

ENGINEER: MECHANICAL

TIMOTHY M. HIMES, M.S.E., P.E., CFEI, CVFI

Engineering Design & Testing Corp.

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EDUCATION:

2004

Master of Science, Engineering

Wright State University, Dayton, OH

1999

Bachelor of Science, Mechanical Engineering

Grove City College, Grove City, PA

EXPERIENCE:

December 2015

to Present

Engineering Design & Testing Corp.

Birmingham, Alabama

Consulting Engineer. Root cause analysis of incidents involving machinery, mechanical systems, and plumbing systems in residential, commercial, and industrial applications. Provide failure analysis, mechanical design analysis, process evaluation, and troubleshooting services. Investigation to determine the origin and cause of fires. Provide failure analysis of fire suppression systems.

July 2013

to December 2015

Dayton Children's Hospital

Dayton, Ohio

Facilities Engineering Manager. Physical plant operations, maintenance, landscape, and engineering for main hospital and network of satellite facilities. Provide energy demand analysis, procurement, and usage optimization. Ensure facility code compliance for national healthcare regulatory agencies and all other authorities having jurisdiction. Provide design and construction guidance for major construction projects.

November 2011
to July 2013

**United Technologies Aerospace Systems
Troy, Ohio**

Engineering Manager. Manage thermal analysis, dynamic analysis, offshore engineering resources, and computer-aided design for aircraft wheels and braking systems for Boeing, Airbus, Cessna, and Sukhoi. Provide requirements definition and implementation for high performance computing environment. Provide engineering expertise for product lifecycle management software and process development.

June 1999
to November 2011

**Goodrich Corporation
Troy, Ohio**

Senior Structures Engineer. Provide analytical and experimental stress, fatigue, and damage analysis of aircraft wheels and brakes for new product development for Boeing and in-service field support for Cessna. Provide internal technical support for finite element analysis software. Develop software tools for automation of repetitive manual finite element related operations. Develop new analysis methods focused on cycle time reductions and solution accuracy improvements.

Design Engineer. Research and develop ideas for new products. Design wheel and brake systems for commercial aircraft. Provide material selection, component sizing, solid model and drawing generation, geometric dimensioning and tolerancing, prototype manufacturing, full scale testing, and documentation. Work with clients such as Boeing and Airbus to align design features with needs and requirements. Develop automated software tools for design optimization.

Project Engineer. Manage projects from conception through to completion. Manage project budget and costs. Responsible for the completion of all documentation. Produce test plans and reports. Work with clients such as Boeing and Airbus to ensure design and manufacture of products to agreed budgets and time frames.

Engineering Trainee. Conduct testing programs for new products. Analyze test data and write reports to document performance. Perform basic stress and deflection calculations. Produce manufacturing drawings for test fixtures.

September 2017

November 1997
to May 1999

**General Electric – Transportation Systems
Grove City, PA**

Engineering Intern. Design custom tooling for locomotive engine refurbishment processes. Produce manufacturing drawings for tooling and conduct tests to verify proper function of finished products.

CONTINUING EDUCATION:

Mechanical Nonlinearities, ANSYS, 2010

Fatigue & Fracture Mechanics in FE Analysis, NAFEMS, 2011

Practical Introduction to CFD, NAFEMS, 2012

Advanced Dynamic FE Analysis, NAFEMS, 2012

Structural Optimization in FE Analysis, NAFEMS, 2013

Boiler and Hydronic Water Treatment, Solid Blend Technologies, 2014

Electrical Safe Work Practices, Lewellyn Technology, 2014

OSHA Permit-Required Confined Space Entry, eTraining Inc., 2015

Principles of Failure Analysis, ASM International, 2016

International Fire, Arson, & Explosion Investigation Training Program, National Association of Fire Investigators, 2016, Seattle, Washington

Investigation of Gas and Electric Appliance Fires, Fire Findings, 2016, Benton Harbor, Michigan

Bolting Specialist Qualification Part 1, American Society of Mechanical Engineers, 2016

Engineering Analysis of Failure: Determination of Cause in a Legal Environment, Engineering Design & Testing Corp, 2017

Instructions and Warnings: What is the Difference and Does It Matter?, Engineering Design & Testing Corp, 2017

Vehicle Fire, Arson & Explosion Investigation Science & Technology Seminar, National Association of Fire Investigators, 2017, Lexington, Kentucky

PRESENTATIONS:

“Non-parametric Structural Optimization Using NX Nastran and TOSCA.Structure”, PLM World Conference, May 2011

“Household Failures, Issues and Defects”, National Association of Subrogation Professionals – Alabama Chapter Meeting, October 2016

“Smarter Ways to Use Excel for Engineering”, Engineering Design & Testing Corp, February 2017

PATENTS:

Himes, Anderson, Brundrett, Corio, Howard, “Electric brake for aircraft,” U.S. Patent 7,717,240

Himes, Kipp, Campbell, “Repair method for electric aircraft brake,” U.S. Patent 8,296,916

PUBLICATIONS:

Himes, T.M., “Building Systems and Healthy Living”, *The Stress Point*, Volume 29, Number 3, Engineering Design and Testing Corporation, South Carolina, September 2016.

PROFESSIONAL ORGANIZATIONS:

American Society of Mechanical Engineers (ASME)

American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE)

National Association of Fire Investigators (NAFI)

National Fire Protection Association (NFPA)

REGISTRATIONS AND CERTIFICATIONS:

Registered Professional Engineer in Alabama (35749)

Registered Professional Engineer in Arkansas (17194)

Registered Professional Engineer in Georgia (PE040769)

Registered Professional Engineer in Florida (81049)

Registered Professional Engineer in Louisiana (41055)

Registered Professional Engineer in Mississippi (27434)

Registered Professional Engineer in Ohio (70317)

Registered Professional Engineer in Tennessee (119182)

Registered Professional Engineer in Texas (124093)

National Council of Examiners for Engineering and Surveying (Record 66378)

Certified Fire and Explosion Investigator (CFEI 21099-12077)

Certified Vehicle Fire Investigator (CVFI 21099-12077v)