Mark L. Norman, Ph.D.

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Executive Summary

- Technical product applications leader with 25 years of experience in the analytical instrumentation industry combining strong technical acumen with an approachable, customer-oriented mindset
- Adept at working within small, startup and global corporate environments alike to identify critical needs and to do whatever is required to grow the business based on quarterly and annual objectives
- Experience in roles of product development and management, technical sales support, marketing, training, and service in markets including emergency response, CBRNe, homeland security, forensics, and industry
- Seasoned presenter who is effective at communicating with audiences of diverse technical backgrounds and who has built a reputation of professional integrity with numerous clients

Core Competencies

- Applications & Market Development
- Field Portable Instrumentation
- People Leadership & Mentorship
- Customer Engagement
- Relationship Management
- Innovative Training Initiatives
- Fourier Transform Infrared (FT-IR) Spectroscopy
- Hyperspectral & Broadband IR Imaging
- Raman Spectroscopy
- High Pressure Mass Spectrometry (HPMS)
- Quantum Cascade Lasers (QCL)
- Gas Chromatography-Mass Spectrometry (GC-MS)

Career Summary

908 Devices / RedWave Technologies, Danbury, CT (Remote) **2024 – 2025**
Senior Field Applications Scientist & Optical Technology Subject Matter Expert

- Public, mid-sized company with > 200 employess and a market cap of > $230 MM offering innovative field chemical identification solutions to the CBRNe, Customs, LE, and HazMat markets
- Delivered high-level technical and marketing support to customers and channel partners in over 50 countries within North America, LATAM, EMEA, and APAC
- Leveraged extensive expertise in use of field-based FTIR, Raman, and HPMS technologies for emergency response and CBRNe applications to drive marketing efforts, product success, and company growth
- Led the company's effort through a 6-month long external partnership to assess the feasibility of gas-phase FTIR for fire scene investigation by collecting data at 8 controlled live burns and comparing the results of a unique discriminant model algorithm to ASTM standard measurements for the purposes of peer-reviewed publication

2023 – 2024

Telops, Quebec City, Canada (Remote)
Field Applications Engineer

- Small technology company (now a division of Exosens) founded in 2000 offering high-end IR imaging solutions to markets including oil & gas, academia, and government laboratories
- Provided high-level technical support for mid-infrared hyperspectral and broadband imaging cameras in numerous application areas including methane detection, combustion analysis, and fire research for customers, business development managers, and distributors within a vast territory including the southern U.S. and APAC
- Supported field trials with an external partner which incorporated a hyperspectral camera into a Cessna 182 aircraft to demonstrate airborne methane detection along natural gas transmission pipelines
- Initiated and supported a collaborative field trial among industry partners and a U.S. state emergency response agency to characterize Li-ion battery explosion thermal dynamics using 2 perturbation methods for > 20 deflagrations to educate firefighters on safety protocols

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Centerburst Consulting, LLC **2022 – Current**
Owner

- Business Founder utilizing expertise to assist clients in market development, training, and technical writing to drive organizational success with a broad range of technology solutions
- Utilize AI tools including ChatGPT and Microsoft Copilot to optimize client communications, summarize technical content, and generate unique graphic designs; Manage business P&L and compliance with federal and state laws
- Co-developed and delivered with an industry collaborator a comprehensive 3-day, scenario-based training program for a U.S. Government client to incorporate all their technologies, from basic air monitoring to GC-MS
- Provided scientific business services to a client in the high-voltage electricity detection for personal protection market to assess the applicability and marketability of their technology within the emergency response community

2015 – 2022

908 Devices, Boston, MA
Director of Field Forensics Applications | Director of Product Management | Director of Technical Service & Customer Experience | Customer Engagement Manager

- Small, startup organization with IPO in December 2020 leveraging proprietary HPMS technology as a disruptive solution for trace chemical detection in homeland security and emergency response and for rapid benchtop analyses in biopharmaceutical research
- Expanded HPMS product capability and marketability versus competitive technologies by growing its trace threat library by 200% from 20 to 60, which led to a high-percentage sales increase
- Managed second-generation HPMS product; Incorporated Bluetooth to meet a $4M government contract requirement which established a competitive advantage across the portfolio; Productized a new trace sampling method which reduced accessory COGS by 60%; Maintained part numbers and price lists in SalesForce
- Implemented the Zendesk customer service platform which scaled the company's support mechanism for > 2,000 customers early on and captured KPIs including agent response time, ticket resolution time, and customer satisfaction which averaged > 95% "Very Satisfied" each quarter; Implemented the TrainEaze LMS which provided online product training opportunities and improved process efficiency for capturing training attendee feedback and generating training certificates
- Conducted metadata analysis of field data for customers in Public Health (across 2 sites) and Homeland Security (across 5 sites) to track temporal and geographical trends of synthetic opioid seizures to optimize their resource planning
- Spearheaded initiatives to record and produce training programs, educational webinars, and marketing content including *MX Files*, *Instructor's Lounge*, and a *Hazard Class* podcast to adapt to the COVID-19 environment

2013 – 2015

Block Engineering / MEMS, Marlboro, MA
Director of Applications

- Small government contract business seeking to penetrate commercial markets with its proprietary mid-infrared QCL technology in applications benefitting from standoff surface analysis and long-path gas-phase measurements
- Analyzed customer samples using specular and diffuse reflection methods to elucidate characteristics of paints, coatings, residual contaminations, and pharmaceutical formulations; Processed data, wrote detailed reports, assessed feasibility with respect to technical challenges and revenue opportunity
- Developed standoff method for measuring silicone coatings on pharmaceutical vials using a single tuner configuration; Processed data using Partial Least Squares (PLS) chemometric model; Worked closely with medical device client to get their in-house process running for rapid, non-intrusive inspection of at least 1 vial / second

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Smiths Detection / SensIR Technologies, Danbury, CT (Hybrid) **2001 – 2013**
Director of Applications & Training | Senior Scientist | Applications Manager | Applications Scientist

- Small, startup company acquired in 2003 by large, multi-national firm owing to a strong presence in the emergency response market with novel FTIR / ATR technology for field identification of hazardous chemicals in the wake of 9/11 and the white powder scares arising from subsequent anthrax attacks
- Served as technical lead for development of the world's first hand-carriable FTIR hazardous chemical identification system by creating the necessary field use cases and conducting prototype evaluations; Developed and productized a SPME method for identifying trace levels of CWAs in common battlefield interferents
- Developed a white powder FTIR library of 40 common materials when the anthrax threat was spreading throughout the country which put critical information into the hands of hazmat teams for identifying hoax materials
- Led scientific development of 2 new hazardous gas identifier systems which led to 2 patents and expanded the company's footprint into a new emergency response application space for increasing annual revenue
- Evaluated prototype bioaerosol detection systems in laboratory and field environments to identify areas of continued refinement which led to a commercial product offering
- Oversaw the industry-first 24/7/365 ReachBackID program which allowed field operators to submit measurements for immediate analysis; Managed and trained 7 chemists and implemented 3 incentive programs to foster staff appreciation and ensure service quality
- Held a U.S. DoD SECRET level security clearance

Education & Professional Development

- Ph.D., Analytical Chemistry, University of North Carolina at Chapel Hill
- B.S., Chemistry, West Virginia Wesleyan College

Introduction to Generative AI with GPT | Basic Laser Technology | Five Day MBA Workshop | Analytical Organic Mass Spectrometry | Project Management for Technical Professionals | Fundamentals of Ion Mobility (IMS) and Ion Mobility Mass Spectrometry (IMMS) | Pharmaceutical Solids: Essential Knowledge and Advanced Concepts | Advanced Infrared Microspectroscopy