

James Earthman - Publications

Books

X1. J. C. Earthman and F. A. Mohamed, eds., Proceedings of the Seventh International Conference on Creep and Fracture of Engineering Materials and Structures, TMS, Pittsburgh (1997).

X2. J. C. Earthman, Chair, Creep and Stress-Relaxation Testing, Volume 8 Mechanical Testing and Evaluation, ASM Handbook, Materials Park, OH, pp. 361-423 (2000).

[Top of Page](#)

[Books](#)

[Journals](#)

[Refereed Articles](#)

[Non-Refereed Articles](#)

[Abstracts](#)

[Lectures](#)

[Other](#)

Archival Journals

A1. J. C. Earthman, J. C. Gibeling and W. D. Nix, "High Temperature Intergranular Crack Growth Processes in Copper and Copper with 1 wt.% Antimony," *Acta Metallurgica*, 33, 805- 817 (1985).

A2. J. C. Earthman and W. D. Nix, "Characterizations of High Temperature Crack Growth in Copper and Copper with 1 wt.% Antimony," *Acta Metallurgica*, 35, 463-472 (1987).

A3. J. C. Earthman and W. D. Nix, "Simulations of Stable Crack Propagation Based on Cavity Growth by Coupled Diffusional and Creep Processes," *Acta Metallurgica*, 35, 1475- 1485 (1987).

A4. G. Eggeler, J. C. Earthman, N. Nilsvang and B. Ilshner, "A Microstructural Study of Creep Rupture in a 12% Cr Steel," *Acta Metallurgica*, 37, 49-60 (1989).

A5. W. D. Nix, J. C. Earthman, G. Eggeler and B. Ilshner, "A Parameter for Predicting Creep Rupture Under Multiaxial Stress Conditions," *Acta Metallurgica*, 37, 1067-1077 (1989).

A6. J. C. Earthman, G. Eggeler and B. Ilshner, "Deformation and Damage Processes in a 12% Cr Steel under High Temperature Low-Cycle Fatigue Conditions in Air and Vacuum," *Materials Science and Engineering*, A110, 103-114 (1989).

A7. C. Wiesner, J. C. Earthman, G. Eggeler and B. Ilshner, "Creep Crack Growth and Cavitation Damage in a 12% Cr Steel," *Acta Metallurgica*, 37, 2733-2741 (1989).

- A8. H. K. Kim, F. A. Mohamed and J. C. Earthman, "A Novel Specimen Geometry for Double Shear Experiments," *Journal of Testing and Evaluation*, JTEVA, 19, 93-96 (1991).
- A9. J. C. Earthman, "Characterization of Small Crack Growth in 12% Cr Mo V Steel Under High Temperature, Low Cycle Fatigue Conditions," *Materials Science and Engineering*, A132, 89-95 (1991).
- A10. H. K. Kim, F. A. Mohamed and J. C. Earthman, "High Temperature Rupture of Microstructurally Unstable 304 Stainless Steel Under Uniaxial and Triaxial Stress States," *Metallurgical Transactions*, 22A, 2629-2635 (1991).
- A11. X. Liang, J. C. Earthman, J. Wolfenstine and E. J. Lavernia, "A Comparison of Techniques for Determining the Volume Fraction of Particulates in Metal Matrix Composites," *Materials Characterization*, 28, 173-178 (1992).
- A12. H. K. Kim, J. C. Earthman and E. J. Lavernia, "Directional Solidification of Ni₃Al," *Acta Metallurgica et Materialia*, 40, 637-647 (1992).
- A13. H. K. Kim, E. J. Lavernia and J. C. Earthman, "Mechanisms of Intergranular Cavity Growth in Ni₃Al (Zr, B)," *Acta Metallurgica et Materialia*, 40, 1933-1943 (1992).
- A14. J. Buerkle, D. Dunn-Rankin, K. Bowo and J. C. Earthman, "Rapid Defect Detection by Laser Light Scattering," *Materials Evaluation*, 50, 670-677 (1992).
- A15. X. Liang, J. C. Earthman and E. J. Lavernia, "On the Mechanism of Grain Formation During Spray Atomization and Deposition," *Acta Metallurgica et Materialia*, 40, 3003-3016 (1992).
- A16. J. Wolfenstine, H. K. Kim and J. C. Earthman, "High Temperature Creep Behavior of Polycrystalline Ni₃Al (Zr, B)," *Scripta Metallurgica et Materialia*, 26, 1823-1828 (1992).
- A17. H. K. Kim, J. C. Earthman and E. J. Lavernia, "Primary Dendrite Arm Spacings and Tip Radii in Directionally Solidified Ni₃Al," *Materials Science and Engineering*, A152, 240- 246 (1992).
- A18. X. Liang, H. K. Kim, J. C. Earthman and E. J. Lavernia, "Microstructure and Elevated Temperature Behavior of a Spray-Atomized and Co-Deposited Ni₃Al/SiC/TiB₂ Intermetallic Matrix Composite," *Materials Science and Engineering*, A153, 646-653 (1992).
- A19. H. K. Kim, J. Wolfenstine and J. C. Earthman, "Grain Boundary Sliding in Ni₃Al(Ta,B) Bicrystals," *Scripta Metallurgica et Materialia*, 27, 1067-1072 (1992).

- A20. J. Wolfenstine, H. K. Kim and J. C. Earthman, "High Temperature Creep Transitions in Single Crystalline Ni₃Al(Ta,B)" *Journal of Materials Research*, 8, 2510-2514 (1993).
- A21. H. K. Kim and J. C. Earthman, "High Temperature Deformation and Fracture Mechanisms in a Dendritic Ni₃Al Alloy," *Acta Metallurgica et Materialia*, 42, 679-688 (1994).
- A22. M. Gupta, K. Bowo, E. J. Lavernia and J. C. Earthman, "Effect of Particulate Type on Fatigue Crack Propagation in Al-Li Based Spray Deposited Metal Matrix Composites," *Scripta Metallurgica et Materialia*, 28, 1053-1058 (1993).
- A23. C. G. Sheets and J. C. Earthman, "Natural Tooth Intrusion and Reversal in Implant Assisted Prosthesis-Evidence of and a Hypothesis for the Occurrence," *Journal of Prosthetic Dentistry*, 70, 513-520 (1993).
- A24. R. W. Hayes, D. F. Smith, E. A. Wanner and J. C. Earthman, "The Effect of Environment on the Rupture Behavior of Alloys 909 and 718," *Materials Science and Engineering*, A177, 43-51 (1994).
- A25. N. L. Johnson and J. C. Earthman, "Numerical Analysis of Primary Creep Deformation in a Novel Double Shear Specimen Geometry," *Journal of Testing and Evaluation*, JTEVA, 22, 111-116 (1994).
- A26. S. Yan, J. C. Earthman, and F. A. Mohamed, "Effect of Cd on Superplastic Flow in the Pb- 62%Sn Eutectic," *Philosophical Magazine*, A69, 1017-1038 (1994).
- A27. K. -T. Park, S. T. Yang, J. C. Earthman, and F. A. Mohamed, "The Effect of Impurities on Ductility and Cavitation in the Superplastic Zn-22% Al Alloy," *Materials Science and Engineering*, A188, 59-67 (1994).
- A28. J. Wolfenstine, H. K. Kim and J. C. Earthman, "Creep Characteristics of Single Crystalline Ni₃Al(Ta,B)" *Metallurgical Transactions*, 25A, 2477-2482 (1994).
- A29. K.-T. Park, J. C. Earthman and F. A. Mohamed, "Microstructure and Cavitation in the Superplastic Zn-22% Al Alloy: Effect of Solution Heat Treatment," *Philosophical Magazine Letters*, 70, pp. 7-13 (1994).
- A30. P. A. Schmidt and J. C. Earthman, "Development of a Scanning Laser Crack Detection Technique for Corrosion Fatigue Testing of Fine Wire," *Journal of Materials Research*, 10, 372-380 (1995).
- A31. D. A. Brenner and J. C. Earthman, "Novel Instrumentation for Quantitative Determination of Energy Damping in Materials and Structures," *Scripta Metallurgica et Materialia*, 31, 467-471 (1994).

- A32. J. C. Earthman, K. L. Murty, B. V. Tanikella, and J. C. Britt, "Effects of Grain-Shape Anisotropy and Texture on Balanced-Biaxial Creep of Ti and Zr Alloys," *JOM*, 46, No. 10, 48-54 (1994).
- A33. X. Jiang, J. C. Earthman, and F. A. Mohamed, "Cavity Nucleation and Cavity-Induced Fracture During Superplastic Deformation," *J. Materials Science*, 29, 5499-5514 (1994).
- A34. K. L. Murty, B. V. Tanikella, and J. C. Earthman, "Effect of Grain Shape and Texture on Equi- Biaxial Creep of Stress Relieved and Recrystallized Zircaloy-4," *Acta Metallurgica et Materialia*, 42, 3653-3662 (1994).
- A35. P. A. Schmidt, R. R. Blair, and J. C. Earthman, "Development of a Novel Specimen Geometry for Corrosion Fatigue Testing of Fine Wire," *Journal of Testing and Evaluation*, JTEVA, 23, 73-79 (1995).
- A36. J. Wolfenstine, H. K. Kim, and J. C. Earthman, "Elevated-Temperature Deformation Mechanisms in Ni3Al," *Materials Science and Engineering*, A192/193, 811-816 (1994).
- A37. W. E. Churley and J. C. Earthman, "Damage Mechanics Approach for Predicting High Temperature Crack Growth under Mixed-Mode Conditions," *Materials Science and Engineering*, A202, 36-42 (1995).
- A38. B. Li, X. Liang, J. C. Earthman, and E. J. Lavernia, "Two Dimensional Modeling of Momentum and Thermal Behavior During Spray Atomization of γ -TiAl," *Acta Materialia*, 44, 2409-2420 (1996).
- A39. X. -G. Jiang, S. T. Yang, J. C. Earthman, and F. A. Mohamed, "Effect of Fe on Ductility and Cavitation in the Superplastic Zn-22 Pct Al Eutectoid," *Metallurgical and Materials Transactions*, 27A, 863-872 (1996).
- A40. A.-B. A. El-Nasr, F. A. Mohamed, and J. C. Earthman, "High Temperature Rupture of a SiC Particulate Reinforced Al Composite Under Multiaxial Stress States," *Materials Science and Engineering*, A214, 33-41 (1996).
- A41. C. G. Sheets and J. C. Earthman, "Tooth Intrusion in Implant-Assisted Prostheses," *Journal of Prosthetic Dentistry*, 77, 39-45 (1997).
- A42. A. Jayaraman, J. C. Earthman, and T. K. Wood, "Corrosion Inhibition by Aerobic Biofilms on SAE 1018 Steel," *Applied Microbiology and Biotechnology*, 47, 62-68 (1997).
- A43. W. E. Churley and J. C. Earthman, "High Temperature Crack Growth in 304 Stainless Steel under Mixed-Mode Loading Conditions," *Metallurgical and Materials Transactions A*, 28A, 763-773 (1997).

- A44. A. Chakraborty and J. C. Earthman, "Numerical Models of Creep and Boundary Sliding Mechanisms in Single Phase, Dual Phase and Fully Lamellar Titanium Aluminide," *Metallurgical and Materials Transactions A*, 28A, 979-989 (1997).
- A45. A. Jayaraman, E. T. Cheng, J. C. Earthman, and T. K. Wood, "Importance of Biofilm Formation for Corrosion Inhibition of SAE 1018 steel by Axenic Aerobic Biofilms," *Journal of Industrial Microbiology and Biotechnology*, 18, 396-401 (1997).
- A46. A. Jayaraman, E. T. Cheng, J. C. Earthman, and T. K. Wood, "Axenic Aerobic Biofilms Inhibit Corrosion of SAE 1018 Steel through Oxygen Depletion," *Applied Microbiology and Biotechnology*, 48, 11-7 (1997).
- A47. K. J. C. Chou and J. C. Earthman, "Characterization of Low-Cycle Fatigue Damage in Inconel 718 by Laser Light Scattering," *Journal of Materials Research*, 12, 2048-2056 (1997).
- A48. B. Li, J. Wolfenstine, J. C. Earthman, E. J. Lavernia, "Compressive Creep Behavior of Spray-Formed Gamma Titanium Aluminide," *Metallurgical and Materials Transactions A*, 28A, 1849-1857 (1997).
- A49. A. Chakraborty and J. C. Earthman, "Numerical Models of Creep Cavitation in Single Phase, Dual Phase and Fully Lamellar Titanium Aluminide," *Acta Materialia*, 45, 4615-4626 (1997).
- A50. G. F. Eggeler and J. C. Earthman, "Dislocation Fiber Interactions in Short Fiber Reinforced Metal Matrix Composites During Creep and During Thermal Cycling," *Scripta Materialia*, 38, 341-348 (1998).
- A51. A. Chakraborty and J. C. Earthman, "Finite Element Analysis of Cavitating Facet Interaction in a Fully Lamellar Titanium Aluminide Alloy Under Creep Conditions," *Metallurgical and Materials Transactions A*, 29A, 957-964 (1998).
- A52. A. Yousefiani, J. C. Earthman, and F. A. Mohamed, "Formation of Cavity Stringers During Superplastic Deformation," *Acta Materialia*, 46, 3557-3570 (1998).
- A53. V. Bystritskii, E. Garate, J. Earthman, A. Kharlov, E. Lavernia, and X. Peng, "Fatigue Properties of 2024-T3, 7075-T6 Aluminum Alloys Modified using Plasma-Enhanced Ion Beams," *Theoretical and Applied Fracture Mechanics*, 32, 47-53 (1999).
- A54. Kh. Ismail, A. Jayaraman, T. K. Wood, and J. C. Earthman, "The Influence of Bacteria on the Passive Film Stability of 304 Stainless Steel," *Electrochimica Acta*, 44, 4685-4692 (1999).
- A55. T. Savas and J. C. Earthman, "Fatigue and Stress Analysis of a Novel Test Coupon Geometry Developed for Hydraulic Pressure Impulse Testing," *Journal of Testing and Evaluation*, 28, 359-366 (2000).

A56. A Yousefiani, F. A. Mohamed, and J. C. Earthman, "Multiaxial Creep Rupture in Annealed and Overheated 7075 Al," *Metallurgical and Materials Transactions A*, 31A, 2807-2822 (2000).

[Top of Page](#)

[Books](#)

[Journals](#)

[Refereed Articles](#)

[Non-Refereed Articles](#)

[Abstracts](#)

[Lectures](#)

[Other](#)

Refereed Articles in Conference Proceedings (*presentation speaker is underlined if more than one author*)

B1. J. C. Earthman, "Use of Computer Systems in High Temperature Crack Growth Studies," invited paper in the proceedings of *ASTM Symposium on "The Applications of Automation Technology to Fatigue and Fracture Testing"*, STP 1092, 178-187 (1990).

B2. K. -T. Park, J. C. Earthman and F. A. Mohamed, "Mechanical Behavior and Cavitation in Commercial and High Purity Zn - 22% Al," *Proc. of the Symposium on Superplasticity in Metals, Ceramics and Intermetallics*, MRS, 58-64 (1990).

B3. H. K. Kim, X. Liang, E. J. Lavernia and J. C. Earthman, "High Temperature Rupture Mechanisms in a Particulate Reinforced Intermetallic Matrix Composite," *Proceedings of the Symposium on Processing, Fabrication and Performance of Composite Materials II*, AIME, Anaheim, California, 221-230 (1992).

B4. K. Trandem, Kh. Ismail, P. J. Arps, and J. C. Earthman, "Closed-Loop Sidestreams for Investigating Corrosion Control Using Regenerative Biofilms (CCURB) in Service Water Systems," *proceedings of the Ninth International Symposium on Environmental Degradation of Materials in Nuclear Power Systems—Water Reactors*, F. P. Ford, S. M. Bruemmer, and G. S. Was, eds., TMS (1999).

B5. K. Trandem, P. J. Arps, and J. C. Earthman, Closed-Loop Sidestreams for Investigating Corrosion Control Using Regenerative Biofilms (CCURB), NACE International Annual Conference, CORROSION/2000, Paper No. 006XX, Houston, TX (2000).

B6. K. Trandem, Z. S. Farhangrazi, T. K. Wood, P. J. Arps, and J. C. Earthman, Field Sidestream Investigations of Corrosion Control Using Regenerative Biofilms (CCURB), NACE International Annual Conference, CORROSION/2001, Paper No. 01271, Houston, TX (2001).

[Top of Page](#)

[Books](#)

[Journals](#)

[Refereed Articles](#)

[Non-Refereed Articles](#)

[Abstracts](#)

[Lectures](#)

[Other](#)

Non-Refereed Publications

C1. J. C. Earthman, J. C. Gibeling, and W. D. Nix, "High Temperature Crack Growth Processes in Cu and Cu + 1 wt.% Sb," *Proceedings of the Conference on Crack Tip Structure and Processes, National Bureau of Standards, Washington, D.C.*, 67-74 (1983).

C2. H. K. Kim, F. A. Mohamed and J. C. Earthman, "High Temperature Rupture of 304 Stainless Steel Under Multiaxial Stresses," *Proceedings of the Fourth International Conference on Creep and Fracture of Engineering Materials and Structures*, B. Wilshire and R. W. Evans, eds., The Institute of Metals, London, 853-852 (1990).

C3. D. -H. Kim, E. J. Lavernia and J. C. Earthman, "Fatigue Crack Growth Behavior of a Continuous Alumina Reinforced Magnesium Alloy," *Proc. of the VI TMS Northeast Regional Symposium on High Performance Composites for the 1990's*, TMS, 117-226 (1991).

C4. J. Buerkle, D. Dunn-Rankin, K. Bowo, and J. Earthman, "In-Situ Surface Defect Detection by Laser Light Scattering," *Proc. of the American Society of Nondestructive Testing Annual Conference*, Oakland, CA, March 18-22, 156-158 (1991).

C5. H. K. Kim, X. Liang, E. J. Lavernia and J. C. Earthman, "High Temperature Deformation and Fracture Mechanisms in Monolithic and Particulate Reinforced Nickel Aluminide Processed by Spray Atomization and Co-Deposition", *Proc. of the Fifth International Conference on Creep of Materials*, Lake Buena Vista, Florida, May 18-21, ASM, 151-162 (1992).

C6. I. Ahmed, F. A. Mohamed and J. C. Earthman, "High Temperature Rupture of Particulate Reinforced Nickel Under Multiaxial Stress States," *Proceedings of the Fifth International Conference on Creep and Fracture of Engineering Materials and Structures*, B. Wilshire and R. W. Evans, eds., the Institute of Metals, London, 149-158 (1993).

C7. P. A. Schmidt and J. C. Earthman, "Characterization of Fatigue Damage by Laser Light Scattering," *Proceedings of the Symposium on Nondestructive Evaluation and Material Properties II*, Pittsburgh, TMS, 111-119 (1994).

C8. B. D. Stanley, L. Bustemante, and J. C. Earthman, "Novel Instrumentation for Rapid Assessment of Internal Damage in Composite Materials," *Proceedings of Nondestructive Evaluation and Material Properties III*, TMS, 97-100 (1996).

C9. A. Chakraborty and J. C. Earthman, "Numerical Simulations of Cavitation Damage in TiAl Alloys," *Proceedings of the Seventh International Conference on Creep and Fracture of Engineering Materials and Structures*, J. C. Earthman and F. A. Mohamed, eds., TMS, 371-382 (1997).

C10. [A. Yousefiani](#), A. A. El-Nasr, F. A. Mohamed and J. C. Earthman, "High-Temperature Deformation and Rupture of 7075 Al Under Multiaxial Stress States," *Proceedings of the Seventh International Conference on Creep and fracture of Engineering Materials and Structures*, J. C. Earthman and F. A. Mohamed, eds., TMS, 439-448 (1997).

C11. [N. L. Johnson](#) and J. C. Earthman, "Numerical Simulations of Primary Creep in a Particulate Reinforced Metal Matrix Composite Under Multiaxial Stress States," *Proceedings of the Seventh International Conference on Creep and Fracture of Engineering Materials and Structures*, J. C. Earthman and F. A. Mohamed, eds., TMS, 729-728 (1997).

[Top of Page](#)

[Books](#)

[Journals](#)

[Refereed Articles](#)

[Non-Refereed Articles](#)

[Abstracts](#)

[Lectures](#)

[Other](#)

Published Abstracts

D1. [J. C. Earthman](#) and W. D. Nix, "A Basic Study of High Temperature Crack Growth in Metals," presented at the *1984 TMS Annual Meeting*, Los Angeles, February 26 - March 1.

D2. [J. C. Earthman](#) and W. D. Nix, "A Study of the Mechanisms that Control Creep Crack Growth," presented at the *1986 TMS Annual Meeting*, New Orleans, March 2 - 6.

D3. [J. C. Earthman](#) and W. D. Nix, "A Parametric Study of Stable Creep Crack Growth by Grain Boundary Cavitation," presented at the *1986 ASM Materials Week Meeting*, Orlando, October 4 - 9.

D4. J. C. Earthman, "The Principal Facet Stress as a Parameter for Predicting Creep Rupture under Multiaxial Stresses," presented at the *1989 TMS Annual Meeting*, Las Vegas, February 27 - March 2.

D5. J. C. Earthman, "Deformation and Damage Processes in a 12% Cr Mo V Steel under High Temperature Low Cycle Fatigue Conditions," presented at the *1989 TMS Annual Meeting*, Las Vegas, February 27 - March 2.

D6. H. K. Kim, F. A. Mohamed and [J. C. Earthman](#), "Creep Rupture of 304 Stainless Steel Under Multiaxial Stresses," presented at the *1990 TMS Annual Meeting*, Anaheim, February 18-22.

D7. K. Bowo, M. Gupta, E. J. Lavernia, and [J. C. Earthman](#), "Fatigue Behavior of a Al-Li-Zr-SiC Material Processed by Spray Atomization and Co-Deposition," presented at the *1991 TMS Annual Meeting*, New Orleans, February 18-21.

D8. I. Ahmed, F. A. Mohamed and J. C. Earthman, "Mechanisms of High Temperature Rupture in Commercially Pure Nickel Under Multiaxial Stress States," *Ductile Fracture Symp., 1992 TMS Annual Meeting*, San Diego, March 1-5.

D9. H. K. Kim, X. Liang, E. J. Lavernia, and J. C. Earthman, "High Temperature Fracture Mechanisms in a Ni₃Al/SiCp/TiB₂p Composite," *Ductile Fracture Symp., 1992 TMS Annual Meeting*, San Diego, March 1-5.

D10. J. C. Earthman, "Corrosion Fatigue Testing Based on Laser Light Scattering," *Golden Gate Materials Technology Conference*, San Francisco, February 3-5 (1993).

D11. H. K. Kim, J. Wolfenstine, and J. C. Earthman, "Interfacial Sliding in Ni₃Al Bicrystals," *Surface, Environmental and Interfacial Effects on Fracture of High Temperature Materials II Symp., 1993 TMS Annual Meeting*, Denver, February 21-25.

D12. J. Lee, X. Liang, E. J. Lavernia, and J. C. Earthman, "Interfacial Cavitation in Particulate Reinforced Ni₃Al Matrix Composites Produced by Spray Deposition," *Conference on Processing, Fabrication and Application of Advanced Composites*, Long Beach, August 9-11, 1993.

D13. N. L. Johnson and J. C. Earthman, "Evolution of Internal Multiaxial Stress States in Particulate Reinforced Metal Matrix Composites Under Creep Conditions," *Creep and Fatigue of Metal Matrix Composites Symp., 1994 TMS Annual Meeting*, San Francisco, Feb. 27 - March 3.

D14. D. E. Lawrynowicz, J. C. Earthman, and E. J. Lavernia, "Atomization and Spray Deposition of Fiber Reinforced Intermetallic Metal Matrix Composites," *High Performance Ceramics and Metal-Matrix Composites Symp., 1994 TMS Annual Meeting*, San Francisco, Feb. 27 - March 3.

D15. X. -G. Jiang, J. C. Earthman and F. A. Mohamed, "Cavity Nucleation Behavior During Superplastic Deformation," *1994 TMS Annual Meeting*, San Francisco, Feb. 27 - March 3.

D16. K. J. C. Chou and J. C. Earthman, "Analysis of a Dendritic Ni₃Al Alloy by X-Ray Diffraction," *International Conference on High-Temperature Intermetallics*, San Diego, May 16-19, 1994.

D17. N. L. Johnson and J. C. Earthman, "Evolution of Internal Multiaxial Stress States in Particulate Reinforced Metal Matrix Composites Under Creep Conditions," *International Conference on Composites Engineering*, New Orleans, August 28-31, 1994, D. Hui, ed., p.241-242.

D18. X. -G. Jiang, J. C. Earthman and F. A. Mohamed, "Effect of Fe on Cavitation in the Superplastic Zn-22% Al Alloy," *High Temperature Fracture Mechanisms in Advanced Materials Symp., 1994 TMS Fall Meeting*, Rosemont, Illinois, Oct. 2-6.

- D19. S. Yan, J. C. Earthman, and F. A. Mohamed, "Effect of Cd on Superplastic Flow in Pb-62%Sn Eutectic," *1995 TMS Spring Meeting*, Las Vegas, Feb. 12-16.
- D20. K. J. C. Chou and J. C. Earthman, "Characterization of Low-Cycle Fatigue Damage on Inconel 718 by Laser Light Scattering," *High Temperature Materials Characterization Symp.*, *1995 TMS Spring Meeting*, Las Vegas, Feb. 12-16.
- D21. J. C. Earthman, "Energy Dissipation in Biological Tissues: Demonstration of Importance and Novel Method of Measurement," *10th Annual Meeting of the Academy of Osseointegration*, Chicago, March 2, 1995.
- D22. A.-B. A. El-Nasr, F. A. Mohamed and J. C. Earthman, "High Temperature Rupture of a SiC Particulate Reinforced Al Composite Under Multiaxial Stress States," *1995 TMS Fall Meeting*, Cleveland, Oct. 30 - Nov. 3.
- D23. J. C. Earthman and B. David Stanley, "Novel Automated Instrumentation for Determining the Damping Capacity of Materials and Structures," *Innovations in Instrumentation for Materials Research Symp.*, *1996 MRS Spring Meeting*, San Francisco, April 8-12.
- D24. J. M. Perkins, C. G. Sheets, and J. C. Earthman, "Effect of the Damping Capacity of Dental Implant Structures on Natural Tooth Movement by Bone Resorption and Growth," *Mechanics of Growth in Biological Systems Symp.*, *1996 ASME Mechanics and Materials Conference*, The Johns Hopkins University, Baltimore, June 12.
- D25. A. Chakraborty and J. C. Earthman, "Finite Element Models of High Temperature Deformation Mechanisms in Equiaxed and Fully Lamellar TiAl Alloy Microstructures," *Deformation Mechanisms in Structural Materials Symp.*, *1996 ASME Mechanics and Materials Conference*, The Johns Hopkins University, Baltimore, June 14.
- D26. K. J. C. Chou and J. C. Earthman, "Characterization of Low-Cycle Fatigue Damage on Inconel 718 by Laser Light Scattering," *Nondestructive Evaluation and Material Properties Symp.*, *ASM/TMS Materials Week 1996*, October 9, Cincinnati, Ohio.
- D27. N. L. Johnson and J. C. Earthman, "Effect of Internal Stress States on the Creep Rupture of Particulate Reinforced Metallic Matrix Composites under Multiaxial Stress States," *Creep and Stress Relaxation in Miniature Structures and Components Symp.*, *ASM/TMS Materials Week 1996*, October 8, Cincinnati, Ohio.
- D28. A. Chakraborty and J. C. Earthman, "Finite Element Analysis of Grain Boundary Cavitation in Fully Lamellar Titanium Aluminide Intermetallic Alloy," *Fundamentals of Gamma Titanium Aluminides Symp.*, *1997 TMS Annual Meeting*, Orlando, Feb. 12.
- D29. W. E. Churley and J. C. Earthman, "High Temperature Crack Growth under Mixed-Mode Loading Conditions," *Recent Advances in Fracture Symp.*, *1997 TMS Annual Meeting*, Orlando, Feb. 13.

D30. A. Yousefiani, F. A. Mohamed, and J. C. Earthman, "High Temperature Rupture of Particulate Reinforced and Unreinforced 2124 Al under Multiaxial Stress States," *Deformation and Fracture of Composites Symp., ASM/TMS Materials Week 1997*, Indianapolis, Sept. 16.

D30. A. Yousefiani, F. A. Mohamed, and J. C. Earthman, "High Temperature Rupture of Particulate Reinforced and Unreinforced 2124 Al under Multiaxial Stress States," *Deformation and Fracture of Composites Symp., ASM/TMS Materials Week 1997*, Indianapolis, Sept. 16.

D31. A. Yousefiani, F. A. Mohamed, and J. C. Earthman, "High Temperature Deformation and Rupture of High Strength Al Alloys under Multiaxial Stress States," *Light Alloy Technology Symp., The 9th Annual Advanced Aerospace Materials & Processes Conference*, New York, June 17, 1998.

D32. J. C. Earthman, "Automated Instrumentation for Determining the Damping Capacity of Materials and Small Structures," *Miniature Structures & Components under Cyclic Loading Symp, TMS Annual Meeting*, San Diego, March 2, 1999.

D33. A. Yousefiani, F. A. Mohamed, and J. C. Earthman, "High-Temperature Rupture of Particulate Reinforced 2124 Al under Multiaxial Stress States," *Creep Behavior of Advanced Materials for the 21st Century Symp., TMS Annual Meeting*, San Diego, March 1, 1999.

D34. C. Mescher, (Mentor: J. C. Earthman), "Energy Dissipation in Natural Teeth and Implants," *UCI Undergraduate Research Symposium, University of California*, Irvine, May 15, 1999.

D35. J. C. Earthman, "Closed-Loop Sidestreams for Investigating Corrosion Control Using Regenerative Biofilms," *Ninth International Conference on Environmental Degradation of Materials in Nuclear Power Systems, TMS*, Newport Beach, August 5, 1999.

D36. I. Nieves, F. Arceo, and J. C. Earthman, "Electromechanical Behavior of Open Cellular 6101-T6 Aluminum," *TMS Annual Meeting*, New Orleans, LA, Feb. 12, 2001.

[Top of Page](#)

[Books](#)

[Journals](#)

[Refereed Articles](#)

[Non-Refereed Articles](#)

[Abstracts](#)

[Lectures](#)

[Other](#)

Public Lectures

E1. "High Temperature Crack Growth in Copper and Copper with 1 Weight Percent Antimony," invited talk presented at the Swiss Federal Institute of Technology, Lausanne, January 1986.

E2. "High Temperature Deformation and Damage Mechanisms in 12% Cr Steel," invited talk presented at Lawrence Livermore National Laboratory, September 1987.

E3. "Fundamental Principles of High Temperature Crack Growth," invited talk presented at the Indian Institute of Technology, Madras, February 1988.

E4. "Deformation and Damage Mechanisms in 12% Cr Steel Under High Temperature Low Cycle Fatigue Conditions," invited talk presented at the Indian Institute of Science, Bangalore, February 1988.

E5. "Techniques for Studying Fatigue Crack Growth in Continuous Fiber Reinforced Metal Matrix Composites," invited talk presented at the *WESTEC '91 Conference*, Los Angeles, March 18-21, 1991.

E6. "Mechanisms of Grain Boundary Cavitation in Ni₃Al (Zr, B)," invited talk presented at the Oxford Centre for Advanced Materials and Composites, Department of Materials, Oxford University, August 8, 1991.

E7. "Rapid Defect Detection by Laser Light Scattering," invited talk presented at The Welding Institute, Cambridge, England, August 9, 1991.

E8. "Mechanisms of Grain Boundary Cavitation in Ni₃Al (Zr, B)," invited talk presented at the Department of Materials, Swiss Federal Institute of Technology, Lausanne, August 16, 1991.

E9. "Mechanisms of Grain Boundary Cavity Growth in Ni₃Al (Zr, B)," invited talk presented at the Center of Excellence for Advanced Materials, Department of Applied Mechanics and Engineering Sciences, University of California, San Diego, October 14, 1991.

E10. "Automated Testing Techniques for Studying Fatigue Crack Growth in Advanced Materials," invited talk presented at the *17th International Symposium for Testing and Failure Analysis*, ASM, Los Angeles, November 11, 1991.

E11. "High Temperature Deformation and Fracture of Intermetallic Based Materials," invited talk presented at the March Meeting of ASM International, San Fernando Valley Chapter, March 26, 1992.

E12. "Deformation and Damage Mechanisms in Ni₃Al Base Materials at Elevated Temperatures," invited talk presented at the Department of Mechanical Engineering Seminar, University of Southern California, April 16, 1992.

E13. "High Temperature Rupture of Creep Ductile Materials Under Multiaxial Stress States," invited talk presented at the Department of Mechanical Engineering, University of Nottingham, England, August 19, 1992.

E14. "Characterization of Corrosion-Fatigue Damage by Laser Light Scattering," invited talk presented at the October Meeting of ASM International, Orange County Chapter, October 21, 1992.

E15. "Rapid Defect Detection by Laser Light Scattering," presented at a workshop entitled *Advances in Non-Destructive Testing*, University of California, Irvine, August 24-26, 1993.

E16. "High Temperature Crack Growth," invited lecture in a course on Fracture Mechanics taught by Prof. Behzad Bavarian at California State University, Northridge on February 28, 1995. The lecture was conducted using two-way video conferencing equipment in the Distance Learning Facility in the Media Services Department at UCI.

E17. "New Dental Instrumentation for Measuring Energy Dissipation," invited lecture at the September Meeting of the Osseointegration Study Club of Southern California, LAX Hilton and Towers, September 8, 1995 (Co-Speaker: C. G. Sheets, DDS).

E18. "New Dental Instrumentation for Measuring Shock Absorption Capacity," invited lecture at the *Technology Showcase*, Life Science Industrial Council and UCI UIRT, University of California, Irvine, September 14, 1995.

E19. "Mechanisms of High Temperature Rupture in Particulate Reinforced Metallic Matrix Composites Under Multiaxial Stresses," Swiss Federal Institute of Technology, Lausanne, February 22, 1996.

E20. "High Temperature Rupture in Particulate Reinforced Metallic Matrix Composites Under Multiaxial Stresses," Max-Planck-Institut für Metallforschung and Institut für Metallkunde der Universität, Stuttgart, Germany, February 29, 1996.

E21. "High Temperature Damage Processes in MMCs Under Uniaxial and Multiaxial Loading," DGM High Temperature Materials Group Meeting, Bochum, Germany, March 1, 1996.

E22. "Mechanisms of High Temperature Rupture in Particulate Reinforced Metallic Matrix Composites Under Multiaxial Stresses," Delft University of Technology, Holland, March 7, 1996.

E23. "Spray Processing and Mechanical Behavior of γ -TiAl," invited presentation at the *AFOSR Structural Metals Workshop*, College of the Atlantic, Bar Harbor, Maine, July 21, 1996.

E24. "High Temperature Crack Growth Under Mixed-Mode Conditions," invited talk presented at the Department of Materials Science and Engineering Seminar, University of Southern California, January 16, 1998.

E25. "Dynamic Mechanical Stimulus as a Causative Factor for Tooth Intrusion and Reversal in Implant Borne Prostheses," invited lecture at the *17th International Congress of the Italian Academy of Prosthetic Dentistry*, Bologna, November 20, 1998.

E26. "Two Year Study on Energy Dissipation in Natural Teeth and Implants," invited lecture at the *1999 Annual Meeting of the American Equilibration Society*, Chicago, February 18 (Co-Speaker: C. G. Sheets, DDS).

E27. "Dynamic Mechanical Stimulus as a Causative Factor for Natural Tooth Intrusion," invited lecture at the *1999 Annual Meeting of the Pacific Coast Society of Prosthodontists*, San Diego, June 25.

E28. "Closed-Loop Sidestreams for Investigating Corrosion Control Using Regenerative Biofilms," invited lecture at the *Idaho National Engineering and Environmental Laboratory*, Idaho Falls, August 23, 1999.

[Top of Page](#)

[Books](#)

[Journals](#)

[Refereed Articles](#)

[Non-Refereed Articles](#)

[Abstracts](#)

[Lectures](#)

[Other](#)

Other

F1. J. C. Earthman, "Étude des Mécanismes Microstructuraux en Fatigue Oligocyclique d'Aciers Inoxydables dans l'Air et Sous Vide," poster presented at the *Colloque Plasticité 87*, Lausanne, Switzerland, March 12-13, 1987.

F2. J. C. Earthman, "Energy Dissipation in Biological Tissues: Demonstration of Importance and Novel Method of Measurement," table clinic presented at the *10th Annual Meeting of the Academy of Osseointegration*, Chicago, March 2, 1995.

F3. J. C. Earthman and T. K. Wood, "Search for Biopolymers to Prevent Corrosion," *EPRI Journal*, Vol. 20, No. 5, 4-5 (1995).

F4. J. C. Earthman and A. Chakraborty, "Finite Element Analysis of Primary Creep in Fully Lamellar γ TiAl Intermetallics," poster presented at the symposium on *Computational Materials Science* at the *1996 Spring Meeting of the Materials Research Society*, San Francisco, April 10.

F5. K. Trandem, T. K. Wood, P. J. Arps, and J. C. Earthman, "Field Sidestream Investigations of Corrosion Control Using Regenerative Biofilms (CCURB)", poster presented at the *TMS Annual Meeting*, New Orleans, LA, (2001).