

## 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**  
Consulting Engineer
- 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. 53037                      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  
                                    Florida Advanced Work Zone Traffic Control

## 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 Civil Engineers (ASCE)
- Florida Engineering Society (FES)
- National Society of Professional Engineers (NSPE)
- National Safety Council #658753

## COURSEWORK/CONTINUING EDUCATION

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February 2019                “The Engineer as an Expert Witness (Engineering Ethics)”, National Society of Professional Engineers, Alexandria, VA

February 2019                “Laws and Regulations Governing Florida Professional Engineers”  
Florida Board of Professional Engineers, Tallahassee, FL

April 2018                    “Operator Safety Training – Sit-down Counter Balance Forklifts”  
Ring Power Lift Trucks, Jacksonville, FL

July 2016                     "FARO 3-D Laser Scanner", Faro Technologies, Lake Mary, FL

April 2016                    “Advanced Refresher Maintenance of Traffic Training” American Traffic Safety Services Association, West Palm Beach, FL

November 2013              “Florida’s New Expert Opinion Evidence Standard”  
Florida Workers’ Compensation Institute, Tallahassee, FL

May 2012                     “Florida Advanced Work Zone Traffic Control”  
American Traffic Safety Services Association, Jacksonville, FL

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, Brian G. “Offshore and Intermodal Applications of the GRID System”, Presented at the International Port and Terminal Technology Conference, Savannah, GA, May, 2014.
- Pfeifer, Brian G. and C.E. Benedict “Streamlining Container Handling With the GRID System.” Port Technology International, Edition 56, November 2012.
- Pfeifer, Brian G. “Automation of Container Handling With the GRID System.” Presented at the International Port and Terminal Technology Conference, Houston, TX, April 2011.
- Pfeifer, Brian G. “Streamlining Container Handling With the GRID System.” Presented at the International Port and Terminal Technology Conference, Houston, TX, April 2009.
- Pfeifer, Brian 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 BRIAN 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, Brian 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, BRIAN 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, BRIAN 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, Brian 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.” Master’s thesis, University of Nebraska, 1992.

## PRESENTATIONS

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- Pfeifer, Brian G. "Accident Reconstruction Basics and Cross Examination" Palm Beach County Justice Association (PBCJA) SCOPE X Attorney Seminar, December 2016.
- Pfeifer, Brian G. "How to Better Utilize Your Accident Reconstruction Expert Witness" – Civil Litigation for Paralegals & Legal Assistants Seminar, June 2016.
- Pfeifer, Brian G. "Auto Accident Reconstruction Expert" - Florida Justice Association's - Expert Webinar Series, April 2016.
- Pfeifer, Brian G. "Roadway Construction Zones - What could go wrong?" Presented at Florida Justice Association's – "Hell on the Highways IV" Conference, St. Augustine, FL, December 2015.
- Pfeifer, Brian G. "Evaluating the Bicycle Case – an Expert's Perspective" Presented at Florida Justice Association's – "Hell on the Highways III" Conference, Boca Raton, FL, December 2014.
- Pfeifer, Brian G. "Investigating Auto Cases – How to Work With Your Expert to Prepare Your Case" Presented at the Florida Justice Association's Masters of Justice Seminar, Orlando, FL, September 2014.
- Pfeifer, Brian G. "Things Aren't Always What They Seem: Reconstructing the Tricky Crash" Presented at the Florida Justice Association's "Hell on the Highways" Conference, Tampa, FL, December 2013.
- Pfeifer, Brian G. "Construction Zone Accidents – What Went Wrong." Presented at the Florida Justice Association's "Hell on the Highways" Conference, St. Augustine, FL, December 2012.
- Pfeifer, Brian G. "Automation of Container Handling With the GRID System." Presented at the International Port and Terminal Technology Conference, Houston, TX, April 2011.
- Pfeifer, Brian G. "Streamlining Container Handling With the GRID System." Presented at the International Port and Terminal Technology Conference, Houston, TX, April 2009.
- Pfeifer, Brian G. "Animation–Fact or Fiction?" Presented at the American Bar Association's Trucking Law Seminar, New Orleans, LA, March 16, 2001.
- Pfeifer, Brian G. "Animation–Fact or Fiction?" Presented at the Defenses Research Institute, Las Vegas, NV, February 21, 2001.
- Pfeifer, Brian G. "Animation–Fact or Fiction?" Presented to Alabama Defense Lawyers Association, Destin, FL, June 2000.
- Pfeifer, Brian G. "Automobile Accident Reconstruction." Presented to American Surety and Casualty Company, Jacksonville, FL, June 1999.
- Pfeifer, Brian 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, Rebecca Jeppson Bladen, Richard E. Lackinger, James R. Dobbs, et al., “Automated Automotive Vehicle Parking/Storage System” Chinese Patent No. 2011800491332, filed August 11, 2011 and issued August 17, 2016.

Benedict, Charles E., Brian G. Pfeifer, Christian A. Yates, Richard E. Lackinger, et al., “Overhead Vehicle Storage System” Chinese Patent No. ZL2007800354790, filed May 3, 2007 and issued November 25, 2015.

Benedict, Charles E., Scott K. Bladen, Brian G. Pfeifer, et al., “Port Storage and Distribution System for International Shipping Containers.” Hong Kong Patent No. HK1144185, filed March 2, 2007 and issued February 6, 2015.

Benedict, Charles E., Scott K. Bladen, Brian G. Pfeifer, et al., “Port Storage and Distribution System for International Shipping Containers.” European Patent No. 2,146,894, filed March 02, 2007 and issued June 25, 2014.

Benedict, Charles E., Scott K. Bladen, Brian G. Pfeifer, et al., “Port Storage and Distribution System for International Shipping Containers.” Chinese Patent No. 2007800519399, filed March 02, 2007 and issued June 04, 2014.

Benedict, Charles E., Brian G. Pfeifer, Christian A. Yates, James R. Dobbs, Scott K. Bladen, and Richard E. Lackinger “Automated Automotive Vehicle Parking/Storage System” U.S. Patent No. 8,734,078, filed August 12, 2010 and issued May 27, 2014.

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 No. 8,651,790, filed May 02, 2007 and issued February 18, 2014.

Benedict, Charles E., Brian G. Pfeifer, Christian A. Yates, Scott K. Bladen, et al, “Material Handling and Storage/Warehouse System” U.S. Patent No. 8,628,289, filed August 12, 2010 and issued January 14, 2014.

Benedict, Charles E., Scott K. Bladen, Brian G. Pfeifer, et al, “Automated Shipboard X-Y Track Material Handling and Storage Method” U.S. Patent No. 8,408,863, filed April 26, 2010 and issued April 2, 2013.

Benedict, Charles E., Scott K. Bladen, James R. Dobbs, et al. “Overhead Vehicle Storage System.” Korean Patent No. 10-1189876, filed April 7, 2009, and issued October 04, 2012.

Benedict, Charles E., Scott K. Bladen, James R. Dobbs, et al. “Warehouse Storage System.” Australian Patent No. 2007300406, filed May 2, 2007, and issued July 19, 2012.

Benedict, Charles E., Scott K. Bladen, James R. Dobbs, et al. “Overhead Vehicle Storage System.” Australian Patent No. 2007300407, filed May 02, 2007, and issued July 19, 2012.

Benedict, Charles E., Scott K. Bladen, Brian G. Pfeifer, et al., "Port Storage and Distribution System for International Shipping Containers." U.S. Patent No. 8,206,074, filed July 9, 2010 and issued June 26, 2012.

Benedict, Charles E., Scott K. Bladen, James R. Dobbs, et al. "Overhead Boat Storage System." Korean Patent No. 10-1158168, filed April 27, 2009 and issued June 03, 2012.

Benedict, Charles E., Scott K. Bladen, James R. Dobbs, et al., "Port Storage & Distribution System for International Shipping Containers." Singaporean Patent No. 154968, filed March 02, 2007 and issued May 15, 2012.

Benedict, Charles E., Scott K. Bladen, James R. Dobbs, et al. "Overhead Boat Storage System." Canadian Patent No. 2,664,191, filed May 3, 2007 and issued January 10, 2012.

Benedict, Charles E., Scott K. Bladen, James R. Dobbs, et al. "Overhead Vehicle Storage System." Canadian Patent No. 2,664,184, filed May 3, 2007 and issued January 3, 2012.

Benedict, Charles E., Scott K. Bladen, James R. Dobbs, et al. "Warehouse Storage System." Singaporean Patent No. 151383, filed May 3, 2007 and issued November 15, 2011.

Benedict, Charles E., Scott K. Bladen, James R. Dobbs, et al. "Overhead Boat Storage System." Singaporean Patent No. 151422, filed May 3, 2007 and issued November 15, 2011.

Benedict, Charles E., Scott K. Bladen, James R. Dobbs, et al. "Overhead Vehicle Storage System." Singaporean Patent No. 150963, filed May 3, 2007 and issued October 14, 2011.

Benedict, Charles E., Scott K. Bladen, James R. Dobbs, et al. "Overhead Boat Storage System." Chinese Patent No. 2007/800354146, filed May 3, 2007 and issued October 12, 2011.

Benedict, Charles E., Scott K. Bladen, James R. Dobbs, et al. "Warehouse Storage System." Korean Patent No. 10-1063683, filed April 27, 2009, and issued September 01, 2011.

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., 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., 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., 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. “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.

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 and chief engineer 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 bicycles.
- 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.

*02/2019*