



ELLEN E. WRIGHT, Ph.D., P.E.
SENIOR STAFF CONSULTANT

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Dr. Ellen Wright is a Senior Staff Consultant with ESI and a licensed professional engineer in the state of Illinois. Her professional interests include failure analysis of materials and advanced characterization techniques with an emphasis on studying failure modes, mechanical behavior, phase transformations, and corrosion of metals. Dr. Wright has experience in analyzing and investigating failures across many industries such as manufacturing, transportation (aerospace, rail, and automotive), and construction. She has also conducted a wide variety of materials and laboratory testing.

Prior to joining ESI, Dr. Wright received her Ph.D. from the George S. Ansell Department of Metallurgical and Materials Engineering at the Colorado School of Mines working in the Center for Advanced Non-Ferrous Structural Alloys (CANFSA), an Industry/University Cooperative Research Center. Her dissertation focuses on an integrative approach for combining electron backscatter diffraction, 2D micro-digital image correlation, and atomic force microscopy to understand the effects of strain on properties of aluminum alloy extrusions.

Dr. Wright has given numerous technical presentations and written many technical and investigative reports. She enjoys working on multidisciplinary teams to understand complex relationships between processing, properties, operation, design, maintenance, and performance of components.

Areas of Specialization

Failure Analysis
Materials technology and characterization

Education

Ph.D., Metallurgical and Materials Engineering, Colorado School of Mines, 2016
B.S., Metallurgical and Materials Engineering (Magna Cum Laude), Minor in Biotechnical Engineering and Life Sciences, Colorado School of Mines, 2012

Positions Held

Engineering Systems Inc.

Senior Staff Consultant, 2018 – Present
Staff Consultant, 2016 – 2018

Colorado School of Mines

Teaching Assistant, 2009 – 2016

Precision Castparts Corporation

Intern, 2011

Advanced Forming Technologies

Intern, 2010

University of Colorado Cardiovascular Institute

Intern, 2007 – 2008

Professional Affiliations

ASM International

Failure Analysis Society (FAS)

FAS Programming Committee

Session Co-Chair

Failure Analysis & Characterization: Environmentally Assisted Failures, Materials Science & Technology (MS&T) Technical Meeting, October 2019

Characterization & Methods in Failure Analysis: Tools & Techniques, Materials Science & Technology (MS&T) Technical Meeting, October 2018

Emerging Professionals Committee (EPC)

Secretary, 2019 – Present

Objective Project Group Leader of EPC Applications, 2018 – 2019

Subcommittee Chair of EPC Awards, 2017 – 2018

Nominating Committee

Member, 2019

The Minerals, Metals & Materials Society (TMS)

Continuing Education, Short Courses

Structural Failure Identification in Aircraft Accident Investigation

Embry-Riddle Aeronautical University, April 2019

Electron Diffraction Methods for Materials Analysis

Colorado State University Central Instrument Facility, May 2015

Awards/Honors

Poate Fellowship

Colorado School of Mines, 2012 – 2013

Materials Bowl Champion

The Minerals, Metals & Materials Society (TMS), 2013

Student Grant

TMS, 2013

Clark B. Carpenter Award

Colorado School of Mines, 2012

President's Scholarship

Colorado School of Mines, 2008 – 2012

Highest Academic Honors Award

Sigma Kappa Sorority, 2008 – 2012

Publications/Presentations

"The Influence of Microstrain Evolution by Tensile Straining on Localized Corrosion of Al-Li Alloys 2099 and 2196,"
E.E. Wright, M.J. Kaufman, G.R. Weber, *Metallurgical and Materials Transactions A*, 2019,
doi:10.1007/s11661-019-05565-7

"When Cleaning Makes a Mess: Case Studies Involving Cleaning Agents," **E. Wright**, M. Hineman, K. Cline, D.
Alexander, B. May, presented at 2019 MS&T Technical Meeting, Portland, OR, October 1, 2019

"The Little Plane that Could: Failure Analysis of a Robust Turbine Engine," D. Alexander, R. Baron, M. Lewis, C.
Smith, P. Umberger, **E. Wright**, presented at the 2019 MS&T Technical Meeting, Portland, OR, September
30, 2019

"Investigation of a Compressor Turbine Blade Failure Involving the Fir Tree Attachment Condition," **E. Wright**, G.
Novak, R. Baron, D. Ahearn, D. Alexander, presented at 2018 MS&T Technical Meeting, Columbus, OH,
October 15, 2018

"Microscale Corrosion Investigation of Strained Al-Li Alloys by In-situ Atomic Force Microscopy," **E. Wright**, M.J.
Kaufman, G. Weber, presented at 2017 MS&T Technical Meeting, Pittsburgh, PA, October 11, 2017

"Effects of Stretch Forming on Microstructure and Corrosion of Al-Cu-Li Alloys", **E. Wright**, M.J. Kaufman, G. Weber,
presented at 2016 TMS Annual Meeting and Exhibition, Nashville, TN, February 17, 2016

"Effects of Stretch Forming on Properties of Al-Li Alloys 2099 and 2196", **E. Wright**, presented at ASM International
Puget Sound Chapter Meeting, Seattle, WA, October 13, 2015

"Effects of Strain Variations on Aging Response and Corrosion Properties of Third Generation Al-Li Alloys", **E. Wright**,
M.J. Kaufman, G. Weber, presented at 2015 MS&T Technical Meeting, Columbus, OH, October 5, 2015

"Effects of Stretch Forming on Aging and Corrosion of Third Generation Al-Li Alloys", **E. Wright**, M.J. Kaufman,
presented at 2015 TMS Annual Meeting and Exhibition, Orlando, FL, March 18, 2015