

28 Years of Experience
DR. ROLIN F. BARRETT, JR., P.E.
CONSULTING ENGINEER
BARRETT ENGINEERING

3141 John Humphries Wynd, Suite 280, Raleigh, North Carolina 27612
www.barrettengineer.com

ACCIDENT RECONSTRUCTION: cars, trucks, buses, commercial vehicles, motorcycles, mopeds, bicycles, back hoes, and self-propelled farm and construction equipment.

FIRES AND EXPLOSIONS – Origin and Cause: electrical fires, lightning, CSST gas lines, bus fires and other vehicle fires, equipment malfunctions, and violations of codes and standards.

Other: slip-and-fall, trip-and-fall, water leaks, industrial accidents, electrocutions following accidental contact with power lines or various types of equipment, etc.

EDUCATION

Ph.D.	Mechanical Engineering	North Carolina State University
M.S.	Mechanical Engineering	Louisiana Tech University
B.S.	Mechanical Engineering	North Carolina State University
B.S.	Electrical Engineering	North Carolina State University

CERTIFICATION -- ACCIDENT RECONSTRUCTION

Accreditation Commission for Traffic Accident Reconstruction (**ACTAR**) – Fully Certified Certified Crash Data Retrieval System “**Black Box**” (Event Data Recorder) Analyst
Certified to Download and Analyze Caterpillar Truck, Heavy Equipment, and Marine Electronic Data Recorders – “**Black Box**” (ECM)

Certified to Download and Analyze Detroit Diesel (DDEC) Reports – “**Black Box**” (ECM)
Certified Crash Data Retrieval System “**Black Box**” (Event Data Recorder) Technician
Bendix Commercial Vehicle Systems – Certified Air Brake Specialist

CERTIFICATIONS, COURSES and SEMINARS -- FIRES and EXPLOSIONS

Certified Fire and Explosion Investigator (**CFEI**)
Certified Vehicle Fire Investigator (**CVFI**)
Fire, Arson & Explosion Investigation Training Program, NAFI
Advanced Fire, Arson, and Explosion Investigation, NAFI
Computer Fire Modeling, NAFI
Vehicle Fire, Arson, and Explosion Investigation Science and Technology Seminar, NAFI
Investigations of Electrical and Appliance Related Fires, IAAI
National Electrical Code Essentials, NFPA

COURSES and SEMINARS -- ACCIDENT RECONSTRUCTION

Inspection and Investigation of Commercial Vehicles Crashes, IPTM
Heavy Vehicle Electronic Control Module Data Use in Crash Reconstruction, IPTM
Injury, Anatomy, Biomechanics and Federal Regulation, SAE

Applied Vehicle Dynamics, SAE
Highway Vehicle Event Data Recorder Symposium, SAE
Comprehensive Air Brake Systems Training Program in the Operation and Maintenance of Heavy
Duty Vehicle Air Brake Systems and Components, Bendix Commercial Vehicle Systems
Crash Data Retrieval System ("Black Box") Analyst Course, Collision Safety Institute
Crash Data Retrieval System ("Black Box") Technician Course, Collision Safety Institute
Caterpillar Electronic Technician Engine Control Module Download Course
DDEC Reports (Diagnostic and management reports, including trip activity, speed vs. rpm, engine
load vs. rpm, periodic maintenance, daily engine usage, life-to-date summary, hard brake,
and last stop record), Detroit Diesel Corp./Freightliner, LLC
HVE -- Human Vehicle Environment, Engineering Dynamics Corporation

EMPLOYMENT

2011 - Teaching Associate Professor, Automotive Engineering, Dept. of Mechanical and
Aerospace Engineering, NCSU
1986 - Barrett Engineering, Raleigh, North Carolina

LICENSING

Licensed Professional Engineer -- North Carolina and Florida
National Academy of Forensic Engineers – Member and Board Certified Diplomate of the Council
of Engineering Specialty Boards
National Council of Examiners for Engineering and Surveying – Model Law Engineer

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

National Academy of Forensic Engineers
Committee on Accident Reconstruction (2008-2014)
Committee on Incident Evaluation (2008-2011)
National Society of Professional Engineers
National Association of Fire Investigators
International Association of Arson Investigators
Society of Automotive Engineers
American Society of Mechanical Engineers
Institute of Electrical and Electronics Engineers
North Carolina Chapter of the International Association of Arson Investigators
American Society of Agricultural and Biological Engineers
American Institute of Aeronautics and Astronautics
North Carolina Transportation Maintenance Council
National Fire Protection Association

FEE SCHEDULE

The current charge for consulting services is \$250.00 per hour and expenses.

HONORS

Alumni Hall of Fame, Department of Mechanical and Aerospace Engineering, NCSU

Commencement Speaker:

NCSU, Department of Mechanical and Aerospace Engineering, Fall Diploma Award Ceremony, Talley Student Center, Raleigh, NC, December 18, 2009

NCSU, Department of Mechanical and Aerospace Engineering, Fall Diploma Award Ceremony, Talley Student Center, Raleigh, NC, December 14, 2012

MISCELLANEOUS COURSES AND SEMINARS

Global Positioning Systems Course, Trimble, Inc.

Scanning Electron Microscope Course and Laboratory, NCSU

Nikon AIMS Users Course

Scuba Certification – National Assn. Underwater Instructors, NCSU.

Water Safety Instructor, Small Craft Instructor, Senior Lifesaving – American Red Cross

PUBLICATIONS and PATENTS

Prototype Design and Fabrication, Dr. Rolin F. Barrett, Jr., and Dr. Eric C. Klang,
NCSU, Raleigh, NC, 2007

"On Track for Learning" -- Participated in this program and a lesson recording produced with North Carolina State University and the North Carolina 4-H Foundation to develop a science curriculum for middle school students.

"The History of Armor," NC State Engineer, Rolin F. Barrett, Jr., Spring, 1992

"The Scanning Electron Microscope," NC State Engineer, Rolin F. Barrett, Jr., Winter 1991-1992

U. S. Patent No. 5,788,178 - **The Guided Bullet**

A bullet that includes an on-board laser guidance system for altering and directing the flight of the bullet along a trajectory to a target identified by a laser projecting onto the target.

U. S. Patent No. 6,715,399 - **Firearm Bolt Assembly**

Moveable bolt assembly disposed adjacent the barrel. An energy-absorbing mechanism carried by the bolt assembly, reducing both weight and recoil.

Patent Pending - **Gun Sight**

An alternate arrangement for sights. Specifically, a powered luminescent ring surrounding the sight, which may be turned on selectively.

Patent Pending - **Electronic Aid for the Visually Impaired**

Hand-held device using reflected laser beams to detect objects in the approaching landscape to assist a visually impaired individual to successfully navigate through an area.

TEACHING, RESEARCH, AND ENGINEERING EDUCATION SUPPORT

Teaching Associate Professor – Automotive Engineering, NCSU

Chairman - NCSU, Committee for Program Review and Assessment, Including Curricula, ABET, and Graduate Program

Member – NCSU, External Advisory Board, Department of Mechanical and Aerospace Engineering – since 2008

Designed and conducted research -- NCSU, Raleigh, NC,
related to high and low speed impact response of composite structures, quasi-static loading of composite structures, and examination of failure mechanisms in composite structures subjected to impacts and quasi-static loading

Taught Dynamic Systems Analysis Laboratory -- Louisiana Tech Univ., Ruston, LA

“The Role of the Expert Witness” – Grambling State University, Grambling, LA

Judge – Senior Design Competition MAE 416, NCSU

K-12 Outreach -- Working with public and private school educators to present information about engineering, motivating students to excel in math and science.