

## SENIOR RESEARCH SCIENTIST I

### Publications

3) "Quantitative determination of BMS-186318 in human plasma and urine by liquid chromatography/tandem mass spectrometry (LC/MS/MS)," C.C. Nelson, K. Mayer, D. Hawthorne, M. Jemal and R.L. Foltz, presented at the American Association of Pharmaceutical Scientists Annual Conference, Seattle WA, October 28-31, 1996. 4) Quantitative determination of BMS186716, a thiol compound, in dog plasma by high-performance liquid chromatography-positive ion electrospray mass spectrometry after formation of the methyl acrylate adduct, Mohammed Jemal and Dara J. Hawthorne, *Journal of Chromatography B: Biomedical Sciences and Applications*, Volume 693, Issue 1, 23 May 1997, Pages 109-116. 5) Quantitative determination of BMS-186716, a thiol compound, in rat plasma by high-performance liquid chromatography-positive ion electrospray mass spectrometry after hydrolysis of the methyl acrylate adduct by the native esterases, Mohammed Jemal and Dara J. Hawthorne, *Journal of Chromatography B: Biomedical Sciences and Applications*, Volume 698, Issues 1-2, 26 September 1997, Pages 123-132. 6) "A novel LC/MS/MS method for the determination of stereoisomeric lactones and their corresponding acids" Kerri L. Trendler, Marc R. Browning, David L. Vollmer, Brad I. Coopersmith, Rodger L. Foltz, Dara Hawthorne, Mohammed Jemal. Presented at the American Association of Pharmaceutical Scientists Annual Conference, San Francisco, CA, November 13-17, 1998. 7) Effect of high performance liquid chromatography mobile phase (methanol versus acetonitrile) on the positive and negative ion electrospray response of a compound that contains both an unsaturated lactone and a methyl sulfone group, Mohammed Jemal, Dara J. Hawthorne, *Rapid Communications in Mass Spectrometry*, Volume 13, Issue 1, 15 January 1999, Pages 61-66. 8) LC/MS/MS Determination of Omapatrilat, a Sulfhydryl-Containing Vasopeptidase Inhibitor, and Its Sulfhydryl- and Thioether-Containing Metabolites in Human Plasma, Jemal, M.; Khan, S.; Teitz, D. S.; McCafferty, J. A.; Hawthorne, D. J.; *Analytical Chemistry*; 2001; 73(22); Pages 5450-5456. 9) A validated LC-MS/MS assay for the simultaneous determination of the anti-leukemic agent dasatinib and two pharmacologically active metabolites in human plasma: application to a clinical pharmacokinetic study, Furlong, M. T.; Agrawal S.; Hawthorne, D. J.; Lago, M.; Unger S.; Krueger, L.; Stouffer, B.; *J. Pharm. Biomed. Anal.*; 2012; Jan 25; 58:130-5. 10) Improved ruggedness of an ion-pairing liquid chromatography/tandem mass spectrometry assay for the quantitative analysis of the triphosphate metabolite of a nucleoside reverse transcriptase inhibitor in peripheral blood mononuclear cells. Yue Zhao, Guowen Liu, Yifei Liu, Long Yuan, Dara Hawthorne, Jim X Shen, Mausumee Guha, Anne Aubry *Rapid Commun Mass Spectrom* 27(3):481-8 (2013). RD/PD/ABD/BAS January 24, 2013

### Experience

Exact Sciences Boston, MA Senior Research Scientist I 01/2011 to Current

- Manages bioanalytical projects where sample analysis is being performed internally at BMS and at Contract Research Organizations (CROs).
- Represents the department at internal project team meetings concerning specifically assigned BMS compounds in various therapeutic areas.
- Determines if analysis can be performed in-house as appropriate, or interfaces with the Selective Integration (outsourcing) group to ensure the required support at CROs.
- Coordinates with CROs to develop timelines for data delivery.
- Advises CROs on scientific, SOP and regulatory issues.
- Participates in CRO technical audits.
- Interfaces with various internal BMS departments such as Clinical Pharmacology, Clinical Discovery, Global Development, Drug Safety Evaluation and filing teams for project management.
- Reviews bioanalytical data, validation and bioanalytical study reports.
- Prepares appropriate sections of pre-clinical and clinical study reports.
- Performs method development for troubleshooting and research purposes to improve and enhance existing and new methods.

Bcfs Georgetown, TX Auditor 01/2008 to 01/2011

- Global Quality Regulatory Compliance-Analytical.
- Audited non-clinical Toxicology studies for compliance with FDA Good Laboratory Practice (GLP) regulations, applicable SOPs and study protocols.
- Performed inspections of facilities (internal to BMS and CRO), equipment (instrumentation), method procedures and issued findings reports.
- Reviewed the GLP protocols for the group.

Exact Sciences WI, WI Senior Research Scientist I 01/1988 to 01/2006

- Bioanalytical Sciences (BAS).
- Developed and validated methods for determining drug levels from serum, plasma, blood, urine and tissues for analysis by GC/MS, HPLC, LC/MS and LC/MS/MS.
- Analyzed samples for both pre-clinical and clinical studies.
- In later years, focused on rapid method development and sample analysis turnaround for large quantities of samples using automation.
- Oversaw routine sample analysis by technicians.
- Prepared method validation reports, bio-analytical sections of pre-clinical and clinical protocols and final study reports.
- Liaison between BMS and Contract Research Organizations (CROs) concerning sample analysis in body fluids for specifically assigned projects.
- Key contact concerning bio-analysis of specifically assigned BMS compounds in project team meetings.
- Core member of the TRIS (Time-Response Image and Storage System) data management/archival project from 2001 to 2002.
- Headed up the mass spectrometer validation team portion of the FDA Part 11 Compliancy project and continued to monitor compliancy concerning the mass spectrometers for the department from 2002 to 2006.
- Managed the department instrument service contracts from 2004 to 2006.
- Promoted to Associate Research Scientist II in June 1989 from an initial position of Associate Research Scientist I.
- Other promotions included Research Scientist I in January 1995, Research Scientist II in December 2001 and Senior Research Scientist I in

April 2004.

- Instrument and software expertise:.
- AB Sciex API III, 3000 and 4000 mass spectrometers/Analyst® software; Micromass Quattro/Masslynx software.
- Other software: Watson LIMS system, NuGenesis and E-Notebook Extraction techniques:.
- Solid-phase, liquid-liquid and protein precipitation.
- Automation-Packard MultiProbe, Tomtec, Janus Mini Highlighted methods developed:.
- Determination of deoxyspergualin by fluorescence HPLC detection using post-column derivatization with o-phthalaldehyde (OPA).
- Quantitative determination of 4-hydroxyanisole from serum and plasma by negative chemical ionization GC/MS using pentafluorobenzoyl chloride.
- Stabilization of BMS-186318 in plasma using PMSF (phenylmethylsulfonyl fluoride) and the pro-drug BMS-751324 in plasma using NaF.
- Quantitative determination of BMS-186716, a free sulfhydryl, from dog, rat and human plasma by LC/MS using methyl acrylate.
- Quantitative determination of BMS-225969 and BMS-250722 in human plasma by LC/MS, effect of HPLC mobile phase composition on ionization.
- Quantitative determination of BMS-354825 and BMS-582949 in plasma using Äqelution 96-well SPE extraction plates.

Marcus And Millichap Philadelphia , PA Research Assistant 01/1987 to 01/1988

- Developed and validated analytical methods for analysis by HPLC and GC.
- Performed routine extractions of clinical body fluid samples that were analyzed by these methods.

Apex Systems Scarborough , ME Associate Scientist 01/1984 to 01/1987

- Automated reagent diagnostic assays for a wide range of clinical chemistry analyzers.
- Trouble-shooted production problems and ran cost reduction studies in liaison with manufacturing.

#### Education and Training

M.B.A : Finance and Marketing 1992 Monmouth University , City , State Finance and Marketing

B.S : Biology and Chemistry French 1983 Georgian Court College , City , State Biology and Chemistry French Magna Cum Laude Presently attending the University of Pennsylvania for a Master's degree in the field of Biotechnology. Publication Listing: 1) High Performance Liquid Chromatography Ion Spray Mass Spectrometry of N-Ethylmaleimide and Acrylic Acid Ester Derivatives for Bioanalysis of Thiol Compounds, Mohammed Jemal and Dara Hawthorne, Rapid Communications in Mass Spectrometry, Bristol-Myers Squibb Pharmaceutical Research Institute, Department of Metabolism and Pharmacokinetics, P.O. Box 4500 Princeton, NJ 08543-4500 USA, Volume 8, No. 10, October 1994, Pages 854-857. 2) Determination of BMS-186318 in dog, rat and monkey plasma by liquid chromatography-ion spray mass spectrometry, M. Jemal and D. Hawthorne, Journal of Pharmaceutical and Biomedical Analysis, Bristol-Myers Squibb Pharmaceutical Research Institute, Department of Metabolism and Pharmacokinetics, P.O. Box 4500 Princeton, NJ 08543-4500 USA, Volume 14, December 1995, Pages 43-48.

MB : Biotechnology 2017 University of Pennsylvania , City , State

#### Skills

Acid, Acrylic, API III, Automation, Biotechnology, chemistry, clinical study, contracts, cost reduction, data management, delivery, Derivatives, filing, GC, GLP, Good Laboratory Practice, HPLC, Image, Regulatory Compliance, LIMS, meetings, Pharmacology, project management, protocols, Publication, Quality, Quattro, Research, Safety, scientific, SOP, troubleshooting, validation, composition