

# Bruch Engineering

**Eric R Weishaupt Ph.D., P.E.**  
**Principal**

## **Education**

Ph.D., Engineering Science and Mechanics, University of Alabama, Tuscaloosa, AL, 2012

M.S., Engineering Science and Mechanics, University of Alabama, Tuscaloosa, AL, 2010

B.S., Materials Science and Engineering with Biomedical and Biomaterials Options, Michigan State University, East Lansing, MI, 2005

## **Licensed Professional Engineer (P.E.)**

State of Michigan ..... License No. 6201061687

State of Ohio ..... License No. 87491

## **Professional Affiliations/Honors**

### **University of Alabama Aerospace Engineering and Mechanics Department**

Department Fellow, 2023

### **W. Edward Lear Endowed Graduate Fellowship**

Fellowship Recipient, 2010

### **Department of Aerospace Engineering and Mechanics Outstanding Teaching by a Ph.D. Student**

Award recipient, 2009, 2010, and 2011

### **College of Engineering Outstanding Teaching by a PhD Student**

Award recipient, 2009

### **Engineering Sciences Department, Metals and Materials Engineers**

Employee of the Year, 2006

### **Michigan State University Materials Science Department Service Award**

Award recipient, 2005

### **ASM Atlanta**

Membership Treasurer, 2007

Membership Chair, 2006

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## **Michigan State University Chapter of Material Advantage**

President, 2004-2005

## **Positions Held**

### **Bruch Engineering, Canton, MI**

Principal, June 2025 to Present

### **Engineering Systems Inc., Ann Arbor, MI**

Regional Vice President, 2021 to 2025

Manager of Michigan Operations, 2017 to 2021

Senior Managing Consultant, 2021 to 2025

Senior Consultant, 2017 to 2020

Staff Consultant, Sr. Staff Consultant, 2011 to 2016

### **University of Alabama, Tuscaloosa, AL**

Graduate Teaching Assistant, 2007-2011

### **Metals and Materials Engineers, Suwanee, GA**

Metallurgist, 2005-2007

## **Continued Education**

### **Applied Vehicle Dynamics Course**

Autobahn Country Club, Joliet, IL, 2018

### **Human Factors in Traffic Crash Reconstruction**

Institute of Police Technology and Management, University of North Florida, Ft. Myers, 2017

### **Essential Concepts of Bearing Technology**

American Bearing Manufacturers Association, Oak Brook, IL, 2016

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## **Traffic Crash Reconstruction I**

Northwestern University Center for Public Safety, Ann Arbor, MI, 2015

## **Crash Data Retrieval (CDR) Technician Level 1**

Collision Safety Institute, Ft. Myers, FL, 2014

## **Courses Taught**

### **University of Alabama**

Introduction to Mechanics of Materials Laboratory, August 2007 – August 2009

Statics, 2009 – 2010

Mechanics of Materials, 2011

### **Classroom Teaching Experience**

TMS Metallurgical and Materials Engineering Professional Engineer (PE) Licensing Exam Review Course, The Minerals, Metals & Materials Society, Pittsburgh, PA, 2019-Present

## **Publications/Presentations**

“Failure Analysis of Dryer Impeller: When Car Washes Attack” **E.R. Weishaupt** and J.L. McDougall presented at International Materials Applications & Technologies ASM's Annual Meeting – IMAT, Cleveland, OH, September/October 2024

“Catastrophic Failure of a Brush Cutter Blade” D.K. Carabell, D.B. Brickman and **E.R. Weishaupt** Presented at International Materials Applications & Technologies ASM's Annual Meeting – IMAT, Cleveland, OH, September/October 2024

“Fractography of Copper Alloys,” **E.R. Weishaupt**, ASM Handbook, Fractography, Volume 12, (2024)

“Overview of Embrittlement Mechanisms that Result in Intergranular Fracture,” **E.R. Weishaupt**, presented at International Materials Applications & Technologies Conference and Expositions – IMAT, Detroit, MI, October 2023

“Failure Investigation of a Marine Propulsion System,” **E.R. Weishaupt**, E.L. Solomon, J.L. McDougall presented at Fatigue & Fracture I, IMAT & TSSE Forum, New Orleans, LA, September 2022

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“Intergranular Fracture,” **E.R. Weishaupt**, ASM Handbook, Failure Analysis Prevention, Volume 11, (2021)

“Basics of Corrosion and Fracture Mechanics,” **E.R. Weishaupt**, presented at 16<sup>th</sup> Global Congress for Process Safety, LPS Tutorials in Process Safety I – Connecting Mechanical Integrity to Consequences, 2020 AIChE Spring Meeting, August 2020.

“Failure Analysis Techniques for Potable Water Components,” **E.R. Weishaupt**, E.L. Solomon, presented at Failure Analysis & Characterization – Microanalysis, Microscopy, and Metallography in Failure Analysis, MS&T 2019, Portland, OR, October 2019

“Products Failure Analysis and Reliability,” **E.R. Weishaupt**, E.L. Solomon, S.P. Capser, presented at ESI Open House, Ann Arbor, MI, September 2019

“Avoiding Mischaracterization of Metallographic and Fractographic Features of Copper Alloys Used in Potable Water Systems,” **E.R. Weishaupt**, presented at the Characterization & Methods in Failure Analysis – Tools & Techniques I, MS&T 2018, Columbus, OH, October 2018

“Overload Fracture of Cast Aluminum Wheel”, **E.R. Weishaupt**, M.E. Stevenson and J.K. Sprague, Journal of Failure Analysis and Prevention, Volume 14(6), (December 2014) Evaluating Design Elements in Corrosion Failure Investigations. Michael E Stevenson, M.T. Kenner, **E.R. Weishaupt**, M.L. Hanks, J.L. McDougall, M.D. Hayes, R.P. Baron, J.A. Wilkinson. MS&T 2013

*Effect of Weld Schedule Variation on The Weldability and Durability of AHSS Spot Weld Joints*, **E.R. Weishaupt**. Ph.D., University of Alabama, 2012

“Corrosion Failure of a Yellow Brass Tubing in Radiator Application”, **E.R. Weishaupt**, M.E. Stevenson, J.L. McDougall, D.A. Turnquist, Journal of Failure Analysis and Prevention 12(3), pp 242-247 (2012)

“A Microstructure and Microhardness Characterization of a Friction Plug Weld in Friction Stir Welded 2195 Al-Li”, D.F. Metz, **E.R. Weishaupt**, M.E. Barkey and B.S. Fairbee, Journal of Engineering Materials and Technology 134(2), (April 2012)

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“Failure Analysis of a Temporary Power Line Anchor”, M.E. Stevenson, M.E. Barkey, J.L. McDougall and **E.R. Weishaupt**, Journal of Failure Analysis and Prevention 8(3), (June 2008)

“Failure Analysis of Steel Bearing Plates”, E.E. Vernon, M.E. Stevenson and **E.R. Weishaupt**, Journal of Failure Analysis and Prevention 5(6), (December 2005)

“Weld Related Derailment of a Passenger Train,” **E.R. Weishaupt**, presented at the Failure Analysis Symposium, MS&T 2006, Cincinnati, OH, October 2006