Andrew D. Sauter, Jr.

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Owner Nanoliter LLC, formerly ADSC, Henderson, NV, USA. Currently, selling IP and consulting. 1984-Present

Executive level technical, business, managerial & contract skills. International contacts: industry; science; pharma; gov't. & press.

Founded Nanoliter after consulting (ADSC) in technical & business areas of mass spectrometry, microfluidics & data mining. Conducted, managed business. Invented IBF. Wrote, negotiated 4 patents w/USPTO; published papers; web; booth design/setup/press.

Invented, patented & marketed a microfluidic toolset for parallel nL, pL and uL liquid movement. In 2017, **we demoed 100% input efficient UPLC MS with the U of Cincinnati & 100% infusion with USDOE INL, directly sampling a Lithium battery via MS!**

Developed nL defense dispenser for US Army at APG, MD and US Air Force at Tyndall AFB, FL supporting classified work.

Invented nanoliter syringe, pipette and "nanoLiter" pumps for parallel for LC/MALDI that Sciex offered to license. Agilent requested info. See nanoliter.com. "Received" bronze medal & Honorable Mention, best new instrument at Pittcon,4 national USA awards.

Sold IBF, nL dispensers/projects to customers, clients: U's of Ill (Chicago and Urbana), WI, UC Riverside, U Cin.., MUSC, Wash. U. St. Louis, UCSD, USF, USU, US Army (APG, ECBC and Natick), Abbott, Biogen Idec, Genentech, Amgen, Hitachi, Allergan, Sciex, Spark Holland, Douglas, NIH, NIST, USDOE INL, Ga Tech, UNH, Duquesne, UNLV, NSC and others.

Other Career Highlights.

Developed, nationally implemented the GCMS methods, QA used in USA federal environmental laws w/ten groups via 10 papers.

Sole source procured as an MS/analytical chemistry/data analysis expert by 7 different branches of the US gov't, ca. > 100 times.

Acquired funding for & performed the **first** particle beam (PB) LC/MS work with inventor. Results: the first bench top LC/MS system and the multi-million dollar purchase of Extrel by Waters with major valuation increase. Waters entered the MS business via this path.

Won decision against a major silicon-valley law firm, Reed & Associates, with self representation regarding an Internet domain name dispute (picoliters.com) before ICANN (See Decision.). The plaintiff was found guilty of reverse domain name hijacking.

Developed a business plan for MS tech (isotope dilution) to QC the vitrification of the "tanks" wastes for WMFS at Hanford.

Copyrighted a pattern recognition program, COMPARE. It can detect/quantify patterns in MS, Chrom or any 2D data, N ways.

Extensive MS/MS data mining experience via confirmatory/exploratory statistics. Developed computer program for background correction and also developed/applied computer graphics and statistics approaches to quantify MS date for both integrity and quality.

Studied and evaluated hydrocarbon and immunoassay capacitance affinity sensors for Westinghouse.

Played key role in defeating 20 of the 40 largest firms in the USA in a $500M environmental litigation. Hired as an expert by USDOJ.

Developed the business plan & cash flow models for a $15 M lab for WMX. The lab paid for itself in < 3 years as predicted.

Invited speaker: Microfluidics 2002 (on dais with Harvard's Whitesides), at Nanocommerce2003 invited by NIST, at US Army Edgewood., Los Alamos, Extrel, RTI, ASQC, Washington U and many other meetings.

Developed Fluidics/MS course offered at Pittcon and a GCMS Data Auditing Course with applied statistics for WMX. Offered contract/wrote a book for Academic Press: Using The PC And Off The Shelf Software In Analytical Chemistry Programs.

Published 3 inter-laboratory MS studies in the peer review literature. Also, authored the methods, QC protocols/contracts and managed study that involved 11 labs, presenting results at ASMS over a two year period with US government and other scientist.

Funded early ICP/MS, MS/MS and LC/MS work of Houk (UI), Hunt/Shabanowitz (UVA) & Willoughby (Extrel). Directed applied R&D w/latter two and other groups at major corporations, universities and government.

Extensive field sampling and analysis experience for volatile organics in urban and industrial environments across the USA. GCMS studies on coal gasification & ozone facilities. DOE exp: Los Alamos; INL MS of (Lanthanides, etc.); Hanford; Oak Ridge and HQ.

Published > 35 fundamental and applied papers on EI, CI, PB, ESI, MALDI and LC/MS/MS. Presented hundreds of posters/papers .at ASMS, Pittcon, ACS and other meetings that uniquely addressed data integrity issues in projects for DOE, DOD and EPA.

Par Enterprises, Inc., Henderson, NV, VP Chemical Information Systems 1992-1996 (Concurrent w/ADSC.)

I won and managed (group of 15 employees and consultants at four locales) a seven figure contract for Los Alamos National Lab to develop the first Windows based environmental project management system. Off-the-shelf & developed software was successfully Used for purchasing, reporting and auditing of data (34 different chemical analysis and other measurement techniques within cGMP/cGLP) integrating data from 11 organizations. QC audits of sample results took only seconds for any technique.

USEPA, EMSL, LV, NV Group Leader, then Methods Development Manager 1980-1984

I managed a research group of Ph.D.'s doing in-house MS methods development studies & QA/QC work in GC/MS, LC/MS/MS, LC/MS, etc.). Implemented new technology at the core or CERCLA, RCRA and other environmental methods nationally. Managed seven figure extramural R&D and special programs (one eight figures) at UVA, Lockheed, TRW and labs nationally. Pre-contract award & QA auditor for national programs spending $B/yr.

Computer Science Corp, Athens, GA**,** Senior Chemist 1979-1980

Member of the team that built first national water pollution database. This GC/MS data (17 labs and different systems 20,000 raw data files) was built from samples of USA's rivers/plants. It was the first set of information employed to set water treatment standards for USA's industries, defining the best available, economically achievable treatment technology. Then, that was very big data.

Merck, the Calgon Subsidiary, Pgh, PA, Senior Chemist 1977-1979

I built a MS lab. I managed a group of three chemist doing R&D and routine analysis of water, consumer and polymer products.

Midwest Research Institute, KC, MO. Associate Chemist 1974-1977

Contract research. Wrote proposals. Performed contract R&D in support of energy, environmental, electrochemistry, instrument development projects/programs. This included the development of the first complete GCMS priority pollutant protocol in 1976.

Anesthesia Research Associates, Mercy Hospital/U. Pittsburgh, Pgh, PA, Technician 1971-1972

Research technician. Chemical analysis of animal, human and other samples by multiple techniques for many studies.

Education

30 credit M. Sc., physical organic analytical chemistry, Marquette University, 1974 B.S., chemistry, Duquesne University, 1971
Courses in Statistics (Georgia Tech.), Atomic Spec (Varian); Programming and Instrument Op.(Finn. Institute); Program/Contracts Mgmt Courses.
Mentored 20 years by J.J. Downs former Director Carnegie Mellon Institute For Research and principal research scientist at MRI, Franklin Institute, industry.

Selected Microcomputer/Computer Experience

Extensive data mining experience: confirmatory; exploratory & multivariate statistics; published in signal processing and pattern recognition. Offered contract from Academic Press to author a book on using Windows applications in chemistry laboratories and programs. Used MS Office, stat packages (Statistica, Statgraphics, SAS, etc.), machine vision software (Vision Builder), numerous utilities (WinZip, Webalizer, Leap, Samspade, etc.), graphics (Photoshop & Paint Shop) for scientific, QC and business plan presentations.

Managed/hands on built databases under Windows and VMS. Used Informix, Access and dB3 to mine (SQL), and organize data. Managed software dev projects in signal processing, library matching, data reporting, using VB, Excel, Labview from needs analysis, design, line level debugging to implementation/support. Wrote/developed nanoliter.com. Some programming.

Previous*/Current Affiliations

Instructor at Pittcon short course, Nanoliters And Induction Based Fluidics. Invited Pittcon presenter.
American Society Of Mass Spectrometry
Association for Laboratory Automation*
ACS*, ASTM*, Adjunct U. of Nevada, Dept. of Physics*, AOAC, Former Gen. Referee: Analytical Methods For Ground Water*.

References, Publications/Presentations Available Upon Request.

Visit nanoLiter.com for recent fluidics & MS work.

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