

**Joel-Anthony Gray C.V. – CIH, BSEE, MAC 214.912.4691**  
**Environmental, Biomedical, Electromagnetic Consulting Detective**  
**“The Unusual Problem Specialist”**

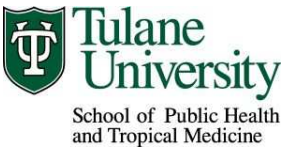
Cell 214.912.4691  
director@scantech7.com  
jagman@gmail.com  
www.scantech7.com



- Multidisciplinary 30+ years experience in 7 different technical fields including environmental surveys, (19+ years experience) nanotechnology research and applications development, ASE certified automotive mechanic, complex electronics repair, RF (Radio Frequency) & instrumentation technician, telecommunications, IT Systems Analyst
- CIH (Certified Industrial Hygienist accredited by ABIH) ID # 12082 CP
- CSP (Certified Safety Professional) designation pending



**B.S. Electrical Engineering (May 2014) - The University of Texas at Dallas**  
**GPA 3.6 with a Minor in Nanoscience Technology (27 hours)**



**B.S. Biomedical Engineering (pending) at UTD (2014 – present) GPA 3.7**

**Tulane Graduate School of Public Health & Tropical Medicine (2016 – 2017)**

- Medical Imaging Systems & Methods (BMEN 3380) - X-Ray, MRI, CT, PET, Ultrasound, Nuclear
- Physical Chemistry & Thermodynamics (BMEN 3315) Organic Chemistry I / II (CHEM 2323 / 2325)
- Advanced Microbiology (BIOL 2421) Immunoengineering with an emphasis on CoViD-19
- Engineering Physiology of the Human Body (BMEN 3330)
- Biomaterials & Medical Devices (BMEN 4360) Engineered Biomaterials (BMEN 3318)
- Extragalactic Astrophysics (PHYS 4392) Oceanography (ISNS 2367)
- Materials Science (NANO 3310) Nanoscience Research (4V95 / 4V97)
- Advanced Electron Microscopy (MSEN 6340) audited as part of job requirement for UTD NSERL
- Microscopy, Spectroscopy, and Nanotech Instrumentation (NANO 3302)
- Plasma Technology & Plasma Science (NANO 4391 / PHYS 6383)
- Nanoscale Fabrication Engineering – Integrated Circuit Technology (EE 4330)
- Electromagnetics I (EE 4301) - RF (Radio Frequency) Design (EE 4368)
- Radiological Health (GEHS 6300) - Principles of Industrial Hygiene (GEHS 6720)

**Engineering,  
Biomedical &  
Science Coursework**



**Environmental /  
Biomedical /  
Electromagnetic  
Consulting**



**ScanTech Technical Consulting – Dallas, TX** [www.scantech7.com](http://www.scantech7.com) **2002 - Present**  
**Biomedical / Environmental Consulting Detective – The Unusual Problem Specialist**

- Indoor air quality surveys including for radon, mold, particulate matter, biological contaminants, gases, chemicals, toxins and other atmospheric metrics such as new OSHA Silica Standard
- Electromagnetic Field / Environmental / Biomedical / Radiation Consultant for numerous Fortune 500 industrial / commercial clients in the corporate, defense and aerospace fields including risk and safety assessment, troubleshooting and EMI / interference issues and surveys for biomedical implants. Sound, Noise & Light Level surveys for OSHA compliance
- Assist commercial clients in work stoppage issues and resolved legal disputes by collecting relevant data in the proper context for conflict resolution. Use of AC & DC magnetic / electric field meters, spectrum analyzers, ESD / IAQ instruments, RF meters, and Geiger / radiation counters
- Biomedical Surveys for hospitals, clinics, labs and doctor's offices regarding patient safety and equipment interference

## Biomedical & Nanoscience Skills



- Nanotechnology research and characterization tools including optical and SEM (FEI, Zeiss, Jeol, Hitachi) Dual Beam FIB (Focused Ion Beam) EDX/EDS, RBS
- Semiconductor FA (Failure Analysis) with specialized electrical characterization tools including DC and CV measurement (Keithley, Agilent, Zyvex Instruments / DCG nanoprobe, Gatan)
- High vacuum & UHV environment assembly and protocols, RF plasma cleaning, sputtering, deposition
- Surface Analysis Techniques including spectroscopic (FTIR, Raman) AFM, X-Ray Diffraction (XRD)
- Cleanroom experience including photolithography and nanofabrication (RAITH EBL)
- Semiconductor and metallurgical CMP (chemical mechanical polishing) & TEM sample prep
- Liquid Cell TEM experience for biological/chemical analysis: Hummingbird Scientific, Protochips
- Chemistry, microscopy and biological / microbiological (Biosafety Level 2) laboratory experience
- Mold Assessment Consultant Training & Certification MAC # 1387 TX Dept. of Health
- Radiation Safety Officer Training (State of Texas)
- Biomedical experience with teleradiology and integrated physiological sensors (EKG, EMG, etc.)

## Technical Skills (OTHER)



- Strong mechanical aptitude including hand tools and fabrication with machine shop equipment
- Engineering & Circuit Simulation tools including MATLAB, Labview, PSPICE / LTSPICE, SolidWorks
- Electromagnetic & RF Energy Field (NIRAD) Consulting including X-Ray & Radiation Science
- Thermal Infrared Imaging, Near Infrared and Low Light Photography
- Extensive Network & IT Experience with Windows PC – Hardware & Software Analyst
- Digital graphics, video & animation production, Powerpoint, Excel, Word, MS Office Suite, Web design
- Embedded systems programming including Java, C++, Assembly, BASIC Stamp, Arduino, G-code
- Electrostatic Discharge, (ESD) Indoor Air Quality (IAQ) and Cellular / WiFi troubleshooting & evaluation
- ISO 9000 & HIPAA Standards



### Zyvex Instrumentation / DCG Systems - Richardson, TX

Nanotechnology Applications Technician [www.zyvex.com](http://www.zyvex.com)

Oct 2007 – Sept 2010

- Nanoprobe, documentation and research of semiconductor tools and techniques for sales to major chip manufacturers which resulted in revenue exceeding \$2 million
- Operator of Scanning Electron Microscopes (FEI, Zeiss, Hitachi) in high vacuum environments with various low noise electrical characterization equipment
- Assigned and supported a variety of research projects by chief physicist (Dr. Richard Stallcup) including circuit simulation, tungsten morphology, ion guns, AFM operation, vacuum oven, etc. Named as 2<sup>nd</sup> author on scientific paper for EBC technique
- Trained customers and engineers in the proper use of nanoprobe and failure analysis software and instrumentation
- Assembled / installed complex nanomanipulator systems and auxiliary accessories such as plasma cleaner, ion gun, thermal stage, low noise triax and specialized measurement equipment including Keithley 4200 and Gatan Digital Micrograph Software with Digiscan II and high gain/ low noise current and voltage amplifiers

## Nanoscience Work and Research Experience



### Natural Science Engineering Research Lab (NSERL) & Cleanroom University of Texas at Dallas – Richardson, TX

Nanoscience Research & Nanotechnology Lab Mgmt.

May 2011 – Feb 2013

- Conducted various cleanroom projects in the area of nanobiomedical technology including in-vivo medical nanobots using FEI dual beam SEM, EDX, Jeol TEM and Rigaku XRD X-Ray Diffraction

**Environmental  
Consultant  
Associations &  
Certifications**



**CIH (Certified Industrial Hygienist accredited by ABIH) ID # 12082 CP**

**Associate Consultant for AEI CONSULTANTS – Environmental & Engineering Services**

**Mold Assessment Consultant – Texas Dept. of Health Services License # MAC1387**

**AARST – NRPP Nationally Certified Radon Residential Measurement Provider ID # 108991 RT**

**CERTIFIED RADIO & INSTRUMENTATION TECHNICIAN (DELPHI)**

**Commercial  
References**

• Mike Dixon	Kawasaki / KCM (Atlanta)	770.421.6864
• David Holzen	Texas Children's Hospital (Houston)	832.824.5019
• Matthew Benavidez	Quality Ironworks (Dallas)	214.668.0180
• Michael Williams	Building Analytics (Burbank, CA)	818.841.2575
• Wesley Alexander	Bluestone Partners (Fort Worth)	903.813.1415
• Shawn Robinson	Lasko Metal Products (Fort Worth)	817.740.2926

**Commercial  
Clientele (PARTIAL  
LIST)**



**PROPERTY MANAGEMENT - REAL ESTATE – FINANCIAL - LENDING - MORTGAGE**

CBRE - CB Richard Ellis

Bell Partners Incorporated - Apartment Investment & Management

Embrey Partners

Lynd Development Partners

Lincoln Harris CSG (Corporate Services Group) / Lincoln Property Company Commercial Services Enterprises Inc.

Velocis Real Estate Fund & Advisors

Stillwater Capital

Transwestern

Charter Holdings

Fobare Commercial

Griffin Partners

MeIMc Quality Custom Homes

Robert Elliot Homes

Highland Homes

Ebby Halliday Realtors

Southwest Funding Lenders

HD Vest Financial Services

Courtyards at RiverPark - Blue Harbor Senior Living

Mirabella Assisted Living & Memory Care

**ARCHITECTURAL CONSULTING**

Corgan Associates

Huckabee Inc.

Perot Museum of Nature & Science

Paul Bernhard Exhibit Design & Consulting

**NANOTECHNOLOGY & RESEARCH**

Zyvex Instruments Inc.

DCG Systems

**DEFENSE & AEROSPACE**

Lockheed Martin

Burns McDonnell Engineering

DynCorp

**INDUSTRIAL MANUFACTURING & ENGINEERING - GEOLOGICAL - TECHNOLOGY ASSISTANCE & CELLULAR / NETWORKING**

Toyota Motors

L-3 Communications – Infrared Products

Siemens

SiriusXM

Cisco Systems

Ryder Logistics

Samsung

Sprint

Peterbilt Motors Company

Kawasaki KCM

M.C. Dean Building Intelligence

Brazos Electric Cooperative

Lasko Metal Products

The Timken Company

Goodman Manufacturing Company - A Division of Daikin

Prodigi Network Solutions

DCP Midstream

Wagner Oil Company

Falcon Structures

TTT Recycler

Bane Machinery

Copper River Construction Group

Bill Keating Construction Inc.

Camp Construction

The Granite Yard

LaVista Construction Company

St. John's Consulting Group

MB Metals - MBI Graphite

Wizard International

BestFix Watch Company

Kenmark Inc.

#### **TRANSPORTATION - MASS TRANSIT**

DART (Dallas Area Rapid Transit)

#### **GOVERNMENT AGENCIES & MUNICIPAL / COUNTY / STATE**

U.S. Department of Veteran Affairs - VA Hospital and Health Care

United States National Park Service

City of Round Rock, Texas

#### **SEMICONDUCTOR FAB / MANUFACTURING / FAILURE ANALYSIS**

Texas Instruments Inc.

KLA-TENCOR

Chip Targets

#### **BIOMEDICAL / PHARMACEUTICALS / HOSPITAL / CLINICS / MEDICAL SUPPLY / FOOD INDUSTRY**

Covance Pharmaceuticals

Medical City Dallas

Texas Children's Hospital

Trina Health of North Texas

McCormick Foods

Methodist McKinney Hospital

Sanoviv Medical Institute

OsteoMed

Alpha Energy Laboratories

Drucker Labs - Nature's Water

HMS Holdings Corp

OrthoRx Inc.

Dallas Healthcare Solutions

Environmental Health Center Dallas

Monarch Dental

#### **ENVIRONMENTAL CONSULTING**

AEI Consultants – Environmental & Engineering Services

Building Analytics / BA Environmental

McClure Engineering Associates Inc.

Romine Romine & Burgess Consulting Engineers

Jacques Whitford (acquired by Stantec Consulting Services)

#### **RESEARCH & HIGHER EDUCATION - NANOTECHNOLOGY**

University of Texas @ Dallas

University of Texas @ Arlington

University of Michigan Physics Department

#### **PRODUCT TESTING**

C.O.D.E. RED

#### **A/V AUDIO VIDEO MEDIA**

AMS Pictures

REEL FX Creative Studios

Tryangle Media Solutions Nu-Star Wireless Technologies LLC

**GENERAL COMMERCIAL**

Hobby Lobby

Ceylon et Cie – The Design World of Michelle Nussbaumer

TFI Resources

**SCHOOL DISTRICTS**

Killeen Independent School District

Birdville Independent School District

Prosper Independent School District

**AGRICULTURAL & LANDSCAPE**

Brook Hollow Golf Club

Jurassic Lawn Care

Sommerfeldt Farms – Michigan

**LEGAL**

Silverman Goodwin LLP

Law Offices of Eddie Vassallo

Jeff Diamond & Associates