanced Materials Research at Brown University, 2000-2001.
- Director of the Center for Advanced Materials Research at Brown University, 2001-2003.
- Director of the NSF Materials Research Science and Engineering Center at Brown University, 1998-2003.
- Member of Academic Priorities Committee at Brown, 2002-2003, 2006- 2013.
- Chairman of GE Coolidge Fellows, 1990
- Former member of the Board of Review of *Metallurgical Transactions A*
- *MRS Bulletin* Volume Organizer – 2001
- Co-chairman (with R.P. Gangloff) of 1994 Physical Metallurgy Gordon Conference
- Co-Chairman of the Fall Meeting of the Materials Research Society, 1998.

Expertise

Scientific - The mechanical properties of materials control their performance in many applications. In particular the microstructure of the material determines how it will respond

to various types of deformation. In his research at GE Professor Briant particularly examined the important role that grain boundaries play in mechanical properties. He examined, in particular, the chemical composition of grain boundaries in structural materials and how this chemistry impacts fracture, corrosion, and grain boundary motion. With Dr. R.P. Messmer he pioneered the use of quantum mechanical calculations to understand why particular elements that segregated to grain boundaries had such a profound influence on the brittleness of boundaries. Professor Briant was also a key member of a team at GE that completely revamped the factory that manufactures tungsten wire for incandescent lamp filaments. This work, which requires high temperature deformation of the material, led to process modifications that had a large impact on the productivity of the plant. At Brown University he has continued to work on high temperature deformation of materials and, in particular, examined the stability of microstructure during elevated temperature testing of aluminum alloys. He performed extensive work, in collaboration with Professor Sharvan Kumar, on titanium and its alloys and prepared a manual for the Office of Naval Research on the use of titanium in sea water.
Administrative - As Dean of Engineering at Brown University Professor Briant worked to develop programs to bring entrepreneurship into the engineering curriculum (COE and PRIME) and also to develop a program so that students with a degree in engineering would be qualified to teach physics in Rhode Island public schools. He also started a summer internship programs with companies in India. As Vice President for Research at Brown University he has developed expertise in research administration, conflict of interest issues, and technology transfer and worked to build research partnerships for Brown with other universities, private industry, and non-profit laboratories. The latter have included energy research with Draper Labs and stronger ecosystems research programs with the Marine Biological Labs. He worked to enhance computing capabilities through the purchase of the IBM supercomputer and through the build-up of the Center for Computation and Visualization at Brown. He helped initiate the Rhode Island Center for Innovation and Entrepreneurship. Through his co-chairmanship of the Rhode Island Science and Technology Advisory Council he oversaw the development of a science and technology plan for Rhode Island. Finally, through programs with Advancement at Brown he worked to help initiate programs in India, Singapore, and China.
Current Research – With the completion of ten years of administrative activity at Brown, Professor Briant has now turned his attention to the consideration of how engineering impacts society. He co-edited a book, Metallurgical Design and Industry, with Prof. Brett Kaufman of the University of Illinois, and he has begun writing a book on the history of the steam turbine and the interplay of industries that have allowed that critical engineering device to evolve.

Publications

(a.) Books

1. *Embrittlement of Engineering Alloys*, C.L. Briant and S.K. Banerji, eds., Academic Press, New York, 1983.

2. *Metallurgical Aspects of Environmental Failures*, C.L. Briant, Elsevier, 1985.
3. *Auger Electron Spectroscopy, Treatise on Materials Science and Technology*, C.L. Briant and R.P. Messmer, eds., Academic Press, Cambridge, 1988
4. *Structure and Properties of Interfaces in Materials*, W.A.T. Clark, U. Dahmen, C.L. Briant, eds., Materials Resesarch Society Symposium Volume 238, Pittsburgh, 1991.
5. *High Temperature Silicides and Refractory Alloys*, C.L. Briant, J.J. Petrovic, B.P. Bewlay, A.K. Vasudevan, and H.A. Lipsitt, eds., Materials Resesarch Society Symposium Volume 322, Pittsburgh, 1994.
6. "Interfacial Engineering for Optimized Properties," C.L. Briant, C. B. Carter, and E.L. Hall, eds. Materials Research Society, Symposium Volume 458, 1997.
7. *Impurities in Engineering Materials: Impact, Reliability and Control*, C.L. Briant, editor, Marcel Dekker, New York 1999.
8. *A Guide to the Use of Commercial Purity Titanium in Sea Water,* C.L. Briant and K.S. Kumar, a manual prepared for the US Navy to guide them in their application of titanium.
9. *Metallurgical Design and Industry: Prehistory to the Space Age,* Brett Kaufman and C.L. Briant, editors, Springer 2019.

(b.) Chapters in Books

1. "Intergranular Fracture in Ferrous Alloys in Non-Aggressive Environments," C.L. Briant and S.K. Banerji, in Embrittlement of Engineering Alloys, C.L. Briant and S. K. Banerji, eds. Academic Press, New York, p. 21, 1983.
2. "The Effect of Second Phase Particles on Fracture in Engineering Alloys," A.M. Ritter and C.L. Briant, in Embrittlement of Engineering Alloys, C.L. Briant and S.K. Banerji, eds., Academic Press, New York, p. 59, (1983).
3. "A Theoretical Approach to the Embrittlement of Metals: The Quantum Mechanical Cluster Method," R.P. Messmer and C.L. Briant, in Hydrogen Degradation of Ferrous Alloys, R.A. Oriani, J.P. Hirth, and M. Smialowski, eds., Noyes Publications, Park Ridge, N.J., p. 140 (1984).
4. "Metallurgical Applications of Auger Electron Spectroscopy," C.L. Briant, in Auger Electron Spectroscopy, Treatise on Materials Science and Technology, vol. 30, C.L. Briant and R.P. Messmer, eds., Academic Press, Cambridge, 1988, p. 111.
5. "Bonding in Metals and Alloys from a Valence Bond Viewpoint," R.P. Messmer, R.C. Tatar, and C.L. Briant, in Alloying, J.L. Walter, M.R. Jackson, and C.T. Simms, eds., ASM, Metals Park, p. 29 (1988).
6. "Embrittlement of Engineering Alloys," S.K. Banerji and C.L. Briant, in Encyclopedia of Physical Sciences, vol. 5, Academic Press San Diego, p. 45, 1987. 2nd edition, vol. 6, p. 13, 1992.
7. "Auger Electron Spectroscopy," C.L. Briant, in Encyclopedia of Physical Science and Technology 1990 Yearbook, Academic Press, 1990, San Diego, p. 233. Incorporated in Encyclopedia of Physical Science and Technology, vol. 2, p. 395 (1992).
8. "Interfacial Segregation, Bonding, and Reactions," C.L. Briant, in Materials

Interfaces - Atomic Level Structures and Properties, D. Wolf and S. Yip, eds., Chapman and Hall, London, 1992, p. 463.

9. "Mechanical Properties and Interfacial Analysis," C.L. Briant, in Characterization of Metals and Alloys, Paul H. Holloway and P.N. Vaidyanathan, eds. Manning Publishers, Greenwich, CT., 1993, p. 4.
10. Guest Editor of Special Issue of *Interface Science* on "Grain Boundaries in Materials.
11. "The Need for Clean Materials," C.L. Briant in *Impurities in Engineering Materials: Impact, Reliability, and Control*, C.L. Briant, ed. Marcel Dekker, p. 1 (1999).
12. "The Effect of Grain Boundary Segregation on Intergranular Failures,: C.L. Briant in *Impurities in Engineering Materials: Impact, Reliability, and Control*, C.L. Briant, ed. Marcel Dekker, p. 193 (1999).
13. "Refractory Metals and Alloys," C.L. Briant in *Encyclopedia of Materials: Science and Technology*, Elsevier Science, Ltd., 2001.
14. "The Electrochemistry, Corrosion and Hydrogen Embrittlement of Titanium," C.L. Briant, in *Modern Aspects of Electrochemistry 37*, vol. 37, Ralph E. White, Brian E. Conway, and Costas G. Vayenas, eds., Kluwer Publishers,New York, p. 55 (2003).
15. "The Development of Clean Steels for Steam Turbine Applications: Their Demand and Use," Clyde L. Briant, in *Metallurgical Design and Industry: Prehistory to the Space Age,* Brett Kaufman and C.L. Briant, editors, Springer 2019, pp 347-373.

(c.) Refereed Journal Articles

1. "Melting of a Small Cluster of Atoms," C.L. Briant and J.J. Burton, Nature Phys. Science, 243, 100 (1973).
2. "An Effective Potential for Ion-Water Interactions in Prenucleation Embryos," C.L. Briant and J.J. Burton, J.Chemical Physics, 60, 2849 (1974).
3. "A Molecular Dynamics Study of the Structure and Thermodynamic Properties of Argon Microclusters," C.L. Briant and J.J. Burton, J. Chemical Physics, 63, 2045 (1975).
4. "Field-Ion Microscope Investigation of Bio-Molecules," E.S. Machlin, A. Freilich, D.C. Agrawal, J.J. Burton, and C.L. Briant, J. Microscopy, 104, 127 (1975).
5. "A Molecular Dynamics Study of Water Microclusters," C.L. Briant and J.J. Burton, J. Chemical Physics, 63, 3327 (1975).
6. " Nearest Neighbor Distances in Microclusters," C.L. Briant and J.J. Burton, Surface Science, 51, 345 (1975).
7. "A Molecular Dynamics Study of Water-Ion Microclusters," C.L. Briant and J.J. Burton, J. Chemical Physics, 64, 2888 (1976).
8. "A Molecular Model for Nucleation of Water on Ions," C.L. Briant and J.J. Burton, J. Atmospheric Sciences, 33, 1357 (1976).
9. "On a Structural Model for Amorphous Metals: Implications From Microcluster Studies," C.L. Briant, Faraday Discussions of the Chemical Society, 61, 25 (1976).
10. "Atomistic Models of Microclusters: Implications for Nucleation Theory," J.J. Burton and C.L. Briant, Advances Colloid Interface Sci., 7, 131 (1977).

11. "Embrittlement of 5Pct. Nickel High Strength Steel by Impurities and Their Effects on Hydrogen Induced Cracking," C.L. Briant, H.C. Feng, and C.J. McMahon, Jr., Metall. Trans. A, 9A, 625 (1978).
12. "Hydrogen Assisted Cracking of Sensitized 304 Stainless Steel," C.L. Briant, Metall. Trans. A, 9A 731 (1978).
13. "Icosahedral Microclusters: A Possible Structural Unit in Amorphous Metals," C.L. Briant and J.J. Burton, Phys. Stat. Solidi, 85, 393 (1978).
14. "Intergranular Failure in Steel - The Role of Grain Boundary Composition," C.L. Briant and S.K. Banerji, International Metallurgical Reviews, 23, 164 (1978).
15. "A Mechanism for Intergranular Fracture in Type 304 Stainless Steel," C.L. Briant, Scripta Metallurgica, 12, 541 (1978).
16. "Phosphorus Induced 350^{o}C Embrittlement in an Ultra-High Strength Steel," C.L. Briant and S.K. Banerji, Metall. Trans. A, 10A, 123 (1979).
17. "Hydrogen Assisted Cracking of Type 304 Stainless Steel," C.L. Briant, Metall. Trans. A, 10A, 181 (1979).
18. "The Effect of Cold Work on the Sensitization of of 304 Stainless Steel," C.L. Briant and A.M. Ritter, Scripta Metall., 13, 177 (1979).
19. "Tempered Martensite Embrittlement in a High Purity Steel," C.L. Briant and S.K. Banerji, Metall. Trans. A, 10A, 1151 (1979).
20. "The Effect of Grain Boundary Impurities on the Stress Corrosion Cracking of a Low Alloy Steel," K.L. Moloznik, C.L. Briant, and C.J. McMahon, Jr., Corrosion 35, 331 (1979).
21. "The Effect of Molybdenum on Tempered Martensite Embrittlement," C.L. Briant and S.K. Banerji, Scripta Metall., 13, 813 (1979).
22. "Tempered Martensite Embrittlement in Phosphorus-Doped Steels," C.L. Briant and S.K. Banerji, Metall. Trans A, 10A, 1729 (1979).
23. "Intergranular Embrittlement of Steels," S.K. Banerji and C.L. Briant, Canadian Metall. Quarterly, 18, 169 (1980).
24. "The Effect of Sulfur and Phosphorus on the Intergranular Corrosion of 304 Stainless Steel," C.L. Briant, Corrosion, 36, 497 (1980).
25. "Mechanisms of Intergranular Corrosion of 316L Stainless Steel in Oxidizing Acids," T.M. Devine, C.L. Briant, and B.J. Drummond, Scripta Metall., 14, 1175 (1980).
26. "Electronic Effect of Sulfur in Nickel: A Model for Grain Boundary Embrittlement," C.L. Briant and R.P. Messmer, Phil. Mag. B, 42, 569 (1980).
27. "The Effects of Deformation Induced Martensite on the Sensitization of Austenitic Stainless Steels," C.L. Briant and A.M. Ritter, Metall. Trans. A, 11A, 2009 (1980).
28. "Tempered Martensite Embrittlement and Intergranular Fracture in an Ultra-High Strength Sulfur Doped Steel," C.L. Briant and S.K. Banerji, Metall. Trans. A, 12A, 309 (1981).
29. "The Effect of Martensite on the Sensitization of a Low Carbon Stainless Steel," C.L. Briant and A.M. Ritter, Metall. Trans. A, 12A, 909 (1981).
30. "The Effect of Nickel, Chromium, and Manganese on Phosphorus Segregation in Low Alloy Steels," C.L. Briant, Scripta Metall., 15, 1013 (1981).
31. "The Effect of Deformation Mode on the Sensitization of Partially Martensitic

Stainless Steels," C.L. Briant, Res Mechanica Letters, 1, 471 (1981).

32. "The Role of Chemical Bonding in Grain Boundary Embrittlement," R.P. Messmer and C.L. Briant, Acta Metall., 30, 457 (1982).
33. "The Effect of Phosphorus on Intergranular Caustic Cracking of NiCr Steel," N. Bandyopadhyay and C.L. Briant, Corrosion, 38, 125 (1982).
34. "The Effect of Alloying Elements on Impurity Induced Intergranular Corrosion," C.L. Briant, Corrosion, 38, 229 (1982).
35. "The Fracture Behavior of Quenched and Tempered Manganese Steels," C.L. Briant and S.K. Banerji, Metall. Trans. A, 13A, 827 (1982).
36. "Surface Segregation in Austenitic Stainless Steel," C.L. Briant and R.A. Mulford, Metall. Trans. A, 13A, 745 (1982).
37. "On the Mechanism of Caustic Stress Corrosion Cracking in Rotor Steels," N. Bandyopadhyay and C.L. Briant, Scripta Metall., 16, 939 (1982)
38. "Sensitization of Austenitic Stainless Steels, I . Controlled Purity Alloys," C.L. Briant, R.A. Mulford, and E.L. Hall, Corrosion, 38, 468 (1982).
39. "Splitting of Tungsten Wire in the Knife Edge Compression Test," J.L. Walter, C.L. Briant, and E.F. Koch, Metall. Trans. A, 13A, 1501 (1982).
40. "An Electronic Model for the Effect of Alloying Elements on Phosphorus Induced Grain Boundary Embrittlement of Steel," C.L. Briant and R.P. Messmer, Acta Metall., 30, 1811 (1982).
41. "The Structure of [110] Tilt Boundaries in Polycrystalline Fe-3%Si," E.L. Hall, J.L. Walter, and C.L. Briant, Phil. Mag A, 45, 753 (1982).
42. "Sensitization of Partially Martensitic Stainless Steels at Very Low Temperatures," C.L. Briant, Corrosion, 38, 596 (1982).
43. "The Role of Nitrogen in the Embrittlement of Steel," C.L. Briant, S.K. Banerji, and A.M. Ritter, Metall. Trans. A, 13A, 1939 (1982).
44. "The Effect of Impurity Elements on Chemical Bonding at Grain Boundaries," C.L. Briant and R.P. Messmer, J. de Physique, Colloque C6, 43, C6-255 (1982).
45. "Sources of Variability in Grain Boundary Segregation," C.L. Briant, Acta Metall. 31, 257 (1983).
46. "Sensitization of Austenitic Stainless Steels II. Commercial Purity Alloys," R.A. Mulford, E.L. Hall, and C.L. Briant, Corrosion, 39, 132 (1983).
47. "A Mechanistic Interpretation of the Relationship Between Temper Embrittlement and the Stress Corrosion Cracking Susceptibility of NiCr Steels," N. Bandyopadhyay, C.L. Briant, P. Emigh, and F.P. Ford, ASTM-STP 792, 104 (1982).
48. "Caustic Stress Corrosion Cracking of NiCrMoV Rotor Steels - The Effects of Impurity Segregation and Variation in Alloy Composition," N. Bandyopadhyay and C.L. Briant, Metall. Trans. A, 14A, 2005 (1983).
49. "Chromium Depletion in the Vicinity of Carbides in Sensitized Austenitic Stainless Steels," E.L. Hall and C.L. Briant, Metall. Trans. A, 15A, 793 (1984).
50. "The Segregation of Antimony to Grain Boundaries in Iron Base Alloys and the Causes of its Enhancement by the Presence of Certain Alloying Elements," C.L. Briant and A.M. Ritter, Acta Metallurgica, 32, 2031 (1984).
51. "Caustic Stress Corrosion Cracking of Low Alloy Iron Base Materials," N. Bandyopadhyay and C.L. Briant, Corrosion, 41, 274 (1985).

52. "An Electronic Model for the Grain Boundary Embrittlement of Iron, Nickel, and Chromium and Their Alloys," C.L. Briant and R.P. Messmer, Acta Metall., 32, 2043 (1984).
53. "The Effect of Microstructural Changes on the Caustic Stress Corrosion Cracking Resistance of a NiCrMoV Rotor Steel," N. Bandyopadhyay, C.L. Briant, and E. L. Hall, Metall. Trans. A, 16A, 1333 (1985).
54. "Carbide Precipitation, Grain Boundary Segregation, and Temper Embrittlement in NiCrMoV Rotor Steel," N. Bandyopadhyay, C.L. Briant, and E.L. Hall, Metall. Trans. A, 16A, 721 (1985).
55. "The Microstructural Response of Mill-Annealed and Solution-Annealed Inconel 600 to Heat Treatment," E.L. Hall and C.L. Briant, Metall. Trans. A, 16A, 1225 (1985).
56. "The Effect of Microstructure on the Corrosion and Stress Corrosion Cracking of Alloy 600 in Acidic and Neutral Environments," C.L. Briant, C.S. O'Toole, and E.L. Hall, Corrosion, 42, 15 (1986).
57. "Grain Boundary Segregation of Sulfur in Iron," Acta Metall. C.L. Briant, 33, 1241 (1985).
58. "Applications of a Model for Stress Driven Segregation to Hydrogen Embrittlement," C.A. Hippsley and C.L. Briant, Scripta Metall., 19, 1203 (1985).
59. "Grain Boundary Segregation of Phosphorus in 304L Stainless Steel," C.L. Briant, Metall. Trans. A, 16A, 2061 (1985).
60. "Ductility in Boron-Doped, Nickel-Base $L1_2$ Alloys Processed by Rapid Solidification," A.I. Taub, C.L. Briant, S.C. Huang, K.-M. Chang, and M.R. Jackson, Scripta Metall., 20, 129 (1986).
61. "Effect of Tempering on Fracture Mode in High-Strength Phosphorus-Doped Ni-Cr Steels," C.L. Briant and N. Lewis, Materials Sci. and Tech., 2, 34 (1986).
62. "Carbon Effects in Rapidly Solidified Ni_3Al," S.C. Huang, C.L. Briant, K.-M. Chang, A.I. Taub, and E.L. Hall, J. Materials Research, 1, 60 (1986).
63. "A Comparison Between Grain Boundary Chromium Depletion in Austenitic Stainless Steel and Corrosion in the Modified Strauss Test," C.L. Briant and E.L. Hall, Corrosion, 42, 522 (1986).
64. "Stress Relief Cracking of 9Cr Steels Containing 0 to 2% Molybdenum," C.A. Hippsley, C.L. Briant, and B.C. Edwards, Materials Science and Technology, 2, 386 (1986).
65. "Mechanism of Adhesion of Alumina on MCrAlY Alloys," K.L. Luthra and C.L. Briant, Oxidation of Metals, 26, 397 (1986).
66. "Grain Boundary Segregation of Phosphorus and Sulfur in Types 304L and 316L Stainless Steel and Its Effect on Intergranular Corrosion in the Huey Test," C.L. Briant, Metall. Trans. A, 18A, 691 (1987).
67. "Carbon Segregation to Grain Boundaries in Rapidly Solidified Ni_3Al," C.L. Briant and S.C. Huang, Metall. Trans. A, 17A, 2084 (1986).
68. "Grain Boundary Segregation of Antimony and Nickel in Iron," C.L. Briant, Acta Metallurgica, 35, 149 (1987).
69. "The Microstructure and Corrosion Resistance of Nickel-Base Filler Metals with High Chromium Contents," C.L. Briant and E.L. Hall, Welding Journal, 69, 60-s (1990).

70. "Heat to Heat Variability in the Corrosion Resistance and Microstructure of Low Carbon 316 Nuclear Grade Stainless Steel," C.L. Briant and E.L. Hall, Corrosion 43, 525 (1987).
71. "The Microstructural Causes of Intergranular Corrosion of Alloys 82 and 182," C.L. Briant and E.L. Hall, Corrosion, 43, 539 (1987).
72. "Void Growth in Tungsten Wire," C.L. Briant and J.L. Walter, Acta Metall., 36, 2503 (1988).
73. "Composition Dependence of Ductility in Boron-Doped, Nickel-Base, $L1_2$ Alloys," A.I. Taub and C.L. Briant, Acta Metall., 35, 2597 (1987).
74. "Nitrogen Segregation to Grain Boundaries in Austenitic Stainless Steel," C.L. Briant, Scripta Metall., 21, 71 (1987).
75. "Intergranular Corrosion of High Chromium Nickel-Base Alloys," C.L. Briant and E.L. Hall, Corrosion, 43, 437 (1987).
76. "Grain Boundary Chemistry and Ductility in Ni-Base $L1_2$ Intermetallic Compounds," A.I. Taub and C.L. Briant, Materials Research Society Symp. Proc., 81, 343 (1987).
77. "Grain Boundary Segregation of Sulfur and Antimony in Iron," C.L. Briant Proc. JIMIS-4, Grain Boundary Structure and Related Phenomena, Suppl. to Trans. Japanese Inst. Metals, 27, 107 (1986).
78. "Grain Boundary Segregation in the Ni-Base Alloy 182," C.L. Briant, Metall. Trans. A, 19A, 137 (1988).
79. "Grain Boundary Segregation in Austenitic Stainless Steels and Its Effect on Intergranular Corrosion and Stress Corrosion Cracking," C.L. Briant and P.L. Andresen, Metall. Trans. A, 19A, 495 (1988).
80. "Surface Segregation in MCrAlY Alloys," C.L. Briant and K.L. Luthra, Metall. Trans. A, 19A, 2099 (1988).
81. "Thermodynamics of Segregation in Alloys," K.L. Luthra and C.L. Briant, Metall. Trans. A, 19A, 2091 (1988).
82. "Grain Boundary Segregation of Boron and Sulfur and Its Effect on Ductility in Rapidly Solidified Ni-Base $L1_2$ Compounds," C.L. Briant and A.I. Taub, Acta Metall. 36, 2761 (1988).
83. "Competitive Grain Boundary Segregation in Fe-P-S and Fe-P-Sb Alloys," C.L. Briant, Acta Metall., 36, 1805 (1988).
84. "On the Growth of Creep Voids from Potassium-Filled Bubbles in Tungsten Wire," C.L. Briant, Scripta Metall, 22, 1665 (1988).
85. "Comments on 'About the Existence of Grain Boundary Cosegregation in Pure Fe-M-I Solid Solutions'," H.J. Grabke and C.L. Briant, Scripta Metall., 22, 1169 (1988).
86. "Comments of Rare Earth-Inert-Dispersoid Effect," K.L. Luthra and C.L. Briant, Oxidation of Metals, 30, 257 (1988).
87. "A Study of Surface Segregation in Austenitic Stainless Steels - Factors that Control this Segregation, Its Relation to Grain Boundary Segregation, and Its Usefulness for Interpreting Intergranular Corrosion Data," C.L. Briant, Surface and Interface Analysis, 13, 209 (1988).
88. "Grain Boundary Segregation and Precipitation Processes in Iron and Nickel Base Alloys," Ernest L. Hall and Clyde L. Briant, Materials Research Society Symp.

Proc., 122, 237 (1988).

89. "Thermodynamics of Segregation in Multi-Component Alloys," Krishan L. Luthra and Clyde L. Briant, Materials Research Society Symp. Proc., 122, 249 (1988).
90. "On the Role of Phosphorus in the Caustic Stress Corrosion Cracking of Low AlloySteels," C.L. Briant, Corrosion Science, 29, 53 (1989)
91. "Interactive Grain Boundary Segregation of Nickel and Antimony in Iron," C.L. Briant, Materials Science and Technology, 4, 956 (1988).
92. "Intergranular Fracture in Metals," C.L. Briant, J. de Physique, Colloque C5, 49, C5-3 (1988).
93. "Role of Carbides in Tempered Martensite Embrittlement," C.L. Briant, Materials Science and Technology, 5, 138 (1989).
94. " The Role of Surface Segregation and Stresses in Scale Adherence," K.L. Luthra and C.L. Briant, Materials Science Forum, 43, 299 (1989).
95. "On the Formation of Potassium Bubbles in Tungsten Rod," C.L. Briant, Metall. Trans. A, 20A, 179 (1989).
96. "Environmentally Assisted Cracking of Types 304L/316L/316NG Stainless Steel in 288^{o}C Water," P.L. Andresen and C.L. Briant, Corrosion, 45, 448 (1989).
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(d.) Non-Refereed Journal Articles and Proceedings

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(e.) Invited Lectures Since 1994

1. "Grain Growth in Refractory Metals," Ohio State University, April, 1995.
2. "Surface Smoothing of CVD Coated Tungsten," Materials Research Society, Fall Meeting, Boston, MA, December, 1995
3. "Microstructural Observations in Tantalum Deformed at High Strain Rates," Annual Meeting of The Materials Society, Anaheim, CA, February, 1996
4. "Texture in Metals," University of Virginia, April, 1996
5. "Grain Growth in Refractory Metals," University of Connecticut, April, 1996
6. "Texture in Tungsten and Hafnium," Lehigh University, September, 1996
7. "Mechanical Properties of BCC and FCC Metals," Institute for Mechanics of Materials, La Jolla, CA, April, 1997
8. "Mechanical Properties of BCC and FCC Metals," Dartmouth University, April, 1997
9. "Hydriding of Titanium," Oak Ridge National Labs, August, 1997
10. " The Structure of Random Grain Boundaries in Aluminum," Materials Week, Indianapolis, Indiana, September, 1997
11. "Mechanical Properties of BCC and FCC Metals," Yale University, New Haven, CT., October, 1997
12. "Hydrogen Embrittlement of Titanium," Harvard University, February, 1998.
13. "Grain Boundary Segregation and Embrittlement," DOE/EPRI workshop, Palo Alto, March, 1998.
14. "Creep of High Temperature Materials," Hudson Mohawk AIME Spring Symposium, Schenectady, April, 1998.
15. "Hydriding of Titanium," TTCP Workshop on Hydrides, Ottawa, September, 1998.
16. "The Effect of Deformation on the Microstructure of Tantalum," Annual TMS Meeting, San Antonio, February, 1998.
17. "Grain Boundary Structure, Segregation, and Sliding," TMS Fall Meeting, Chicago, October, 1998.
18. "Hydriding of Titanium," University of Rhode Island, January, 1999

19. "Creep of Nb-Si Alloys." TMS Meeting, San Diego, February, 1999
20. "The Preparation and Properties of High Purity Materials," Conference on Ultra-High Purity Metals," Sendai, Japan, June, 1999.
21. "The Use of Refractory Metals in High Temperature Applications," ASME Meeting, Nashville, TN, November, 1999.
22. "Deformation of Ti-6-4 /TiC Composites," Argonne National Labs Workshop on Simulation of Materials, June 2000.
23. "Grain Boundary Embrittlement," Eastern New York ASM, September 2001.
24. "Hydrogen Embrittlement of Titanium," Sea Horse Corrosion Conference, August, 2001.
25. "Grain Boundary and Microstructure Design of Steel," TMS Symposium on Materials Design Approaches and Experiences, November, 2001.
26. "Hydrogen, Hydrides, and Crack-Tip Damage, ICF10, December, 2001.
27. "Void Nucleation in a Low Alloy Steel," presented at TMS Symposium in honor of Professor John Knott, Columbus, Ohio, 2002.
28. "Deformation and Processing of Ti-6Al-4V/TiC Composites," seminar given at Boston University, Department of Mechanical and Aerospace Engineering, November, 2002.
29. "Deformation of Ta Single Crystals," Multi-Scale Modeling Workshop, Berkeley, CA, January, 2004

Patents

US Patent 6,447,623 B1 "Creep Resistant Nb-Siliced Based Two-Phase Composites," with B.P. Bewlay, and M.R. Jackson, Sept 10, 2002.

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