

BRC

ANALYZING HOW INJURIES ARE CAUSED™

Expert Guide

5711 University Heights Suite 107
San Antonio, Texas 78249
Phone: 210.691.0281
Fax: 210.691.8823
www.brconline.com





TABLE OF CONTENTS

Charles E. “Ted” Bain, MD, CCFP (EM)	Page 3
Robert D. Banks, MD	Page 6
Alfred P. Bowles II, MD	Page 9
Joseph M. Cormier, PhD, PE	Page 12
Cynthia M. Day, MD	Page 15
Lisa P. Gwin, DO, BSEE	Page 18
Thomas M. McNish, MD, MPH	Page 21
Lars H. Reinhart, MD	Page 24
William R. Scott, PhD	Page 27
Rawson L. Wood, MD, MPH	Page 30
Jeffrey L. Wirth, MS, PE	Page 32
Enrique Bonugli, BSME	Page 35
Richard A. Watson, BSME, MSBME	Page 38

Charles E. "Ted" Bain, BEng, MD, CCFP (EM)
Principal Consultant
Biomechanics and Accident Reconstruction



Dr. Bain joined BRC in 2003 after a clinical medicine career in Emergency Medicine and Family Medicine. He was also employed as a Plant Physician and was a pilot in the Royal Canadian Air Force. Since joining BRC, he has been retained in over 1,200 cases and has testified in over 60 trials in 25 states, including Florida, Texas, Louisiana, New York, and Colorado. Dr. Bain has degrees in Medicine and Engineering and his consulting practice focuses on cases involving automobile collisions, industrial incidents, amusement park rides, power tools, railroad incidents, workplace injuries, slips and falls and most recently, all terrain vehicle rollovers.

C.E. "TED" BAIN, BEng, MD, CCFP (EM)

EDUCATION

CCFP (EM)	Certificant Special Competence in Emergency Medicine College of Family Physicians of Canada	1996
CCFP	Certificant College of Family Physicians of Canada	1995
	Rotating Internship Scarborough General Hospital Scarborough, Ontario	1983-1984
MD	Queen's University Kingston, Ontario	1979-1983
BEng	Royal Military College Kingston, Ontario	1970-1974

SELECTED CONTINUING EDUCATION COURSES

Traffic Accident Reconstruction I & II Northwestern University Traffic Institute Evanston, Illinois	2003
---	------

PROFESSIONAL EXPERIENCE

Principal Consultant Biodynamic Research Corporation San Antonio, Texas	2003-Present
Emergency Medicine Prince George Regional Hospital Prince George, British Columbia	2000-2003
Emergency Medicine Surrey Memorial Hospital Surrey, British Columbia	1993-2003
Emergency Medicine Dufferin Area Hospital Orangeville, Ontario	1984-1992



Emergency Medicine Georgetown & District Hospital Georgetown, Ontario	1984-1986
Family Medicine, Private Practice Surrey, British Columbia	1992-2000
Family Medicine, Private Practice Caledon, Ontario	1984-1992
Pilot, Canadian Armed Forces	1974-1979

Robert D. Banks, BEng, MD
Principal Consultant
Injury Causation and Biomechanics



Dr. Banks joined BRC in 1997 after a career in the Canadian Armed Forces as a pilot and flight surgeon. His work included research in aircrew systems and technologies, acceleration effects, and breathing systems. During his military career, Dr. Banks was trained in aircraft and accident investigation and participated in numerous such investigations. Since joining BRC, Dr. Banks has analyzed numerous cases involving automobiles. He has been retained in over 1,700 cases and played a key role in the 2003 Space Shuttle Columbia Disaster investigation. Dr. Banks has limited his consulting practice to automobile and aviation product liability cases.

ROBERT D. BANKS, BEng, MD

EDUCATION

MD	University of Toronto Toronto, Ontario	1986
BEng (Civil)	Royal Military College Kingston, Ontario	1974
	College Militaire Royale de St. Jean St. Jean, Quebec	1972

POST GRADUATE STUDIES

Residency	Aerospace Medicine U.S. Naval Aerospace and Operational Medical Institute Pensacola, Florida	1993
Internship	York-Finch General Hospital Toronto, Ontario, Canada	1987

SHORT COURSES (SELECTED)

Traffic Accident Reconstruction	January 1998
Advanced Crash Survival Investigators Course	September 1992
Aerospace Pathology and Accident Investigation	October 1991

PROFESSIONAL EXPERIENCE

Consultant/Principal Consultant Biodynamic Research Corporation San Antonio, Texas	1997-Present
Head, Aerospace Life Support Defence and Civil Institute of Environmental Medicine	1995-1997
Thrust Leader, Aerospace Performance/Protection Thrust Chief, Research and Development Branch	1995-1997
Staff Physician MCI Medical Clinics, Inc. Toronto, Ontario, Canada	1994-1997

Deputy Director
Human Protective Systems Division
Defence and Civil Institute of Environmental Medicine 1994-1995

Head, Central Medical Board
Defence and Civil Institute of Environmental Medicine 1993-1994

Staff Physician
Moose Jaw Medical Clinic 1990-1991

Base Surgeon
Canadian Forces Base Moose Jaw 1989-1991

Associate Medical Staff (Emergency Medicine)
Union General Hospital
Moose Jaw, Saskatchewan, Canada 1987-1991

Associate Medical Staff (Emergency Medicine)
Providence General Hospital
Moose Jaw, Saskatchewan, Canada 1987-1991

Military Pilot
Canadian Forces (CF) 1974-1991

BIOMECHANICAL EXPERIENCE

Hi G Impact Sled (DCIEM) - Scientific Authority for impact testing of restraints, seats, air bags, helmets and automotive child restraints 1995-1997

Human Centrifuge (DCIEM) - Directed all research on effects of acceleration on humans 1995-1997

Teacher of Biomechanics/Injury Causation 1994-Present

Injury Causation - Directed review on all military aircraft accidents and provided consultation regarding impact accidents 1994-1997

Alfred P. Bowles, II, MD
Principal Consultant
Injury Causation and Biomechanics



Dr. Bowles joined BRC in 1995 after completing his residency in general surgery. In addition to his consultant responsibilities, he maintains a clinical practice in acute care and trauma medicine through community hospitals and as a surgeon in the United States Air Force Reserve Medical Corps. During his time at BRC, Dr. Bowles has been involved in more than 2,500 injury cases involving general negligence, product liability and criminal prosecution/defense and currently focuses his practice on automobile and commercial transportation collisions, workplace incidents, and industrial equipment malfunctions.

ALFRED P. BOWLES, II, MD

EDUCATION

MD	Indiana University School of Medicine Indianapolis, Indiana	1990
BSME	Mechanical Engineering Purdue University West Lafayette, Indiana	1986

POST GRADUATE STUDIES

Internship in Surgery University of Kansas Medical Center, Kansas City, Kansas	1990-1991
Residency in General Surgery University of Kansas Medical Center, Kansas City, Kansas	1991-1995

SELECTED CONTINUING EDUCATION COURSES

Traffic Accident Reconstruction Northwestern University Traffic Institute, Evanston, Illinois	1996
Fundamentals of Sensor Design for Automotive Airbag Systems SAE International Seminars, Detroit, Michigan	1997
Car Crashes and Occupant Injuries: A Team Approach to Crash Investigation Association for the Advancement of Automotive Medicine Tempe, Arizona	1998
Biomechanics of Impact Trauma Association for the Advancement of Automotive Medicine Captiva Island, Florida	1998
Aerospace Medicine Primary Course I	1998
Aerospace Medicine Primary Course II	1999
Aerospace Medicine Primary Course III USAF School of Aerospace Medicine, Brooks AFB, Texas	2000
Advanced Trauma Life Support Student Course American College of Surgeons Department of Family and Community Medicine, Tulane University, New Orleans, Louisiana	1999

Defense Medical Readiness Training Institute Fort Sam Houston, Texas	2003
Wilford Hall USAF Medical Center, Lackland AFB, Texas	2007
Defense Medical Readiness Training Institute Fort Sam Houston, Texas	2011
Trauma Refresher Course for Surgeons Wilford Hall US Air Force Medical Center, Lackland AFB, Texas	2001
Expeditionary Medical Support Basic Course USAF School of Aerospace Medicine, Brooks AFB, Texas	2004
Space Fundamentals Course USAF Advanced Space Operations School, Colorado Springs, Colorado	2010

PROFESSIONAL EXPERIENCE

Consultant	1995-Present
Principal Consultant and Director	2010-Present
Biodynamic Research Corporation, San Antonio, Texas	
Flight Surgeon	2008-Present
United States Air Force Reserve	
HQ USAF Space Command, Peterson AFB, CO	
General Surgeon	1995-2008
Flight Surgeon	
Chief of Professional Services	2006-2008
United States Air Force Reserve	
433rd Medical Squadron, Lackland AFB, Texas	
Practicing Physician	1996-Present
Emergency and General Medicine	
Southwest Medical Associates, Rockport, Texas	
Surgeon, General and Trauma Surgery	2005
Air Force Theater Hospital, Balad Air Base, Iraq	
Physician, Critical Care Air Transport Team	2003
United States Air Force, Operation Enduring Freedom	
Chief Resident in General Surgery	1994-1995
University of Kansas Medical Center, Kansas City, Kansas	

Joseph M. Cormier, PhD, PE
Principal Consultant
Biomechanics and Accident Reconstruction



Dr. Cormier joined BRC in 2003 after completing his Master's Degree in Mechanical Engineering at Virginia Polytechnic University. He has since gone on to receive his PhD degree in Biomedical Engineering and his consulting practice currently focuses on Product Liability and General Negligence issues involving automobile collisions, tractor trailers, railroad incidents, industrial incidents, amusement park rides, and premises liability. Dr. Cormier remains active in research with Virginia Tech, has given several presentations at conferences and continuing education events, and published papers on injury statistics in car crashes, rollover injury causation, thoracic injury tolerance and facial biomechanics.

JOSEPH M. CORMIER, PhD, PE

EDUCATION

PhD	Biomedical Engineering Virginia Tech – Wake Forest School of Biomedical Engineering and Sciences Research focus: Facial Biomechanics	2009
MS	Mechanical Engineering with Biomedical Engineering Option Virginia Polytechnic Institute and State University Research focus: Thoracic Biomechanics	2003
BS	Mechanical Engineering New Mexico Institute of Mining and Technology	2001

CONTINUING EDUCATION

ARAS360 Advanced 3D Computer Diagramming and Animation for Incident Reconstruction San Antonio, Texas	2011
EDSMAC - Simulations Training Course Engineering Dynamics Corporation	2011
ARC-CSI Crash Conference Las Vegas, NV	2010
Brain Injury Symposium NHTSA Docket # 26249	2007
Current Issues in Using Crash Injury Data SAE Professional Development Program Detroit, Michigan	2006
Automotive Safety and Injury Biomechanics Blacksburg, Virginia	2005
Applied Nonlinear Statistical Methods San Antonio American Statistical Association	2005
Traffic Accident Reconstruction I & II Northwestern University Traffic Institute Evanston, Illinois	2003



PROFESSIONAL EXPERIENCE

Principal Consultant Consultant Biodynamic Research Corporation San Antonio, Texas	2012-Present 2009-2012
Technical Director Biodynamic Research Corporation San Antonio, Texas	2003-2009
Graduate Research Assistant Impact Biomechanics Laboratory Virginia Tech	2001-2003
Research Assistant Psychology Department New Mexico Institute of Mining and Technology	2000
Research Assistant Environmental Engineering Department New Mexico Institute of Mining and Technology	1999-2000

Cynthia M. Day, MD
Consultant Radiologist
Injury Causation and Biomechanics



Dr. Cynthia Day has a degree in Medicine, is Board Certified in Diagnostic Radiology and is Fellowship trained in Emergency Radiology. Following her fellowship, Dr. Day spent several years as faculty at Harvard Medical School while performing her duties as staff radiologist at Brigham and Women's Hospital in Boston. Dr. Day also has prior work experience in the oil and gas industry as a computer systems analyst and technical writer. Her role at BRC includes independent consulting assignments where evaluation of radiologic imaging studies is the primary focus, as well as interpreting radiologic imaging studies in support of BRC's injury causation and biomechanical analysis practice. Her assessment of such studies includes, but is not limited to, interpreting radiology exams, reporting pertinent findings, and producing 3D images that aid in the visualization and understanding of complex injuries by non-medically trained personnel.

CYNTHIA M. DAY, MD

EDUCATION


MD	University of Texas Health Science Center at San Antonio San Antonio, Texas	2002
Paramedic	San Jacinto College Pasadena, Texas	1998
BS	Computer Information Systems Tulane University New Orleans, Louisiana	1988

POST GRADUATE MEDICAL TRAINING

Fellow, Emergency Radiology Brigham and Women's Hospital/Harvard Medical School Boston, Massachusetts	2007-2008
Resident, Diagnostic Radiology Audie Murphy VA Medical Center & UT Health Science Center San Antonio, Texas	2003-2007
Intern, Transitional Program Medical Center Hospital & UT Health Science Center San Antonio, Texas	2002-2003

PROFESSIONAL EXPERIENCE

Physician/Radiologist Department of Radiology South Texas Veterans Health Care System San Antonio, Texas	2015-Present
Clinical Assistant Professor Audie Murphy VA Medical Center San Antonio, Texas	2014-Present
Consultant Radiologist Biodynamic Research Corporation San Antonio, Texas	2013-Present
Diagnostic Radiologist Radiology Associates of Albuquerque Albuquerque, New Mexico	2012-2013



Staff Radiologist
Emergency Radiology Division, Brigham Night Watch Program
Brigham and Women's Hospital
Boston, Massachusetts

2008-2011

Instructor
Harvard Medical School
Brigham and Women's Hospital
Boston, Massachusetts

2008-2011

Computer Systems Analyst
Exxon Pipeline Company
Houston, Texas

1988-1995

Lisa P. Gwin, DO, BSEE
Consultant
Injury Causation and Biomechanics



Dr. Gwin joined BRC in July 2012 after spending 8 years as an emergency physician and 7 years as an emergency nurse. She is Board Certified in Emergency Medicine and is a Doctor of Osteopathy. In addition, Dr. Gwin has a BS in Nursing, a BS in Electrical Engineering, and prior to her medical career, she spent 6 years working with Ford Motor Company as an Automotive Design Engineer.

Lisa P. Gwin, DO, BSEE

EDUCATION

DO	Arizona College of Osteopathic Medicine Glendale, Arizona	2003
BS	Nursing Wayne State University Detroit, Michigan	1995
BS	Electrical Engineering Illinois Institute of Technology Chicago, Illinois	1987

POST GRADUATE MEDICAL TRAINING

Resident, Emergency Medicine University of Kentucky Lexington, Kentucky	2006
---	------

CONTINUING EDUCATION

Traffic Accident Reconstruction I & II Northwestern University Traffic Institute, Evanston, Illinois	2012
---	------

PROFESSIONAL EXPERIENCE

Consultant Biodynamic Research Corporation San Antonio, Texas	2012-Present
Emergency Physician Peterson Regional Medical Center Kerrville, Texas	2012-Present
Emergency Physician Powell Valley Hospital Powell, Wyoming	2006-2012
Emergency Physician Campbell County Memorial Hospital Gillette, Wyoming	2011-2012
Emergency Physician Carbon County Memorial Hospital Rawlins, Wyoming	2011-2012
Emergency Physician Phoenix Indian Medical Center Phoenix, Arizona	2011-2012



Emergency Physician Crow/Northern Cheyenne Indian Health Service Crow, Montana	2006-2008
Emergency Physician Rockcastle County Hospital Mt. Vernon, Kentucky	2004-2006
Emergency Physician Marshall Emergency Services Associates Lexington, Kentucky	2005-2006
Emergency Nurse Arrowhead Community Hospital Glendale, Arizona	1999-2003
Emergency Nurse Whiteriver Indian Health Services Hospital Whiteriver, Arizona	1998-1999
Emergency Nurse Navapache Regional Medical Center Show Low, Arizona	1996-1998
Emergency Technician Detroit Receiving Hospital Detroit, Michigan	1994-1995
Automotive Design Engineer Ford Motor Company Dearborn, Michigan	1987-1993

Thomas M. McNish, MD, MPH
Principal Consultant
Injury Causation and Biomechanics



Dr. McNish joined BRC in 1994 after a career with the United States Air Force (USAF) where he served as a combat pilot and prisoner of war in the Vietnam conflict, a flight surgeon, and as the Command Surgeon for the Air Force Reserve. Dr. McNish has testified in over 75 trials throughout the United States and serves as Deputy CEO for BRC. He currently limits his consulting practice to Product Liability litigation and his expertise is frequently sought in catastrophic injury cases involving aircraft, watercraft, high speed automotive collisions, industrial equipment and recreational products.

THOMAS M. MCNISH, MD, MPH

EDUCATION

MPH	University of Texas Health Science Center at Houston, School of Public Health Houston, Texas	1982
MD	Emory University School of Medicine Atlanta, Georgia	1978
BS	Engineering Science (Aeronautics and Astronautics) United States Air Force Academy Colorado Springs, Colorado	1964

POST GRADUATE MEDICAL STUDIES

Biological Studies Emory University Atlanta, Georgia	1973-1974
Resident, Family Practice University of Texas Health Science Center San Antonio, Texas	1978-1981
Resident, Aerospace Medicine United States Air Force School of Aerospace Medicine Brooks AFB, Texas	1981-1983
Crash Survival Investigation School International Center for Safety Education Tempe, Arizona	1983
Traffic Accident Reconstruction Northwestern University Traffic Institute Evanston, Illinois	1995
Vehicle Safety Restraint Systems TOPTEC Society of Automotive Engineers Costa Mesa, California	1999

PROFESSIONAL EXPERIENCE

Principal Consultant Biodynamic Research Corporation San Antonio, Texas	1994-Present
Command Surgeon Office of Air Force Reserve Pentagon, Washington, D.C.	1991-1994
Chief, Flight Medicine Office of the Air Force Surgeon General Bolling AFB, Washington, D.C.	1988-1991
Director of Base Medical Services and Hospital Commander Holloman AFB, New Mexico	1986-1988
Director of Base Medical Services and Hospital Commander Myrtle Beach AFB, South Carolina	1985-1986
Chief, Aeromedicine, and Commander 354th Tactical Hospital (Air Transportable), Myrtle Beach AFB, South Carolina	1983-1985
Prisoner of War, North Vietnam	1966-1973
United States Air Force Combat Pilot	1966
United States Air Force Pilot Training	1964-1966

AVIATION RATINGS AND EXPERIENCE

Senior Flight Surgeon 1200 Hours, (650 as Pilot/Physician)	1977
Command Pilot Mission-Support A-10 Pilot (450 Hours) Mission-Support AT-38 Pilot (150 Hours) 1300 Hours Total Military Pilot Time (T-37, T-38, F-105, AT-38B, and A-10) 1000 Hours in Fighter-Type Aircraft 120 Hours Combat Time (F-105)	1983-1986 1986-1988
Commercial Pilot FAA Certified Flight Instructor, Instrument	1966 1982

Lars H. Reinhart, MD
Consultant
Injury Causation and Biomechanics



Dr. Reinhart joined BRC in August 2013 after spending 14 years as an Emergency Room physician. For the first nine years, Dr. Reinhart practiced at McLeod Regional Medical Center in Florence, SC, followed by the last four years at Medstar St. Mary's Hospital in Leonardtown, Maryland. During his tenure at Medstar St Mary's, Dr. Reinhart also served as Vice-Chief of Emergency Medicine. He obtained his Bachelor of Science degree in Mechanical Engineering from The University of Texas at Austin, and then earned his Doctor of Medicine at The University of Texas at Southwestern in Dallas, TX. Dr. Reinhart continues to practice Emergency Medicine on a part-time basis at a local San Antonio, TX Emergency Department.

LARS H. REINHART, MD

EDUCATION

MD	Univerisity of Texas/ at Southwestern Dallas, Texas	1996
BS	Mechanical Engineering University of Texas at Austin Austin, Texas	1992

POST GRADUATE MEDICAL TRAINING

Resident Emergency Medicine University of Virginia Medical Center Charlottesville, Virginia	1999
---	------

CONTINUING EDUCATION

Traffic Accident Reconstruction I & II Northwestern Univeristy Traffic Institute, Evanston, Illinois	2013
ACEP ED Director's Academy Part 1 Dallas, Texas	2012
MEP Leadership Academy Corporate Executive Training Program Germantown, Maryland	2012 - 2013
Primary Training in Hyperbaric Medicine Columbia, South Carolina	2009
Advanced Emergency Ultrasound Course Columbia, South Carolina	2008
ACEP Reimbursement Trends/Advanced Procedure Coding Conference Las Vegas, Nevada	2007
ED Ultrasound Seminar, Stanford Symposium Poipu Beach, Kauai	2004
Emergency Ultrasound Course South Carolina College of Emergency Physicians Hilton Head, South Carolina	2002

PROFESSIONAL EXPERIENCE

Consultant Biodynamic Research Corporation San Antonio, Texas	2013 - Present
MEP - Medstar St. Mary's Hospital Emergency Department Staff Physician	2009 - 2013
Vice Chief of Emergency Medicine Leonardtown, Maryland	2011 - 2012
McLeod Health Urgent Care Staff Physician Florence, South Carolina	2009
EmCare: McLeod Health Emergency Department Staff Physician Dillon, South Carolina	2008 - 2009
McLeod Regional Medical Center Emergency Department Staff Physician Trauma Committee - ED Representative Supervision/Teaching of Interns/Residents During Rotation Florence, South Carolina	1999 - 2008
Insurance Institute for Highway Safety (IIHS) Physician Liaison - Injury Analysis Ruckersville, Virginia	1997 - 1999

William R. "Mike" Scott, PhD
Principal Consultant
Biomechanics and Accident Reconstruction



Dr. Scott joined BRC in 1989 and currently serves as President and CEO. Prior to coming to BRC, Dr. Scott served as a research engineer with KRUG International and managed the Engineering Test Laboratory at Scott Aviation in Lancaster, NY. He also completed a post-doctoral fellowship in the State University of New York Physiology Department where he performed tests that evaluated respiratory systems of human test subjects. Though the majority of his consulting currently focuses on high speed impacts, Dr. Scott has been retained in a variety of other injury cases and has been asked to reconstruct scenarios involving watercraft, industrial equipment, railroads, and pedestrian incidents.

WILLIAM R. "MIKE" SCOTT, PhD

EDUCATION

PhD	Engineering Science State University of New York (SUNY) Buffalo, New York	1980
MS	Engineering Science State University of New York Buffalo, New York	1977
BS	Engineering Science State University of New York Buffalo, New York	1971

POST GRADUATE STUDIES


National Institute of Health (NIH) Research Fellowship
Department of Physiology
State University of New York
Buffalo, New York

Traffic Accident Reconstruction
Northwestern University Traffic Institute
Evanston, Illinois

1990

PROFESSIONAL EXPERIENCE

Principal Consultant Biodynamic Research Corporation San Antonio, Texas	1989-Present
Research Engineer KRUG International San Antonio, Texas	1987-1989
Manager of Engineering Test Laboratory Scott Aviation Lancaster, New York	1985-1987
Assistant Professor King Abdullaziz University Jeddah, Saudi Arabia	1983-1985



NIH Post-Doctoral Fellow
Department of Physiology
SUNY at Buffalo
Buffalo, New York

1980-1982

Teaching/Research Assistant
Engineering Science Department
SUNY at Buffalo
Buffalo, New York

1974-1980

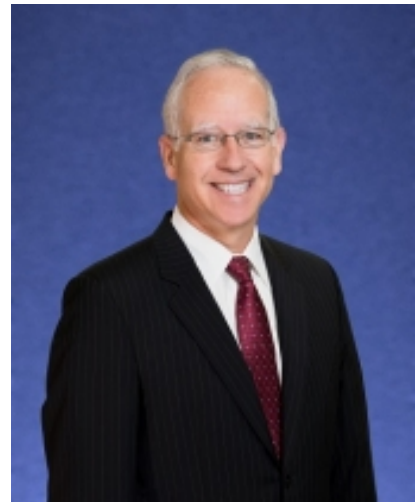
Engineer
Ford Motor Company
Dearborn, Michigan

1973-1974

Teaching Assistant
Engineering Science Department
SUNY at Buffalo
Buffalo, New York

1971-1972

Rawson L. Wood, MD, MPH
Consultant
Biomechanics and Accident Reconstruction



Dr. Rawson Wood has a degree in medicine and is board certified in both aerospace and occupational medicine. He entered the Air Force in 1988 and was awarded his Air Force pilot wings in 1989. He earned his doctor of medicine degree in 1998 from the Uniformed Services University. Dr. Wood was a career Air Force physician who practiced medicine as the Commander of the 60th Medical Group at Travis Air Force Base. As one of the Air Force's few pilot-physicians, he has flown the C-130 as a pilot, the C-17 as aircraft commander and the T-37 as an instructor pilot. Dr. Wood received both his Bachelors in Aeronautical Engineering and his Masters in Aeronautical Science from Embry-Riddle Aeronautical University.

RAWSON L. WOOD, MD, MPH

EDUCATION

MD	Uniformed Services University Bethesda, Maryland	1998
BS	Embry-Riddle Aeronautical University Aeronautical Engineering Daytona Beach, Florida	1988

POST GRADUATE STUDIES

Residency	USAF School of Aerospace Medicine Brooks City-Base, Texas	2008
MPH	University of Texas Health Science Ctr San Antonio, Texas	2006
MS	Embry-Riddle Aeronautical University Aeronautical Science Worldwide Campus, Arizona	1992

PROFESSIONAL EXPERIENCE

Consultant	Biodynamic Research Corporation San Antonio, Texas	2016 - Present
Commander	60th Medical Group Travis AFB, California	2014-2016
Commander and 7th Air Force Surgeon	51st Medical Group Osan AB, Republic of Korea	2012-2014
Special Operations Pilot-Physician	Hurlburt Field, FL	2010-2012
Commander	87th Aerospace Medicine Squadron Joint Base McGuire-Dix-Lakehurst, New Jersey	2008-2010
Resident in Aerospace & Occupational Medicine	USAF School of Aerospace Medicine Brooks City-Base, Texas	2005-2008
C-17 Pilot-Physician	Charleston AFB, South Carolina	1999-2005
T-37 Instructor Pilot	Reese AFB, Texas	1992-1993
T-37 Instructor Pilot 1989-1992	Williams AFB, Arizona	1999-2005

Jeffrey L. Wirth, MS, PE
Consultant
Accident Reconstruction



Jeff Wirth has worked in the automotive forensic engineering field since 1984. He joined BRC as a consultant in 2010, specializing in crash reconstruction, vehicle restraint systems, and the performance analysis of automotive systems and components. Throughout his career, Jeff has designed custom testing equipment, conducted extensive automotive and motorcycle instrument crash testing, and evaluated over 300 high speed crash tests. He has also published papers on retractor performance in rollover accidents, the characteristics of road rollovers, concrete median barrier impacts, and passive restraint systems.

Jeffrey L. Wirth, MS, PE

EDUCATION

MS	Mechanical Engineering Arizona State University Tempe, Arizona	1981
BS	Physics Washington State University Pullman, Washington	1975

PROFESSIONAL EXPERIENCE

Consultant (Crash Reconstruction) Biodynamic Research Corporation San Antonio, Texas	2010 - Present
President and Principal Engineer Driven Engineering, Inc. Peoria, Arizona	2006 - 2010
Managing Engineer Thomas Engineering, Inc. Phoenix, Arizona	1995 - 2006
Senior and Managing Engineer Failure Analysis Associates, Inc. Phoenix, Arizona	1984 - 1995
Development and Production Engineer Hewlett-Packard Company Vancouver, Washington	1981 - 1984
Research Assistant College of Engineering Arizona State University Tempe, Arizona	1978 - 1981

CONTINUING EDUCATION

Heavy Vehicle Crash Reconstruction Northwestern University Center for Public Safety Evanston, Illinois	2012
ARAS 360 Advanced 3D Computer Diagramming and Animation for Incident Reconstruction San Antonio, Texas	2011

Collision Investigation with Photogrammetry using PhotoModeler, EOS Systems, Inc. Jacksonville, FL	2011
Crash Data Retrieval System Data Analyst Course, Bosch/CSI Vancouver, Washington	2010
Crash Data Retrieval System Technician Course, Bosch/CSI Vancouver, Washington	2010
PC-CRASH and PC-RECT Workshop McGinnis Engineering, Las Vegas, Nevada	2003
Accident Reconstruction TOPTEC Society of Automotive Engineers, Tempe, Arizona	2001
Sensor Design for Automotive Air Bag Systems Society of Automotive Engineers Seminar, Chandler, Arizona	1999
Side Impact Design Consideration for Safer Vehicles, TOPTEC Society of Automotive Engineers, Tempe, Arizona	1998
Photogrammetry in Accident Reconstruction Society of Automotive Engineers San Francisco, CA	1998
Advanced Accident Reconstruction Texas Engineering Extension Service Texas A&M University	1997
Vehicle Rollover TOPTEC Society of Automotive Engineers Dearborn, Michigan	1993
Vehicle Rollover TOPTEC Society of Automotive Engineers Scottsdale, Arizona	1992
Biomechanics & Human Tolerance Society of Automotive Engineers Seminar San Diego, California	1986
Dynamics ME 231 A & B Stanford Instructional Television Network Stanford University	1982

Enrique Bonugli, BSME
Senior Test Engineer
Accident Reconstruction



Mr. Bonugli joined BRC in 2002 and works as a Senior Test Engineer in the fields of automotive crash reconstruction, biomechanics, automotive component performance, failure analysis and investigation of other incidents involving personal injury. He has conducted thousands of laboratory tests including full-scale vehicle crash tests, physical measurement impact biomechanics, and event reconstruction. He is an accredited reconstructionist and a current member of the Society of Automotive Engineers (SAE) and the Association for the Advancement of Automotive Medicine (AAAM).

ENRIQUE BONUGLI, BSME

EDUCATION

BS Industrial Engineering 2003
Marquette University
Milwaukee, Wisconsin

POST GRADUATE STUDIES

Biomedical Engineering Graduate School Program 2011 - Current
UT Health Science Center and University of Texas
San Antonio, Texas

Data Analysis Using SAS 2012
UT Summer Statistics Institute
University of Texas
Austin, Texas

ARAS360 2011
Advanced 3D Computer Diagramming and
Animation for Incident Reconstruction
San Antonio, Texas

Certified Powered Industrial Truck Operator 2011
Toyota Lift of South Texas
San Antonio, Texas

Heavy Vehicle Crash Reconstruction 2011
Class #HVCR1170060A
Northwestern University Traffic Institute
Evanston, Illinois

Computer-Aided Drafting 2010
AutoCAD 2011 Certificate No: 1MSJBYYGKE1
Avatech Solutions, Inc.
Irving, Texas

The Fundamental of Heavy Truck Dynamics 2009
Course I.D. #C0837
Society of Automotive Engineers
Detroit, Michigan

EDC Reconstruction
Engineering Dynamics Corporation
Coral Gables, Florida

Assessing and Analyzing Crash and Injury 2008
Data from Online Databases: Course I.D. #96019
Society of Automotive Engineers
Detroit, Michigan

Traffic Accident Reconstruction I & II 2007
Northwestern University Traffic Institute
Evanston, Illinois

Completion of Pre-Medical Requirements 2005
Our Lady of the Lake University
San Antonio, Texas

PROFESSIONAL EXPERIENCE

Senior Test Engineer 2012 - Present
Biodynamic Research Corporation
San Antonio, Texas

Test Engineer 2003 - 2012
Biodynamic Research Corporation
San Antonio, Texas

Engineering Intern 2002 - 2003
Biodynamic Research Corporation
San Antonio, Texas

Volunteer 2003 - 2004
University Hospital ExpressMed Clinic
San Antonio, Texas

Chapter President 2001 - 2003
Institute of Industrial Engineers (IIE)
Industrial Engineering Department
Marquette University
Milwaukee, Wisconsin

Research Assistant 2001 - 2002
Industrial Engineering Department
Marquette University
Milwaukee, Wisconsin

Richard A. Watson, BSME, MSBME
Technical Director
Accident Reconstruction



Mr. Watson joined BRC in 2003 and currently holds the position of Technical Director. Prior to joining BRC Mr. Watson served as a CH-47D Helicopter Flight Engineer in the US Army and a mechanic on heavy civil aircraft. Since obtaining his Bachelor of Science degree in Mechanical Engineering from the University of Texas at San Antonio (2005), Mr. Watson has worked in the fields of Accident Reconstruction and Biomechanics with special expertise in computer simulation and modeling. Mr. Watson has since gone on to receive his MS degree in Biomedical Engineering. He is also experienced in real world crash testing. Mr. Watson has testified in product liability and general negligence cases and has performed analyses in cases involving aerospace, automotive, commercial transportation, workplace incident, and industrial equipment issues.

RICHARD A. WATSON, BSME, MSBME

EDUCATION

MS	Biomedical Engineering UT Health Science Center San Antonio University of Texas at San Antonio	2014
BS	Mechanical Engineering University of Texas at San Antonio San Antonio, Texas	2005

POST GRADUATE STUDIES

LSDYNA Training Livermore, California	2010
EDC Simulations Training Course Northridge, California	2007
Traffic Accident Reconstruction I & II Northwestern University Traffic Institute Evanston, Illinois	2006
MADYMO Advanced Training Course Detroit, Michigan	2006
MADYMO 6.1 Training Course Detroit, Michigan	2005

PROFESSIONAL EXPERIENCE

Technical Director Biodynamic Research Corporation San Antonio, Texas	2010 - Present
Engineer Biodynamic Research Corporation San Antonio, Texas	2005 - 2010
Engineering Intern Biodynamic Research Corporation San Antonio, Texas	2003 - 2005
Aircraft Mechanic Able Enginnering Phoenix, Arizona	1998 - 2000
Flight Engineer United States Army Ft. Campbell, Kentucky	1994 - 1998