

# Brian Pfeifer, Ph.D., P.E.



## Education/Training

### University of Nebraska:

Ph.D. in Civil Engineering  
M.S. in Mechanical Engineering  
B.S. in Mechanical Engineering

### University of Florida:

Certificate in Biomedical Engineering

### State of Florida P.E.:

No. 0053037

### State of Alabama P.E.:

No. 28207-E

### State of Nebraska P.E.:

No. E-7968

### Northwestern University Traffic Institute:

Traffic Accident Reconstruction Course

### Florida Engineering Society:

Advanced Work Zone Traffic Control

### Texas A&M University:

(TEEX) Advanced Commercial Vehicle Inspection and Collision Investigation Course

### Collision Safety Institute, Inc.:

Crash Data Retrieval System Operator Course  
Analysis of Collisions Involving Pedestrians or Bicyclist Course

### Bone Mechanics

Biomedical Engineering and Physiology I & II

Failure Analysis

Advanced Topics in Roadside Safety

Accident Avoidance and Tire Blow-out Control and Dynamics

## Specialties

Roadside Hazards

Vehicle Controllability

Occupant Kinematics

Roadway Design

Guardrails & Bridges

Maintenance of Traffic

Automobile Accidents

Pedestrian Accidents

Tractor/Trailer Accidents

Slip/Trip/ Fall

Product Design

General Engineering



# BEC CONSULTING, LLC

3660 Hartsfield Rd.  
Tallahassee, FL 32303  
850-558-3100 ext. 121  
bpfeifer@becind.com

## Accident Reconstruction

## **Curriculum Vitae**

**Brian G. Pfeifer, Ph.D., P.E.**

(850) 558-3121 · bpfeifer@becind.com

Consulting engineer with a strong background in the design, development, and implementation of roadside safety hardware. Current work consists of vehicular accident reconstruction, analysis of maintenance of traffic issues, premises liability, investigation and analysis of mechanical systems and product failures, and development of automated material-handling systems.

### **EDUCATION**

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- 1997**                      **Doctor of Philosophy in Civil Engineering**  
University of Nebraska, Lincoln, NE
- 1992**                      **Master of Science in Mechanical Engineering**  
University of Nebraska, Lincoln, NE
- 1990**                      **Bachelor of Science in Mechanical Engineering**  
University of Nebraska, Lincoln, NE
- 2002**                      **Certification in Biomedical Engineering**  
University of Florida, Gainesville, FL

### **PROFESSIONAL EXPERIENCE**

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- 2007 to present**        **BEC Industries, LLC, Tallahassee, FL**  
**(Formerly Benedict Engineering Company, Tallahassee, FL)**  
Director of Engineering
- BEC Consulting, LLC, Tallahassee, FL**  
Consultant
- 1997 to 2007**            **Benedict Engineering Company, Tallahassee, FL**  
Senior Engineer
- 1987 to 1997**            **Midwest Roadside Safety Facility, Lincoln, NE**  
1990 to 1997              Research Associate Engineer  
1987 to 1990              Research Assistant Engineer
- 1995-1997**              **Interstate Steel Corporation, Big Spring, TX**  
Consulting Engineer

**1991**                      **Smeal Fire Apparatus, Snyder, NE**  
Consulting Engineer

**1990**                      **RDM Design Systems, Lincoln, NE**  
Consulting Engineer

## **LICENSES, REGISTRATIONS & CERTIFICATIONS**

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No. 0053037              State of Florida P.E.  
No. 28207-E              State of Alabama P.E.  
No. E-7968                State of Nebraska P.E.  
Certified Counter Balanced Forklift Operator

## **PROFESSIONAL ASSOCIATIONS**

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- American Society for Testing and Materials – Member of Committee E30 on Forensic Sciences and E58 on Forensic Engineering (ASTM)
- American Society of Mechanical Engineers (ASME)
- American Society of Metallurgy (ASM)
- American Society of Automotive Engineers (SAE)
- American Society of Civil Engineers (ASCE)
- American Society of Safety Engineers (ASSE)
- American Society of Naval Engineers (ASNE)
- Florida Engineering Society (FES)
- National Defense Transportation Association (NDTA)
- National Society of Professional Engineers (NSPE)

## **COURSEWORK/CONTINUING EDUCATION**

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July 2011                “ARAS 360 3D Computer Diagramming for Crash Reconstruction”  
ARAS 360 Technologies Inc., Tallahassee, FL

June 2011                “Safe Operation of Powered Industrial Truck”  
BEC Consulting, Tallahassee, FL

February 2008            “Engineering Fundamentals of Rail Freight Terminals, Yards, and  
Intermodal Facilities: Current Practices in Design and Construction”  
The University of Wisconsin, Orlando, FL

February 2006            “Project Management”  
American Management Association, Lake Buena Vista, FL

July 2005                “Programmable Logic Controllers”  
National Technology Transfer, Inc.

- April 2004                   “Analysis of Collisions Involving Pedestrians or Bicyclists”  
Collision Safety Institute, Tallahassee, FL
- September 2003           “Crash Data Retrieval System Operator”  
Collision Safety Institute, Tallahassee, FL
- May 2003                   “Advanced Work Zone Traffic Control”  
Florida Institute of Consulting Engineers, Tallahassee, FL
- Fall 2002                   Clinical Shadowing  
University of Florida, Gainesville, FL
- Fall 2000                   Introduction to Biomedical Engineering I  
University of Florida, Gainesville, FL
- Spring 2000               Introduction to Biomedical Engineering II  
University of Florida, Gainesville, FL
- Spring 2000               Biomaterials  
University of Florida, Gainesville, FL
- March 2000               “Commercial Vehicle Inspection and Collision Investigation”  
Texas A&M University, Tallahassee, FL
- March 2000               “Advanced Commercial Vehicle Inspection and Collision Investigation”  
Texas A&M University, Tallahassee, FL
- March 1999               Truck Safety Inspection Program, Safety Management Councils  
Sponsored by Florida/Georgia Trucking Associations
- May 1998                  “Traffic Accident Reconstruction”  
Northwestern University Traffic Institute, Tallahassee, FL
- Spring 1993               “Vehicle Dynamics”  
University of Nebraska, Lincoln, NE
- Fall 1991                  “Failure Analysis”  
University of Nebraska, Lincoln, NE
- Spring 1991               “Advanced Topics in Roadside Safety”  
University of Nebraska, Lincoln, NE

## **PUBLICATIONS**

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- Pfeifer, B.G. "Automation of Container Handling With the GRID System." Presented at the International Port and Terminal Technology Conference, Houston, TX, April 2011.
- Pfeifer, B.G. "Streamlining Container Handling With the GRID System." Presented at the International Port and Terminal Technology Conference, Houston, TX, April 2009.
- Pfeifer, B.G. and D. L. Sicking. "NCHRP Report 350 Testing of the BEST System." Paper presented to the Transportation Research Board, Washington, D.C., 1999.
- Reid, J.D. , D.L. Sicking, R.K. Faller, and B.G. Pfeifer. "Development of a New Guardrail System." Paper presented to the Transportation Research Board, Washington, D.C., 1998.
- Pfeifer, Brian G. "Development and Simulation of an Energy Absorbing Guardrail Terminal." Ph.D. diss., University of Nebraska, 1997.
- Pfeifer, B.G. and D.L. Sicking. "Development of a Metal Cutting Guardrail Terminal." Paper presented to the Transportation Research Board, Washington, D.C., 1996.
- Faller, R.K., M.A. Ritter, J.C. Holloway, B.G. Pfeifer, and B.T. Rosson. "Performance Level 1 Bridge Railings for Timber Decks." Paper presented to the Transportation Research Board, Washington, D.C., 1993.
- Holloway, J.C., R.K. Faller, B.G. Pfeifer, E.R. Post and D.E. Davidson. "Performance Level 2 Tests on the Missouri 30-in. New Jersey Safety Shape Bridge Rail." Paper presented to the Transportation Research Board, Washington, D.C., 1992.
- Pfeifer, B.G. , J.C. Holloway, R.K. Faller, et al. "Full-Scale Crash Tests on a Luminaire Support 4-Bolt Slip base Design." Paper presented to the Transportation Research Board, Washington, D.C., 1992.
- Pfeifer, Brian G. "A Study of Breakaway Mechanisms Incorporated in Traffic Signs." Masters thesis, University of Nebraska, 1992.

## **PRESENTATIONS**

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- Pfeifer, B.G. "Automation of Container Handling With the GRID System." Presented at the International Port and Terminal Technology Conference, Houston, TX, April 2011
- Pfeifer, B.G. "Streamlining Container Handling With the GRID System." Presented at the International Port and Terminal Technology Conference, Houston, TX, April 2009.
- Pfeifer, B.G. "Animation–Fact or Fiction?" Presented at the American Bar Association's Trucking Law Seminar, New Orleans, LA, March 16, 2001.
- Pfeifer, B.G. "Animation–Fact or Fiction?" Presented at the Defenses Research Institute, Las Vegas, NV, February 21, 2001.
- Pfeifer, B.G. "Animation–Fact or Fiction?" Presented to Alabama Defense Lawyers Association, Destin, FL, June 2000.

Pfeifer, B.G. "Automobile Accident Reconstruction." Presented to American Surety and Casualty Company, Jacksonville, FL, June 1999.

Pfeifer, B.G. "Low Speed Rear End Impacts." Presented to Hunt Insurance Group, Tallahassee, FL, November 1998.

## **PATENTS & PATENTS PENDING**

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Benedict, Charles E., Brian G. Pfeifer, Christian A. Yates, James R. Dobbs, and Scott K. Bladen. "Automated Material Handling System with Load Transfer Vehicles." U.S. Patent No. 7,931,431 B2, filed September 5, 2006 and issued April 26, 2011.

Benedict, Charles E., Brian G. Pfeifer, Christian A. Yates, James R. Dobbs, Scott K. Bladen, and Richard E. Lackinger. "Overhead Vehicle Storage System" U.S. Patent No. 7,909,558 B2, filed May 2, 2007 and issued March 22, 2011.

Benedict, Charles E., Brian G. Pfeifer, Christian A. Yates, James R. Dobbs, et al. "Overhead Boat Storage System" U.S. Patent No. 7,850,412 B2, filed May 2, 2007 and issued December 14, 2010.

Benedict, Charles E., Scott K. Bladen, James R. Dobbs, et al., "Automated Automotive Vehicle Parking/Storage System." U.S. Patent Application No. 12/855017, filed August 12, 2010.

Benedict, Charles E., Scott K. Bladen, James R. Dobbs, et al., "Material Handling And Storage/Warehousing System (w/ 3-D AGV)." U.S. Patent Application No. 12/854990, filed August 12, 2010.

Benedict, Charles E., Brian G. Pfeifer, Christian A. Yates, James R. Dobbs, Scott K. Bladen, and Richard E. Lackinger. "Port Storage and Distribution System for International Shipping Containers" U.S. Patent No. 7,753,637, filed March 1, 2007 and issued July 13, 2010.

Benedict, Charles E., Scott K. Bladen, James R. Dobbs, et al., "Port Storage and Distribution System for International Shipping Containers." U.S. Patent Application No. 12/833324, filed July 9, 2010.

Benedict, Charles E., Scott K. Bladen, James R. Dobbs, et al., "Automated Shipboard Material Handling and Storage System." US Patent Application No. 12/767560, filed April 26, 2010.

Benedict, Charles E., Brian G. Pfeifer, Christian A. Yates, and Scott K. Bladen. "Automated Shipboard Material Handling and Storage System." U.S. Patent 7,708,514, filed March 31, 2004 and issued May 4, 2010.

Benedict: Charles E., Brian G. Pfeifer, Christian A. Yates, James R. Dobbs, Scott K. Bladen, and Richard E. Lackinger. "Warehouse Storage System" U.S. Patent Application No. 11/743,585, filed March 1, 2007.

Sicking, Dean Leo, and Brian G. Pfeifer. "Guardrail Terminal." U.S. Patent No. 6,505,820, filed October 1, 1999, and issued January 14, 2003.

Sicking, Dean Leo, John Douglass Reid, Ronald Keith Faller, Brian George Pfeifer, et al. "Guardrail System." U.S. Patent No. 6,416,041, filed December 26, 1996, and issued July 9, 2002. International Patent Application No. PCT/ US96/ 20911.

Sicking, Dean Leo, John Douglass Reid, Ronald Keith Faller, Brian George Pfeifer, et al. "Guardrail System." U.S. Patent No. 6,260,827, filed January 5, 1996, and issued July 17, 2001.

Sicking, Dean Leo, and Brian G. Pfeifer. "Guardrail Cutting Terminal." U.S. Patent No. 6,022,003, filed November 7, 1994, and issued February 8, 2000. International Patent Application No. PCT/US951/4606. Israel Patent No. 115890, issued March 12, 1999. Canadian Patent Application No. 2,204,528.

## **HONORS AND AWARDS**

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- American College of Forensic Examiners, Diplomat
- Marquis Who's Who in Science and Engineering, 1999
- Transportation Research Board A2A04 Committee, Best Paper Award, 1993
- Toastmasters International, CTM Certification
- University of Nebraska-Lincoln Honors Program

## **REPRESENTATIVE PROJECTS**

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### **Material Handling**

Since 2001, Dr. Pfeifer has been the program manager for a number of military contracts involving the development of shipboard material handling systems. One of these programs involved the development of an automated system for handling pallet-sized containers on the new CVN aircraft carrier.

This patented system, is capable of automatically storing and retrieving pallet-sized containers. This system greatly reduces the manpower necessary to handle material aboard the ship and increases storage efficiency.

Dr. Pfeifer also managed a program funded by the Military Sealift Command (MSC) for the development of a system capable of automatically storing and retrieving 20-foot ISO containers in a shipboard environment. This system provides the military with selective discharge capabilities and allows them to operate in a sea-base environment.

Dr. Pfeifer is currently leading the commercialization of both of these technologies.

### **Forensic Engineering**

Dr. Pfeifer has been responsible for a large number of forensic engineering projects, including the following representative subjects:

- Vehicular accident reconstruction
- Tractor-trailer accident reconstruction
- Pedestrian accidents
- Construction zone accidents
- Vehicle controllability
- Maintenance of Traffic (MOT) evaluation
- Evaluation of roadside safety device applications
- Roadway design
- Evaluation of mechanical designs and failures
- Cabinet design and installation
- Restraint system analysis
- Accident reconstruction involving motorcycles and automobiles.
- Determination of headlight illumination prior to collision by conducting filament analysis of the bulb.
- Motorcycle speed calculations prior to braking, using perception/reaction, length of skid, and damage to the motorcycle.