

CLAUDIA BECK

OBJECTIVE Pursue a position with room for intellectual growth and professional development; that utilizes my skills in chemistry, research, chemical problems solving and engineering.

EDUCATION

Doctor of Philosophy in Chemistry

Dec-2005

University of Texas at Dallas

Dissertation Title: Fluorescent diagnostic system for imaging parallel competitive reactions

Advisor: Lynn Melton

Master of Science in Chemistry

Dec-2001

University of Texas at Dallas

Thesis Title: New High-Throughput Screening (HTS) formats for microwell arrays

Advisor: Paul Pantano

Bachelor of Science in Biochemical Engineering

June-1999

National Polytechnic Institute, Mexico City

EXPERIENCE

2019- Present Postdoctoral Research Associate Texas A&M University

Killeen, TX

- Characterization of photovoltaic devices with high resolution scanning electron microscope (SEM) equipped with cathodoluminescence (CL) and electron beam induced current (EBIC) detectors,

2017-2019

Independent Consultant

Global Paradigm Shift

National and International

- Experience in clinical/translational study design, analytical instrumentation and techniques and data analyses, quantitative analyses of drugs contained in complex matrices, including whole blood, plasma/serum, lung, breast milk, urine, saliva, amniotic fluid, feces and tissues, stability-indicating method development and validation, bioanalytical sample analyses, structural identity and confirmation, and pharmaceutical analytical testing and stability testing.
- Completed clinical and translational studies following ICH, USP, and FDA's GLP and GMP guidelines and regulations.

- Provided analytical chemistry expertise to support preclinical and clinical/translational trials, including pharmacokinetics/ pharmacodynamics, drug metabolism, drug delivery, drug formulations and biomarker identification.
- Provided program and protocol development and support; analyses and interpretation of PK and PK/PD data, and population PK analysis for optimal dosing.
- Supported the development, technology transfer and qualification of robust assays for routine and release testing of drug substance and drug product for biologics as well as small molecules.
- Supported the development, technology transfer and qualification of robust assays for routine and release testing of drug substance and drug product for biologics as well as small molecules.
- Developed, validated and qualified a cost effective, simple, and rapid analytical technique for measuring the accuracy of extemporaneously compounded pharmaceuticals for quality control.
- Performed and coordinated research, clinical trials, and scientific experiments in a collaborative effort with multiple teams and departments.
- Developed, validated and qualified robust analytical methods that produced data that can be confidently utilized to reliably predict drug pharmacokinetics, safety and efficacy.
- Adopted and integrated into the document management system the Standard Operating Procedure (SOP) writing recommendations of both the Food and Drugs Administration (FDA) and the World Health Organization.
- Wrote new standard operation procedures SOP for new methods and modify SOP for improved analytical methods.
- Worked with FDA's GLP and GMP guidelines and procedures.
- Monitored work flow for the multiple research projects.
- Designed, developed, optimized and validated methods for quantification of small molecules and macromolecules for drug compounding purposes in accordance to FDA Guidelines (GLP).
- Trained personnel.

**2006-2017 Texas Tech University Health Sciences Center
School of Pharmacy, Dallas Texas**

POSITIONS

2015-2017 Research Associate Professor

2006-2015 Research Assistant Professor

2011-2017 Laboratory Science Director and Co-Founder, The Clinical Pharmacology & Experimental Therapeutics Center, Dallas Texas

2006-2011 Laboratory Director, Pediatric Pharmacology Research and Development Center, Children's Medical Center, Dallas Texas

- Performed advanced, specialized work in the planning, conducting, and supervising of original research at TTUHSC, School of Pharmacy.
- Responsible for participating in, planning, scheduling and supervising research projects and the interpretation of the results for publication.

- Developed, validated and qualified analytical methods for the quantitative evaluation of analytes (i.e., drugs, including biologic products, and their metabolites) and biomarkers in a given biological matrix (e.g. tissue, blood, plasma, serum, or urine) for drug discovery, biopharmaceutics, nonclinical, preclinical development, and clinical pharmacology studies according to ICH and FDA guidelines and regulations. These validated methods provide critical data that I acquired and interpreted to support Pharmacokinetic/Pharmacodynamics (PK/PD) studies, the safety and effectiveness of drugs and biologic products.
- Performed and coordinated research, clinical trials, and scientific experiments in a collaborative effort with other faculty members (from multiple universities), postdoctoral fellows, residents, scientist, technicians, and staff members.
- Performed advanced, specialized work in the planning, conducting, and supervising of original research at TTUHSC, School of Pharmacy.
- Managed projects with CROs (contract research organizations) and CMOs (contract manufacturing organizations) through recurrent project meetings and use of project management tools.
- Completed clinical and translational studies following FDA's GLP and GMP guidelines and regulations.
- Monitored work flow for the multiple research projects.
- Instructed and oversee selected pharmacy students in research
- Directed and managed the laboratory
- Developed, validated and qualified automated methods for analyzing drugs, metabolites and biomarkers contained in complex biologic matrices using state-of-the-art liquid chromatography and mass spectrometry techniques to quantify both small and large molecules as well as separation of analytes with identical molecular weights and retention times.
- Directed analytical procedures, including the development and validation of methods for quantification of small molecules in complex matrices.
- Wrote new standard operation procedures SOP for new methods and modify SOP for improved analytical methods.
- Worked with FDA's GLP and GMP guidelines and procedures.
- Completed clinical and translational studies following FDA's GLP and GMP guidelines and regulations.
- Monitored work flow for the multiple research projects.
- Upgraded the chemical and sample inventory procedures and updated the Dallas campus laboratory consumables purchasing system. My plan resulted in \$50K worth of savings.
- Implemented the latest storage and disposal of chemicals recommendations in accordance with the latest national and international Safety Guidelines and Procedures two years ahead of its scheduled implementation deadlines.
- Under my management in 2017, our laboratory was the first in the in TTU system to obtain a perfect inspection report by both the Fire Marshal and our Environmental Safety Officer.
- Performed routine maintenance, diagnostics and troubleshooting on laboratory support equipment and analytical instruments.
- Trained new personnel.

2005-2006 Scientific Careers Temporary Assignment at Authentix Addison, Texas

- Evaluated and adapted analytical methods for the development of new technologies.

- 2001-** Member, American Chemical Society
2007- Member, American Society for Mass Spectrometry
2006- Member, American Association of Pharmaceutical Scientist

LANGUAGES English / Spanish

TEACHING AND MENTORING EXPERIENCE

2006-2017 *Graduate Mentor*

Instructed and oversee selected graduate pharmacy students in research.

Created, Instructed and graded unique research project for each student assigned.

Prepared new student info-pack that contained basic knowledge and laboratory activities needed for student to succeed on their research.

Guided the students in preparation and presentation of research findings

1999-2005 *Teacher Assistant Organic Chemistry and Physical measurements*

Managed and instructed organic chemistry and physical measurements laboratories.

Prepared small lectures for laboratory activities for upper level undergraduate's chemistry students.

Graded course assessments, prelab assessments and laboratory reports.

Ensured students understood material and stayed on track.

Prepared and Graded test.

GRANTS

Cancer Prevention Research Institute of Texas (CPRIT) RP12045 \$2.5M 2016

North Texas Clinical Pharmacology Cancer Core

To provide state-of-the-art clinical pharmacology support to cancer research community in North Texas

Role: Co-PI

Discovery Laboratories Inc. \$50,000 2014

Surfactant Characterization Using High Performance Liquid Chromatography Technique

Characterize commercially available human surfactants

Role: PI

International Academy of Compounding Pharmacist (IACP) Foundation \$10,000 2014

Develop Rapid Sensitive technique for determine the accuracy of extemporaneously compounded pharmaceutical formulations

Develop and validate a pragmatic test to provide quality control to extemporaneously compounded pharmaceuticals

Role: PI

North Texas Clinical Pharmacology Cancer Core

To provide state-of-the-art clinical pharmacology support to cancer research community in North Texas

Role: Co-PI

ANALYTICAL INSTRUMENTS SCIENTIFIC SOFTWARE

Microscopy

Scanning electron microscope SEM

Transmission electron microscope TEM

Leica Laser Microdissection LMD

Fluorescence microscope

Light microscope and Optical microscope

Ultramicrotome and Cryo-Ultramicrotomes

Liquid and Gas Chromatography

HPLC-MS/MS, UPLC-MS/MS, GC-MS, GC-FID, LC-ECD, LC-ELSD and LC-UV/Vis detectors

Shimadzu binary HPLC and UPLC systems,

Shimadzu HPLC with Evaporative Light Scattering Detector

Shimadzu UPLC with UV/Vis detectors,

Dionex HPLC with Electrochemical Detector system

Agilent GC-MS

Mass spectrometers

Sciex 6500+ Qtrap and Sciex 5500 Qtrap

Sciex 6500 triple Quad and Sciex 3000 triple Quad

Sciex 5600 triple TOF

Sciex Selexion Ion Mobility spectrometry

Spectroscopy

Agilent Cary 60 UV/Vis spectrophotometer

Fluorescence and UV/Vis spectrometers

Raman spectrometer and handheld Raman spectrometer

FTIR and NMR

Elemental Analysis

Agilent 7700x ICP-MS

Microwave digestion system

Automated Liquid Handling Systems

Eppendorf epMotion liquid handling system

Tomtec Quadra4 liquid handling system and Solid phase Extraction (SPE) automatized system

Scientific Software

Analyst (1.1 to 1.7), Analyst TF, MultiQuant, PeakView, SWATH, MarkerView, Lightsight, Metabolite Pilot, LabSolutions, ChemStation, MassHunter, ClassVP, origen, photoshop, microsoft office (excel, word, power point, access), and Phoenix WinNonlin for PK/PD Modeling and Simulation.

PUBLICATIONS AND PATENTS

- Gerber D.; Beg M.; **Meek C.**; Fattah F.; Boothman D., Phase 1 study of ARQ 761, a β -lapachone analogue that promotes NQO1-mediated programmed cancer cell necrosis. *British Journal of Cancer* (2018), 119, 928-936.
- **Meek, Claudia**; Brown, E. Sherwood; Bice, Collette; Leff, Richard;; Kulikova, Alexandra; Nakamura, Alyson; Ivleva, Elena; Van Enkevort, Erin; Holmes, Traci. A Human Safety and Pharmacokinetics Study of Orally Administered Icariin. *Journal of Natural Products*, submitted 2018
- **Meek, Claudia**; Brown, E. Sherwood; Bice, Collette; Leff, Richard;; Kulikova, Alexandra; Nakamura, Alyson; Ivleva, Elena; Van Enkevort, Erin; Holmes, Traci. Human Safety and Pharmacokinetics Study of Orally Administered Icariin: Randomized, Double-Blind, Placebo-Controlled Trial, *Journal: Clinical Therapeutics* submitted 2018
- Morgan Jamie L; Kogutt Benjamin K; McIntire Donald D; Roberts Scott W; **Meek Claudia**; Stehel Elizabeth K; Sheffield Jeanne S., Pharmacokinetics of amlodipine besylate at delivery and during lactation. *Pregnancy hypertension* (2018), 11, 77-80
- Gerber D, Bisen A K, Beg M S, Frankel A E, Fatunde O, Fattah F, Arriaga Y E, Dowell J, **Meek C**, Bolluyt J, Sarode V, Luo X, Xie Y, Schwartz B, Boothman D, Leff R. Phase 1 study of ARQ 761, a β -lapachone analog that promotes NQO1-mediated programmed cancer cell necrosis. *Journal of Clinical Oncology* 2017, 35 (15) 2517
- Hall, R. G.; Pasipanodya, J. G.; Swancutt, M. A.; **Meek, C.**; Leff, R.; Gumbo, T., Supervised Machine-Learning Reveals That Old and Obese People Achieve Low Dapsone Concentrations. *CPT Pharmacometrics Syst Pharmacol* 2017, 6 (8), 552-559.
- Morgan Jamie L; Kogutt Benjamin K; **Meek Claudia C**; Wells Edward, Stehel Elizabeth K; Roberts Scott. Pharmacokinetics of amlodipine besylate during pregnancy—how much infant exposure occurs? *American Journal of Obstetrics and Gynecology* 2017, 216 (1) S515-516
- **Meek, C.**; Hoe, J.; Evans, J.; Thurman, R.; Ashworth, L.; Leff, R., Raman Spectroscopy: A Sensitive and Specific Technique for Determining the Accuracy of Compounded Pharmaceutical Formulations. *J Pediatr Pharmacol Ther* 2016, 21 (5), 413-418.
- Hall, R. G.; Pasipanodya, J. G.; **Meek, C.**; Leff, R. D.; Swancutt, M.; Gumbo, T., Fractal Geometry-Based Decrease in Trimethoprim-Sulfamethoxazole Concentrations in Overweight and Obese People. *CPT Pharmacometrics Syst Pharmacol* 2016, 5 (12), 674-681.
- **Meek, C.**; Rothardt, A.; Evans, J.; Thurman, R.; Ashworth, L.; Leff, R., Development and Validation of an Inexpensive, Simple, and Rapid Technique for Measuring the Accuracy of Extemporaneously Compounded Pharmaceuticals. *Int J Pharm Compd* 2015, 19 (4), 340-3.
- Gerber, D. E.; Boothman, D. A.; Fattah, F. J.; Dong, Y.; Zhu, H.; Skelton, R. A.; Priddy, L. L.; Vo, P.; Dowell, J. E.; Sarode, V.; Leff, R.; **Meek, C.**; Xie, Y.; Schiller, J. H., Phase 1 study of romidepsin plus erlotinib in advanced non-small cell lung cancer. *Lung Cancer* 2015, 90 (3), 534-41.

- Srivastava, S.; Pasipanodya, J.; Sherman, C. M.; **Meek, C.**; Leff, R.; Gumbo, T., Rapid drug tolerance and dramatic sterilizing effect of moxifloxacin monotherapy in a novel hollow-fiber model of intracellular *Mycobacterium kansasii* disease. *Antimicrob Agents Chemother* **2015**, 59 (4), 2273-9.
- Schimpf KJ, **Meek CC**, Leff RD, Phelps DL, Schmitz DJ, Cordle CT. Quantification of myo-inositol, 1,5-anhydro- D-sorbitol, and D-chiro-inositol using high-performance liquid chromatography with electrochemical detection in very small volume clinical samples *Biomed Chromatogr*, , **2015**.
- Musuka S, Srivastava S, Dona C, **Meek C**, Leff R, Pasipanodya J, Gumbo T. Thioridazine pharmacokinetic-pharmacodynamic parameters "Wobble" during treatment of tuberculosis: a theoretical basis for shorter-duration curative monotherapy with congeners. *Antimicrob Agents Chemother*, 57(12):5870-7, **2013**.
- Hall RD, Swancutt MA, **Meek C**, Leff R, Gumbo T. Weight Drives Caspofungin Pharmacokinetic Variability in Overweight and Obese People: Fractal Power Signatures Above and Beyond Two-Thirds or Three-Fourths. *Antimicrob Agents Chemother*. 57(5):1-6, **2013**
- Schmalstieg A, Srivastava s, Belkaya S, Deshapande D, **Meek C**, Leff R, van Oers N, and Gumbo T. The Antibiotic-Resistance Arrow of Time: Efflux Pump Induction is a General First Step in the Evolution of Mycobacterial Drug-Resistance. *Antimicrob Agents Chemother*. 56(9):4806-15, **2012**.
- Hall, R, Swancutt M, **Meek C**, Leff R, Gumbo T. Ethambutol pharmacokinetic variability is linked to body mass of overweight, obese, and extremely obese people. *Antimicrob Agents Chemother*. 56 (3):1502-7, **2012**.
- Srivastava S, Pasipanodya J, **Meek C**, Leff R, Gumbo T. **Editor's Choice:** Multi-drug resistant does not arise due to non-compliance but between-patient pharmacokinetic variability. *J Inf Dis*. 204(12):1951-9, **2011**.
- Srivastava S, Sherman C, **Meek C**, Leff R, Gumbo T. Pharmacokinetic mismatch does not lead to emergence of isoniazid or rifampin-resistant *Mycobacterium tuberculosis*. *Antimicrob Agents Chemother*. 55: 5085-9, **2011**.
- Tagliabue C, Techasaensiri C, Torres, JP, Katz K, **Meek C**, Kannan TR, Coalson JJ, Esposito S, Principi N, Leff R, Baseman JB, Hardy RD. Efficacy of Increasing Dosages of Clarithromycin for Treatment of Experimental *Mycoplasma pneumoniae* Pneumonia. *J of Antimicro Chemother*. 66: 2323-9, **2011**.
- Feld JJ, Lutzman GA, Heller T, Hara K, Pfeiffer JK, Leff RD, **Meek C**, Rivera M, Ko M, Koh C, Rotman Y, Ghany MG, Haynes-Williams V, Neumann AU, Liang J, Hoofnagle JH. The effect of ribavirin on early viral kinetics in chronic hepatitis C infection: Clues to the mechanism of action. *Gastroenterol*. 139:154-62, **2010**.
- Deshpande D, Srivastava S, **Meek C**, Leff R, Hall G S, and Gumbo T. Moxifloxacin Pharmacokinetics/Pharmacodynamics and optimal dose and susceptibility breakpoint identification for the treatment of disseminated *mycobacterium avium* Infection. *Antimicrob Agents Chemother*. 54:1728-33, **2010**.
- Srivastava S, Musuka S, Sherman C, **Meek C**, Leff R, Gumbo T. Efflux-Pump Derived Multiple Drug Resistance to Ethambutol Monotherapy in *Mycobacterium tuberculosis* and Ethambutol Pharmacokinetics-Pharmacodynamics. *J Inf Dis*. 201:1225-1231, **2010**.
- Deshpande D, Srivastava S, **Meek C**, Leff R, Gumbo T. Ethambutol Optimal Clinical Dose and Susceptibility Breakpoint Identification by use of A Novel Pharmacokinetic-Pharmacodynamic Model of Disseminated Intracellular *Mycobacterium avium*. *Antimicrob Agents Chemother*. 54:1728-33, **2010**
- Feld JJ, Lutzman GA, Heller T, Hara K, Pfeiffer JK, Leff RD, **Meek C**, Rivera M, Ko M, Koh C, Rotman Y, Ghany MG, Haynes-Williams V, Neumann AU, Liang J, Hoofnagle JH. Ribavirin

improves early responses to peginterferon through improved interferon signaling. *Gastroenterology*. 139(1), 154-162, **2010**

- Gumbo T, Siyambalapitiyage Dona C, **Meek C**, Leff RD. Pharmacokinetics-Pharmacodynamics of Pyrazinamide in a Novel In Vitro Model of Tuberculosis for Sterilizing Effect: A Paradigm for Faster Assessment of New Antituberculosis Agents. *Antimicrob Agents Chemother*. 53:3197-204, **2009**.
- Busti AJ, Bain AM, Hall RG, Bedimo R, Leff RD, **Meek C**, Mehvar R. Effects of atazanavir/ritonavir or fosamprenavir/ritonavir on the pharmacokinetics of rosuvastatin. *J Cardiovasc Pharmacol*. 51: 605-10, **2008**.
- Balkus K. J. Jr., Pantano P., **Meek C.C**, Coutinho D. H., “Encoded molecular sieve particle-based sensors” **US Patent No. 6,790,672 (2004)**
- Pantano P, **Meek C**, Coutinho D H, Balkus K. J. Jr., “Optical Encoding with shaped DAM-1 molecular sieve particles”, *Lab on a Chip*, 3(2)132-135, **2003**.
- **Meek C**, Pantano P, “Spatial confinement of avidin domains in microwell arrays”, *Lab on a Chip*, 1(2) 158-163, **2001**.

CONFERENCE PRESENTATIONS

- Morgan Jamie L; Kogutt Benjamin K; McIntire Donald D; Roberts Scott W; **Meek Claudia**; Stehel Elizabeth K; Sheffield Jeanne S., Pharmacokinetics of amlodipine besylate at delivery and during lactation. *Pregnancy hypertension* **2018**,
- Jamie L. Morgan, Benjamin K. Kogutt, **Claudia Meek**, C. Edward Wells, Elizabeth K. Stehel, Scott W. Roberts. Pharmacokinetics of amlodipine besylate during pregnancy—how much infant exposure occurs?, *American Journal of Obstetrics and Gynecology*, **2017**
- **Meek C**, Beck E, Leff R. A Robust Analytical LC-MS/MS Method to Quantitate Plasma Itraconazole and Hydroxy-Itraconazole in Patients with Solid Tumors. American Society for Mass Spectrometry Annual Meeting, San Antonio, Texas. June 07, **2016**. 64TH ASMS CONFERENCE ON MASS SPECTROMETRY
- **Meek C**, Beck E, Acosta J, Miingi N, Brown S, Leff R. A Simple, Rapid, and Sensitive LC-MS/MS Method for the Determination of Icaritin in Human Plasma for Clinical Trials to Prevent Corticosteroid Related Memory Changes. American Society for Mass Spectrometry Annual Meeting, St Louis, Missouri. June 03, **2015**. 63TH ASMS CONFERENCE ON MASS SPECTROMETRY
- **Meek C**, Beck E, Leff R, Erenberg A, Richard Leff, Chemical Characterization of Commercial Surfactant Products Using Liquid Chromatography and Corona® Charged Aerosol Detector (CAD®). 24rd Pediatric Pharmacy Conference and PPAG Annual Meeting, Minneapolis, MN USA (April-May **2015**)
- Gerber D.; Arriaga Y.; Beg S.; **Meek C.**; Fattah F.; Boothman D., Phase 1 study of ARQ 761, a β -lapachone analogue that promotes NQO1-mediated programmed cancer cell necrosis. 26th EORTC-NCI-AACR Symposium on Molecular Targets and Cancer Therapeutics, 18-21 November **2014**, Barcelona, Spain.
- **Meek C**, Miingi N, Beck E, Hall R, Leff R, A Robust Analytical Method for Analysis of beta-Lapachone: An Analytical Method for Automated Analysis of Plasma Dapsone, Trimethoprim, Sulfamethoxazole, Sulfamethazine, Sulfamethiazole, and Sulfathiazole for Dose Optimization. American Society for Mass Spectrometry Annual Conference, Baltimore, MD, USA (June **2014**)
- **Meek C**, Boothman D, Gerber D, Beck E, Leff R, A Robust Analytical Method for Analysis of β -Lapachone: A Novel Chemotherapeutic Agent for Treatment of Solid Tumors. American Society for Mass Spectrometry Annual Conference, Vancouver, BC, Canada (June **2013**)

- **Meek C**, Beck E, Hall R, Leff R, Determination of Plasma Caspofungin Content Using Tandem Mass Spectrometry (LC MS/MS): An Accurate, Precise, Selective and Sensitive Method. American Society for Mass Spectrometry Annual Conference, Minneapolis, MN, USA (May **2012**)
- **Meek C**, Jain M, Gumbo T, Leff R. Determination of Serum Ribavirin Content Using Tandem Mass Spectrometry (LC-MS/MS): An Accurate, Precise, Selective, and Sensitive Method. American Society for Mass Spectrometry Annual Meeting, Salt Lake City, June 28, **2010**.
- Tagliabue C, **Meek C**, Rutherford S, Leff R, Esposito S, Principi N, Hardy R. Pharmacokinetic Assessment of Clarithromycin in Serum, Bronchoalveolar Lavage (BAL) Fluid and Lung Tissue: Influence of Dose escalation on Mycoplasma Pneumoniae. European Pediatric Infectious Diseases Annual Meeting, Brussels, Belgium, June **2009**.
- **Meek C**, Rutherford S, Hardy R, Tagliabue C, Leff R. Quantification of Clarithromycin in Serum Bronchoalveolar Lavage Fluid, and Lung Tissue Using LC/MS-MS: Influence of Dose Escalation on Mycoplasma pneumoniae. ASMS Annual Meeting, Philadelphia, June **2009**.
- Gumbo T, Siyambalapitiyage Dona, **Meek C**, Leff RD. PK/PD of Pyrazinamide Sterilizing Effect and Resistance Suppression. ICAAC 46th Annual Meeting, Washington, DC, October 26, **2008**
- **Meek C**, Bowers D, Leff RD. A LC/MS-MS Method for Quantitative Determination of Topotecan [(S)-9-di-methylaminomethyl-10-hydroxy-camptothecin] in Human Plasma. ASMS Annual Meeting, Denver, June 6, **2008**
- Bain AM, Busti AJ, Hall RG, Bedimo R, Leff R, **Meek C**, Mehvar R. Effects of atazanavir/ritonavir or fosamprenavir/ritonavir on the pharmacokinetics of rosuvastatin. 2008 National Lipid Association Annual Scientific Sessions. May 29 – June 1, **2008**, Seattle, WA.
- Balkus K. J, Coutinho D, Madhugiri S, **Meek C**, Pantano P. “DAM-1 Molecular Sieve Forms, Fibers and Films” Materials Research Society, San Francisco California, **2002**.
- **Meek C C** and Pantano P. “Microwell Array Chemical Sensor Advances”, Fifty-Second Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, New Orleans, **2001**.
- **Meek C C** and Pantano P. “Microwell Array Chemical Sensors”, Third Annual Texas MEMS Workshop, Dallas, **2001**.

KEYWORDS

Drug analysis, quantification of small molecule, method development and validation, FDA, GLP, cGMP, SOP, complex matrices, analytical methods, LC-MS/MS, LC-UV/VIS, LC-ECD, UPLC-MS/MS, ICP-MS, GC-MS chemistry extraction, sample preparation, pharmacokinetic studies, clinical pharmacology, drug efficacy and toxicity, drug delivery, drug development, protein precipitation PP, liquid-liquid extraction LLE, solid phase extraction SPE, trouble-shooting, equipment maintenance, routine semi-annual maintenance, documenting standardizations/calibrations, maintenance of instruments, daily standard/equilibration of instruments, instrument calibration, mass spectrometers triple Quad, Qtrap, triple TOF, Ion Mobility spectrometry, automated liquid handling systems, Fluorescence and UV/Vis spectrometers, Raman spectrophotometer and handheld Raman spectrophotometer, FTIR and NMR.