Curriculum Vitae

Ray Franco, PhD., PE

Electrical Engineer

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October 7, 2019

1. Current Positions:

- Forensic Electrical Engineer and Certified Fire & Explosion Investigator.
- Institute of Electrical and Electronic Engineers (IEEE), Mississippi Section Webmaster.

2. Past Positions:

- U.S. Fire Administration National Fire Academy Instructor for the course "Electrical Aspects of Fire Investigation" 2015-2019.
- Central Vice President, Mississippi Fire Investigators Association (aka Mississippi Chapter of International Fire and Arson Investigators), 2014-2015.
- Board of Directors, Mississippi Fire Investigators Association, 2006, 2007, 2016.
- University of Southern Mississippi Electronics and Computer Engineering Technology Industrial Advisory Committee Member, 2003-2008.
- Chairman of the Mississippi Section of the Institute of Electrical and Electronics Engineers (2002-2003).
- Mississippi State University Adjunct Professor of Electrical Engineering. Also taught lecture courses at the Auburn University, Jackson State University, and the U.S. Army Corps of Engineers Graduate Institute (1990-2000)
- U.S. Army Engineering Research and Development Center, 1975-2003.

3. Education:

a. Universities and Degrees.

Aug 82 - Dec 86	Elec. Engr. (Computer Sci.)	PhD	Miss State Univ.
Aug 81 – Jun 82	Electrical Engr.		Auburn Univ.
Jun 80 – May 81	Electrical Engr.		Miss State Univ.
Aug 77 – Aug 79	Elec. Engr. (Math)	MS	Miss State Univ.
Jul 69 – Dec 72	Electrical Engr.	BS	Miss State Univ.
Sep 68 – Jul 69	Engineering		Hinds Jr. College

b. National Electrical Code (NFPA 70)

Aug 18	(1 hr)	2017 NEC Changes: Overcurrent, Grounding & Bonding
Aug 18	(1 hr)	2017 NEC Changes: Receptacles & Switches (RV)
Aug 18	(1 hr)	2017 NEC Changes: Conductors & Wiring Methods (RV)
Aug 18	(2 hrs)	NEC Wiring Methods (Red Vector)
Sep 14	(2 hrs)	NEC 2014 Changes Chapter 2 - Wiring (Red Vector)
Feb 11	(2 hrs)	NEC 2011 Changes Articles 200-280 (Red Vector)
Feb 11	(1 hrs)	NEC 2011 Changes Articles 90-110 (Red Vector)
Feb 11	(1 hr)	Ground Fault Circuit Interrupters (Red Vector)
Feb 09	(4 hrs)	NEC Grounding (Red Vector)
May 06	(21 hrs)	National Electrical Code (NFPA)
May 06	(7 hrs)	NEC Hazardous/Classified Locations (NFPA)

c. National Electrical Safety Code Training:

		(32 hrs) (2 hrs)	Staking Phase II – NESC Rules (Hi-Line) NESC Rules for the Installation and Maintenance of
			Electric Supply Stations and Equipment
Dec	05	(2 hrs)	Overhead Lines (Sections 26 & 27)
Aug	05	(2 hrs)	NESC Grades of Construction
May	04	(4 hrs)	NESC Rules for the Installation and Maintenance of
			Underground Electric Supply and Communication Lines

d. Electrical Safety Regulations:

Dec 11	(5 hrs)	OSHA Electrical Regulations (Red Vector)
Nov 10	(17 hrs)	Electrical Safety in the Workplace (NFPA)
May 06	(7 hrs)	Electrical Safety in the Workplace (NFPA)

e. Building Codes:

Jan	19	(6 hrs)	Fire Alarm and Signaling Code - NFPA- 72 – Online
Sep	17	(8 hrs)	International Building Codes (IBC) (LA Engr. Society)

Jun	17	(6 hrs)	Inspector Skills – International Code Council
Dec	16	(2 hrs)	International Building Codes (IBC) & More (Red Vector)
Dec	16	(2 hrs)	IBC – Electrical & Communications (Red Vector)
Dec	16	(2 hrs)	IBC – Fire and Life Safety Code (Red Vector)
Dec	16	(2 hrs)	IBC – Fire & Smoke Resistance Assemblies (Red Vector)
Dec	05	(5 hrs)	Building Codes (MCIC)

f. Hazmat:

May	16	(40 hrs)	Hazwoper with Asbestos Awareness (G4S)
Jun	15	(16 hrs)	Asbestos for Operation and Maintenance (MSU)
Apr	16	(4 hrs)	MFIA – Fire Investigator Heath & Safety Awareness

g. Fire and Arson Training:

(Oct	18	(20 hrs)	MFIA, Fire and Arson Seminar (tested)
	Apr	18	(8 hrs)	Residential Lightning & Fireplace Fires (LA-IAAI)
	Nov		(8 hrs)	RV & Boat Fires (AL-IAAI - tested)
	Nov	17	(4 hrs)	NFPA 921 2017 Update (AL-IAAI - tested)
	Nov	17	(2 hrs)	ATF Bomb & Arson Tracking Sys. (AL-IAAI - tested)
	Sep	17	(4 hrs)	Lithium-Ion Battery Fires (LA-IAAI - tested)
	Sep	17	(4 hrs)	HVAC Fires (LA-IAAI – tested)
	Jul	17	(40 hrs)	NFPA 1033 Arkansas State Fire Academy (taught)
	Feb	17	(16 hrs)	Bomb Investigations – Public Agency Training Council
(Oct	16	(8 hrs)	LA-IAAI Light Fixture Investigations (tested)
	Jun	16	(8 hrs)	MFIA – Arson Immunity Act
	Apr	16	(24 hrs)	MS-IAAI NFPA 1033 (tested)
	Dec	15	(12 hrs)	LA-IAAI Fire & Arson Seminar
	Nov	15	(23 hrs)	AL-IAAI Fire & Arson Seminar (tested)
(Oct	15	(20 hrs)	MFIA, Fire and Arson Seminar (tested)
	Jul	15	(8 hrs)	MFIA NFPA Std. 1033
	Jul	15	(8 hrs)	LA-IAAI Fire Science & Thermodynamics
	Apr	15	(20 hrs)	MFIA, Fire and Arson Seminar (tested)
	Mar	15	(48 hrs)	Electrical Aspects of Fire Investigation (NFA)
	Nov	14	(22 hrs)	AL-IAAI Fire & Arson Seminar (tested)
(Oct	14	(20 hrs)	MFIA, Fire and Arson Seminar (tested)
	Sep	14	(20 hrs)	LA-IAAI Fire & Arson Seminar (tested)
	Jun	13	(24 hrs)	LA-IAAI Residential Electrical Fires (tested)
	Nov	12	(8 hrs)	LA-IAAI Evaluation of Appliance Fires
	July	11	(16 hrs)	Central Texas Fire Investigators
	Apr	11	(20 hrs)	MFIA, Fire and Arson Seminar (tested)
	Apr	10	(20 hrs)	MFIA, Fire and Arson Seminar (tested)
	Mar	10	(8 hrs)	IAAI-LA: LP & Natural Gas Fire Investigations
	Dec	09	(8 hrs)	Residential Fires (Texas Engr. Ext. Service)
	Apr	08	(20 hrs)	MFIA, Fire and Arson Seminar (tested)
	Mar	08	(8 hrs)	LA-IAAI Commercial Kitchen Fires

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Aug 07
           (20 hrs)
                       IAAI-TN Chapter Expert Witness Course (tested)
Apr 07
           (20 hrs)
                       MFIA, Fire and Arson Seminar (tested)
Dec 06
                       Central Texas Fire Investigators
           (16 hrs)
Oct 06
           Taught
                       MFIA, Fire and Arson Seminar
Mar 06
           (20 hrs)
                       IAAI, Vehicle Fires Seminar (tested)
Mar 05
           (20 hrs)
                       MFIA, Fire and Arson Seminar
Nov 04
           (20 hrs)
                       MFIA, Fire and Arson Seminar (tested)
                       NAFI, Fire, Arson and Explosions (tested)
Aug 04
           (20 hrs)
Nov 03
                       MFIA, Fire and Arson Seminar (tested)
           (20 hrs)
                       MFIA, Fire and Arson Seminar (tested)
Jun
     03
           (20 hrs)
                       MFIA, Fire and Arson Seminar (tested)
May 02
           (20 hrs)
Nov 01
           (20 hrs)
                       MFIA, Fire and Arson Seminar (tested)
                       MFIA, Fire and Arson Seminar (tested)
Apr 01
           (20 hrs)
Nov 00
           Taught
                       MFIA, Fire and Arson Seminar (tested)
                       MFIA, Fire and Arson Seminar (tested)
Apr 00
           (20 hrs)
Mar 99
                       IAAI, Electrical Appliance Fires (tested)
           (20 hrs)
Oct 98
           (20 hrs)
                       MFIA, Fire and Arson Seminar (tested)
                       MFIA Fire and Arson Seminar (tested)
Apr 98
           (20 hrs)
                       MFIA, Fire and Arson Seminar (tested)
Nov 96
           (20 hrs)
Oct 95
           (20 hrs)
                       MFIA, Fire and Arson Seminar (tested)
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MFIA – Mississippi Fire Investigators Association

IAAI – International Association of Arson Investigators

NAFI – National Association of Fire Investigators

h. International Association of Arson Investigators: CFI-Trainer

May 14	(4 hrs)	Arc Mapping Basics
May 14	(4 hrs)	Documenting the Event
May 14	(2 hrs)	Relationship Between NFPA 1033 & 921
April 13	(3 hrs)	Ethics and the Fire Investigator
April 13	(3 hrs)	Electrical Safety
April 13	(3 hrs)	The Scientific Method
July 06	(4 hrs)	Digital Photography

i. Short Courses and Other Training

Aug 18	(2 hrs)	Fire Alarm Essentials (Red Vector)
Aug 18	(1 hr)	Ethical Decision Making for Engineers #3 (Red Vector)
Aug 18	(1 hrs)	Digital Multimeters II – Applications (Red Vector)
Mar 18	(2 hrs)	Digital Multimeters I – Operations (Red Vector)
Dec 17	(1 hr)	Engineering Ethics #2 (Red Vector)
Feb 17	(4 hrs)	Safety – Electrical, Hazards & Grounding (Red Vector)
Dec. 16	(4 hrs)	Mechanical Characteristics of Conductors (Red Vector)

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Sep 16
          (1 hrs)
                      Ethical Decision Making for Engineers (Red Vector)
Jan 15
          (3 hrs)
                      Electric Motors (Red Vector)
                      Electric Machines & Flicker Contribution (IEEE)
May 14
          (8 hrs)
Sep 14
          (1 hr)
                      Engineering Ethics (Red Vector)
May 11
          (6 hrs)
                      Engineering Professional Development (IEEE)
                      Engineering Professional Development (IEEE)
Aug 10
          (6.5 \text{ hrs})
Jun 06
                      NEC top 100 Rules (Entergy)
          (2 hrs)
Apr 06
          (2 hrs)
                      NESC Electric Stations 1 (Entergy)
          (2 hrs)
Mar 06
                      Grounding in the Primary Zone (Entergy)
Feb 06
          (2.5 hrs)
                      Regulator Controls (Howard Ind. / Entergy)
Nov 05
          (2 hrs)
                      Engineering Ethics (IEEE)
                      Low Voltage Controls for Power Systems (Entergy)
Nov 05
          (2 hrs)
Sep 04
                      Electric Power Surge Protection (Entergy)
          (1.5 \text{ hrs})
Aug 04
          (2 hrs)
                      Electric Power Quality (Entergy)
                      Power Management Control Systems (MES)
Jun 04
          (1 hr)
Jun 04
          (1 hr)
                      Electric Motor Failures (MES)
Jun 04
                      Everyday Engineering Ethics (MES)
          (1 hr)
Jun 04
          (1 hr)
                      Security Technology Trends (MES)
Nov 03
                      Engineering Ethics (IEEE)
          (2 hrs)
Aug 02
          (2 hrs)
                      Engineering Ethics (IEEE)
                      Microsoft Access Database Programming (OPM)
Jun 01
          (3 days)
Oct 99
          (3 days)
                      Java Programming (OPM)
Aug 97
          (5 days)
                      Leadership Education and Development (OPM)
Aug 94 -
          Dec 94
                      Real Time Systems Computing (MSU)
Dec 92
          (3 days)
                      Microsoft Windows (OPM)
Nov 91
                      Intermediate C programming (OPM
          (5 days)
Oct 90
          (3 days)
                      Data Acquisition Systems Design (ISA)
Oct 90
          (2 days)
                      Measurement Uncertainty (ISA)
Aug 90
          (5 days)
                      C Programming (OPM)
Jan 89 - May 89
                      Fiber Optics System (MSU)
Feb 88
          (2 days)
                      Engineering Management (OPM)
Aug 87 - Dec 87
                      Advance Signal Processing (MSU)
Jan 87 - Jun 87
                      Digital Signal Processing (MSU)
Aug 87
                      Enable Software (OPM)
          (5 days)
Feb 87
          (4 days)
                      C programming (Masscomp)
Mar 86
          (4 days)
                      Queuing Theory (Learning Tree)
Jun 81
          (4 days)
                      Intel 8086 Microprocessor (Intel)
Jul
     76
          (5 days)
                      Microprocessors (LSU)
Jun 76
          (5 days)
                      Digital Logic (LSU)
May 74
          (10 days)
                      Economic Analysis (US Army)
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4. Certifications:

- Fire Alarm ITM Specialist (NFPA-72), Certification No.: CFAITMS-FM-18-047, by the National Fire Protection Association (NFPA).
- Certified Fire and Explosion Investigator (CFEI-10031-4612), by the National Association of Fire Investigators (NAFI)
- Certified Vehicle Fire Investigator (CVFI-V10031-4612)
 by the National Association of Fire Investigators (NAFI)

5. Professional Registration:

- Mississippi Professional Engineering License No. 7155, 1978.
- Louisiana Professional Engineering License No. 31177, 2004.
- Arkansas Professional Engineering License No. 12673, 2006.
- Alabama Professional Engineering License No. 28163-E, 2006.
- Florida Professional Engineering License No. 65763, 2007.
- Georgia Professional Engineering License No. PE032993, 2008.
- Missouri Professional Engineering License No. 2007032424, 2007
- Certified Professional Engineer by The National Council of Examiners for Engineering and Surveying, Certificate No. 23905, 2003 Also No. 17-898-45.

6. Professional and Technical Societies:

- National Society for Professional Engineers (NSPE) #104049555.
- Mississippi Engineering Society (MES)
- Institute for Electrical and Electronics Engineers (IEEE) Senior Member -#06504724.
- National Fire Protection Association (NFPA) #930898
- National Association of Fire Investigators (NAFI) #10031-4612.

- International Association for Arson Investigators (IAAI) #19510
- Mississippi Fire Investigators Association (NFIA) # 61
- Alabama Association of Arson Investigators #19MS0423
- Louisiana Chapter of the IAAI

7. Participation in committees, panels, meetings or conferences:

- University of Southern Mississippi Electronics and Computer Engineering Technology Industrial Advisory Committee – March 2005
- IEEE Southeastcon 2003, Section Chairman.
- IEEE Section Congress 2002, Section Chairman.
- Chairman Earthquake Session Shock and Vibration Symposium 1998.
- Co-Chairman of Dynamic Measurement Session Shock and Vibration Symposium 1997.
- Co-Chairman and Recorder for Electric Power Session Fifteenth Interagency Research Coordination Conference, 1987.

8. Honorary, scientific, and engineering societies:

- Tau Beta Pi Member Miss State Univ. Mar 78
- Eta Kappa Nu Member Miss State Univ. Nov 77

9. Special recognition and/or awards:

- U.S. Army Research Development and Acquisition Award 1991 *
- U.S. Army Science Conference Honorable Mention Paper 1990 *
- U.S. Army Waterways Experiment Station R&D Award 1989
- Outstanding Performance Awards 1991-1998.
- U.S. Army Picatinny Arsenal Cash award for Exceptional Performance 1997

- U.S. Army Commendation Medal 1975.
- ❖ The U.S. Army Research Development and Acquisition Award is the highest award for technical merit awarded by the Department of the Army.
- ❖ The U.S. Army Science Conference Award was issued by the Under Secretary of the Army in charge of Research and Development.

10. Patents:

• Shock Hardened Data Acquisition System, U.S. PATENT No. 5,317,914 (38 Claims) issued on 7 Jun 1994.

11. University Teaching Assignments:

- MSU-EE8763 Finite and Infinite Machines: Jan-May 1997.
- MSU-EE6723 Microprocessors II : Aug-Dec 1991.
- MSU-EE2731 Digital Device.
- Undergraduate courses at Auburn and Jackson State University.

12.A Professional Publications:

- Franco, R.A., Phillips, G.G. 1998 "Improved Shock Hardened Data Acquisition System" Proceedings of the 68th Shock and Vibration Symposium, Baltimore MD.
- Franco, R.A., 1996 "Hardened Data Acquisition System for Harsh Environments" NASA Tech Briefs, Vol. 20 No.7.
- Oswald Robert, Director of Research & Development Chief Corps of Engineers, presented in Nov 96 by Dr. Oswald; Location and conference: Classified; Subject: The Electric Chair and the Physiological Effects of Electricity to Humans research and draft paper prepared by Franco R.A.
- Franco, R.A., Owens J.K, 1995 "A Miniature, Shock Hardened, Transient Data Recorder", Proceedings of the 66th Shock and Vibration Symposium, Vol. 2 pp 147-156, Biloxi, MS.
- Franco R.A. 1995. "PAM Acceleration Measurements" presented to the PAM Red Team, at Picatinny Arsenal (PAM is a classified project).

- Franco, R.A., 1994 "Multi-Channel HDAS Penetration Data", Proceeding of the Penetration Technology Coordination Group, Vicksburg, MS.
- Ingram, J.K., Franco, R.A., 1994. "MIDAC, A Miniature Integral Data Acquisition Canister for Blast Pressure Measurements Using the WES-Developed HDAS Autonomous Digital Data Acquisition System", WES Technical Report SL-94-5, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
- Franco, R.A., Ingram, J.K., 1993. "A Self-Contained, Multi-Channel, Shock-Hardened Data Acquisition System", Defense Nuclear Agency Conference on Instrumentation for Nuclear Weapons Effects Testing (INWET'93), Menlo Park, CA.
- Franco, R.A., Ingram, J.K., 1991, "A Very High Shock Recorder", Proceedings IEEE Southeastcon, Institute of Electrical and Electronic Engineers, New York, NY.
- Franco, R.A., Ingram, J.K., 1991. "New Advances and Experiences with HDAS", Defense Nuclear Agency Conference on Instrumentation for Nuclear Weapons Effects Testing (INWET'91), Vicksburg, MS.
- Franco, R.A., Ingram, J.K., 1991 "Recent Experience with the CEWES-Developed Hardened Data Acquisition System (HDAS)," Proceedings of the 37th International Instrumentation Symposium, Instrument Society of America, pp 511-524, Albuquerque NM.
- Franco, R.A., Ingram, J.K., 1990. "A Very High Shock, Self-Contained Data Acquisition System", Army Science Conference, Durham, NC.
- Franco, R.A., Ingram, J.K., 1990. "A Super-Hardened, Self-Contained Digital Acquisition System", Proceedings of the 36th International Instrumentation Symposium, Instrument Society of America, pp 649-659, Research Triangle Park, NC.
- Franco, R.A., Ingram, J.K., 1989 "HDAS, A Miniature, Self-Contained, Super-Hardened, Digital Data Acquisition System (module)", Paper No. 78, Defense Nuclear Agency Conference on Instrumentation for Nuclear Weapons Effects Testing (INWET'89), Monterey CA.
- Franco, R.A., 1988. "A Self-Contained Shock Hardened (100Kg) Data Acquisition System, Report 1, Design and Development", WES Technical Report TR-0-88-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
- Franco, R.A., 1987. "Networks of Markovian Queues", WES Technical Report TR-0-87-2, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

12.B Publication Contributions:

- Charles Joseph McClain, AIA, "When Bad Things Happen to Good Buildings Red Flags in Property Condition Assessments: A Reference Guide to Problematic Building Materials and Conditions in the United States" 2017 Edition, ISBN 978-1537094779.
- "Fire Investigator: Principles and Practice to NFPA 921 and 1033, Fourth Edition", © 2016 Jones and Bartlett Learning, LLC and the National Fire Protection Association.
- Aziz, M.J., Johnson, A.C., Introduction to Energy Technology: Depletable and Renewabe, © 2014 Wiley, ISBN 978,3-527-33241-0

13. Work History and Assignments:

A. Forensics Engineer & Fire Investigator

• 1/98-Present: Forensic Engineering work for insurance companies and attorneys. I have testified in both Federal and State Court.

B. U.S. Army Engineering Research and Development Center, 3909 Halls Ferry Road, Vicksburg, MS 39180.

- 12/98 9/03: Responsible for technically leading the Instrumentation Systems Development Division and acts as the chiefs in his absence. Plans and directs, and executes research, conception, design, development, construction and procurement of instrumentation systems for the U.S. Army Corp of Engineers and other government agencies. In addition, I continued my Shock Hardened Data Acquisition System (HDAS) research. I did research on battery behavior when subject to shocks above 10,000 g/s. As a result, the power supplies in the HDAS were redesigned to be able to withstand a loss of power for 50 milliseconds. Also, the load regulation was greatly improved. Other power management changes were made that extended the time that the HDAS could record data from 30 minutes to over 6 hours. I also designed circuits to simulate varying line voltages and load conditions, and measured the HDAS performance under these conditions. I developed Java programs to interrogate, display data, and convert HDAS data files to other formats. Recently, I worked in the area of computer network performance. I directed the measurements of parameters to establish a baseline for our wide area network, setup a test bed, and ran software to simulate the networks and yield performance parameters.
- 05/97-11/97: Acting Chief of the Instrumentation Systems Development Division responsible for 22 electronics engineers and 28 electronics technicians. My responsibilities included: planning, directing, executing research, conception, design, development, construction, procurement, operations, maintenance/repair, staffing, assigning duties to positions, assisting employees in preparing career plans, training,

- performance appraisals, leave schedules, disciplinary action, facilities, equipment, and a 4 million dollar budget.
- 04/91-05/97: I managed and directed two other electronic engineers and three electronic technicians in designing, building, using, and transferring HDAS technology. During this period three new HDAS systems were designed. The first of these was a miniaturized version for one-seventh scaled penetration weapon. The second was a multi-axis four channel HDAS. The third was a HDAS system that accepted commands and returned its data over a fiber optic network. During this period over 200 HDAS units were produced in-house.
- 9/88-4/91: I designed semi-customer integrated circuits and redesigned the HDAS with surface mount components to reduce its size. I managed the production of HDAS units, developed field methodology and directed its use on explosive effects field test. I developed validation techniques for the HDAS. I managed the software design to interrogate the HDAS and produce engineering plot in the field.
- 02/87-09/88: Designed and validated the ERDC's first shock hardened data acquisition system (HDAS). The shock hardness of the HDAS, 100,000 g's, was validated by placing it inside a projectile that was fired from a 155 mm howitzer into a 1-ft thick reinforced concrete target. The recorder contained an analog section with a 100 KHz frequency response, an 11-bit analog-to-digital converter with a sampling rate of 1,000,000 samples per second, and a 131,072 x 16-bit memory.
- 2/79-2/87: I designed and implemented two microprocessor based protocol converters. One served as the interface between a Lockheed data recorder and a satellite uplink, and the other interfaced a data recorder to a computer. I designed a microprocessor based voice synthesizer for interrogation of remote water stage recorders, and I designed a system to automatically interrogate other remote data acquisition systems over the phone. I worked on various research projects including: thermal camouflage, the detection of faults in railroad bed, and the measurement of silt in rivers. During this period, the following educational leave was taken: 6/80-5/81Mississippi State University; 9/81-9/82 Auburn University; 9/82-5/84 Mississippi State University.
- 3/76-2/79: I designed analog circuits used to amplify and buffer signal from explosive effects transducers. I fielded and recorded measurements on various explosive tests including one underground nuclear test. During this period education leave for MS degree was taken from 8/77-5/78 and from 8/78-12/78.
- 1/75-3/76: I completed the designed and debugged the design of discrete logic data acquisition system used for hydrological surveys. The project had not been completed due to the design engineer leaving the organization for a promotion.

14. Court Appearances:

Federal Court:

• United States District Court, Southern District of MS, Hattiesburg Division Civil Action No. 2:09CV16-KS-MTP

Metropolitan Property and Casualty Insurance Company d/b/a Economy Premier

Assurance Company vs. Clayco Construction Company

Testified for Plaintiff (Metropolitan Insurance)

Deposition: September 22, 2009 Court Testimony: March 24, 2010

Plaintiff's Attorney: Chris Deaton with Deaton and Deaton, P.A. (662)-844-2055

Defense's Attorney: David M. Ott with Bryan Nelson, P.A.

United States District Court, Southern District of MS, Jackson Division
 Civil Action No. 300CV171LN - Nationwide Insurance vs. Ronald Hughes

Arson Fire - Testified for Plaintiff (Nationwide Insurance)

Deposition: January 18, 2001

Court Testimony: February 15, 2001

Plaintiff's Attorney: Patrick Tatum / Firm: Upshaw, Williams, Biggers, Beckham

& Riddick (601)-978-1996

Defense's Attorney: Crymes M. Pittman / Firm: Pittman, Germany, Roberts

& Welsh

State Court:

• Circuit Court of Franklin County, AL

State of Alabama vs. Christie Michelle Scott - Case No.: CC08-344

Capital Murder Arson
Testified for Prosecution

Court Testimony: July 18-19, 2009

District Attorney: Joey Rushing / Franklin County (256) 332-8871 Defense Attorney: Robert B Tuten / Law Office of Robert Tuten

• Circuit Court of Alcorn County, MS

Civil Action No. 97-466R-A - Nathan Craig vs. SSSS&P (dba Executive Inn)

Electrical Shock Accident - Testified for Plaintiff

Court Testimony: November 20, 2001

Plaintiff's Attorney: Dean Andrews / Firm:/ H. Dean Andrews (Sole Practitioner) (601)-

636-4488

Defense's Attorney: Kent Smith / Firm: Webb, Sanders, Balducci & Smith

14. Depositions:

Federal Court:

U.S. District Court, Eastern District of Texas, Marshall Division
John Stephenson, vs, Caterpillar & Sears MFG Co. - No.: 2-16-CV-00071-JRG-RSP
Heat Seat Burn Injury

Deposition for Defense on September 28, 2018

Defense Attorney: Preston W. McGee, Flowers Davis, PLLC Plaintiff's: Nelson J. Roach – Nix Patterson & Roach, LLP

• U.S. District Court, Western District of LA, Lafayette Division Century Surety Co., vs, Toshiba International Corp. - No.: 6-11-CV-1870 Sonoco Products, et al. vs Toshiba International Corp. - No.:6-11-CV-1933 Sonoco Plant Fire – Wooden Plugs

Deposition for Defense on December 6, 2013

Defense Attorney: Sheilagh DePeter, Wilson Elser Moskowiz Edelman & Dicker

Defense Attorney: David Frohn, Frohn & Thibodeaux LLC Plaintiff's Attorney: James D. Dendinger – Cozen O'Connor Plaintiff's Attorney: Jack P. Skaggs – Cozen O'Connor

• U.S. District Court, Southern District of MS, Hattiesburg Division Charter Oak Fire Insurance Co., as subrogee of R&P Land Co.

vs. Beverage-Air Corp. & Tecumseh Products Co.

Cause No.: 2:12-cv-91-KS-MTP Fire of Piggly Wiggly Store

Deposition for Plaintiff on 24 July 2013

Plaintiff's Attorney: Tom Miller / Fire: Maricle & Associates

Defense Attorney: Meade Hartfield with Baker, Donelson, Bearman P.C Defense Attorney: Roy Smith with Daniel Coker Horton and Bell P.A.

• U.S. Southern District of Texas

Mary Taylor vs. Lasko Products

Cause No.: 4:012-cv-00680 Fire – Death of Matthew Taylor

Deposition for Plaintiff on 28 January 2013

Plaintiff's Attorney: Jeff Embry / Hossley and Embry LLP

Defense Attorneys: John Freedenberg / Firm: Goldberg Segalla LLC

• U.S. District Court For Western District of Louisiana

Civil Action No.: 6:08-CV-0551

Samco vs. Brother International Corporation

Commercial Fire – Supper Dollar Store

Deposition for Defense on February 8, 2012

Plaintiff's Attorney: Carin Brock / Butler Pappas

Defense Attorney: Andrew Meyers / Breaud & Meyers APLC (337) 266-2200

• U.S. Eastern District of Texas

Jason Richards vs. Lasko Products and JEH Stallion Station

Cause No.: 6:07cv533

Fire – Death of Race Horses

Deposition for Plaintiff on 7 July 2009

Plaintiff's Attorney: Jeff Embry / Hossley and Embry LLP (903)-526-1772

Defense Attorneys: John Freedenberg / Firm: Goldberg Segalla LLP

Tom Stollenwerch / Firm: Touchstone Bernays, LLP

State Court

• Mississippi Workers' Compensation Commission

MWCC NO.: 1504207-M-9022

Caryl Ulrich versus Pascagoula Municipal Separate School District

Electrical Accident Claim

Deposition for Defense on 16 March 2017

Plaintiff's Attorney: James W. Wetzel / Wetzel Law Firm

Defense's Attorneys: Jason Sumrall/Firm: Copeland, Cook, Taylor & Bush

• Circuit Court of Prentiss County Mississippi

Civil Action No. CV-2014-000157JP

Ronald Stennett versus The Home Gallery, LCC, Current HVAC Supply Inc.,

And Fictitious Defendants A-M.

Deposition for Plaintiff on 24 January 2017

Plaintiff's Attorney: George Martin Via/Firm: Via Law Firm (662) 728-3228

Defense's Attorneys: A. Rhett Wise / Firm: Priest & Wise

Timothy M. Peoples/ Daniel, Coker, Horton & Bell, PA

• Circuit Court of Butler Alabama

Civil Action No. 10-CV-2014-900016

Johnny and Teresa Alexander and Country Mutual Insurance versus

Polaris Industries, Thomasville Saw Company, Sevcon, and Greenville Equipment Center

Residential Fire Loss of Polaris Electric ATV and Home

Deposition for Plaintiff on 27 May 2015

Plaintiff's Attorney: David Allred / Firm: Allred & Allred (334) 396-9200 Defense's Attorneys: Roshan Rajkumar / Firm: Bowman & Brooke LLP

John Gleissner / Firm: Rogers & Associates

Morris Richardson / Firm: Richardson Clement P.C.

Andrew Donaldson / Firm: Ryals, Donaldson & Agricola

 15th Judicial District Court, Parish of Lafayette, State of Louisiana Civil Action No. 2011-7068

Audubon Insurance Company as Subrogee of Chanda Rubin versus

Omega Fex, Inc and Gaspard A/C Plumbing Inc, and Keith Trahan Electric Inc.

Deposition for Defense (Gaspard Plumbing) on September 11, 2014.

Plaintiff's Attorney: Carin Brock / Butler Pappas (251) 338-3801

Defense's Attorneys: Michael Parker/ Firm: Allen & Gooch (337) 291-1350

• Circuit Court of Hinds County, MS

Civil Action No. 251-13-126

Ralpheal Walls vs. Metro Fire Systems, Williams-Pryo, and Ambling

Fire Burn Injuries

Deposition for Plaintiff on July 21, 2014.

Plaintiff's Attorney: Rocky Wilkins / Firm: Rocky Wilkins Law Firm, PLLC.

(601) 948-6888

Defense's Attorneys: Edwin Gault/ Firm: Forman, Perry Watkins, Krutz & Tardy

(601) 960-8600

Smith Boykin/Firm: Page Kruger & Holland, P.A.

601-420-0333

• Circuit Court of Jefferson County, AL

Civil Action No. 2011-2121

Diane Prest, As Dependent Widow of David Prest, Deceased vs.

Mark Atkins Electric Inc., ERS, Inc., IDC Integration, Inc., Et Al.,

Electrocution Death

Deposition for Defense of IDC Integration on: April 22, 2014.

Plaintiff's Attorney: Roger L. Lucas / Firm: Marsh, Richard & Bryan, P.A.

(205) 879-1981

Defense's Attorneys: Bryan Scott Tyra/ Firm: Law Office of Cincinnati Insurance

(205) 745-4488

• Circuit Court of Monroe County, MS

Civil Action No. 2011-325-RM

Heath Mills vs. Madison House LLC, Town Realty LLC,

Innovated Sports Designs, LLC DBA Fortune 1

Electrical Shock Accident

Deposition for Plaintiff on: January 30, 2014.

Plaintiff's Attorney: Ray Hill / Firm: Clayton O'Donnell PLLC (662) 801-5205

Defense's Attorneys: Timothy Crawley/ Firm: Anderson Crawley & Burke, PLLC

L. Bradley Dillard / Firm: Mitchell, McNutt & Sams, PA

• Circuit Court of Mobile County, AL

Civil Action No. 02-CV-2011-902121.00

Nicole Gollotte et Al v Ford Motor Company

2008 F250 Ford Fire

Deposition for Plaintiff on: April 27, 2013.

Plaintiff's Attorneys: Lori Blangger / Firm: Williams & Associates (551)721-0827

Mark Spears / Spears, Spears & Hamby, (251) 344 8181

Defense's Attorney: C. Jeff Ash/ Firm: Huie, Fernambucq & Stewart, LLP.

Circuit Court of DeKalb County, AL

Civil Action No. CV-09-900085

Betty Holbrooks v The DeKalb-Cherokee Counties Gas District et al.

Electrical Natural Gas Explosion and Fire

Deposition for Defense: July 7 & August 26, 2011.

Plaintiff's Attorney: Kirk Davenport / Firm: Davenport, Lavette & Cleckler, P.C.

Defense's Attorney: Ed Howard / Firm: Ford, Howard & Cornet P.C.

(256) 546-5432

• 19th JDC/EBR Parish, LA; Suite No. 512779, Sec 23

James Harrison vs. Entergy and Phillips Electric

Electrical Shock Accident

Deposition for Defense (Phillips Electric): April 11, 2008

Plaintiff's Attorney: J Kenton Parson / Firm: Roedel, Parsons, Kock, Blache,

Balhoff and Mccollister

Defense's Attorney: Brian Butler / Firm: Maricle and Associates (225) 924-9582

• Circuit Court of Lafayette County, MS

Case No. LOS-493

Stella Bell vs. Graceland Care Center, Med-Lift Mobility & Hubbell Products.

Electrical Burns from a Lift Chair

Deposition for Defense (Graceland Care Center): October 5, 2007.

Plaintiff's Attorney: Carter Hitt / Firm: Hughes & Hitt PA

Defense's Attorney: Andy Lowery / Firm: Copeland, Cook, Taylor & Bush PA.

(601) 856-7200

Circuit Court of Amite County, MS - Civil Action No. 04-CV-139J

Linda Murray on Behalf of Bobby Murray vs. Magnolia Electric Power Assoc.

Wrongful Death - Electrocution

Deposition for Plaintiff's: January 25, 2007

Plaintiff's Attorney: Kelley M. Berry/Firm: Shannon Law Firm/Merry & Munn P.A.

(601) 894-4150

Defense's Attorney: Bradley F. Hathaway / Firm: Campbell Delong

• Circuit Court of Quitman County, MS

Civil Action No. 2003-0136

Tracy Denica Smith vs. TPI Corporation

Fire / Wrongful Death - 1 Adult / 2 Minors

Deposition for Defense: November 15, 2005

Plaintiff's Attorney: Michael D. Greer / Firm: Greer, Pipkin & Russell

Defense's Attorney: Martin R. Jelliffe (601) 968-5576 & Jack Price (601) 968-5574 /

Firm: Wise, Carter, Child & Caraway(601) 968-5500

• Circuit Court of Jackson County, MS

Civil Action No. C1-2000-00, 286(1)

Angela Cunningham Minor, et al vs. Singing River, EPA

Electrical Shock Accident

Deposition for Plaintiff: September 25, 2001

Plaintiff's Attorney: Herbert Lee / Firm: Lee & Associates (601) 355-9895 Defense's Attorney: James N. Compton / Firm: Compton, Crowell & Hewitt

Circuit Court of Coahoma County, MS

Civil Action No. 14-C1-97-0080

Vanessa Hayes vs. Entergy Mississippi and Baker Engineer

Fire - Wrongful Death - 3 minors

Deposition for Defense of Baker Engineering: August 25, 1999

Plaintiff's Attorney: Charles M. Merkel Jr. / Firm: Merkel & Cocke

Defense's Attorney: Forrest Stringfellow / Firm: Daniel, Coker, Horton & Bell

(601) 924-0525, (601) 969-7607

15. Fee Schedule:

- Exploratory to determine if a lawsuit should be filed: \$225 / hour.
- Legal: Lawsuits & Rule 26 Reports: \$295 / hour.
- Travel Time: Under 6 hrs. \$225/hr.; 6 to 12 hrs. \$150/hr.; Over 12 hrs. \$100/hr.; Other Expenses: At Cost.
- Minimum Joint Inspection: 4 hrs. (includes travel time).
- Minimum Deposition and Court Fee: 8 hrs per day (\$295/hr) includes preparation and travel time if on the same day and if for the client that I am working with.
- Cancelations: If notified over 3 workings days, no charge. If canceled under 3 working day, 8 hours at the hourly-rate.

• Rush Expert Reports and Court Responses: \$350 Weekdays, \$400 Saturdays, \$500 Sundays, \$500 Holidays including the Friday after Thanksgiving, Christmas Eve and New Year's Eve.

Pay Franco Ray Franco, Ph.D., PE

Electrical Engineer