

CURRICULUM VITAE

Gregory S. Rahn

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EDUCATION:

B.S. 1981

Chemistry, Minor in Computers, State University College at Cortland (SUNY) (Activities involved experimental design and instrumental analysis of transition metal complexes using spectroscopy-based methods.)

Post Graduate Courses: Biochemistry, Troubleshooting Electronic Circuits, Digital Logic Networks, Characteristics and Operation of Operational Amplifiers, Principles of Lasers, Business Plan Writing, Project Management, Fundamentals of Astronomy and Essentials of Photography

EXPERIENCE:

2008 – present

Hamilton College, Clinton, NY

Instrumentation Specialist for the Science Center

Maintain and calibrate all high-end analytical equipment in Chemistry, Biology, Physics and GeoSciences departments. Perform method development, design analytical approaches and instruct faculty and students in the proper operation of the analytical equipment and interpretation of data. Instrumentation consists of 500 MHz NMR, LCQ ion trap MS, Isotope ratio MS, GC/MS, X-ray diffraction and fluorescence, ion chromatograph, etc. Install software upgrades and ensure optimum instrument operation for instrument use during laboratory sessions. Develop instrument networks to ensure system security and account management while providing remote instrument access.

2006 – 2008

Procter & Gamble Pharmaceuticals, Norwich, NY

Principal Researcher, Organic Structure Elucidation (OSE) Group of Analytical Sciences in Product Development

Perform HPLC/MS/MS, SFC/MS and GC/MS analyses that support Chemistry and Process Development and Product Supply in the Good Laboratory Practices/Good Manufacturing Practices (GLP/GMP) environment of Product Development. Demonstrate an in-depth knowledge of mass spectrometry instrumentation and theory related to this technology in order to provide both qualitative and quantitative results. Able to develop, validate and automate analytical methods and problem-solve/trouble-shoot both mass spectrometry instrumentation and processes. Effectively communicate/partner with sister mass spectrometry laboratories within the company in order to accept samples/analyses from other GBUs. Perform various testing on

analytical reference standards and approve standard certifications through active participation in P&GP's Reference Standard Committee.

2001 – 2006

Procter & Gamble Pharmaceuticals, Norwich, NY

Principal Researcher/Lab Manager, Bioanalytical Section of Analytical Sciences in Product Development

Manage a bioanalytical mass spectrometry laboratory that supports drug substance synthesis, formulation development and pre-clinical and clinical studies for pharmaceuticals in the Good Laboratory Practices/Good Manufacturing Practices (GLP/GMP) environment of Product Development. Demonstrate an in-depth knowledge of mass spectrometry instrumentation (particularly HPLC/MS/MS) and theory related to this technology in order to provide both qualitative and quantitative results in varied matrices and species. Able to develop, validate and automate analytical methods and problem-solve/trouble-shoot both mass spectrometry instrumentation and processes. Supervise, coach and mentor two full time associates who generate mass spectrometric data. Effectively communicate/partner with sister mass spectrometry laboratories within the company, bioanalytical project leaders/scientists and laboratory associates. Called on to work with contract laboratories (CROs) to transfer technologies and methodology. Perform various testing on analytical reference standards and approve standard certifications through active participation in P&GP's Reference Standard Committee.

1981 - 2001

Oneida Research Services, Inc., Whitesboro, NY

Manager, Chemical Analysis, Section II
(final position attained)

Responsible for all business, technical and QC aspects for customer submitted projects. Served as intermediary among the Customer, the Laboratory and Section Marketing Manager. Provided analytical expertise and approach for a variety of analytical disciplines including mass spectrometry, atomic absorption, elemental analysis (halogens, CHNS), x-ray fluorescence, ion chromatography, Karl Fischer and assorted USP tests (residue on ignition, heavy metals, etc.). Managed group's finances and supervised scientific staff (~ 12 people).

SPECIAL SKILLS/QUALIFICATIONS

Laboratory Skills - Techniques experienced in are: on-column GC injection, capillary and packed column GC/MS, SPME, SFC/MS, SPE, liquid-liquid and flash chromatography, dynamic and static headspace, mass-directed fraction collections, atomic absorption, combustion elemental analysis (halogens, CHNS), x-ray fluorescence, x-ray diffraction, Karl Fischer, assorted USP tests (residue on ignition, heavy metals, etc.) qualitative and quantitative MS, ESI, APCI, DCI, SP, DESI, FAB, Flow FAB, TSP, CI, EI, HPLC (reverse phase, normal phase, affinity-based methods, ion chromatography, HILIC and chiral), UV - VIS, fluorescence, and radioactivity detectors and NMR (1-D (proton and selective), 2-D (homo and heteronuclear). Have programmed and operated lab-automation equipment, i.e., TOMTEC and Packard Multi-Probe. Have also operated surface science equipment (SEM/EDX, Auger and reflectance FTIR).

Analysis Skills - Performed tissue residue monitoring, toxicokinetic, pharmacokinetic, bioavailability and bioequivalence studies, quantitative targeted compound analysis, stability degradant identification, drug metabolite elucidation, impurity profiling (both raw material and finished product), biomarker identifications, compositional profiling and quality and authenticity, complex mixture analysis, environmental fate studies, molecular weight and structure confirmation, foreign particulate contamination, failure analysis and reverse engineering studies. Directed isotope ratio MS equipment to accurately assigned “delta-values” to soil and water samples originating from Antarctica. Have been asked to provide expert testimony/depositions in litigation cases. GLP, cGMP and EPA GLP regulatory literate.

Sales Skills - Coordinated all aspects of a client solicited project, from initial client contact (to determine project scope, design, feasibility and pricing) through sample analysis, to post-analysis interpretation, report write-up and assessing customer satisfaction. Assisted in the design and concepts for the generation of brochures/marketing material. Sold all ORS analytical services at industrial trade shows where we were exhibitors. Visited established customers and potential customers in order to sell all ORS analytical services. Accompanied P&G pharmaceutical sales representatives as a scientific liaison during doctor’s office sales calls in order to explain P&G pharmaceutical product benefits when compared to competitor products.

Computer Skills - IBM compatible - PC – MS Office (Word, Excel, Power Point, Outlook, Access), Lotus Notes, NetMeeting, Lotus 123, Watson, NuGenesis, CalMan, WordPerfect, PCNONLIN, ChemWindow, ChemDraw, Mass Spec Calculator, Analyst, Xcalibur, Mass Frontier, MassLynx and IsoDat.
Macintosh - DeltaGraph, MacQuan, MacSpec.
Web site management – SiteManager

Managerial Skills - Responsible for the hiring, training and supervision of business unit staff. Helped create and implement a performance appraisal system used to review employees. Also responsible for career development and conflict resolution. Served on numerous committees dealing with employer-employee relations. Conducted tours of the facility explaining the various analytical techniques utilized to outside groups. Designed instrumentation demos and negotiated analytical equipment purchases. Worked with the management design team in the construction of new laboratory facilities. Executive member of ORS Safety and Health Committee (7/99 to 7/00) which ensured compliance with all current regulations (OSHA and Chemical Hygiene) and set policy on all safety and health issues.

Instrumentation Used - MS - Finnigan MAT, Sciex, VG, Thermo, Balzers, LECO, Waters
Agilent, Shimadzu, Ametek, Prosolia (quadrupole, ion trap, magnetic and TOF mass spectrometers)
NMR – Varian, Bruker
HPLC - Waters, Hewlett Packard, Shimadzu, Gilson, Thermo
GC - Hewlett Packard, Varian, Finnigan, Perkin-Elmer, Agilent
IC – Dionex, Metrohm
CHN – CEC, Costech, LECO
X-ray – Siemens, Rigaku
SEM – Hitachi
AES – Physical Electronics
FTIR – Perkin-Elmer
AA – Perkin-Elmer
Automation – CTC, Packard, TomTec, Hewlett-Packard, LEAP
Fluorescence – Oriba Jobin Yvon

PROFESSIONAL AFFILIATIONS

Member, American Chemical Society
Member, American Society for Mass Spectrometrists
Certification, U.S. Power Squadron Boat Smart Course

PERSONAL ACHIEVEMENTS

Raised two sons who challenged my parenting skills but who managed to excel in scholastics (National Honor Society members) and gymnastics
Recorded a Hole in One in August, 2005

PUBLICATIONS/PRESENTATIONS

David M. Brown, Hamilton College; Greg Rahn, Hamilton College; Ed O'Loughlin, Argonne National Lab; Mike McCormick, Hamilton College, "Novel method to detect and characterize electron shuttles used by iron-reducing bacteria: Electrochemical detection coupled with electrospray ionization liquid chromatography mass spectrometry (EC/ESI/LC/MS)", (2010) ACS National Meeting, San Francisco, CA

Greg Rahn, Eugene Domack, Bruce Wegter and Megan Crocker, "Integration of Stable Isotope Mass Spectrometry in an Undergraduate Research Environment: Hamilton College EMSI Initiative", (2009), 15th CF-IRMS Workshop, Cornell Univ., Ithaca, NY

Cathy Lester, Greg Rahn, Gwen Lubey, Ed Grundner, Nancy Hayes, Doug Carkuff, Mike Reilly and Garth Strobel, "Connecting Across Analytical Capabilities for Accurate Organic Structural Elucidation in Pharmaceutical Drug Development", (2007), *P&G Pharmaceutical Analytical Symposium*, Sharonville, OH

Paula Suchanek, John Tomlinson, Brian Regg, Steve Hoke, Laurence Punshon, Ken Wehmeyer, Raymond Reilman, John Troutman, Scott Dyer, David Foltz, Salane King, Maryjo Bernhard, Todd Branch, Julie Skare, Stuart Hewlins, James Hardy, Tom Dufresne, Joseph Nurre, Cynthia Blanton, Darren Trokhan, Paula Chmielewski, Craig Buckland, Sarah Tozer, Greg Rahn, Timothy Baker and Roy Dobson, "Collaborations! The Benefit of Consolidating into One Global Analytical Capabilities Organization", (2007), *P&G Pharmaceutical Analytical Symposium*, Sharonville, OH

Greg Rahn, Gene Miller, Todd Branch, Tom Parish and Larry Davey, "Accomplishing Trace Level Quantitation During Bioanalytical Method Development of a Large Peptide", (2006), *54th ASMS Conference*, Seattle, WA

Greg Rahn, Gene Miller, Todd Branch, Tom Parish and Larry Davey, "Limbo'ing a Bioanalytical Method, (or, "How low can you go?")", (2005) *P&G Pharmaceutical Analytical Symposium*, Sharonville, OH

T. Huggins, R. Wimalasena, T. Branch, M. Mullin and G. Rahn, "The Molecule is Unstable and Samples Have Arrived: Strategies Undertaken to Deliver Accurate Concentration Data", (2003) *P&G Pharmaceutical Analytical Symposium*, Sharonville, OH

J.D. Nesbitt, G.S. Rahn, L.F. McMullen and T.G. Huggins, "Bigger, Better, Faster: Methods for Nitrofurantoin in Human Plasma and Urine", (2002) *P&G Pharmaceutical Analytical Symposium*, Sharonville, OH

G.S. Rahn, "Organic Compound Analysis to Track Microelectronic Component Failures Used in Automotive Applications", (1999), Invited Speaker, *Minnowbrook Microelectronics Conference*, Adirondack Conference Center of Syracuse University, Blue Mountain Lake, NY

John M. Ballard, Lori D. Payne, Richard S. Egan, Teresa A. Wehner, Gregory S. Rahn and Samson Tom, "Development and Validation of an HPLC/MS/MS Method for the Confirmation of Eprinomectin Marker Residue in Bovine Liver Tissue", (1997), *Journal of Agricultural and Food Chemistry*, 45, 3507-3510

R.M. Matsumoto, D.G. Fellows, J.I. Usansky, R.W. Kulawy, G.S. Rahn and D. Tang-Liu, "Determination of Tazarotene and its Metabolite, Tazarotenic Acid in Human Plasma by GC/MS and GC/MS/MS", (1997), *AAPS Annual Meeting and Exposition*, Boston, MA

G.S. Rahn, "Mass Spectrometry Support of Today's Industrial Laboratories: A Contract Laboratory's Perspective", (1994), Invited Speaker, *Eastern Analytical Symposium*, Somerset, NJ

D.W. Dodsworth and G.S. Rahn, "Identification of the Impurities in Belfosdil, A New Cardiovascular Drug by Thermospray LC/MS", (1990), *38th ASMS Conference*, Tucson, AZ

D.K. Brain, J.R.B. Slayback and G.S. Rahn, "Tandem Mass Spectrometry for the Analysis of Trace Levels of Unsaturated Sultones in Complex Matrices", (1984), *32nd ASMS Conference*, San Antonio, TX
P.C. Tway, G.V. Downing, J.R.B. Slayback, G.S. Rahn and R.K. Isensee, "Confirmatory Assay for Ivermectin in Cattle Tissue Using Chemical Ionization Mass Spectrometry/Mass Spectrometry (MS/MS)", (1984) *Biomedical Mass Spectrometry* 11, 172-176

Literature Cited Acknowledgments

J. R. B. Slayback and P. A. Taylor, "Analysis of 2, 3, 7, 8-TCDD and 2, 3, 7, 8-TCDF in Environmental Matrices Using GC/MS/MS Techniques" (1983) *Spectra Magazine* Volume 9, Number 4, 18-24

M. Kaykaty, T. Chang and G. Weiss, "Determination of the Synthetic Steroid Norgestomet in Bovine Plasma by Capillary Column Gas Chromatography/Negative Ion Chemical Ionization Mass Spectrometry" (1988) *Biomedical Mass Spectrometry* 17, 121-126

M. Kakaty, G. Weiss, M. Barbalas and P. Duke, "Metabolism of the Synthetic Prostaglandin Alfaprostol in Cows, Pigs and Rats" (1987) *Drug Metabolism Review* 18, 303-309

W.D. Ellis, J. Bramlett and A. Johnson, "Characterization of Leachate from Three Hazardous Waste Sites", 1988, EPA Contract Number: 68-01-7043, Work Assignment P2-19