

**David Brani Engineering, LLC**  
1393 Logan Circle  
Marietta, Georgia 30062  
678-549-0352  
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### **Capabilities Sampling**

Investigation of residential and commercial properties with regard to structural integrity and code compliance. Machine Safeguarding of manual, semi-automatic, and automatic machines. Causation of Product Failures and Industrial Accidents. Premise Liability. Failure analysis of mechanical systems including fire suppression systems, chillers, air-handlers, and boilers. Fields of expertise include forensic engineering, manufacturing processes, structural analysis, fluid mechanics, fluid power, heat transfer and thermodynamics.

### **General Responsibilities**

Senior Engineer, responsible for failure investigations and engineering analysis

### **Education**

Ph.D., Mechanical Engineering, Georgia Institute of Technology, September 1994

M.S., Mechanical Engineering, Georgia Institute of Technology, August 1989

B.S., Mechanical Engineering with High Honor, University of Florida, December 1983

### **Professional Engineering Registrations**

Alabama No. 36114-E, 2016

Georgia No. 022526, 1996

Florida No. 70452, 2009

North Carolina No. 039613, 2012

### **Work Experience**

David Brani Engineering, (May 2018 to present)

Forensic Engineer

Consulting Engineer: Applied Technical Services, Inc.

Applied Technical Services, Inc., (August 2004 to May 2018)

Senior Forensic Engineer

University of Botswana, Gaborone, Botswana

Visiting Lecturer, Mechanical Engineering Dept., Manufacturing, (May 2003 to July 2003)

Fulbright Scholar, Mechanical Engineering Dept., Manufacturing, (August 2001 to August 2002)

Southern Polytechnic State University, (September 1992 to August 2004)

Associate Professor, Mechanical Engineering Technology Dept.  
Specialize in thermal science and manufacturing courses

Georgia Tech Research Institute

Research Scientist II with the EOEML Lab, (June to September of 1996 and 1997)  
Thermal signature modeling of military aircraft, including FORTRAN code development

Graduate Research Assistant with the EOEML Lab, (January 1989 to September 1992)  
Thermal signature modeling of military aircraft, including FORTRAN code development

Lockheed-Martin Aeronautical Company, (January 1984 to June 1989--2 years Educational Leave)

Aircraft Engineer (Material Review Board Member), responsible for the disposition of damaged and non-conforming parts and assemblies for the C130H aircraft

### **Sampling of Investigative Experience**

Provide testimony in federal and state court, including trial testimony, as an expert witness.

Structural Integrity—residential and commercial construction

Machine Safeguarding—General Industry including: Poultry, Plastics, Food Processing

Workplace Safety—General Industry and Construction including: Forklifts, Aerial Lifts

Consumer Products

Building Systems: Fire Protection, Potable Water Supply/Distribution, Drain/Waste/Vent, Fuel Gas

Premise Liability: Slip/Trip and Falls—Code Compliance and Slip Resistance Testing

Mechanical Systems—Chillers, Air Handlers, Boilers

### **Professional Seminars, Lectures & Papers**

*Case Studies*, OSHA Training Institute Course 2045, Machinery & Machine Guarding Standards, Georgia Tech Research Institute, Semi-Annual offerings 2006 to present

*If Adjusters are from Mars then Investigators must be from Venus, Part 2*, Southern Loss Association, Inc., Newsletter, April 2019

*If Adjusters are from Mars then Investigators must be from Venus, Part 1*, Southern Loss Association, Inc., Newsletter, March 2019

*Forensic Engineering Case Studies*, Georgia Society of Professional Engineers, 2018 PDH Day, Georgia Tech Student Center, November 2018

*Premise Liability, Technical Insights and the Effective Use of Subject Matter Experts*, Claims & Litigation Management Alliance, Atlanta, Georgia, December 2016

*An Introduction to Arc Mapping*, Southern Loss Association, Inc., Newsletter, August 2016

*Trips and Falls: Litigation and Ways to Limit Exposure*, Associated General Contractors of Georgia, Construction Professionals Conference & Marketplace, April 2016

Guest Lecturer, Georgia Institute of Technology, Course ID 3302, School of Industrial Design, October 2015

*Case Studies from Georgia*, Georgia Safety, Health and Environmental Conference, Savannah, Georgia, October, 2014

*Forensic Investigations Relevant to the Discipline of Mechanical Engineering*, ASME Student Chapter Meeting, Southern Polytechnic State University, Marietta, Georgia, November, 2013

*When an Incident Goes Legal--Case Studies*, ASSE Georgia Chapter, Atlanta, Georgia, April, 2013

*Past Forensic Investigations Regarding Common Material Failures*, ASM Atlanta Chapter, Atlanta, Georgia, September, 2010

*Understanding Civil Litigation*, School of Engineering Technology and Management Colloquia Series, Southern Polytechnic State University, Marietta, Georgia, November, 2009

*Process of Investigation*, ASCE 4<sup>th</sup> Forensics Conference, Cleveland, Ohio, October, 2006

### **Professional Memberships**

American Society of Safety Professionals (ASSP)

Past President, Georgia Chapter

International Code Council, Professional Member (ICC)

### **Special Awards and Honors**

Fulbright Scholar, Research/Lecture award, University of Botswana, Gaborone, Botswana, August 2001 through July 2002

Outstanding Faculty Award, Southern Polytechnic State University, Fall 1995

Teacher of the Year Award, Cobb County Chamber of Commerce, Fall 1995

### **Publications**

*Improved Method for Determining Radiation Intensity Using Total Gas Emissivities*, Ph.D. thesis, Heat Transfer Laboratory, Georgia Institute of Technology, August 1994

*Two Zone Model for a Single Room Fire*, (with W.Z. Black) Fire Safety Journal, vol. 19, 1992

*Development of a Computer Model for a Single Room Fire*, M.S. Thesis, Heat Transfer Laboratory, Georgia Institute of Technology, August 1989