



## Craig Eberhardt

PhD, CFEI

### Senior Project Manager

#### Department

Engineering Services

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#### Locations

Raleigh, NC

## Biography

Dr. Craig Eberhardt is a mechanical engineer who performs damage assessment and failure analysis following a variety of mechanical and electrical equipment failures. In addition, he determines code violations and material defects, as well as assisting in fire origin and cause investigations, and has often been retained as a consulting expert in the resolution of numerous insurance and legal cases.

Craig's education, as well as his direct experience, provides the knowledge to quickly and accurately determine failure analyses involving mechanical, fluid, biomimetic, and electro-mechanical systems.

## Credentials

- PhD | Doctor of Philosophy
- CFEI | Certified Fire & Explosion Investigator

## Representative Consulting Assignments

- Fluid Bed Reactor | Indianapolis, IN | Investigation of fire event resulting in explosive rupture of a fluid bed reactor | \$1.8M
- Gas Grill Explosion | Cary, NC | Investigation of explosion resulting in personal injury resulting from ignition of trapped gases
- Pellet Mill | Tappahannock, VA | Review of potentially fire damaged production equipment | \$6.9M
- Adhesives Production Facility | Columbia, SC | Review of affected production equipment from potential flood damage | \$11.4M
- Piping Systems | Multiple Locations | Investigation of pipe and fitting failures for sprinkler systems and fluid transport
- HVAC Systems | Multiple Locations | Investigation of commercial and residential systems with damage due to fire, maintenance, electrical activity, and weather
- Elevator Failure | NC | Investigation of an elevator car fall resulting in personal injuries

## Professional Experience

- 2022 - Current | Senior Project Manager | YA Engineering Services
- 2021 - 2021 | Senior Project Consultant | Envista Forensics
- 2017 - 2021 | Project Consultant | Envista Forensics
- 2013 - 2017 | Senior Technical Consultant | Envista Forensics
- 2005 - 2012 | Research Assistant | University of Virginia

## Area of Practice

- Condition Assessment
- Damage Assessment
- Failure Analysis
- Fire and Life Safety Systems

- HVAC and Mechanical Systems
- Litigation Support
- Non-Destructive Testing
- Plumbing Systems

## Publications and Presentations

- M. E. McConney, C. F. Schaber, M. D. Julian, W. C. Eberhardt, J. A. C. Humphrey, F. G. Barth, V. V. Tsukruk, Surface force spectroscopic point load measurements and viscoelastic modeling of the micromechanical properties of air flow sensitive hairs of a spider (*Cupiennius salei*)", *Journal of the Royal Society Interface*
- Craig Eberhardt, Envista US Webinar Presentations, Incorporation of 3D Printing in Manufacturing
- W. C. Eberhardt, D. Backes, S. A. Vojcanin, "Nanotechnology: Prospects for the World's Smallest Claim", Tampa, Florida, Loss Executives Association 84th Annual Meeting & Educational Conference
- W. C. Eberhardt, Y. A. Shakhshere, B. H. Calhoun, J. R. Paulus, M. Appleby, "A bio-inspired artificial whisker for fluid motion sensing with increased sensitivity and reliability", *IEEE Sensors 201*
- Craig Eberhardt and Mary Coombe, Envista US Webinar Presentations, Mechanical, Electrical, and Plumbing Construction Defect Claims
- W. C. Eberhardt, B. F. Wakefield, C. T. Murphy, C. Casey, Y. Shakhshere, B. H. Calhoun, C. Reichmuth., "Development of an Artificial Sensor for Hydrodynamic Detection Inspired by a Seal's Whisker Array", *Bioinspiration & Biomimetics*
- C. T. Murphy, W. C. Eberhardt, B. H. Calhoun, K. A. Mann, D. A. Mann, "Effect of angle on flow-induced vibrations of pinniped vibrissae", *PlosOne*
- Craig Eberhardt and Metin Duysak, Envista US Webinar Presentations, Medical Equipment Losses

## Education

- University of Virginia - Bachelor of Science - Mechanical Engineering - Charlottesville
- University of Virginia - Doctor of Philosophy - Mechanical Engineering - Charlottesville
- University of Virginia - Master of Science - Mechanical Engineering - Charlottesville

## Affiliations

- NAFI
- SAE
- ASME