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PAUL EASON, PhD, P.E., CFEI

SUMMARY

Dr. Eason combines experience from academia, industry, and consulting to address a variety of engineering and forensic subjects. His broad based materials engineering education allows him to examine product defect and safety issues of metals, plastics, glass, and ceramics, including corrosion, fatigue, overload, and material selection. Paul has also actively participated in risk assessment for project management and failure modes and effects analysis in process and product design. As a forensic consultant, he has combined his knowledge of materials behavior with traditional techniques of fire investigation to tackle complex cause and origin issues and product liability concerns. Paul is also a nationally certified fire and explosion investigator and a licensed professional engineer in the state of Florida. He is versed in multiple forms of materials analysis, teaches undergraduate courses in materials engineering and mechanical design, and has worked on projects involving product design and manufacturing, product defects, failure analysis, corrosion, fire and explosion origin and cause, and industrial accidents.

EDUCATION

Doctor of Philosophy in Material Science and Engineering with an emphasis in metallurgy, environmental attack and alloy development, University of Florida, 1998

Bachelor of Science in Materials Science and Engineering with a dual specialization in Metallurgy and Ceramic Engineering, University of Florida, 1995

REGISTRATIONS & CERTIFICATIONS

Professional Engineer – Florida – Lic No.: 60836

Certified Fire and Explosion Investigator – Lic No.: 7024-2717

PROFESSIONAL ASSOCIATIONS

- ASM - International
- The Minerals, Metals, Materials Society (TMS)
- Microscopy and Microanalysis Society of America (MSA)
- American Ceramic Society (ACerS)
- American College of Forensic Examiners (ACFE)
- National Society of Professional Engineers
- National Association of Fire Investigators
- National Association of Professional Accident Reconstructionist
- Epsilon Lambda Chi
- Phi Kappa Phi
- Keramos
- 2002 Appointed to University of Florida, Department of Materials Science and Engineering Distinguished Alumni Board
- 1995 University of Florida Presidential Recognition Award
- 2013 University of North Florida Outstanding Undergraduate Teaching Award
- 2014 University of North Florida International Leadership Award

CONTINUING EDUCATION

Courses and Certifications completed in the following:
- Principles of Failure Analysis, ASM – International
- Techniques of Risk Management, Risk and Insurance Management Society (RIMS)
- Determining the Cause and Origin of Fires and Explosions, National Association of Fire Investigators

- Traffic Accident Reconstruction, Northwestern University Traffic Institute
- Advanced Commercial Vehicle Inspection and Collision Investigation, Texas A&M University
- Annual Truck Inspection, Florida Trucking Association (FTA)
- Corrosion in Concrete Reinforcements Seminar, National Association of Corrosion Engineers (NACE)

CAREER HISTORY

Director for Associate Dean - College of Computing Engineering and Construction, University of North Florida, 2019 to Present

Director - The Materials Science and Engineering Research Facility, University of North Florida, 2016 to Present

Materials Engineer Consultant - FORCON International, 2011 to Present

Engineering Consultant / President - e4 Consulting, 2003 to Present

Professor, Mechanical Engineering - University of North Florida, 2006 to Present

Graduate Faculty Member, Materials Science and Engineering - University of Florida, 2007 to Present

Forensic Professional - KHA/ZMA, 2001 to 2003

Engineering Consultant - Benedict Engineering Company, 1998 to 2001

Electron Microscopist/Alloy Metallurgist - Major Analytical Instrumentation Center, University of Florida, 1998

Graduate Research Assistant - Department of Materials Science and Engineering, University of Florida, 1995 to 1998

Teaching Assistant - Department of Material Science and Engineering, University of Florida, 1998

Lab Consultant/Teaching Assistant - Department of Computer Science and Engineering, University of Florida, 1993 to 1996

Engineering Assistant II - Jacksonville Electric Authority, 1989 to 1993

SPEAKING ENGAGEMENTS

“Creating the Advanced Manufacturing Workforce Industry Needs” International Materials Education Symposium, Cambridge, UK, April 7, 2017.

“Creating a Multi-User University Microscopy Center from Scratch” Southeastern Microscopy Society Annual conference, Pensacola, FL May 19, 2016.

“Enhancing Demonstration of ABET Outcomes (a-k) Through Hands-On Capstone Design Experience,” Paul Eason, 5th North American Materials Education Symposium, Urbana - Champagne, IL, March 20, 2014.

“Achieving ABET Outcomes (a-k) Using CED Edupack Eco Audit,” Paul Eason, 4th North American Materials Education Symposium, Philadelphia, PA, March 12, 2013.

“Materials Analysis in Forensic Investigations” Georgia Defense Lawyers Association 45th Annual Meeting, Ponte Vedra, FL, June 8, 2012.

“Assessment of Materials Selection Learning Outcomes Achieved Through an Open-Ended, Reverse-Engineering Design Challenge using CES EduPack,” Granta Design Symposium, San Luis Obispo, March 25, 2012.

"Incorporation of Materials Selection and Sustainability into the Mechanical Engineering Curriculum using CES EduPack," Granta Design Symposium, Worcester, MA, March 30, 2011.

"Characterization of Particle-Interface Structure and its Effect on Tensile Fracture in Bulk Copper Produced by Cold Gas Dynamic Spray Processing," TMS 2011, San Diego CA, March 2, 2011.

"Structure-Processing-Property Relationships in Bulk Copper Produced by Cold Gas Dynamic Spray Processing," MPIF PowderMet 2010, June 26, 2010.

"Engineering Risk: A Matter of Life and Death" University of Florida, MSE Department Graduate and Faculty Seminar, October 25, 2005.

"The Role of the Forensic Engineer" Florida Association of Criminal Defense Lawyers, December 10, 2002, Jacksonville, FL.

"The Role of the Materials Scientist in Forensic Engineering" University of Florida, MSE Department Graduate and Faculty Seminar, October 1, 2002.

"What in the World Does a Forensic Metallurgist / CFEI Do?" Physical Sciences Outreach Program, July 8, 2000, Gainesville, FL.

"The Use of Spectroscopy and Electron Beam Analysis Techniques in Forensic Science" ANS/FSM Annual Joint Symposium, March 11, 2002.

"How to Manage Engineering Intensive Cases" Georgia Defense Lawyers Association Summer Meeting June 23, 2001, Destin, Florida.

"Project Management for Engineering Cases," Alabama Trial Lawyers Association Special Seminar, August 11, 2000, Birmingham, AL.

"The Power of Using an Electronic Presentation to Reach the Jury," Academy of Florida Trial Lawyers Advanced Trial Skills Seminar, November 18, 1999, Orlando, FL.

"Processing of Low-Silica MoSI2-Based Compounds II: Aluminum Additions," 1196 TMS Fall Meeting, October 17, 1998, Cincinnati, OH.

"Reassessment of the Mo-Si-Al Ternary Isotherm at 1400ºC," American Ceramic Society Annual Cocoa Beach Conference 1998, January 22, 1998, Cocoa Beach, FL.

PUBLICATIONS

N. Netto, M. Tiryakioğlu, P.D. Eason, "Characterization of Anomalous Tool Degradation in Friction Stir Processing of 6061-T6 Aluminum Alloy Extrusions: A Failure Analysis Study" Engineering Failure Analysis, May 2019, doi.org/10.1016/j.engfailanal.2019.02.003.

P. Yousefian, M. Tiryakioğlu, P.D. Eason, "Quantification of Entrainment Damage in A356 Aluminum Alloy Castings," Metallurgical and Materials Transactions A (2018). doi.org/10.1007/s11661-018-4865-z

N. Netto, M. Tiryakioğlu, P.D. Eason, "Characterization of Microstructural Refinement and Hardness Profile during the Friction Stir Processing of 6061-T6 Aluminum Alloy Extrusions," Metals, 2018, Vol. 8, 552, doi:10.3390/met8070552

A. Timpanaro, R. Scherzer. O. Leifer, P. Eason, "Analysis of Acetal Toilet Fill Valve Supply Line Nut Failure" Case Studies in Engineering Failure Analysis 9, 2017 pp.129-137.

H. Ozdes, M. Tiryakioğlu, P.D. Eason, “On Estimating Axial High Cycle Fatigue Behavior by Rotating Bean Fatigue Testing: Application to A356 Aluminum Alloy Castings” Materials Science and Engineering A, Vol. 697 June 2017,95-100.

M.Weber, P. Eason, H. Ozdes, M. Tiryakioğlu, “The Effect of Surface Corrosion Damage on the Fatigue Life of 6061-T6 Aluminum Alloy Extrustions” Materials Science and Engineering A, Vol. 690 March 2017, 427-432.

M. Tiryakioğlu, J. Robinson, M. Salazar-Gaupriche, P. Eason, “Hardness-Strength Relationships in the Aluminum Alloy 7010” Materials Science and Engineering A, Vol. 631, February 2015,196-200.

M. Tiryakioğlu, J. Robinson, P. Eason, “On the Quench Sensitivity of AA7010-T76” Materials Science and Engineering A, in press.

P.D Eason, “Additive Manufacturing: A Renaissance for Powder Metallurgy Research,” P.D.Eason, Journal of Powder Metallurgy and Mining, Vol 2, No. 3, doi:10.4172/2168-9806.1000e131.

J. Chvala, M. Tiryakioğlu, N. Hudyma, P. Eason, “Evolution of Filling System Design for an A356-T6 Aluminum Housing Casting,” Shape Casting: 5th International Symposium, 2014.

M. Tiryakioğlu, P.D. Eason, J. Campbell “Fatigue life of ablation cast 6061-T6 components,” Materials Science and Engineering A, Vol 559, January 2013, 447-452.

P.D. Eason, S.C. Kennett, T.J. Eden, I. Krull, B. Kowalski, and J. L. Jones, “In Situ Observation of Microstrain Relief in Cold-Sprayed Bulk Copper During Thermal Annealing,” Scripta Materialia, 76 (2012) 791-794.

P.D. Eason, T.J. Eden, S.C. Kennett and M.J. Kaufman,” A Structure Property Processing Comparison of Cold rolled PM Copper and Cold Gas Dynamically Sprayed Copper” Journal of Powder Metallurgy and Mining, Vol. 1, Issue 1 (2012).

M. Tiryakioğlu, P.D. Eason, J. Campbell “Fatigue life of ablation cast 6061-T6 components,” – 13th International Conference on Aluminum Alloys, Pittsburgh, PA, June 3-7 2012.

P.D. Eason, J.A. Fewkes, S.C. Kennett, T.J. Eden, K. Tello, M.J. Kaufman, M. Tiryakioğlu “On the characterization of Bulk Copper Produced by Cold Gas Dynamic Spray Processing in the As-Fabricated and Annealed Conditions, Materials Science and Engineering A, 528 (2011) pp.8174-8178.

T. Nguyen, A. Schonning, P. Eason, D. Nicholson “Methods for Analyzing a Nose Gear During Landing Using Structural Finite Element Analysis”, Journal of Aircraft, Vol. 49, No. 1, Jan-Feb 2012.

P.D Eason, J.A. Fewkes, S.C. Kennett, T.J. Eden, K. Tello, M.J. Kaufman, “Structure Processing Property Relationships in Bulk Copper Produced by Cold Gas Dynamic Spray Processing,” Proceedings of the 2010 International Conference on Powder Metallurgy & particulate Materials, June 2010.

P.D. Eason, M.J. Kaufman, “Impurity Effects on the Environmental Stability of Powder Processed Intermetallic Alumino-Silicide Compounds,” Journal of the Materials Research, Vol. 20, No.10, October 2005.

P.D. Eason, “The role of Engineering Risk Assessment in Public Safety, “IDS Emergency Management 2004, Online Conference, June 2004.

Dissertation: “Processing, Phase Equilibria and Environmental Degradation of the Mo(Si, Al)2 Intermetallic Compound,” – University of Florida, December 1998.

P.D. Eason, E.N. Ross, L.A. Dempere and M.J. Kaufman, “Processing, Microstructure and Mechanical Properties of Mo Silicates and their Composites,” Transactions of the Nonferrous Metals Society of China – Special Issue, Vol. 9, Supplement 1, June 1999, page 1-12 and Proceedings from the 3rd. International Workshop of Ordered Intermetallic Alloys and Composites.

P.D. Eason, K.L. Jolly and M.J. Kaufman, “Reassessment of the Mo-Si-Al Ternary Isotherm at 1400ºC,” Ceramic Engineering and Science Proceedings, Vol. 19, No. 4, June 1998.

J.S. Jayashankar, E.N. Ross, P.D. Eason and M.J. Kaufman, “Processing of MoSi2 Based Intermetallics,” Materials Science and Engineering, A239-240 (1997), pp. 485-492.

E.N. Ross, P.D. Eason and M.J. Kaufman, “Processing of Low Silica MoSi2 – Based Compounds Using Carbon and Aluminum Additions,” Proceedings of TMS Fifth Annual conference on Processing of Advanced Materials, Fall 1996.