



**ERIC R. WEISHAAPT, Ph.D., P.E.**  
**SENIOR MANAGING CONSULTANT**  
**MANAGER OF MICHIGAN OPERATIONS**

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Dr. Eric R. Weishaupt is a Senior Managing Consultant for ESi, with over ten years of experience conducting complex failure investigations. Dr. Weishaupt specializes in the study of mechanical behavior of materials in relation to structure and properties. His technical interests include fatigue and fracture, corrosion, environmental degradation of materials, laboratory testing, fractography, materials characterization, inspections, engineering data analysis, instrumented testing of components and systems, spot-welded joint durability, and the performance of copper alloys.

Prior to joining ESi, Dr. Weishaupt worked as a metallurgist. Throughout his career, he has conducted failure analyses including the automotive, rail, plumbing, heavy trucking, industrial and consumer products, sports equipment, recreational products, and medical device industries. Dr. Weishaupt has worked with manufacturers directly in the areas of materials selection, corrosion performance, design, quality assurance, and mechanical testing of products.

**Areas of Specialization**

Engineering Failure Analysis  
Fatigue Durability of Structures  
Ferrous/Non-Ferrous Metallurgy  
Materials Characterization  
Mechanical Testing  
Welded Joint Durability

**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

*January 2021*

## **Professional Affiliations/Honors**

### **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

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

President, 2004-2005

## **Positions Held**

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

Manager of Michigan Operations, 2017 to Present

Senior Managing Consultant, 2021 to Present

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, Fort Myers, 2017

Essential Concepts of Bearing Technology

American Bearing Manufacturers Association, Oak Brook, IL, 2016

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, 2019-2020

## Publications/Presentations

“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)

“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